

**Original Article:**

**EMOTION, ATTRIBUTION, AND ATTITUDES  
TOWARD CRIME**

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**Abstract**

In this paper we explore the effects of emotion on attributions for criminal behavior and attitudes toward the criminal justice system. Drawing on cognitive appraisal theories of emotion, we consider whether discrete forms of emotional experience (such as anger, sadness, and fear) exert unique effects on political thinking, rather than making a gross distinction between positive and negative emotions. We uncover important differentiation in the effects of negative emotions on attributions for criminal behavior and attitudes toward crime. Specifically, we find anger is associated with individual rather than social attributions for criminal behavior, preferences for punitive versus rehabilitative policy, and reduced confidence in the criminal justice system. The effects of fear and sadness run counter to the effects of anger. We attribute these differences to the distinct patterns of cognitive appraisals—such as agency, certainty, and individual versus situational control—appraisals that both give rise to and result from these discrete emotional states. Ultimately, our results point to a strong link between emotion and political cognition and highlight the importance of attending to specific emotional states rather than classifying emotional experience based on valence.

**Keywords:** Emotion, Attribution, Cognitive Appraisal,  
Crime, Political Cognition, Anger

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## INTRODUCTION

It has become increasingly common for social scientists to reject the notion that citizens are cold, rational actors. Rather, a spate of recent scholarship demonstrates that both social and political cognition are strongly influenced by emotional experience. The political implications of emotion are seemingly pervasive, having been empirically linked to perceptions of candidates and vote choice (Lodge & Taber, 2005; Brader, 2005), media consumption and learning (Marcus & MacKuen, 1993; Huddy, Feldman, Taber, & Lahav, 2005), policy attitudes (Huddy, Feldman, & Cassese, 2007; Huddy, Feldman, & Weber, 2007), and political participation (Valentino, Gregorowicz, & Groenendyk, 2007). From this work, it is clear that emotions are intimately tied to how people interpret and respond to political events. While scholars tend to agree on the relevance of emotion in political contexts, they are divided on how emotions are experienced and expressed. There has been a rather contentious debate as to the appropriate typology or structure for emotional experience—specifically whether a lumping or splitting approach is preferred (among others, Cacioppo & Garder, 1999; Watson & Tellegen, 1999; Watson, Clark, & Tellegen, 1988; Green, Goldman, & Salovey, 1993; Green, Salovey, & Truax, 1999; Lazarus, Scherer, Schorr, & Johnstone, 2001; Tellegen, Watson, & Clark, 1999; Levenson et. al., 2003).

On one hand, valence models of emotion reflect a lumping approach—assuming common valence (whether an emotion is positive or negative) is more important than the factors that finely distinguish among positive or negative emotions. From a valence perspective, emotions such as fear, anger, and sadness are categorically similar due to their negative valence. Distinctions among these feelings tend to be overlooked—for example aggression is characteristic of anger but not fear or sadness. Alternatively, discrete models of emotion reflect a splitting approach, in that the unit of measurement is the specific emotion, rather than their common valence. As such, emotions of the same valence are believed to differ in meaningful ways and thus exert divergent effects on political opinion and behavior. Adherents to discrete emotion models contend the approach is intuitively appealing, or more valid on its face, as these specific emotional states have unique physiological and behavioral correlates (Levenson et. al., 2003).

The decision to conceptualize emotions in terms of valence or their discrete nature has influenced empirical research on emotions and political psychology. For instance, the dominant paradigm in political science—*affective intelligence theory*—contends that negative emotions have different effects on political behavior and judgment relative to positive emotions (Marcus & Mackuen, 1993; Marcus, Neuman, & Mackuen, 2000; Neuman, Marcus, Crigler, & Mackuen, 2007).<sup>1</sup> As much of the research on emotions has followed a valence approach, the political implications of discrete or specific emotional states are not fully understood. Only recently have political psychologists noted important differentiation among positive and negative emotions. An emerging body of

evidence demonstrates that discrete emotions such as anger, sadness, fear, and hope are antecedents to distinct patterns of political cognition, judgment, and behavior (Huddy, Feldman, & Cassese, 2007; Smith, Cronin, & Kessler 2008; Gross, 2008; Small & Lerner, 2008; Valentino, Hutchings, Gregorowicz, Groenendyk, & Brader 2006).

We extend this line of inquiry by examining how discrete emotional states influence the ways in which Americans think about crime and public order. Specifically, we investigate how discrete emotional states promote individual versus systemic attributions for criminal behavior, support for punitive versus rehabilitative crime policy, and confidence in the criminal justice system. We find anger—an emotion commonly linked to blame and perceptions of injustice—heightens individualistic attributions for criminal behavior, promotes stronger preferences for punitive policy, and depresses trust in the criminal justice system. Fear, while similarly valenced, leads to systemic attributions, preferences for punitive policies, and confidence in the criminal justice system. Our results suggest a strong link between emotion and attitudes in this domain of public opinion and highlight the value added by differentiating between discrete emotional states when exploring the relationships between emotion, political cognition, and public opinion.

### **The Structure of Human Emotion**

The most basic conceptualization of human emotion suggests all feelings (from enthusiasm to fear) are a function of a single underlying *positive* to *negative* affect dimension. This is reflected in the hot cognition model advanced by Milton Lodge and Charles Taber (Lodge & Taber, 2005; Burdein, Lodge, & Taber, 2006). According to this approach, emotion serves as a heuristic in decision making, and the impact of positive and negative emotional responses can occur at a preconscious level, influencing downstream attitudes and preferences (Lodge, Taber, & Weber, 2006; Murphy & Zajonc 1993; Lodge & Taber 2005; Forgas, 1995). Similarly, Green and colleagues suggest that the majority of the variation in emotional response can be explained by a single positive versus negative affect dimension (Green et al., 1993). Accordingly, positive and negative affect can be thought of as reciprocal—an increase in positive affect necessitates a decrease in negative affect.

This unidimensional valence structure has been challenged on both conceptual and methodological grounds. For instance, these models suggest that negative emotions cannot co-occur with positive emotions (Cacioppo & Gardner, 1999; Cacioppo, Gardner, & Bernston, 1999; Watson, Clark & Tellegen, 1988; Watson et al., 1999). Much work, however, suggests positive and negative emotions are arrayed along two orthogonal dimensions and, as such, positive emotions can co-occur with negative emotions (Lavine, 2001). We refer to these models as multidimensional valence models of emotion. Watson and colleagues, for example, note that emotions are a function of two dimensions—a

*positive affect* dimension and a *negative affect* dimension (Watson & Tellegen, 1985/1999). Some link these two dimensions to competing behavioral tendencies. For example, Cacioppo and colleagues equate these two dimensions with *approach* and *avoidance* behavior (Cacioppo et al., 1999), while George Marcus and colleagues relate the two dimensions to the *disposition* and *surveillance* systems and associated attentional and behavioral processes (Marcus et al., 2000). In politics, positive emotions lead people to rely on habit and predispositions, since nothing in the environment is threatening (Marcus et al., 2000). Alternatively, negative emotions lead to closer attention and reliance on contemporaneous information in making decisions. Evidence from cognitive neuroscience has also supported the notion of two orthogonal approach and avoidance systems (Allen, Iacono, Depue, & Arbisi, 1993; cf., Harmon-Jones & Sigelman, 2001; Harmon-Jones & Allen, 1998). Positive emotions tend to activate the left hemisphere of the brain (which is associated with approach behavior), while negative emotions activate the right.

Whether modeled as a single dimension or two orthogonal dimensions, the empirical focus of both unidimensional and multidimensional valence models has been on positive and negative emotions. The primary critique of these models is that they do not provide theoretical insight into how emotions of the same valence differ. It seems plausible—and quite likely—that feelings of sadness about the state of the country would have different ramifications than feelings of anger, for instance. A number of studies have demonstrated that specific, discrete emotional states—such as anger, anxiety, and sadness—have rather distinct consequences for political attitudes and behaviors (Conover & Feldman, 1981; Huddy et al., 2005; Lerner, Gonzales, Small, and Fischhoff, 2003). Consider the case of anger. Anger is traditionally referred to as *negative* but often reinforces and increases certainty in existing beliefs and leads to approach-oriented behavior and optimistic views of the future (Lerner & Keltner, 2000; 2001)—all of which are associated with positive emotion. Beyond this, anger has neurological correlates similar to positive emotions (Harmon-Jones et al., 2004). Anger also has qualitatively different consequences for political attitudes and behavior contrasted to anxiety and sadness. For instance, following 9/11, anxious responses to the terror attacks corresponded to less support for military action and more isolationist foreign policy attitudes, while anger led to more hawkish preferences (Huddy et al., 2005; Lerner et al., 2003; Huddy et al., 2007). And anger leads to information processing strategies marked by a reliance on heuristics, whereas fear leads to more effortful, systematic processing strategies (Valentino, Hutchings, Banks, & Davis, 2008).

Based on this work, it seems critical to investigate the distinct political consequences of discrete emotions. In this project, we examine how five discrete emotions—anger, sadness, fear, hope, and enthusiasm—structure the ways in which Americans think about crime and the criminal justice system. To this end, we rely on cognitive appraisal theories of emotion, which explicate how emotional experience is

differentiated by consistent patterns of cognitive interpretations of stimuli and events. Appraisal theories also afford insight into the ways emotional experience colors political cognition in the domain of crime.

### Appraisal Theory and Discrete Emotions

A central premise underlying most affective theories is that emotions arise from the ways in which situations are interpreted. Appraisal theory elaborates on this by positing that human emotions are linked to distinct constellations of evaluations or cognitions. Although appraisal theorists tend to disagree on the precise number of appraisal or evaluative dimensions that give rise to emotional experience, most appraisal theories of emotion agree that perceptions of valence (i.e., whether the event is intrinsically positive/negative), certainty (e.g., the probability of an event occurring), legitimacy (i.e., whether an outcome is fair and just), control/efficacy (i.e., whether one can affect an outcome), relevance (i.e., how important the event is to the individual and how much attention should the situation be given), and agency (i.e., is the event caused by individuals or is it an inevitable, situational occurrence) influence the character of emotional experience in systematic ways (Ellsworth & Scherer 2003; Smith & Ellsworth 1985; Ellsworth & Scherer, 2003; Roseman, 1984; Frijda, Kuipers, & ter Schur, 1989). Emotions of the same valence are then differentiated by appraisals along these dimensions, accounting for more nuanced emotional experience. For instance, consider negatively valenced emotions such as fear, anger, and sadness. Anger is caused by appraisals of certainty, illegitimate action by an external agent, and personal control or efficacy. Fear, alternatively, is caused by appraisals of uncertainty, lack of personal control, and may involve appraisals of agency (in the case of fearing another person); while sadness results from appraisals of certainty and lack of personal control.

Many appraisal theorists contend emotions not only *arise* from cognitive appraisals but also *elicit* specific patterns of appraisals that persist during the emotional experience, influencing downstream information processing and judgment (Keltner, Ellsworth, & Edwards, 1993; Lerner & Keltner, 2000/2001; Roseman, Smith, Scherer, Schorr & Johnstone; 2001; Tiedens & Linton, 2001). Lerner and Keltner (2001) argue that emotions give rise to a “perceptual lens” or “appraisal tendency” that colors subsequent perceptions and cognitions. It is quite likely that cognition and emotion operate in a feedback loop—reinforcing each other until new information or experience captures the individual’s attention. In addition to appraisal tendencies, specific emotions influence depth of information processing—with anger and positive emotions resulting in heuristic processing while sadness and anxiety result in more deliberative processing (see, for example, Fiedler, 2000; Small, Lerner, & Fischhoff, 2006).

One way in which these appraisal tendencies generated by specific emotional states can show through in subsequent judgments is through attributions of blame and

responsibility. For instance, anger – which stems from appraisals of agency—precipitates thoughts of blame and punishment, while sadness and fear—associated with appraisals of non-agency—do not (Lazarus, 1991; Weiner, 1986/2006). Anger, unlike fear and sadness, is also correlated with punishment behavior (Lerner, Goldberg, & Tetlock, 1998; Goldberg, Lerner & Tetlock, 1999). Based on appraisal theory, we expect emotions should impact how an individual understands political issues.<sup>2</sup> In other words, emotions should influence the attributions people make about the root causes of social problems. And to the extent that emotions shape attribution processes, they should alter the foundations of public opinion.

In what ways do emotions influence attributions? A long line of literature has demonstrated that anger is associated with internal or individual responsibility (the actor is personally responsible), which subsequently reduces pro-social behavior (Weiner, 2006; Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Brickman, 1982). Alternatively, attributions of situational responsibility (beyond the actor's control) produce feelings of sympathy or pity, which serve to stimulate helping behavior by activating feelings of sadness, pity, and fear (Weiner, 1986/2006; Reisenzein, 2006; Skitka 1999). In perhaps the first systematic depiction of how emotions structure attributions, Keltner, Ellsworth, and Edwards (1993) found that anger leads people to make individual attributions centering on human control. In other words, anger enhances beliefs that events are within the control of an individual or group of individuals. Sadness, however, was associated with different patterns of blame, promoting situational attributions. Small and Lerner (2008) similarly observe that anger precipitates individual attributions for poverty—beliefs that poverty is caused by laziness and lacking worth ethic—whereas, sadness leads to social attributions—beliefs that poverty is caused by systemic factors such as failing schools and communities. These attributions translate into divergent policy preferences, with individual attributions depressing support for welfare expenditures and societal factors bolstering support for expenditures (see also Appelbaum 2001; Small & Lerner 2008).

## **Hypotheses**

Here we integrate findings from scholarship on attribution and appraisal theories of emotion to explore the impact of emotion on mass opinion in the domain of criminal justice. Specifically, we consider whether attributions for criminal behavior, preferences for punitive versus rehabilitative policies, and confidence in the criminal justice system are influenced by emotion. By investigating these three factors, we capture more than a simple evaluative response to the issue of crime. We gauge beliefs about the root causes of the problem, substantive policy solutions (rather than beliefs government should do or spend more or less to address the issue), and confidence in government institutions. As a result, this reflects a more comprehensive look at the political implications of emotion.

Consistent with appraisal theories of emotion, we expect discrete negative emotions to have distinct effects on attributions and ultimately policy attitudes. Anger should play a unique role in this context. An emotion frequently linked to appraisals of certainty, controllability, and individual responsibility or agency, anger should heighten individual attributions for criminal behavior, such as a belief that crime stems from a poor work ethic or lack of moral fiber. Anger should also correspond to preferences for punitive versus rehabilitative policies, and may bolster confidence in the criminal justice system's efficacy, consistent with associated appraisals of certainty.

The effects of sadness and fear on attributions and opinions should be distinct from those of anger. Sadness and fear are associated with appraisals of a lack of control and situational rather than individual responsibility. As a result, sadness and fear should heighten external or societal attributions for criminal behavior—such as failing communities, poor schools, and lack of good role models. We anticipate these feelings should also result in preferences for rehabilitative rather than punitive policies. As a result, these emotions may have similar effects on confidence in the criminal justice system, with both fear and sadness enhancing confidence. Finally, expectations for the effects of positive emotions—hope and enthusiasm—as well as differentiation among them are less clear. There is some evidence that positive emotions and anger have more in common than anger and other negative emotions (e.g., both promote approach behavior and are associated with appraisals of certainty), suggesting individual attributions, preferences for punitive policies, and heightened confidence in the criminal justice system should be observed.

## METHOD

Four hundred and thirty undergraduates at a large northeastern university participated in the study. Two hundred and three were male and 227 were female. Approximately 43% were White, 31% were Asian-American, 8% were African-American, 2% were Pacific-Islanders, 8% were Hispanic, and 8% of the sample did not reveal an ethnic background. There was also a relatively diverse mix of partisan and ideological beliefs in our sample. Fifty-six percent of our sample were Democratic identifiers, 21% Independent, and 23% Republican. Fifty-one percent were liberal, 30% moderate, and 19% conservative.

To examine the impact of emotion on attitudes toward crime and justice, a short opinion survey was administered. Participants first completed a self-reflective writing task where they were asked to write about a situation that made them angry, sad, hopeful, enthusiastic, or anxious, relative to a non-emotional control group. Participants were randomly assigned to one of these treatment conditions. Next, participants were asked to complete a survey on crime in the United States, which was followed with a number of questions about one's current emotional state. The survey included a number of questions

about the causes of crime in America—e.g., “I think that a major reason why crime is so high in this country is that many families do not have adequate incomes to care for their children,” “I believe that strong communities should keep people from turning to crime,” “There is nothing really different between criminals and non-criminals,” and “Just because someone commits a crime it doesn’t mean they’re a bad person.” The questions gauged 12 possible attributions for criminal behavior and reflected a mix of individual and social attributions. Following this, participants answered three questions regarding confidence in the criminal justice system (e.g., “How much confidence do you have in the people running the courts in this country?”), and a single item tapping attitudes toward punitive and rehabilitative policies (e.g., “The most promising solution to the problem of crime is to get tougher with all criminals.”).

Participants were also asked about a number of attitudes and demographic indicators. We included three items to assess Belief in a Just World (BJW) (e.g., “I think basically the world is a just place”; “I am confident that justice always prevails over injustice.”). The items formed a reliable scale ( $\alpha=0.69$ ). Similarly, nine factual knowledge questions were used to political knowledge scale ( $\alpha=0.69$ ). In our models, we also control for gender (1=female; 0=male), race (1=nonwhite, 0=white), and prior victimization (1=yes, 0=no). Ideology and party identification were also included, based on two 7-point self-placement items. These variables were recoded to range from 0 to 1, where high scores denote conservative and Republican leanings, respectively.

At the end of the survey, we asked 12 items about the discrete emotional state one was experiencing. Responses were measured on a four-point Likert scale, ranging from experiencing the emotion “not at all” to “great deal.” Two emotion questions were asked per discrete emotion (sadness, anxiety, anger, hope, and enthusiasm). From these two questions, scales were generated corresponding to the participant’s degree of felt anger ( $r_{\text{polychoric}}=0.81$ ), anxiety ( $r_{\text{polychoric}}=0.90$ ), sadness ( $r_{\text{polychoric}}=0.80$ ), enthusiasm ( $r_{\text{polychoric}}=0.78$ ), and hope ( $r_{\text{polychoric}}=0.75$ ). Each set of two items was combined and rescaled to range from 0 (not experiencing the emotion) to 1 (strongly experiencing the emotion). These discrete emotion scales were used to assess the effectiveness of the emotion manipulation. In subsequent covariance structure models, each of these categorical items was considered separately rather than in combined scale form. The exact question wording of all survey items used in this analysis and descriptive statistics for key variables are provided in an appendix.<sup>3</sup>

## RESULTS

### Manipulation Check

Prior to examining the substantive effects of emotions on policy beliefs, we considered whether the manipulations were effective in eliciting the expected discrete emotions. Mean reports of each emotional state by experimental condition are provided



in Table 1. Inspection of Table 1 suggests the manipulations were only moderately successful in evoking the expected emotion. For instance, felt anger was significantly higher in the anger condition ( $M=0.25$ ,  $SD=0.24$ ) than in the control condition ( $M=0.16$ ,  $SD=0.21$ ,  $t_{144}=2.37$ ,  $p<0.01$ ). However, reported levels of felt anger were comparable across *all* the emotional conditions relative to the control. Given the large number of pairwise comparisons, Tukey WSD type I error correction tests were conducted for all emotion manipulations across all manipulation checks. With respect to felt anger, the only comparison to reach significance was the contrast between anger and the control group.

***Table 1.*** Manipulation Check

Manipulation	Felt Anger	Felt Fear	Felt Sadness	Felt Enthusiasm	Felt Hope
Hope	0.21 (0.26)	0.23 (0.25)	0.29 (0.27)	0.46 (0.27)	0.61 (0.21)
Enthusiasm	0.22 (0.24)	0.19 (0.23)	0.22 (0.29)	0.43 (0.28)	0.55 (0.23)
Control	0.16 (0.21)	0.21 (0.26)	0.22 (0.25)	0.39 (0.25)	0.62 (0.25)
Sadness	0.23 (0.24)	0.28 (0.27)	0.34 (0.27)	0.45 (0.24)	0.60 (0.24)
Fear	0.23 (0.27)	0.19 (0.24)	0.33 (0.28)	0.43 (0.28)	0.61 (0.23)
Anger	0.25 (0.24)	0.23 (0.23)	0.26 (0.26)	0.41 (0.26)	0.54 (0.24)

Note: Means of reported discrete emotions by experimental condition. All variables have been recoded from 0 (no emotion) to 1 (high emotion). Cell entries are means with standard deviations in parentheses. Significance tests are Tukey WSD tests contrasting the emotion manipulation to the control condition. No values reached the 0.05 level of significance.

For some of the other experimental conditions, however, there were no observed differences in reported emotion relative to the control condition. None of the pair-wise comparisons across conditions were significantly different with respect to felt enthusiasm, for instance [ $F(5, 424) = 0.40$ , *ns*]. Counterintuitive effects emerged in the case of fear. Reported levels of fear were comparable across all conditions [ $F(5, 424) = 1.41$ , *ns*], and paradoxically, expressed fear was lower in the fear condition ( $M=0.19$ ,  $SD=0.24$ ) than in the control condition ( $M=0.21$ ,  $SD=0.26$ ), albeit the differences were not significant ( $t_{137} = 1.57$ , *ns*).

These results suggest the self-directed writing task did not elicit a single discrete emotional response in isolation—to the exclusion of all other forms of emotional experience. The observation that participants, particularly those in the negative emotion conditions, did not differ much with respect to professed negative emotions could be a function of several factors. First, this pattern of results could reflect a global tendency to state that one is experiencing a host of negative emotions, even though one is only experiencing a single, discrete emotion (Damasio, 1994). A growing body of work in

psychology has demonstrated a disconnect between self-report of emotion and one's somatic state. For instance, Innes-Ker and Niedenthal (2002) show that actually experiencing an emotion (the somatic experience) led to emotion congruent judgment, whereas the semantic activation of emotion (the semantic experience), did not. This suggests an important distinction between the semantic and somatic aspect of emotion. Participants may have been unable to consciously recognize the discrete emotional state they experienced in response to the manipulation, or activation may have been primarily semantic.

Second, some (or all) individuals may have experienced multiple emotions in response to the writing task. The co-occurrence of discrete emotions has been documented in previous work, as noted above in our discussion of multidimensional valence theories. For instance, Larsen and colleagues find that disappointing wins and relieving losses in a gambling task can simultaneously elicit both positive and negative feelings (Larsen, McGraw, Mellers, & Cacioppo, 2004). In addition, co-occurrence of anger and fear seems particularly common, even though these feelings exert somewhat divergent effects on attitudes and behavior (Lerner & Keltner 2000/2001; Huddy et al., 2007). Reports of "blended" emotional responses to the self-directed writing task could also point to a lack of specificity of the emotion manipulation. The task relies on respondents to identify an event or series of events that elicit a single emotional response. This may prove difficult, and as a result, participants instead may have selected an event that elicited multiple emotions.

### **A Discrete Structure?**

Ultimately, the experiment was successful in eliciting emotions, though not isolated discrete emotional states as anticipated. This overlap or co-occurrence raises questions about the discrete nature of emotional experience—specifically whether the discrete models advanced by cognitive appraisal theories are superior to the competing one or two-dimensional valence models. We approach this issue in two ways. First, it could be the case that specific emotions are experienced, but that these emotions were not consistently evoked by the manipulation itself. Anger may be different from fear, for instance, even if we do not find that our manipulations were consistently anger or fear evoking. To explore this, we rely on a series of confirmatory factor models to clarify whether a discrete emotion model applies here.

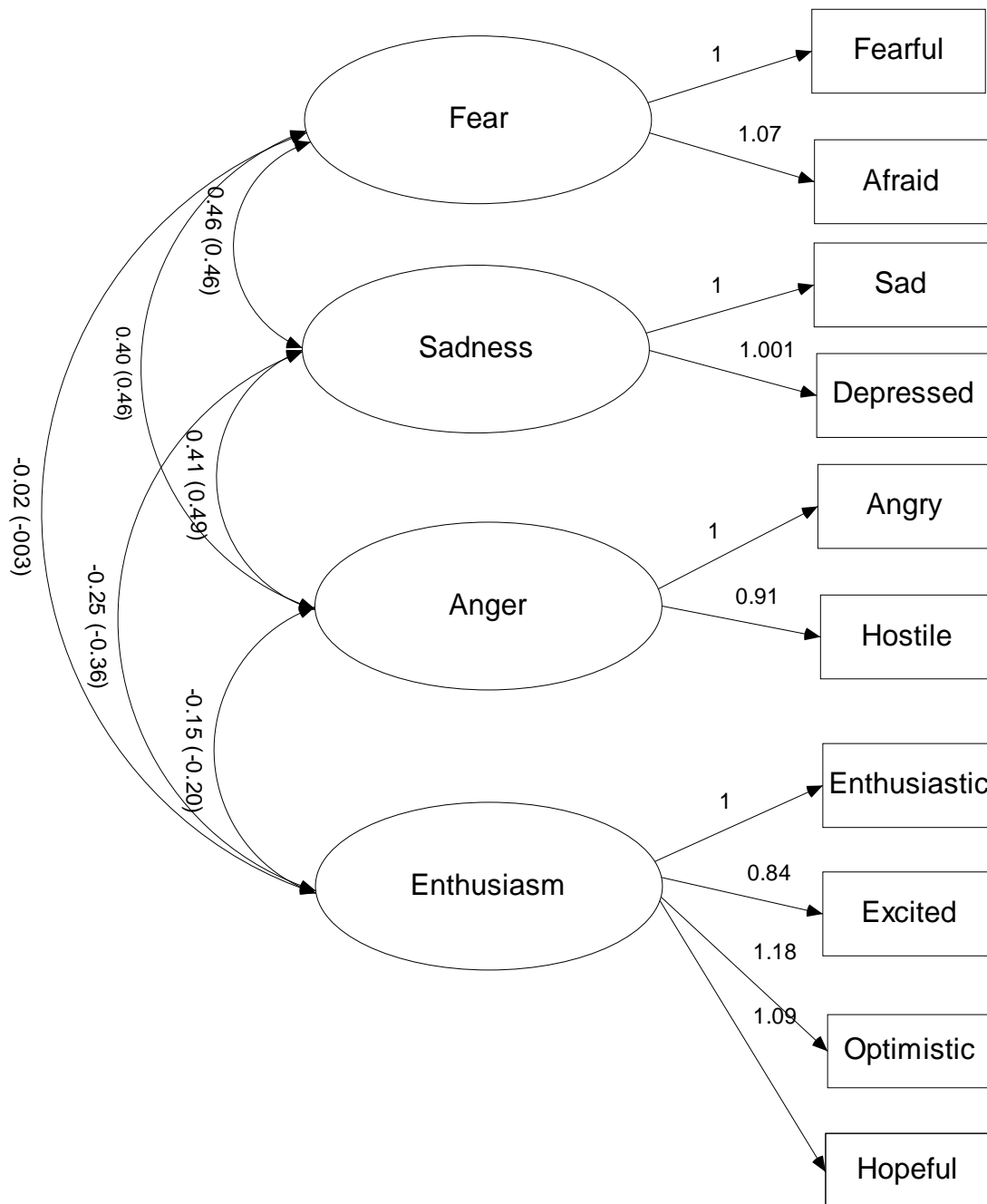
Second, if emotions can be differentiated, then one way to examine their relation to attributions is by specifying a covariance structure model. By specifying a model where anger, sadness, fear, and enthusiasm are unique constructs that in turn predict attitudes, this will allow us to examine whether there are relationships between a given emotion and attitudes, *controlling for the other emotions*. It is important to note that the inconsistent results regarding the manipulation on emotional reactions will not lessen the

ability to identify important relationships between emotions and attributions. It is conceivable—indeed, quite likely—that anger, fear, enthusiasm, and sadness have unique and differentiated effects on attributions. The covariances between these emotions and attributions can be modeled; the lack of treatment effect, however, mitigates our ability to firmly state that attributions cause emotions, rather than vice versa.

Below, we evaluate the structure of emotional experience using confirmatory factor analysis. We then investigate the effects of these experimentally induced feelings on attitudes toward crime. To this end, we employ covariance structure models, which allow us to model the shared variation of experienced emotions, as well as isolate and evaluate the effects of emotion-specific variance on attributions for criminal behavior and attitudes toward the criminal justice system. To evaluate the structure of emotional responses to the self-directed writing task, we compared three alternative specifications that correspond to bipolar, two-dimensional, and discrete models of human emotion.

First, we examined a parsimonious model where discrete emotions collapse to a bipolar positive-negative affect factor. In this model, all the emotions items were allowed to load on a single factor. This model yielded an extremely poor fit to the data. Both the comparative fit index (CFI) and Tucker Lewis fit index (TLI) demonstrated a poor fit (CFI=0.59, TLI=0.47), as did the root mean squared error of approximation (RMSEA=0.41). A second model where the positive emotions load on one factor and the negative loads on a separate, correlated factor only marginally improved the fit (CFI=0.89, TLI=0.89; RMSEA=0.25). When these first two models were compared to a discrete emotions model where anger, sadness, anxiety, and enthusiasm were estimated as separate, but correlated, latent factors, the factor model yielded a better fit to the data (CFI=0.93; TLI=0.93; RMSEA=0.11). Specifying a discrete emotion model where enthusiasm and hope were unique constructs only marginally improved the fit (CFI=0.99, TLI=0.99; RMSEA=0.09). Because we didn't have any theoretical explanations as to how hope would differ from enthusiasm, and because estimating hope and enthusiasm as unique led to identification problems in subsequent models, we chose to combine hope and enthusiasm items into a single "enthusiasm" construct. Finally, a LaGrange Multiplier test indicated that the errors between two of the positive emotions—optimism and hope—were significantly related. After specifying a correlation between these errors, the model fit improved dramatically, indicated by a good fit indices (RMSEA=0.077; CFI=0.99, TLI=0.99). As such, we include this correlated error in all subsequent models.<sup>4</sup> The model is depicted graphically in Figure 1.

**Figure 1.** Confirmatory Factor Model for Emotion Items



**Note:** Entries are unstandardized Mean and Variance Adjusted Weighted Least Squares estimates. Standardized estimates are in parentheses. All entries are significant at the 0.01 level. With the exception of covariances between latent factors, variances and covariances are excluded from the figure for parsimony, but can be obtained upon request. A covariance between the errors for enthusiastic and excited indicators was specified in this model. CFI=0.99, TLI=0.98, RMSEA=0.077.

While the discrete model is preferred to the valence models, it is important to note the presence of more differentiation among negative than positive emotions. However, even among negative emotions factors correlations were substantial. Sadness and fear were most highly correlated ( $\varphi_{\text{standardized}}=0.56$ ), followed by anger and sadness ( $\varphi_{\text{standardized}}=0.49$ ), and next by anger and fear ( $\varphi_{\text{standardized}}=0.46$ ); enthusiasm was only moderately correlated with the negative emotions (enthusiasm and anger [ $\varphi_{\text{standardized}}=-0.20$ ], enthusiasm and sadness [ $\varphi_{\text{standardized}}=-0.36$ ], and enthusiasm and fear [ $\varphi_{\text{standardized}}=-0.03$ ]). The high correlation between several of the negative emotion constructs suggests that perhaps they are not unique. We tested this expectation already, however, by comparing the model in Figure 1 to a model where only two dimensions were specified; recall that we found that the best fitting model allows the constructs in Figure 1 to be freely estimated, meaning that it would be problematic to treat the emotions in our study as “positive” versus “negative.” It is conceivable, however, that some of the negative emotions specified in Figure 1 can be collapsed—perhaps fear and sadness should be a dimension, rather than separately specified. We test this by analyzing the overall model fit for a three-factor model where fear and sadness is one dimension, and anger and enthusiasm are the remaining dimensions. This model provides a very poor fit-to-data (RMSEA=0.17). Likewise, anger and sadness should be modeled as separate, since modeling them as one construct worsens the model fit (RMSEA=0.14). In addition, anger and fear also should be treated as separate dimensions (RMSEA=0.15).

Because of the high correlations between many of these emotion factors, we estimated a second order factor to account for relations among latent factors (CFI=0.98, TLI=0.97, RMSEA=0.107). All lower order factors were found to significantly load on this general order affect factor, which comports with the notion that affective responses fall within a hierarchical structure with a higher order dimension predicting discrete emotions (Watson, Wiese, Vaidya, & Tellegen, 1999).<sup>5</sup> While estimating a higher order factor also improves the model fit in many of our substantive models, it is important to note inclusion of this factor does not undermine our support for a discrete model of emotion. Instead, the higher order factor is a reflection of the relationship between individual emotional states based on valence—that is, valence is necessary but not sufficient for understanding and modeling human emotion. Emotions cannot be reduced to one or two factors. The argument for discrete emotions stemming from cognitive appraisal theory is bolstered by evidence that similarly valenced emotions like anger and fear have differentiated effects on attitudes and behavior. Below, we investigate the effects of anger, sadness, fear, and enthusiasm and attributions for criminal behavior on attitudes toward the criminal justice system.

## Crime Attributions

Before considering the effects of emotion on attributions for criminal behavior, it is important to note that attributions too may be multidimensional in nature. While much of the literature on attributions of responsibility distinguishes between individual and societal attributions for human behavior, others note greater complexity (Zucker & Weiner, 1993). For example, Appelbaum (2001) notes the public tends to make three types of attributions for poverty—individual, societal, and sociocultural. Sociocultural attributions are neither strictly under individual control nor are they a function entirely of social factors. Consider poverty as an example. A sociocultural attribution would be: “S/He had no role models and as a result never learned appropriate behavior for keeping a job—like arriving at work on time.” Multiple dimensions have also been found in studies of attributions for poverty in developing nations. For example, Hine and Montiel (1999) uncover five dimensions including: exploitation, categorical weakness of the poor, natural causes, conflict, and poor government (see also Harper, Wagstaff, Newton, & Harrison 1990).

Here, we investigate attributions for criminal behavior to determine whether the basic individual-societal dimension is reproduced or if a more complex structure governs attributions in this domain. To this end, an exploratory factor model was conducted and factors with eigenvalues greater than 1 were retained. This led to a three-factor solution, which was rotated using an oblique (quartimin) rotation. Of the 12 items meant to assess attributions regarding the causes of crime, all of the items were found to cleanly load on one of the three dimensions. The three-factor solution is shown in Table 2 and largely mirrors the attribution dimensions observed in other domestic policy domains (Cozzarelli, Wilkinson, & Tagler, 2001; Zucker & Weiner, 1993). An internal attribution dimension emerged where individual or person-based factors are viewed as the cause of crime—e.g., “People break the law because they don’t want to make an honest living.” However, two more society-oriented factors were retrieved, one corresponding to societal attributions, where factors like widespread poverty are believed to be the cause of crime; and the other corresponding to more sociocultural attributions, such as “How much influence do you think good teachers and schools have on preventing people from turning to crimes.” This structure is consistent with the three factors retained by Appelbaum (2001) for the case of poverty. The correlations between factors were marginal, never exceeding 0.25. The strongest correlation emerged between internal and sociocultural attributions ( $\Gamma = -0.21$ ). The model fit is adequate (CFI=.97, TLI=.93, RMSEA=.09), and is better fitting than alternative solutions.

To assess the effect of emotion on attributions, we use a structural equation modeling approach with latent variables corresponding to each of our key constructs. We define four latent emotion factors consistent with the discrete emotion factor structure as defined above. Because we did have an experimental component to our study, a criticism

of any causal model where expressed emotions influence political attitudes is that expressed emotions are not exogenous, i.e., the emotion manipulation is the proximal antecedent to expressed emotions, which in turn predicts political attitudes. To account for this possibility, we generated dummy variables corresponding to the emotion conditions, with the control condition serving as the baseline or excluded category. We allow the experimental dummy variables to predict the emotion constructs, which are, in turn, allowed to predict the attitudes toward crime, consistent with a Multiple Indicator Multiple Cause (MIMIC) modeling approach. This can be viewed as a mediation model where the experimental condition predicts the experience of discrete emotion states, which in turn predict attributions for criminal behavior, preferences for punishment versus rehabilitation, and attitudes toward the criminal justice system.<sup>6</sup> It is comparable to an instrumental variables model with observed independent variables. The models were subsequently estimated using robust weighted least squares (WLSMV). As such, the latent variables “predict” the observed responses via an ordered probit link. The estimated effects of emotion on attributions are shown in Table 3. On the whole, the model provided a good fit to the data. The sample size was large enough to generate a significant chi-square,  $\chi^2(112) = 233.904$ ,  $p < .001$ , though the CFI, the TLI and the RMSEA indicated a reasonable fit, with CFI = .93, TLI = 0.94, and RMSEA = .055. Moreover, the chi-square to degrees-of-freedom ratio for the model was less than 3 (i.e.,  $\chi^2/df = 2.09$ ) indicating desirable fit.

Looking first at relationships between the discrete emotions and crime appraisals, the results are consistent with our expectations. We see distinct effects of discrete negative emotions on attributions, consistent with cognitive appraisal theory. The key distinction observed here is between the negatively valenced emotions fear, anger, and sadness. Fear, an emotion associated with perceptions of uncertainty and external responsibility, significantly predicts sociocultural attributions ( $\beta = .15$ ,  $p < 0.01$ ;  $\beta_{\text{standardized}} = .19$ ), but not individual attributions ( $\beta = 0.01$ , ns;  $\beta_{\text{standardized}} = 0.01$ ) nor societal attributions ( $\beta = 0.05$ , ns;  $\beta_{\text{standardized}} = -0.07$ ). Anger, an emotion corresponding to control and perceptions of individual control, predicts individual attributions ( $\beta = .14$ ,  $p < .01$ ,  $\beta_{\text{standardized}} = .19$ ), but not societal attributions ( $\beta = .08$ , ns,  $\beta_{\text{standardized}} = .12$ ). Nor does anger predict sociocultural attributions ( $\beta = -.08$ , ns,  $\beta_{\text{standardized}} = -.11$ ). While anger and fear diverge, sadness is distinct in having no effect on any of the three types of attributions considered. Similarly, we find no effect of enthusiasm on individual, societal, and sociocultural attributions.

**Table 2. Exploratory Factor Analysis of Crime Attitudes**

Item	Societal	Individual	Sociocultural
Crime is caused by poverty.	0.84*	-0.05	-0.03
Crime is caused by discrimination	0.59*	-0.10	0.00
Crime is caused from parents having inadequate income to care for children.	0.74*	0.04	0.06
A bad family upbringing leads to crime.	0.19	-0.16	0.59*
Strong communities turn people away from crime.	0.05	0.07	0.61*
Good teachers and schools prevent people from turning to crime.	-0.01	0.03	0.65*
Good parenting will prevent people from turning to crime.	-0.18	-0.03	0.73*
Abuse and neglect lead many people toward criminal behavior.	0.11	0.09	0.65*
People commit crime because they lack a strong moral fiber.	0.00	-0.48*	0.33
People break the law because deep down they're evil.	0.01	-0.80*	-0.07
People break the law because they do not want to make an honest living.	0.05	-0.64*	0.07
Just because someone breaks the law does not mean they're a bad person.	0.13	0.57*	0.06
<b>Model Fit</b>			
CFI/TLI		0.97/0.93	
RMSEA		0.090	
SRMR		0.033	
<b>Factor Correlations</b>			
	External	Internal	Cultural
External	1		
Internal	0.08	1	
Cultural	0.17	-0.21	1

Note: \*  $p < .05$

With respect to individual attributions, an interesting and intuitive effect emerged for Belief in a Just World ( $\beta = .25, p < 0.01, \beta_{\text{standardized}} = .23$ ) and political conservatism ( $\beta = .95, p < 0.001, \beta_{\text{partially-standardized}} = 1.38$ ). Similarly, political conservatism was inversely related to societal attributions ( $\beta = -.42, p < 0.05, \beta_{\text{partially-standardized}} = -0.68$ ). These results partially support the hypothesis that emotions characterized by appraisals of uncertainty and situational control—namely fear—led to attributions of social causes of crime. Anger, on the other hand, was found to promote individual causes of crime, perhaps



because this emotion is associated with greater certainty, controllability, and heightened perceptions of human agency (Ellsworth & Scherer, 2003).

### **Consequences for Political Beliefs**

Beyond their impact on attributions for criminal behavior, what are the consequences of discrete emotions for individuals' general beliefs about the criminal justice system? Do emotional reactions promote confidence or dissatisfaction with the court? Do these emotions predict punitive beliefs? Previous work has suggested that anger, for instance, leads to a greater tendency to aggress against powerful outgroups (Mackie, Devos, & Smith, 2000), and because anger facilitates risk seeking behavior (Lerner & Tiedens, 2006), it promotes more approach oriented responses to aversive events. Similarly, Lerner, Goldberg, and Tetlock (1998) found that anger contributed to preferences for punitive treatment of defendants in a fictitious tort court. Thus, we suspect that anger will lead to more punitive attitudes in reference to the ways in which crime can be controlled; whereas sadness and fear will lead to less punitive beliefs and stronger preferences for rehabilitative programs.

Similarly, these emotions may shape confidence in the very institutions designed to administer justice and prevent crime. In order to explore this, we extended our model by allowing the same variables to predict confidence in various political institutions and punitive beliefs. The model we estimated in Table 3 was simply extended to test this. Rather than exploring the effects on attributions, the dependent variables are punitive beliefs and confidence in various institutions. Punitive beliefs and confidence were included in the survey as single item indicators; as such, the estimates in Table 3 are ordered probit coefficients.<sup>7</sup>

The results are presented in Table 4. The overall model fit was good (CFI=0.93, TLI=0.92, RMSEA=0.07). The model underscores the importance of modeling emotions as discrete entities. For instance, anger and fear consistently had countervailing effects on punitive beliefs. While anger was found to promote punitive beliefs ( $\beta = .27$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = 0.25$ ), fear had an inverse effect ( $\beta = -.16$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = 0.25$ ). Yet no significant effects for punitiveness emerged for sadness, as was the case for attributions of criminal behavior. Again, we see three distinct patterns of results for our three negatively-valenced emotions. Also, there is no relationship between feelings of enthusiasm and punitive beliefs, suggesting people who are in a more positive mood do not necessarily hold more generous attitudes toward criminals.

**Table 3. Covariance Structure Model of Emotions and Crime Attributions**

	<b>Societal Attributions</b>		<b>Sociocultural Attributions</b>		<b>Individual Attributions</b>	
Fear	0.05 (0.05)	-0.07	0.15 (0.06)*	0.19	0.01 (0.05)	0.01
Anger	0.08 (0.05)	0.12	-0.08 (0.06)	-0.11	0.14 (0.07)*	0.19
Sadness	-0.07 (0.06)	-0.10	0.03 (0.07)	0.03	-0.06 (0.07)	-0.09
Enthusiasm	-0.06 (0.05)	-0.07	0.09 (0.05)	0.10	-0.01 (0.05)	-0.01
Knowledge	-0.04 (0.05)	-0.12	-0.04 (0.05)	-0.12	0.07 (0.06)	0.12
Just World Beliefs	0.14 (0.08)	0.01	0.14 (0.08)*	0.12	0.25 (0.09)*	0.23
Ideology	-0.42 (0.21)*	-0.68	0.36 (0.22)	0.50	0.95(0.21)*	1.38
PID	-0.07 (0.17)	-0.12	-0.14 (0.19)	-0.21	-0.09 (0.18)	-0.14
Female	0.06 (0.08)	0.09	-0.16 (0.09)*	-0.23	-0.04 (0.08)	-0.06
Non-White	-0.27 (0.08)*	-0.44	-0.01 (0.08)	-0.01	0.05 (0.08)	0.07
Victim	-0.01 (0.07)	-0.01	-0.05 (0.08)	-0.07	0.06 (0.08)	0.09

<b>Manipulation</b>	<b>Fear</b>		<b>Sadness</b>		<b>Anger</b>		<b>Enthusiasm</b>	
Hope	0.19 (0.19)	.20	0.33 (0.20)	.33	0.34 (0.20)*	.34	0.06 (0.15)	.10
Sad	-0.07 (0.19)	-.12	0.47 (0.20)*	.54	0.28 (0.19)	.25	0.10 (0.15)	.14
Fear	0.33 (0.18)*	.22	0.49 (0.20)*	.54	0.27 (0.20)	.34	0.01 (0.15)	.01
Enthusiasm	-0.08 (0.20)	-.23	0.02 (0.20)	.09	0.32 (0.20)	.29	-0.09 (0.14)	-.11
Anger	0.01 (0.21)	.02	0.26 (0.19)	.10	0.38 (0.19)*	.44	-0.12 (0.15)	-.15

<b>Model Fit</b>	
$\chi^2$ /DF	233.904/112
CFI/TLI	0.94/0.93
RMSEA	0.05

Table 3 Note: Effects of emotions on attributions of responsibility. Entries are unstandardized WLSMV estimates with standard errors in parentheses. The columns in italics are the standardized and partially standardized effects of the independent variables with respect to attributions. Relationships between latent variables are fully standardized, whereas relationships between latent and observed variables are partially standardized. Anger, Fear, Enthusiasm, Sadness, Knowledge, and Just World Beliefs are modeled as latent variables. Ideology and PID are coded 0 to 1 where high scores denote conservatism and Republican identification, respectively. Female is coded 1 for females, 0 for males; White is coded 1 for whites, 0 for non-whites. Non-victim is based on a single item: have you ever been a victim of a crime? 1=No, 0=Yes. Although we omit factor loadings (all of which were statistically significant), variances and covariance's; disturbances and disturbance covariances from this table, these statistics can be obtained by the authors upon request. Entries marked with "\*" are significant at the  $p < 0.05$  level.

The results for confidence in the criminal justice system ran counter to expectation, though again anger and fear were found to have countervailing effects. Anger consistently reduced confidence in the courts, local law enforcement, and the government in general (courts:  $\beta = -.30$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = -.27$ ; local law enforcement:  $\beta = .25$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = -0.22$ ; government:  $\beta = -.17$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = -0.17$ ). As for fear, non-significant effects emerged for confidence in the courts and the government, though fear did marginally increase confidence in local law enforcement ( $\beta = .17$ ,  $p < 0.06$ ,  $\beta_{\text{standardized}} = 0.15$ ). Similarly, sadness increased confidence in the courts ( $\beta = .24$ ,  $p < 0.05$ ,  $\beta_{\text{standardized}} = 0.23$ ) but not in law enforcement or government. However, confidence in law enforcement and government is the one area in which enthusiasm seems to matter. In both cases, enthusiasm bolsters confidence in these institutions.

These results, coupled with our findings for attribution, share a common theme: emotions of the same valence can have unique and differentiated effects for how political issues are considered. In particular, anger stands out among negative emotional states as uniquely effecting attitudes toward crime and punishment. Fear also plays an important role, having effects that commonly run counter to anger. This result is consistent with work on attitudes toward 9/11, which show marked differences in the effects of these emotional states on political thinking (e.g., Huddy et al 2005; 2007). In the case of crime, anger – an emotion marked by individual attributions, blame, confidence, and certainty – was found to heighten individual attributions, promote punitive beliefs, and reduce confidence in government institutions. Fear, marked by attributions of uncertainty and insecurity, had a very different effect, leading to more systemic, sociocultural attributions, reduced preferences for punitive policy, and more trust in political institutions. Interestingly, sadness is distinct from both anger and fear in that it has very little affect on attributions and attitudes in this domain. In this respect, it was more similar to enthusiasm, which also had negligible effects on attitudes, with the exception of confidence in law enforcement and government.

**Table 4. Covariance Structure Model of Emotions and Crime Attitudes**

	<b>Punitive Beliefs</b>		<b>Confidence in Courts</b>		<b>Confidence in Law Enforcement</b>		<b>Confidence in Government</b>	
Fear	-0.16 (0.08)*	-0.15	-0.13 (0.10)	-0.12	0.17 (0.08)	0.15	-0.11 (0.10)	-0.10
Anger	0.27 (0.09)*	0.25	-0.30 (0.10)*	-0.27	-0.25 (0.09)*	-0.22	-0.17 (0.09)*	-0.16
Sadness	-0.08 (0.11)	-0.08	0.24 (0.10)*	0.23	0.12 (0.10)	0.11	0.08 (0.11)	0.08
Enthusiasm	-0.11 (0.07)	-0.08	0.11 (0.08)	0.09	0.21 (0.08)*	0.16	0.21 (0.08)*	0.16
Knowledge	-0.23 (0.20)*	-0.07	0.14 (0.21)	0.04	0.59 (0.21)*	0.17	0.34 (0.20)	0.09
Just World Beliefs	0.17 (0.09)*	0.10	0.42 (0.10)*	0.25	0.15 (0.09)	0.08	0.31 (0.09)*	0.18
Ideology	0.70 (0.32)*	0.70	-0.03 (0.34)	-0.03	-0.01 (0.31)	-0.06	0.27 (0.30)	0.27
PID	-0.27 (0.28)	-0.27	0.26 (0.29)	0.26	-0.08 (0.26)	-0.08	0.34 (0.27)	0.34
Female	-0.20 (0.12)*	-0.20	-0.14 (0.13)	-0.14	-0.25 (0.13)*	-0.25	-0.07 (0.12)	-0.07
White	-0.14 (0.08)	-0.14	0.07 (0.12)	0.07	0.33 (0.12)*	0.33	0.07 (0.11)	0.07
Non-Victim	0.08 (0.12)	0.08	0.25 (0.13)*	0.25	0.17 (0.12)	0.17	0.10 (0.12)	0.10
Threshold 1	-1.63		-1.40		-1.62		-1.33	
Threshold 2	-1.02		-0.20		-0.78		0.05	
Threshold 3	-0.52		1.71		0.82		1.96	
Threshold 4	0.25		---				---	
Threshold 5	1.10		---				---	

<b>Manipulation</b>	<b>Fear</b>		<b>Sadness</b>		<b>Anger</b>		<b>Enthusiasm</b>	
Hope	0.19 (0.19)	.20	0.33 (0.20)	.33	0.34 (0.20)*	.34	0.06 (0.15)	.10
Sad	-0.07 (0.19)	-.12	0.47 (0.20)*	.54	0.28 (0.19)	.25	0.10 (0.15)	.14
Fear	0.33 (0.18)*	.22	0.49 (0.20)*	.54	0.27 (0.20)	.34	0.01 (0.15)	.01
Enthusiasm	-0.08 (0.20)	-.23	0.02 (0.20)	.09	0.32 (0.20)	.29	-0.09 (0.14)	-.11
Anger	0.01 (0.21)	.02	0.26 (0.19)	.10	0.38 (0.19)*	.44	-0.12 (0.15)	-.15

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***Table 4 (Continued...)***. Covariance Structure Model of Emotions and Crime Attitudes**Model Fit**

$\chi^2$ /DF	355.304/129
CFI/TLI	0.93/0.92
RMSEA	0.07

**Table 4 Note:** Effects of emotions on punitive beliefs and confidence in various institutions. Entries are unstandardized WLSMV estimates with standard errors in parentheses. The columns in italics are the standardized and partially standardized effects of the independent variables with respect to attributions. Relationships between latent variables are fully standardized, whereas relationships between latent and observed variables are partially standardized. Anger, Fear, Enthusiasm, Sadness, Knowledge, and Just World Beliefs are modeled as latent variables. Ideology and PID are coded 0 to 1 where high scores denote conservatism and Republican identification, respectively. Female is coded 1 for females, 0 for males; White is coded 1 for whites, 0 for non-whites. Non-victim is based on a single item: have you ever been a victim of a crime? 1=No, 0=Yes. Although we omit factor loadings (all of which were statistically significant), variances and covariances; disturbances and disturbance covariances from this table, these statistics can be obtained by the authors upon request. Entries marked with "\*" are significant at the  $p < 0.05$  level.

## DISCUSSION

Perhaps the most intuitive view of human emotions considers its discrete forms. And in recent years, the notion that specific emotions are unique in their physiological, neurological, behavioral, and attitudinal consequences, has been supported by numerous studies. Many of these theories contend that a core set of emotions exist and are universal: sadness, fear, anger, happiness, surprise, and disgust. Dimensional models of emotions, however, have challenged this view, where it has been suggested that several dimensions underlie emotional reactions. Debate as to what these dimensions consist of has been contentious, focusing on rotation schemes, question wording effects, measurement error, and language variation.

The findings in this study underscore the complexity of emotional experiences. Ascribing solely to a one or two-dimension understanding fails to capture the richness of human emotion. The discrete view of emotions is that emotions consist of unique patterns of physiological, neural, cognitive, behavioral, and motivational tendencies. Yet this *does not* mean that emotions cannot co-occur, nor does it mean that emotions are completely independent of one another. In this study, our factor models indicated that some of the emotions dimensions were highly correlated. At first blush, this would seem to undermine our expectations that the emotions we explore were unique, differentiated constructs. Yet despite such overlap, specific emotions do have unique and differentiated consequences for political attitudes and behavior. We illustrated that emotions follow more of a discrete structure—they vary in experience. Ultimately, a stronger test of a discrete model of emotion is that specific emotions should have unique consequences for deliberation and behavior—that is, emotions should also vary in their political expression. In a series of covariance structure models, we showed just this—that anger, sadness and fear vary in their effects on political thinking.

The results from this study affirm the importance of attending to discrete emotional states rather than classifying them by mere valence. We found divergent effects only among negative emotions—fear, sadness, and anger—consistent with much of the existing literature on human emotion. Of the negative emotions examined here, anger emerged as rather distinct from the other emotions. Anger had strong and consistent effects on attributions for criminal behavior, preferences for punishment, and attitudes toward the criminal justice system that diverged from the effects of sadness and fear. Anger produced individual attributions for criminal behavior, while fear was weakly related to societal and sociocultural attributions. Anger produced a strong preference for punitive rather than rehabilitative solutions to the problem of crime, while fear promoted preferences for rehabilitation. These findings are likely the result of different appraisal and motivational tendencies accompanying these discrete emotional experiences. Anger is unique among the negative emotions examined here in that it is associated with appraisals of certainty, personal efficacy and injustice, in addition to a motivation to punish. Sadness and fear tend to elicit appraisals of situational control, uncertainty, and lack of personal control or efficacy, in addition to withdrawal motives, though fear has more consistent effects here on attitudes toward crime.

The study also builds upon a large body of literature on attribution theory. As others have argued, we too contend that understanding how people reason about the antecedents of political issues is central to public opinion research. Causal attributions feature prominently in a number of studies on mass opinion (Iyengar, 1989/1990; Nelson, 1999; Zucker & Weiner, 1993; Skitka, 1999; Weiner, 2006; Carroll, Perkowitz, Lurigio, & Weaver, 1987; Kluegel & Smith, 1986; Skitka, Mullen, Griffin, Hutchinson, & Chamberlin, 2002). The distinction between individual and social attributions has been used to explain divergent beliefs in an array of domains, including beliefs toward racial groups, poverty, moral attitudes, and obesity. In this project, we extended this line of inquiry by demonstrating that emotions are central to the attribution process. Anger, sadness, fear, and enthusiasm were found to variably influence the considerations brought to mind when reasoning about crime and justice policy.

It is important to underscore the limitations of our findings. First, our experimental manipulation was relatively ineffective at eliciting a single discrete emotion. This inevitably makes it more difficult to make causal statements. In this study, a primary motivation was to avoid an experimental manipulation that activated cognitive representations of crime. Subsequently, we felt it problematic to use a targeted emotional manipulation (e.g., "Thinking about the issue of criminal justice policy, what about it makes you angry?"). This is why we chose an incidental emotion manipulation. By doing this, however, we may have inadvertently made it difficult to elicit a discrete emotion. Future research should explore the efficacy of various emotion manipulations by determining what types of manipulations evoke a blend of emotions or a single emotion.

Second, the observed effects of these emotional states on confidence in the criminal justice system ran counter to expectation. While we expected anger to heighten confidence in the system, angry respondents reported significantly less confidence than their sad and fearful counterparts. Research on emotion and trust proves insightful in trying to understand this apparently counterintuitive finding. For example, Dunn and Schweitzer (2005) find that relative to a host of positive and negative emotions, anger leads to diminished interpersonal trust. It may be the case that while anger boosts personal efficacy and perceptions of certainty these appraisals do not translate into perceptions of the effectiveness of key governmental institutions. Anger may depress trust in government and its agents in a similar fashion to interpersonal trust. Fear and sadness increased confidence slightly, though the effects were not consistent across all indicators of institutional confidence. While these emotions are associated with appraisals of uncertainty and lack of efficacy, it may be the case that these individuals are more reliant on government to buffer these negative feelings. Further empirical research is required to understand this link between emotions and confidence in government.

Ultimately, our findings point to a strong link between emotion and political cognition. The influence of emotion on attribution is likely a fruitful area for future research, as causal attributions underlie many political attitudes and are strongly related to ideological thinking (Skitka & Tetlock, 1993). Further study of the relationship between emotion and attribution is likely to afford insights into the determinant of attitudes in other public opinion domains such as

redistributive politics, international aid, and national defense. Only by incorporating the role of discrete emotions into the study of public opinion research will we more fully understand the bases of political attitudes.

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**Footnotes:**

1. We recognize that *affective intelligence theory* is not inherently a valence theory of emotion. Rather, it is a multidimensional model of emotion: one dimension is defined by positive emotions (the disposition dimension), and a second dimension is anchored by negative emotions (the surveillance dimension). Empirically, however, affective intelligence researchers tend to pit positive emotions against negative emotions, demonstrating that positive emotions have qualitatively different consequences for political judgment relative to negative emotions. The focus in this research tends not to be discrete emotions.
2. A parallel literature in attribution theory contends that emotions are the proximal consequence of three dimensions: locus of cause, stability, and certainty (Weiner, 2006). These three dimensions are qualitatively similar to three of the dimensions in appraisal theory: certainty, controllability and responsibility. To avoid confusion, we use the terms used in appraisal theory.
3. We purposely asked policy questions prior to emotion questions so as to rule out the possibility of order effects in our analyses. Since the emotion questions were always asked after the policy items, our structural models presented below cannot be explained by question order.
4. This correlation between errors did not significantly improve the model fit for the one or two dimensional models.
5. Estimating this factor was also necessary because of a non-positive definite theta (residual covariance) matrix in the causal models estimated later in the paper.
6. Several additional covariances between error terms were also specified. (1) Between three response items on crime and poverty: "Crime is caused by the widespread poverty in this country", "Discrimination in this country has led to an increase in the crime rate," and "I think that a major reason why crime is so high in this country is that many families do not have adequate incomes to care for their children." And, (2) between the error terms for the response items: "I feel excited" and "I feel enthusiastic." Omitting these covariances did not change the substantive relationships in the paper, though a



LaGrange multiplier test did indicate that these errors were significantly related and affected model fit.

7. The punitive belief and confidence items did not form a reliable scale, so they were analyzed individually. All the parameters were estimated simultaneously, as opposed to running a number of individual regressions, though the substantive results are identical irrespective of the strategy used. Again, we specify a mediated relationship and allow the emotion manipulation to predict reported emotional experience. Due to the categorical nature of the latent independent variables, the model was estimated using robust weighted least squares.

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## APPENDIX

### I. Survey Materials

#### Instructions:

*Thank you for agreeing to participate in this study. You will actually be taking part in two short studies which have been combined for the sake of convenience. The purpose of these studies is to measure the effects of automatic and conscious deliberation on political judgments. The first study is about memory and how well people recall events over time. The second study is meant to gauge students' beliefs about social policy. In total, your part will involve spending approximately 10 minutes completing a writing exercise and 20 minutes answering questions.*

#### **Respondents were randomly assigned to 1 of 6 conditions**

##### [ANGER]

- (1) Please write down 3–5 things that make you most [angry]? After this, write several sentences about each thing that makes you [angry (think of things like being treated unfairly, or being offended)].
- (2) Now, please describe to us in more detail the one situation that makes you MOST [angry]? It could be anything from the present or past. Begin by writing down the event that makes you angry, and continue writing as detailed a description as possible.
- (3) Now, write your description so that it is clear why it makes you [angry]. Write it so that when someone else reads it, it will make them [angry]. Explain the situation and why it makes you so [angry]?

*Note: Sadness, Fear, Hope, and Enthusiasm manipulations were nearly identical. The only difference is the bracket items.*

### ATTITUDES TOWARD CRIME

*Emotions* (Note: Headings were not in the actual survey)

1. How angry do you feel? [anger indicator]
2. How hostile do you feel? [anger indicator]
3. How hopeful do you feel? [enthusiasm indicator]
4. How fearful do you feel? [fear indicator]
5. How afraid do you feel? [fear indicator]
6. How sad do you feel? [sadness indicator]

7. How depressed do you feel? [sadness indicator]
8. How enthusiastic do you feel? [enthusiasm indicator]
9. How excited do you feel? [enthusiasm indicator]
10. How optimistic do you feel? [enthusiasm indicator]

#### *Societal Causes of Crime*

1. Crime is caused by the widespread poverty in this country.
2. Discrimination in this country has led to an increase in the crime rate
3. I think that a major reason why crime is so high in this country is that many families do not have adequate incomes to care for their children.
4. A bad family upbringing makes people more inclined to break the law.
5. I believe that strong communities should keep people from turning to crime.
6. Good teachers and schools prevent people from turning to crime.
7. Good parenting will prevent people from committing crimes.
8. Abuse and neglect leads many people toward criminal behavior.

#### *Individual Causes of Crime*

1. People commit crimes because they lack a strong moral fiber.
2. People break the law because deep down they're evil.
3. Just because someone commits a crime it doesn't mean they're a bad person.
4. People that break the law do so because they don't want to make an honest living.

#### *Confidence in the courts*

1. How much confidence do you have in the people running the Courts in this country?
2. Do you think that local law enforcement makes people safer in your community or not?
3. How confident are you that the government has put in place adequate controls to reduce violent and non-violent crimes.

#### *Punitive Beliefs*

1. Do you agree or disagree with the following statement: Serious crimes deserve serious punishment, no matter who commits them?

#### *Victimization*

Have you ever been a victim of crime? (1=Yes, 2=No)



*Belief in a Just World*

1. I think basically the world is a just place.
2. I believe that, by and large, people get what they deserve.
3. I am confident that justice always prevails over injustice.

*Knowledge*

1. What job or political office does Dick Cheney currently hold?
2. What job or political office does Tony Blair hold?
3. What job or political office does Dennis Hastert hold?
4. What are the first 10 amendments to the Constitution called?
5. Whose responsibility is it to determine if a law is constitutional or not . . . is it the President, the Congress, or the Supreme Court? (*Circle the correct answer*)
6. Whose responsibility is it to nominate judges to the Federal Courts? Is it the President, the Congress, or the Supreme Court? (*Circle the correct answer*)
7. How long is the term of a United States Senator?
8. How many times can an individual be elected President?
9. What is the percentage of congressional votes needed to override a presidential veto?

*Gender*

What is your gender? (1=Male, 2=Female)

*Race*

What is your race/ethnicity? (White, Black/African-American, Hispanic/Latino, Asian, Pacific Islander, Native American, Other)

*Party ID*

In general, how would you describe your political party preference? (1=Strong Democrat, 7=Strong Republican)

*Ideology*

In general, how would you describe your general political outlook? (1=Extremely Liberal, 7=Extremely Conservative)

## APPENDIX II: DESCRIPTIVE STATISTIC

***Table A1. Descriptive Statistics.***

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Knowledge	430	0.68	0.21	0	1
Ideology	420	0.40	0.23	0	1
PID	419	0.39	0.28	0	1
Female	429	0.47	0.50	0	1
White	430	0.43	0.49	0	1
Non-Victim	430	0.48	0.50	0	1
BJW	429	0.45	0.19	0	1
Sadness	430	0.27	0.27	0	1
Enthusiasm	430	0.43	0.26	0	1
Hope	430	0.59	0.24	0	1
Fear	430	0.22	0.25	0	1
Anger	430	0.22	0.25	0	1

Table A1 Notes: Descriptive Statistics. PID= Party ID, BJW=Belief in a Just World. All variables are continuous except for Female (1=Female, 0=Male), White (1= White; 0= Non-White), Non-Victim (1=Non-Victim, 0=Victim). The means for these dummy variables (as entered above), thus, represent their proportion within the sample. PID and Ideology are coded such that high scores denote Republican, conservatism, respectively.

## Correlation Matrix

***Table A2. Zero-order correlation for independent variables.***

	Know	Ideo	PID	Female	White	Non-Victim	BJW	Sad	Enthus	Hope	Fear	Anger
Knowledge	---											
Ideology	-0.02	---										
PID	-0.01	0.64	---									
Female	-0.11	-0.23	-0.30	---								
White	0.19	0.06	0.14	-0.08	---							
Non-Victim	-0.11	0.05	-0.09	0.23	-0.12	---						
BJW	0.01	0.05	0.08	-0.02	0.02	0.11	---					
Sadness	-0.07	-0.08	-0.11	0.08	-0.12	0.06	-0.14	---				
Enthusiasm	-0.03	0.06	0.11	-0.15	0.10	0.03	0.06	-0.22	---			
Hope	-0.08	0.13	0.13	-0.11	0.10	0.03	0.17	-0.27	0.63	---		
Fear	-0.13	-0.05	-0.07	0.13	-0.11	0.04	-0.13	0.43	0.03	-0.06	---	
Anger	-0.10	0.03	-0.03	-0.06	-0.10	-0.06	-0.06	0.32	-0.08	0.17	0.33	---