

Fight or Flight?

When Political Threats Arouse Public Anger and Fear

Ted Brader
University of Michigan

Eric W. Groenendyk
University of Memphis

Nicholas A. Valentino
University of Michigan

Acknowledgements: We thank Antoine Banks, Ashley Jardina, Nathan Kalmoe, and Ashley Zakem for their enthusiastic and excellent research assistance. We are grateful for thoughtful feedback on previous versions provided by audiences at the University of Michigan and the annual meetings of the International Society of Political Psychology and the Midwest Political Science Association.

Abstract

The impact of political threats on opinion formation, learning, and political action has been long posited but remains little understood. The effect of political threat varies greatly, and we lack a theory to explain why. Recent work focuses on one consequence of threat, the experience of anxiety, and the political effects of that emotion. Appraisal theories of emotion, however, suggest threats can trigger anger as well. Two experiments test the emotional impact of threatening news stories. We find such news can elicit fear, whereas news about positive developments elicits enthusiasm. In addition, threatening news framed with attributions of blame triggers anger. We also test whether familiarity of threats increases anger, but do not find support for this claim. The question of whether threats arouse public anger as well as public fear is important, because anger and fear often have divergent consequences for behavior.

Threatening events often serve as catalysts that stir a quiescent public from its comfortable routines and political apathy (Campbell 2003; Miller and Krosnick 2004). Campaigns point to real or imagined harms as a tactic for winning elections, and political leaders sometimes amplify or manufacture threats to rally public support for keeping them in office. Not all threats, of course, stem from conscious political manipulation. Real events, real policies, and real social conflict, often delivered in the form of mass-mediated “bad news,” can also make citizens feel threatened. Whatever their source, threats can unleash powerful emotions. Fear, or anxiety,¹ is the emotion most closely linked to threat, and scholars have shown that it has important consequences for political interest, participation, learning, and judgment (Brader 2006; Marcus et al. 2000; Rudolph et al. 2000).

But when the economy plunges, when terrorists strike, when immigrants start moving into town, people don’t just get anxious. Sometimes they get mad. This was readily apparent in events surrounding the push for national health care reform in 2009 and 2010. A set of medical, financial, and political considerations that frequently stoke public anxieties seemed to arouse considerable public anger, anger that spilled into contentious town hall meetings, “Tea Party” protests, and even death threats against members of Congress. This distinction—the arousal of public anger instead of public fear—affects not only the tenor of politics, but also the actions citizens take and the policies they prefer. Scholars have increasingly documented the distinct, often divergent effects of fear and anger on political behavior (Huddy et al. 2007; Lerner et al.

¹ We use these terms interchangeably. Scholars disagree on whether the “fear family” of emotional terms encompasses more than one emotional state or simply refers to differing intensities of a single emotional state (with or without possible non-linear effects). Vernacular usage tends to make distinctions based on intensity only, a point worth recognizing in light of researchers’ heavy reliance on self-reports.

2003; MacKuen et al. 2010; Valentino et al. 2008). In light of this, we ask why threats sometimes trigger public fear and other times trigger public anger.

Prior research has suggested that one of the most important ways public discourse triggers opinion change or action is by delivering and framing *threats*: The implication of future harm associated with particular policies, candidates, groups, or events (Brader et al. 2008). However, findings regarding the impact of political threats are, to date, contradictory or highly conditional. Negative campaign communication either demobilizes (Ansolabehere et al. 1994), mobilizes (Goldstein and Freedman 2002), or has no effect (Lau et al. 2007). Negative ads, according to Ansolabehere and Iyengar (1995), are likely to reduce turnout by depressing voters about their prospects of making a meaningful difference in the election. Those who predict that negative ads mobilize suggest that they trigger stronger emotions that boost attention, engagement, and participation (Goldstein and Freedman 2002). Rahn and Hirshorn (1999) find that negative ads trigger a negative mood state in children, but this mood does not mediate any effects on participatory intentions.

Similar confusion attends the consequences of threats beyond the domain of negative campaign ads. Martin (2008), for example, claims that bad news increases engagement because it alerts citizens to threats in the political environment. Huddy and colleagues (2002) find important distinctions between the impact of personal and national level threats. Personal threats from terrorism cause changes in individual behaviors, but only national threat perceptions are related to evaluations of the national economy. Lavine et al. (1999) found that threatening messages are politically persuasive, but only for those scoring high in authoritarianism. Miller and Krosnick (2004) focus on the behavioral impact of the threat of unwanted policy change. They find such threats boost the likelihood of financial contributions to an interest group

dedicated to preventing the change but not more expressive behaviors like sending a postcard to an elected official. In sum, it appears that not all threats influence politics in the same way, and a given threat may influence different people differently.

We argue that the impact of political threat stems in large part from the specific emotions threats arouse. A given threat can trigger different emotions in different people under different contexts, so there is no single effect of generalized threat. This article posits that the appraisal of a threat, along specific key dimensions, is critical to predicting the emotions that it will arouse and therefore the effect that threat will have on public opinion and political behavior.

Most research exploring the political impact of threatening communication either equates exposure to threats with the experience of fear or anxiety, or assumes the former automatically causes the later. Part of the problem is labeling: Threatening appeals are often referred to as “fear appeals” (cf. Lavine et al. 1999, 337). Pantoja and Segura (2003), argue that “threatening contexts,” those in which a group might perceive their interests or identities to be under attack, will cause anxiety and therefore boost political information seeking. Unfortunately, most of this literature never directly measures specific emotional reactions to threatening messages.

Therefore, when disparate findings emerge, we have no way of understanding why.

The conflation of threat and anxiety is theoretically problematic for two reasons. First, the perception of threat and the experience of anxiety may be correlated, but they are conceptually distinct. Moreover, without arousing anxiety (or some other emotion), threats may be less consequential. Huddy and colleagues (2005), for example, show that most citizens perceived a high level of threat to the nation after the 9/11 terrorist attacks, but only a fraction seemed to experience considerable anxiety. They also demonstrated that the subset of Americans who did feel high levels of anxiety were less supportive of aggressive military action than those who did

not feel anxious. Brader, Valentino and Suhay (2008) found that newspaper stories highlighting the deleterious consequences of immigration increased the likelihood that readers perceived the issue to be harmful. However, only those negative stories that elicited anxiety led to greater support and behavior advocacy for decreasing immigration flows. Such anxiety was triggered by the ethnic or racial characteristics of the immigrant shown in the story, not merely the discussion of adverse consequences. Kushner Gadarian (2010) replicates this effect with news about terrorism, finding that when the same threatening news is paired with frightening visuals, anxiety and attitude change result.

The second reason we should not conflate exposure to threatening messages with the experience of anxiety is that threats, as noted above, can lead to other sorts of emotional responses, especially anger. Anger, in turn, generates patterns of information seeking, learning, attitude change, and political action that are quite distinct from those generated by fear. Fear increases problem-focused information seeking, risk-averse behavior, and support for more defensive or protective policies, while anger increases risk seeking, support for aggressive or punitive policies, and is particularly powerful at mobilizing political action (Druckman and McDermott 2008; Lerner et al. 2003; Lerner and Keltner 2001; MacKuen et al. 2010; Nabi 2003; Valentino et al. 2006; Valentino et al. 2008). Therefore, to predict how citizens will react to political threats, we must understand when threats are likely to trigger particular negative emotions.

To summarize, current work largely equates threat with fear, and much of the literature on the role of emotion in politics fails to distinguish between fear and anger. While we have begun to flesh out the role of discrete emotions in political behavior, we know comparably little about the features of political events, messages, actors, and policies that bring about these emotions in

the first place. Both casual observation and considerable research in psychology suggest that a given threat may trigger different negative emotions, especially anxiety or anger, depending on how individuals—consciously or subconsciously—appraise the situation. Theories of emotion have argued that certain appraisal dimensions may be relevant in distinguishing between anger and anxiety, such as *situational control* and *intentionality*, which jointly we refer to as *blame appraisals*, as well as *familiarity*. If discrete emotions have different consequences for public opinion and political behavior, then it is essential to understand how such appraisals translate threats into specific emotional responses.

Situational Appraisals and Political Emotions

It is evident from prior work that emotional reactions to politics can arise along one, two, or multiple dimensions (Lodge et al. 2006; Marcus 2003; Rahn et al. 1996). For example, threats can arouse anxiety, anger, or both, and, even when jointly aroused, anger and anxiety sometimes function similarly and other times distinctly (Brader et al. 2008; Marcus et al. 2006; Steenbergen and Ellis 2006).² As mentioned above, recent studies have tried to shed light on the distinct role of political anger as an important alternative reaction to threat and a distinct predictor of behavior (Huddy et al. 2007; MacKuen et al. 2005; Valentino et al. 2008; Valentino et al. 2006; MacKuen et al 2010). However, despite a proliferation of research showing that emotions shape

² Researchers studying emotions have found that self-reports of negative emotions sometimes cluster together, while other times it is possible to distinguish distinct clusters among the negative emotions. When negative emotions are undifferentiated, they seem to function in a manner consistent with anxiety. When they are differentiable, anxiety and anger emerge as distinct responses, both in terms of analysis of latent factors and in terms of behavioral effects. See Marcus et al. 2006 for a more detailed discussion.

political attitude formation and behavior, there is a need for more work on what precipitates these political emotions, a subject explored by only a few studies to date (Brader 2006; Graber 2007; Hutchings et al. 2006; Bang Petersen 2010). With this in mind, we investigate those aspects of threatening events in public discourse that distinctly trigger anger and not just fear.

The leading approach to the study of emotion in politics, Affective Intelligence Theory (AIT) features anxiety and enthusiasm as the primary outputs of two fundamental systems in the brain (Marcus et al. 2000). This theory portrays emotions as something akin to a cognitive alarm system. As we navigate through our environment, our bodies send our brain a constant flow of information. When the brain responds with enthusiasm, it is signaling that all is well. On the other hand, anxiety serves as an automatic alarm that alerts us to unfamiliar circumstances and tells our brains to devote more resources to conscious attention and processing.

In appendix B of *Affective Intelligence* (2000) as well as in more recent work (MacKuen et al. 2010), these authors posit the existence of a third emotional dimension—aversion, which they operationalize as a combination of anger and disgust. Under circumstances in which threats are familiar, aversion is said to result. When this happens, we react in much the same way we do to enthusiasm. In other words, the appraisal of a threat's *familiarity* is critical to Affective Intelligence Theory. When a threat is novel, the effects of anger and anxiety are indistinguishable, but when a threat is familiar, anxiety and anger (or aversion as they call it) stand out as unique dimensions.

Cognitive appraisal theories, which focus heavily on the antecedents of emotions, may also help us to understand better how news stories and political messages evoke particular emotional responses. For example, *blame appraisals* occur when an individual perceives a intentional (human) agent to have control over the situation and thus responsibility for the threat against

them. Such appraisals have been shown to trigger anger as opposed to fear in response to interpersonal threats (Smith and Ellsworth 1985).³ Therefore, while almost any serious threat should arouse public fear, threats are likely to arouse public anger (as a distinct emotion) when citizens can attribute blame to an individual, organization, or government entity.

One recent study, Bang Petersen (2010), investigates the moderating impact of “intentionality” on the relationship between anger and criminal justice opinions. Using a convenience sample of Dutch students finds that anger only leads to increasingly punitive attitudes when accompanied by a belief that the crime was intentional. These correlational results are consistent with our expectations, but they are causally inconclusive. For example, direction of the causal arrow could be reversed: respondents could rationalize their punitive views on criminal justice by claiming criminal intentionality, and this rationalizing effect might be largest among those who feel angry about crime to begin with. Our theory suggests politically powerful anger will not arise in response to threats in the first place unless blame appraisals occur. An experimental design is required to test this hypothesis precisely.

Our purpose here is to establish the first link in a longer causal chain that starts with threat and ends with political behavior. Specifically, we seek to establish what appraisals (blame, familiarity, or both) distinguish fear from anger in the realm of politics and determine whether these distinct emotions mediate the effect of the appraisal on attitude formation. Using two experiments, we examine the features of news stories that arouse public fear or public anger. We

³ Anger is also more likely when a person perceives herself to have been cheated or, in other words, that the intentionally-inflicted harm is unfair or undeserved (Lazarus 1991; Smith and Ellsworth 1985). We set aside consideration of “deservingness” or “legitimacy” appraisals in the present studies to focus on the intentionality and control elements of blame appraisals.

show how changes in the salient features of politically-relevant events can predictably alter the prevalence of anger and fear.

Hypotheses

Our first hypothesis restates core predictions of AIT and other prior research: *indicators of threat or potential harm will elicit fear (anxiety), while indicators of success or reward will elicit enthusiasm.* The second hypothesis, derived by cognitive appraisal approaches, concerns the conditions under which we expect to observe anger at higher levels and more distinct from fear: *threats which can be readily attributed to the actions or decisions chosen by some agent are more likely to trigger anger.* In other words, people are more likely to get mad when there is someone to blame for the harm. The third hypothesis stems from the expansion of the AIT model to incorporate predictions for the distinct arousal of anger: *Familiar threats should trigger anger, while unfamiliar threats should trigger fear.* Finally, our fourth hypothesis echoes previous research in psychology and political science on the distinct effects of fear and anger: *Anger and fear have powerful consequences for opinion and behavior. Specifically, fear gives rise to more cautious, considered, and defensive courses of action, while anger promotes risky, aggressive, and punitive action.*

Study 1: Blame/Credit Attribution Experiment

In order to test the first two hypotheses, we conducted the Blame/Credit Attribution Experiment, a lab experiment with a 2×2 design. The goal of this first study was to examine whether news stories predictably trigger distinct emotions by the manner in which they invoke or

frame public threats. We recruited 189 undergraduate students from a subject pool at a large university during the fall of 2006 and winter of 2007 for a study of “media and opinion.”

Procedures. Subjects read a news article and answered questions at one of several computer stations in the lab for roughly 20 to 30 minutes. After receiving initial instructions, subjects read the following message:

Now we would like you to read a New York Times newspaper article that was published sometime within the last year. The computer will pick a New York Times article randomly from the Lexis-Nexis database. Later, we will ask for your reactions to the article you have read.

Once they had read the article, they completed a questionnaire that solicited their reactions to the story along with some additional background information. At the end, they were debriefed about the goals of the study and the fictitious nature of the article.

Each subject was randomly assigned to receive one of four versions of an article about the impact of globalization on job prospects for American college students. The articles were varied on two dimensions. First, we manipulated the extent to which the article painted a threatening or rewarding picture of globalization. In the threatening or “bad news” condition, the article suggested that globalization and “outsourcing” will have an increasingly adverse effect on professional ranks and college graduates in the U.S. In the rewarding or “good news” condition, the story suggested that globalization will actually lead to “insourcing” of jobs for college graduates as companies seek out highly-skilled professionals from the U.S. For the second dimension, we manipulated the extent to which the trends described are attributed to conscious choices by multinational corporations or the inevitable pressures of a global market and changing

technology. In the former case, the story implied corporations deserve the blame (or credit) for these developments; in the latter, it implied that no one is responsible and that corporations have no choice but to follow the market pressures or be driven out of business. Other details are held constant across all versions of the article and, even where details differ, the versions follow a parallel structure.⁴

Measures. Upon exiting the stimulus screen, subjects were asked how they felt when reading the article. Subjects indicated the extent to which it made them feel angry, irritated, disgusted, happy, proud, excited, hopeful, afraid, and nervous.⁵ Measures were obtained using a five-point scale running from “not at all” to “extremely.” Principal factors analysis with varimax rotation revealed three latent emotional dimensions corresponding to *a priori* expectations for enthusiasm, anger, and fear (see Table 1).⁶ The resulting factor scores serve as our measures of emotion for study 1. For comparability, all items are rescaled to run from 0 to 1.

⁴ The full stimuli are available in an online appendix.

⁵ We included more enthusiasm items so that the battery would be balanced between positive and negative terms. Some of the items included in these scales may represent further distinctions in emotions under the right conditions. Examples include as pride, which we mentioned earlier, hope which other scholars have begun to investigate (Just et al. 2007), or disgust which usually correlates with anger but is considered a distinct emotion by appraisal theorists among others (Lazarus 1991).

⁶ We also checked simple linear additive scales based on the *a priori* expectations. The three scales, so constructed, were quite reliable: The enthusiasm scale consists of *proud*, *hopeful*, *happy*, and *excited* ($\alpha = .91$), the fear scale includes *afraid* and *nervous* ($\alpha = .89$), and the anger scale is composed of *angry*, *irritated*, and *disgusted* ($\alpha = .87$). Analyses using these versions of the scales turn out substantively the same, although the factor scales produce slightly sharper estimates, which is not surprising given that they make greater use of information about the relative contributions of each item to the latent variable.

[insert Table 1 here]

Results. Table 2 shows the mean level of anger, fear, and enthusiasm reported by subjects in each of the experimental conditions. Comparing the left and the right columns, it is clear that the first hypothesis receives strong support. Subjects who read the threatening article reported much more anger (.34 vs. .20; $t = 6.17$, $p < .001$), much more fear (.44 vs. .25; $t = 9.75$, $p < .001$), and much less enthusiasm (.15 vs. .42; $t = 11.20$, $p < .001$) than subjects who read good news about globalization. These results are consistent with our first hypothesis and the general predictions from AIT (and other theories) about when we would expect to see sharp differences between negative and positive emotions.

[insert Table 2 here]

Our second hypothesis suggests subjects should react to the threat of outsourcing with anger, rather than just anxiety, when that threat is attributable to the intentional actions of another. Therefore, we need to examine the difference in reactions between the attribution (blame) and no attribution conditions within the first column of Table 2. There is a modest difference in the expected direction—anger increases 7 points (from .30 to .37) in the blame condition. However, this difference reaches only marginal levels of statistical significance ($t = 1.65$, $p = .05$, one-tailed). As expected, there are no significant differences in fear across these conditions ($t = 0.53$, $p = .60$).

We can examine not only differences in group means, but also the structure of emotions that emerged at the individual level. Specifically, we can return to factor analysis to examine whether and how the experimental manipulations affect the structure of emotional responses. In prior work, researchers have sometimes found evidence of two latent negative emotional factors in the structure of individual responses, but in other cases have found only one such latent factor

(Marcus et al. 2006). Tables 3a and 3b repeat the factor analysis from Table 1, except this time results are calculated separately for the subsamples who read the threatening news story either without or with blame attributions. We see from Table 3a that, absent blame, only two significant factors are present. Both anger and fear items load onto a single negative affect factor, similar to other studies in which anger is not differentiable from anxiety (Brader et al. 2008; Marcus et al. 2006), and the fear items load somewhat more strongly on this factor. The second factor picks up the four enthusiasm items. Table 3b indicates that, when we add attributions of blame to the news story, we observe the three-factor structure of emotions, with anger items loading very heavily on their own factor, which accounts for the greatest variance, fear on a second factor, and enthusiasm on a third. These findings provide additional support for the notion that blame attributions play a key role in arousing public anger as distinct from anxiety or a general negative emotional state.

[insert Tables 3a and 3b here]

In sum, the results of the Blame/Credit Attribution Experiment offer support for the first hypothesis that exposure to political threats evokes negative emotions. Modest support was found for the second hypothesis that attributions of blame increase the likelihood that individuals will respond to threats distinctly with anger. The evidence from the raw group means is in the expected direction but does not generate strong statistical confidence. The case for the second hypothesis becomes stronger when we use factor analysis to identify the structure of emotional response at the individual level under varying conditions. Nonetheless, perhaps we should not be too surprised at the modest nature of these results. The blame manipulation was itself fairly subtle, especially relative to the threat manipulation. Both blame and no-blame versions mention the key causal agents—corporations—and use the terminology of “blame.” The no-blame

condition simply insists that “you can’t blame anyone” and offers excuses to corporations for the pressures they face from global competition. Second, the nature of the subject matter—globalization, job markets, outsourcing—is such that individuals, especially among the college-educated public, may bring pre-existing attributions to the news story.

Study 2: Blame and Familiarity Experiment

We conducted a second experiment with three main goals in mind. First, we wished to replicate our test of the second hypothesis, given that the results from the first study were modest. Second, we sought to compare the anger-triggering role played by attributions of blame to that played by the familiarity of the threat (our third hypothesis). While appraisal theorists and others have identified blame as an especially important factor among several that may trigger anger (Izard 1991; Lazarus 1991; Scherer et al. 2001), the authors of the AIT model have emphasized familiarity as the critical determinant of whether one responds to a threat with anger (MacKuen et al. 2005; Marcus 2002, 2003; Marcus et al. 2000, 2006). Manipulating both blame and familiarity offers us an opportunity not only to test the role of each factor, but also to examine whether they might both be necessary conditions (i.e., neither sufficient in itself) or, alternatively, sufficient conditions that have compounding effects. Third, though it has already been validated by prior work, it is a valuable test again for the distinct effects of fear and anger on behavior suggested by our fourth hypothesis.

We conducted the Blame and Familiarity Experiment in May of 2007. In all, we recruited 343 subjects from in a Midwestern community for a study of “media and opinion.” Although participation was not restricted to students, the sample was recruited near a college campus and is predominantly composed of young adults, ranging from 18 to 45 in age, with a mean age of

21. The procedures were nearly identical to those in the first experiment, including the instructions regarding the newspaper article.

This five-cell experiment featured a 2 (blame/no blame) × 2 (familiar threat/unfamiliar threat) design with a “good news” condition for purposes of global contrast with the four threatening stories. Subjects were randomly assigned to read one of five articles about a potentially deadly flu-like virus. The positive story announces that federal health officials celebrated the eradication of a particular influenza strain that had once led to concerns about an epidemic. The remaining four versions of the article discuss the outbreak of a potentially deadly virus in the southeast U.S. that could lead to “the next great epidemic.” We independently manipulate the level of blame and familiarity of the threat across the articles. In the no-blame versions, the story suggests that the threat is due to a naturally-occurring genetic mutation of the virus. The blame stories, however, suggest that the virus was released to the public by careless researchers, who in turn may have been pressured by elected officials on behalf of companies that stood to benefit from the research. We manipulate familiarity in the articles by describing the virus either as a dangerous form of the flu (familiar) or as an entirely new virus called “infectious pancreatic necrosis virus.” All versions provide the same description of the initial symptoms (as like those of the common flu) and the potential consequences (e.g., expected lives lost); in other words, we hold the severity of the threat constant across news stories.

Measures. We measured emotional reactions in the same way as the first study, except for using an expanded battery of terms. In this case, the items used to tap enthusiasm are *proud*, *hopeful*, *happy*, *confident*, *encouraged*, *comforted*, and *excited*. Those tapping fear include *afraid*, *uneasy*, *alarmed*, and *nervous*. The anger scale consists of *angry*, *irritated*, *outraged*,

frustrated, and *disgusted*.⁷ Precisely these three latent factors emerge from principal factors analysis with varimax rotation (see Table 4). Our resulting measures, based on the factor scores, are rescaled from 0 to 1.

[insert Table 4 here]

Results. We begin by checking to ensure that our manipulation worked as intended. On a 7-point scale recoded to run from 0 to 1, the four threat conditions were rated as more threatening ($M = .47$) than the no threat condition ($M = .25$, $t = 6.34$, $p < .0001$). Likewise, on a 7-point recoded to run from 0 to 1, more blame was attributed in the blame conditions ($M = .63$) than the no blame conditions ($M = .28$, $t = 10.94$, $p < .0001$). And finally, more people in the familiar condition ($M = .39$) reported having heard of the virus than in the unfamiliar condition ($M = .05$, $t = 6.88$, $p < .0001$). In sum, all of the manipulations seem to have worked as intended in terms of registering relatively higher or lower levels of threat, blame, and familiarity.

Next we examine the effects of these different news stories on emotions. Table 5 displays the mean emotional reactions across the experimental conditions for all three scales. Once again, we find clear support for the first hypothesis. Threatening news arouses more public fear (.42 vs. .28, $t = 5.32$, $p < .0001$) and less enthusiasm (.15 vs. .34, $t = 9.21$, $p < .0001$). The more critical test for our study is what arouses public anger. It is apparent from the second row of results in Table 5 (“no blame”) that threatening news alone does not always trigger greater anger relative to non-threatening news. Consistent with the second hypothesis, news of a viral outbreak for which individuals and organizations may be blamed elicits greater anger than news of a comparable viral outbreak that is simply the result of natural genetic mutation and thus

⁷ Simple linear combinations of the *a priori* items also yield very reliable scales for enthusiasm ($\alpha = .88$), fear ($\alpha = .88$), and anger ($\alpha = .92$). Analyses using these scales produce substantively identical findings.

unintentional and uncontrollable (.44 vs. .21, $t=10.60$, $p < .0001$). In contrast, we find no support in this study for the third hypothesis concerning the role of familiarity. In fact, when the threat is given a more familiar cast we observe slightly less anger than when it is unfamiliar (.32 vs. .34), though this difference does not approach statistical significance ($t = 0.83$, $p = .41$).

[insert Table 5 here]

In this study, we also wanted to examine whether the predicted effects extend to emotions “targeted” at the government and not just personal emotional responses to the news. If changes in the way threats are portrayed cause changes in such government-directed emotions, then it is even easier to imagine the emotional reactions will have consequences of political importance. Table 6 displays the results for these targeted items (each composed of a single question, again on a five-point scale rescaled to range from 0 to 1). The results appear very similar to those observed for personal emotional reactions to the news. Anxiety about the government’s performance on public health issues is fairly high in all threatening conditions, though in this case anxiety is significantly higher in the blame conditions ($t = 3.34$, $p < .001$). It is not hard to imagine why this would be so, since the blame-attributed stories give readers additional reasons to worry about how well the government is protecting them in general against health threats. Anger about the government’s performance, however, is quite low among those exposed to the no-blame versions of the story, but doubles among those who read the blame versions of the story ($t = 6.28$, $p < .0001$). Familiarity again fails to create significant differences, though both anxiety and anger reactions are slightly higher in the unfamiliar condition. As we’d expect, feelings of pride about government performance are measurably higher in the rewarding news condition that reports eradication of the virus compared to the other stories that report a threatening viral outbreak. Finally, looking at the bottom of the table, there are no differences in

fear of catching the virus itself, as we should expect since the articles portrayed the severity of the threat to readers' family and friends identically across the news stories.

[insert Table 6 here]

As in the first study, we can examine the structure of individual latent responses that emerges across conditions as well as the mean emotional responses we've been discussing. Tables 7a and 7b show the results of principal factor analyses with varimax rotation, broken down by subjects assigned to the no-blame and blame conditions, respectively. The differences in the structure of emotional response are more subtle here than in the first study. Consistent with prior research, we have an easier time detecting distinctions between anger and fear under any condition when we expand the measurement of emotions to include more items for each emotion (cf. Marcus et al. 2006). In each case, three factors emerge. That said, the distinctions among emotions are less sharp and the anger factor is less prominent in the no-blame conditions. When the news story invites blame attributions anger moves from the third to the first factor and all three emotional factors come into clearer focus. These results seem in line with the second hypothesis.

[insert Tables 7a and 7b here]

Finally, we turn our attention to a test of the full causal chain—the expectation that threats, by triggering distinct emotions, will have divergent effects on opinion and behavior. Tables 8 and 9 show results from regressing action and opinion, respectively, on self-reported emotions of fear, anger, and enthusiasm. To the extent citizens are angry, we expect them to be inclined toward punitive actions and policies; to the extent they are fearful, we expect them to be motivated toward defensive or protective actions. The action items (Table 8) come from a battery of questions asking subjects what actions they would likely take in the event of a viral outbreak. Fear strongly predicts *defensive action*, a 6-item scale that consists of: reading more

about the virus, its causes, and treatments; staying home; wearing a mask; calling to warn friends and family; donating money to fight the epidemic; and washing hands after being in public.

Anger, on the other hand, predicts pursuing punitive goals by writing a letter elected officials urging the prosecution of those responsible. Although all three emotions are positively correlated with a 3-item scale for volunteering (for a public health organization, to help a candidate with strong public health credentials, to assist law enforcement help maintain social order), only enthusiasm approaches statistical significance. All of these results are consistent with the proposition that emotions motivate action and, more specifically, with the fourth hypothesis that suggests fear motivates defensive action while anger motivates punitive action.

[insert Table 8 here]

In modern representative democracies of course most political action does not often serve to solve problems directly, but rather works through electoral processes and the expression of public opinion to shape government policies. We therefore also turn our attention to the impact of emotions on public opinion. As Table 9 makes clear, here a powerful role for anger emerges in our study. Anger strongly predicts a preference for launching investigations to find fault and a preference for punishing those responsible; in short, we find that anger uniquely pushes people toward support for punitive policy opinions. Both fear and anger positively predict a preference for greater government oversight and regulation, a policy option that can be interpreted as either protective or punitive. That said, the effect of anger is more substantial and indeed significantly larger than that of fear.

[insert Table 9 here]

In light of these results, the experimental manipulation of blame, which—as we have already observed—significantly arouses public anger, should also propel public behavior and preferences

in a more punitive direction. We indeed find that it does. Those assigned to read a news story attributing blame for a viral outbreak were more likely to say they would, in the event of an outbreak, send a letter urging prosecution of anyone found responsible (.09 vs. .03, $t = 2.30$, $p < .05$). These same individuals were also much more likely to prefer stronger government oversight (2.12 vs. 1.54, $t = 3.94$, $p < .0001$), fault-finding investigations (1.55 vs. 0.82, $t = 7.84$, $p < .0001$), and stiff punishments for those found at fault (.98 vs. .84, $t = 3.50$, $p < .001$).⁸ In other words, threats substantially increase the support for punitive political action when anger, but not fear, is aroused.⁹

Conclusion

Results from two experiments suggest that while threats trigger negative emotions, the degree to which certain discrete emotions (fear versus anger) are elicited depends on the particular way the threat is framed or understood. While threats almost always seem to trigger fear (anxiety), only certain threats also arouse anger as a distinct response. In particular, extending appraisal theories of emotion to the political domain, our results confirm that one's ability to attribute blame—because the threat is under the control of other intentional actors—is critical to the arousal of anger. Finally, replicating earlier work, we demonstrated that the arousal of public anger has consequences for political action and public opinion that are quite different from the consequences of arousing public fear. Anger pushes citizens toward aggressive and punitive actions, while fear provokes defensive and protective tendencies.

⁸ Familiarity, on the other hand, has no discernable impact on any of the opinion variables.

⁹ Indeed, the results satisfy the classic Sobel test for mediation, thereby suggesting that anger but not fear mediates the impact of the threatening news on the opinion outcomes (Baron and Kenny 1986).

These findings underscore the need to think more precisely about the effects of threat and negativity on politics. Disparate studies over many years have documented numerous, sometimes contradictory, effects of threats. Out of this body of work emerges a clear message that threats *matter*, but what has failed to emerge clearly is just how they matter or why they sometimes matter in divergent ways. Recent research has drawn attention to the impact of *feeling threatened*—namely, fear or anxiety (Marcus et al. 2000), and suggested that experiencing these emotions has distinct consequences from simply believing that a threat exists (Brader et al. 2008; Huddy et al. 2005). Moreover, other emotions can be triggered by threatening situations, and new studies have highlighted especially the distinct behavioral effects of anger and fear (Druckman and McDermott 2008; Huddy et al. 2007; Lerner et al. 2003; MacKuen et al. 2010; Valentino et al. 2008). But if these recognitions start us on a path to understanding the diverse effects of threats, they beg a further a further question: What sets citizens down one path or the other in response to a threat? In this paper, we begin to provide a clearer answer to the question of what arouses public anger versus public fear in response to threats.

In addition to our confirmed predictions, the null results for the familiarity hypotheses are also noteworthy. Contrary to the expectations of AIT, we found no evidence that familiarity plays a role in determining whether a given threat evokes fear or anger. Future efforts should, therefore, seek to understand what other types of appraisals contribute to the arousal of fear, anger, and other negative emotions. For now, it appears that blame appraisals are a key determinant of whether threats lead to anger as well as fear. Nonetheless, social psychologists have pointed to a number of other situational conditions and personal characteristics that may influence appraisals and therefore emotional responses (Lazarus 1991; Scherer et al. 2001; Smith and Ellsworth 1985). For instance, appraisal theories have suggested that a harm that is

perceived as undeserved, morally wrong, unfair, or otherwise implies that a person has been cheated is particularly likely to provoke anger (cf. Steenbergen and Ellis 2006). Other recent work suggests that one's sense of internal efficacy (i.e., ability to control or influence the situation) may increase the likelihood that threats are met with anger (Valentino et al. 2009). Regardless, given an emerging consensus that emotions such as fear and anger have an important role to play in shaping opinion and behavior, political scholars would do well to understand how these emotions arise.¹⁰

These findings speak yet again to the powerful role of media in shaping public opinion and political behavior in ways that communicators may not even be aware. When threatening news is reported, but causes of that threat are left unattributed, citizens are likely to experience primarily fear. When the news intimates that someone is responsible for the harm, public anger is likely to result. This has important political implications that beg for further research. We know that politicians routinely maneuver to accept credit and assign blame in the search for electoral advantage (Arnold 1992). But the present study calls our attention to new ways in which the strategic, as well as innocent, framing of "blame" matters (cf. Lupia and Menning 2009). What matters is not just how politicians lay credit or blame at their own feet for policies, but also how they (and others) portray social, economic, and political events. We need to understand better whether and how politicians, journalists, or others lay blame for events and social problems ranging from job loss to the high price of gasoline or healthcare, from coal mine explosions and oil spills to disastrous flooding, from the discomforts of cultural diversification to the pains of military defeat. The present study demonstrates that such causal or strategic framing

¹⁰ Future research should also consider when, if at all, do threats elicit anger while failing to elicit fear. We suspect this may occur when a threat is not in fact perceived as being very threatening at all, and therefore a person recognizes the intention to do harm while nevertheless feeling control over the situation.

may be the key determinant of whether “bad news” awakens an anxious public or an angry public—two outcomes that yield very different kinds of politics.

References

- Arnold, R. Douglas. 1992. *The Logic of Congressional Action*. Yale University Press.
- Bang Petersen, Michael. 2010. "Distinct Emotions, Distinct Domains: Anger, Anxiety and Perceptions of Intentionality." *The Journal of Politics*, 72, 357–365.
- Baron, Reuben M., and David A. Kenny. 1986. "The Moderator-Mediator Variable Distinction in Social Psychological Research." *Journal of Personality and Social Psychology* 51(6): 1173-82.
- Brader, Ted. 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.
- Brader, Ted. 2006. *Campaigning for Hearts and Minds: How Emotional Appeals in Political Ads Work*. University of Chicago Press.
- Brader, Ted, Nicholas A. Valentino, and Elizabeth Suhay. 2008. "What Triggers Public Opposition to Immigration? Anxiety, Group Cues, and Immigration Threat." *American Journal of Political Science* 52: 959-78.
- Druckman, James, and Rose McDermott. 2008. "Emotion and the Framing of Risky Choice." *Political Behavior* 30: 297-321.
- Feldman, Stanley, and Leonie Huddy. N.d. "The Paradoxical Effects of Anxiety on Political Learning." Unpublished manuscript, Stony Brook University.
- Folkman, Susan, Richard S. Lazarus, Rand J. Gruen, and Anita DeLongis. 1986. "Appraisal, Coping, Health Status, and Psychological Symptoms." *Journal of Personality and Social Psychology*, 50(3), 571-579.

- Graber, Doris. 2007. "The Road to Public Surveillance: Breaching Attention Thresholds." In *The Affect Effect: Dynamics of Emotion in Thinking and Behavior*, edited by W. R. Neuman, G. E. Marcus, A. Crigler, and M. B. MacKuen. University of Chicago Press.
- Huddy, Leonie, Stanley Feldman, Theresa Capelos and Colin Provost. 2002. The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat. *Political Psychology* Vol. 23, No. 3:485-509.
- Huddy, Leonie, Stanley Feldman, and Erin Cassese. 2007. "On the Distinct Political Effects of Anxiety and Anger." In *The Affect Effect: Dynamics of Emotion in Thinking and Behavior*, edited by W. R. Neuman, G. E. Marcus, A. Crigler, and M. B. MacKuen. University of Chicago Press.
- Huddy, Leonie, Stanley Feldman, Charles Taber, and Gallya Lahav. 2005. "Threat, Anxiety, and Support for Antiterrorism Policies." *American Journal of Political Science* 49(3): 593-608.
- Huddy, Leonie, and Anna H. Gunnthorsdottir. 2000. "The Persuasive Effects of Emotive Visual Imagery: Superficial Manipulation or the Product of Passionate Reason?" *Political Psychology* 21(4): 745-78.
- Hutchings, Vincent L., Nicholas A. Valentino, Tasha S. Philpot, and Ismail K. White. 2006. "Racial Cues in Campaign News: The Effects of Candidate Issue Distance on Emotional Responses, Political Attentiveness, and Vote Choice." In *Feeling Politics*, edited by David Redlawsk. NY: Palgrave Macmillan.
- Isbell, Linda M., and Victor C. Ottati. 2002. "The Emotional Voter: Effects of Episodic Affective Reactions on Candidate Evaluations. In *The Social Psychology of Politics*, ed. Victor C. Ottati et al. NY: Kluwer, 55-74.

- Izard, Carroll E. 1991. *The Psychology of Emotions*. New York: Plenum Press.
- Just, Marion R., Ann N. Crigler, and Todd Belt. 2007. "Don't Give Up Hope: Emotions, Candidate Appraisals, and Votes." In *The Affect Effect: Dynamics of Emotion in Thinking and Behavior*, edited by W. R. Neuman, G. E. Marcus, A. Crigler, and M. B. MacKuen. University of Chicago Press.
- Kinder, Donald R. 1994. "Reason and Emotion in American Political Life." In *Beliefs, Reasoning, and Decision Making*, edited by Roger Schank and Ellen Langer. Mahwah, NJ: Lawrence Erlbaum Associates, 277-314.
- Kinder, Donald R. 2003. "Belief Systems after Converse." *Electoral Democracy*, ed. Michael MacKuen and George Rabinowitz. Ann Arbor: University of Michigan Press, 13-47.
- Kinder, Donald R., and Lisa D'Ambrosio. 2000. "War, Emotion, and Public Opinion." University of Michigan. Unpublished manuscript, University of Michigan.
- Kushnar Gadarian, Shana. 2010. "The Politics of Threat: How Terrorism News Shapes Foreign Policy Attitudes." *The Journal of Politics*, 72, 469-483.
- Lau, R.R., Sigelman, L., Heldman, C., and Babbitt, P. (1999). "The effects of negative political advertisements: A meta-analytic assessment." *American Political Science Review*, 93, 851-875.
- Lavine, Howard, Diana Burgess, Mark Snyder, John Transue, John L. Sullivan, Beth Haney and Stephen H. Wagner. 1999. "Threat, Authoritarianism, and Voting: An Investigation of Personality and Persuasion." *Personality and Social Psychology Bulletin*, 25:337-347.
- Lazarus, Richard S. 1991. *Emotion and Adaptation*. New York: Oxford University Press.
- Lerner, Jennifer, and Dacher Keltner. 2001. "Fear, Anger, and Risk." *Journal of Personality and Social Psychology*. 81(1): 146-159.

- Lerner, Jennifer, Roxana M. Gonzalez, Deborah A. Small, and Baruch Fischhoff. Effects of Fear and Anger on Perceived Risks of Terrorism: A National Field Experiment. *Psychological Science* 14(2): 144-150.
- Lodge, Milton, Charles Taber, and Christopher Weber. 2006. "First Steps toward a Dual-Process Accessibility Model of Political Beliefs, Attitudes, and Behavior." In *Feeling Politics*, ed. David Redlawsk. New York: Palgrave Macmillan, 11-30.
- Lupia, Arthur, and Jesse O. Menning. 2009. "When Can Politicians Scare Citizens Into Supporting Bad Policies?" *American Journal of Political Science* 53(1): 90-106.
- MacKuen, Michael, Jennifer Wolak, Luke Keele, and George E. Marcus. 2010. "Civic Engagements: Resolute Partisanship or Reflective Deliberation." *American Journal of Political Science* 54(2): 440-58.
- Marcus, George E. 2002. *The Sentimental Citizen: Emotion in Democratic Politics*. University Park, PA: Pennsylvania State University Press.
- Marcus, George E. 2003. "The Psychology of Emotion and Politics." In *Oxford Handbook of Political Psychology*, edited by David Sears, Leonie Huddy, and Robert Jervis. New York: Oxford University Press, 182-221.
- Marcus, George E., Michael MacKuen, Jenny Wolak, and Luke Keele. 2006. "The Measure and Mismeasure of Emotion." In *Feeling Politics*, edited by David P. Redlawsk. NY: Palgrave-Macmillan.
- Marcus, George E., W. Russell Neuman, and Michael MacKuen. 2000. *Affective Intelligence and Political Judgment*. Chicago: The University of Chicago Press.
- Martin, Paul S. 2008. "The Mass Media as Sentinel: Why Bad News About Issues is Good News for Participation." *Political Communication* 25: 180-193.

- Miller, Joanne, and Jon Krosnick. 2004. "Threat as a Motivator of Political Activism: A Field Experiment." *Political Psychology* 25(4): 507-523.
- Nabi, Robin L. 2003. "Exploring the Framing Effects of Emotions." *Communication Research* 30(2): 224-47.
- Pantoja, Adrian D. and Gary M. Segura. 2003. Fear and Loathing in California: Contextual Threat and Political Sophistication Among Latino Voters. *Political Behavior*, Vol. 25, No 3: 265-286.
- Rahn, Wendy M., and Brian Kroeger, and Cynthia M. Kite. 1996. "A Framework for the Study of Public Mood." *Political Psychology* 17(1): 29-58.
- Rahn, Wendy M., and Rebecca Hirshorn. 1999. Political Advertising and Public Mood: A Study of Children's Political Orientations. *Political Communication*, 16:387-407.
- Redlawsk, David P., Andrew J.W. Civettini, and Richard R. Lau. 2007. "Affective Intelligence and Voting: Information Processing and Learning in a Campaign." In *The Affect Effect: Dynamics of Emotion in Thinking and Behavior*, edited by W. R. Neuman, G. E. Marcus, A. Crigler, and M. B. MacKuen. University of Chicago Press.
- Rudolph, Thomas J., Amy Gangl, and Dan Stevens. 2000. "The Effects of Efficacy and Emotions on Campaign Involvement." *Journal of Politics* 62:1189-97.
- Scherer, Klaus R., Angela Schorr, and Tom Johnstone. 2001. *Appraisal Processes in Emotion: Theory, Methods, and Research*. New York: Oxford University Press.
- Smith, Craig A., Phoebe Ellsworth. 1985. "Patterns of Cognitive Appraisal in Emotion." *Journal of Personality and Social Psychology* 48: 813-838.

- Steenbergen, Marco R., and Christopher Ellis. 2006. "Fear and Anger in Candidate Evaluation: Context, Traits, and Negative Candidate Affect." In *Feeling Politics*, edited by David P. Redlawsk. NY: Palgrave-Macmillan.
- Sullivan, Denis G., and Roger D. Masters. 1988. "Happy Warriors: Leaders' Facial Displays, Viewers' Emotions and Political Support." *American Journal of Political Science* 32:345-68.
- Valentino, Nicholas A., Krysha Gregorowicz and Eric Groenendyk. 2009. "Efficacy, Emotions, and the Habit of Participation." *Political Behavior* 31 (3): 307-330.
- Valentino, Nicholas A., Vincent L. Hutchings, Antoine J. Banks, and Anne K. Davis. 2008. Is a Worried Citizen a Good Citizen? Emotions, Political Information Seeking, and Learning via the Internet. *Political Psychology*. Vol. 29, 2: 247-274.
- Valentino, Nicholas A., Ted Brader, Eric W. Groenendyk, Krysha Gregorowicz, and Vincent L. Hutchings. 2006. "Election Night's Alright for Fighting: The Role of Anger versus Anxiety in Political Participation." Paper presented at the annual meeting of the American Political Science Association in Philadelphia, PA.

Table 1. Factor Analysis of Emotional Responses to the News (Study 1)

	Factor 1	Factor 2	Factor 3
angry		.69	
irritated		.71	
disgusted		.72	
happy	.85		
proud	.81		
excited	.86		
hopeful	.78		
afraid			.76
nervous			.77
<i>Eigenvalue</i>	<i>2.97</i>	<i>1.86</i>	<i>1.65</i>

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 175. Analyses are capped at three factors.

Table 2. Emotional Reactions to News about the Impact of Globalization on the Job Prospects of American College Students (Study 1)

<i>Causal Attribution</i>	Goal Implications of the News	
	Threatening	Rewarding
ANGER		
Blame/Credit	.37 (.22)	.22 (.15)
No Blame/Credit	.30 (.20)	.19 (.11)
<i>N</i> = 175		
FEAR		
Blame/Credit	.43 (.22)	.24 (.17)
No Blame/Credit	.45 (.22)	.27 (.18)
<i>N</i> = 175		
ENTHUSIASM		
Blame/Credit	.15 (.11)	.42 (.20)
No Blame/Credit	.14 (.11)	.43 (.22)
<i>N</i> = 175		

Note: Values are means (standard deviations) of factor scores computed from self-reported emotional reactions to the news story (recoded on a range from 0 to 1). See the text for more details.

Table 3a. Factor Analysis of Emotional Responses to a Threatening News Story *without* Blame (Study 1)

	Factor 1	Factor 2
angry	.72	
irritated	.77	
disgusted	.59	
happy		.82
proud		.76
excited		.86
hopeful		.62
afraid	.76	
nervous	.92	
<i>Eigenvalue</i>	<i>2.97</i>	<i>1.86</i>

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 41. Analyses are capped at three factors.

Table 3b. Factor Analysis of Emotional Responses to a Threatening News Story *with* Blame (Study 1)

	Factor 1	Factor 2	Factor 3
angry	.84		
irritated	.83		
disgusted	.85		
happy			.65
proud			.60
excited			.54
hopeful			
afraid		.76	
nervous		.75	
<i>Eigenvalue</i>	<i>2.40</i>	<i>1.32</i>	<i>1.19</i>

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 46. Analyses are capped at three factors.

Table 4. Factor Analysis of Emotional Responses to the News (Study 2)

	Factor 1	Factor 2	Factor 3
frustrated		.72	
angry		.86	
irritated		.73	
outraged		.81	
proud	.74		
hopeful	.74		
excited	.57		
happy	.75		
confident	.67		
comforted	.72		
encouraged	.83		
afraid			.74
nervous			.72
uneasy			.63
alarmed			.69
<i>Eigenvalue</i>	<i>3.71</i>	<i>3.08</i>	<i>2.26</i>

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 309. Analyses are capped at three factors.

Table 5. Emotional Reactions to News of a Potentially Deadly Viral Epidemic (Study 2)

<i>Causal Attribution</i>	Familiarity of the Virus	
	Familiar	Unfamiliar
ANGER		
Blame	.44 (.22)	.45 (.19)
No Blame	.20 (.13)	.22 (.13)
<i>Rewarding News Contrast = .19 (.09)</i>		
<i>N = 300</i>		
FEAR		
Blame	.44 (.17)	.35 (.18)
No Blame	.44 (.21)	.46 (.20)
<i>Rewarding News Contrast = .28 (.13)</i>		
<i>N = 300</i>		
ENTHUSIASM		
Blame	.14 (.16)	.13 (.14)
No Blame	.16 (.12)	.15 (.13)
<i>Rewarding News Contrast = .34 (.18)</i>		
<i>N = 300</i>		

Note: Values are means (standard deviations) of factor scores computed from self-reported emotional reactions to the news story (recoded on a range from 0 to 1). See the text for more details.

Table 6. Targeted Emotional Reactions to a Potentially Deadly Viral Epidemic (Study 2)

<i>Causal Attributions</i>	Familiarity of the Virus	
	Familiar	Unfamiliar
ANGRY ABOUT GOVERNMENT PERFORMANCE ON PUBLIC HEALTH		
Blame	.42	.47
No Blame	.21	.25
<i>Rewarding News Contrast = .12</i> <i>N = 329</i>		
WORRIED ABOUT GOVERNMENT PERFORMANCE ON PUBLIC HEALTH		
	Familiar	Unfamiliar
Blame	.47	.50
No Blame	.37	.40
<i>Rewarding News Contrast = .22</i> <i>N = 332</i>		
PROUD ABOUT GOVERNMENT PERFORMANCE ON PUBLIC HEALTH		
	Familiar	Unfamiliar
Blame	.12	.10
No Blame	.18	.16
<i>Rewarding News Contrast = .33</i> <i>N = 332</i>		
WORRIED ABOUT SELF OR FAMILY CATCHING DEADLY VIRUS		
	Familiar	Unfamiliar
Blame	.29	.26
No Blame	.25	.30
<i>Rewarding News Contrast = .24</i> <i>N = 312</i>		

Note: Values are means (standard deviations) self-reported emotional reactions based on single targeted questions and coded on a range from 0 to 1.

Table 7a. Factor Analysis of Emotional Responses to News Stories *without* Blame (Study 2)

	Factor 1	Factor 2	Factor 3
frustrated			.62
angry			.66
irritated			.69
outraged	.52		.58
proud		.61	
hopeful		.71	
excited			
happy			
confident		.72	
comforted		.64	
encouraged		.63	
afraid	.80		
nervous	.82		
uneasy	.76		
alarmed	.72		
<i>Eigenvalue</i>	3.24	2.58	2.06

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 122. Analyses are capped at three factors.

Table 7b. Factor Analysis of Emotional Responses to New Stories *with* Blame (Study 2)

	Factor 1	Factor 2	Factor 3
frustrated		.67	
angry		.83	
irritated		.64	
outraged		.77	
proud	.80		
hopeful	.73		
excited	.63		
happy	.79		
confident	.52		
comforted	.77		
encouraged	.83		
afraid			.69
nervous			.69
uneasy			.54
alarmed			.67
<i>Eigenvalue</i>	3.78	2.81	1.98

Note: Values are factor loadings from principal factors analysis with varimax rotation. Only values greater than .5 are shown. N = 122. Analyses are capped at three factors.

Table 8. Self-Reported Emotions as Predictors of Social and Political Action (Study 2)

	Defensive Action Scale (6-item)	Write Letter Seeking Prosecution	Volunteerism Scale (3-item)
Fear	.29 (.08)**	- .01 (.02)	.03 (.04)
Anger	- .01 (.09)	.04 (.01)**	.04 (.04)
Enthusiasm	- .08 (.09)	.02 (.01)	.06 (.04)^
Constant	2.81 (.08)***	.06 (.01)***	.28 (.03)***
<i>N</i>	301	301	301

Note: Coefficients (and standard errors) are estimates from an OLS regressions.
*** $p < .001$, ** $p < .01$, * $p < .05$, ^ $p < .10$ (two-tailed)

Table 9. Self-Reported Emotions as Predictors of Public Opinion (Study 2)

	Favor Investigation to Find Fault	Favor Punishment for Those at Fault	Prefer More Govt. Oversight and Regulation
Fear	- .01 (.05)	.00 (.02)	.14 (.08)^
Anger	.43 (.05)***	.07 (.02)**	.40 (.07)***
Enthusiasm	- .13 (.05)**	- .02 (.02)	- .02 (.07)
Constant	1.08 (.04)***	.89 (.02)***	1.76 (.07)***
<i>N</i>	271	209	296

Note: Coefficients (and standard errors) are estimates from an OLS regressions.
*** $p < .001$, ** $p < .01$, * $p < .05$, ^ $p < .10$ (two-tailed)