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The Emotional Campaign: How Emotions Influence Political Behavior and
Judgment

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Christopher Robert Weber

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Christopher Robert Weber

We, the dissertation committee for the above candidate for the
Doctor of Philosophy degree, hereby recommend
acceptance of this dissertation.

Stanley Feldman, Professor
Dissertation Advisor
Department of Political Science

Howard Lavine, Associate Professor
Chairperson of Defense
Department of Political Science

Leonie Huddy, Professor
Department of Political Science

Charles Taber, Associate Professor
Department of Political Science

Nicholas Valentino, Professor
Department of Government
University of Texas at Austin

This dissertation is accepted by the Graduate School.

Lawrence Martin
Dean of the Graduate School

Abstract of the Dissertation

The Emotional Campaign: How Emotions Influence Political Behavior and
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In this dissertation I explore the role emotions play in political behavior, persuasion, and judgment. I contend that specific emotions elicited in campaign advertisements should influence how people think about the issues and candidates. Unlike much of the emotions literature in political science, which has only explored emotional valence, I focus on specific, or discrete emotions, and expect that four emotions-anger, sadness, fear, and enthusiasm- will have unique political effects. I draw heavily from a well-established approach in psychology, *cognitive appraisal theory*, which posits that emotions co-occur with a unique constellation of evaluative tendencies. In short, the way a situation is interpreted shapes the emotion that is experienced. From appraisal theory, I argue that emotions of the same valence will have differentiable effects for political behavior

In chapter 2 I detail an expanding literature on emotions. It is in this chapter that I generate a set of hypotheses regarding the distinct role of sadness, fear, anger, and enthusiasm aroused in campaign ads. All the hypotheses are derived from cognitive appraisal theory. The major hypotheses I then test in subsequent chapters explore whether particular emotions are correlated with voter mobilization, whether

emotions affect the ways in which political issues are considered, and how emotions are consequential for persuasion processes.

Since emotions are generally understood to be intimately linked to cognitions, where one's emotional response triggers a set of core appraisal tendencies, in chapter 3, I explore the measurement properties of emotions. This chapter focuses predominately on the structure of emotional response, as vastly different conclusions have been uncovered in the emotions literature. Some scholars have suggested that emotions are a function of one or two dimensions, whereas appraisal theorists contend that there exist numerous discrete emotions. Similarly, "basic emotions" researchers have found that at least six emotions exist and are pancultural. I, too, explore the structure of emotional response by estimating several measurement models using primary and secondary data. The general finding is that there is an underlying "discrete" structure to emotions.

In the remaining empirical chapters, I explore the political consequences of emotions. Much of the data in these chapters come from experiments where participants were exposed to emotionally evocative political advertisements. The ads were then followed with a number of questions on participatory intentions and political beliefs. In chapter 4, I test whether emotions variably affect political behavior. I find strong evidence to suggest that anger aroused in political ads leads to political mobilization, whereas sadness facilitates demobilization.

In chapters 5 and 6 I explore additional consequences of emotions. Specifically, chapter 5 is situated to test whether emotions have consequences for how individuals think about political issues. Given that emotions are intimately related to varying patterns of appraisals, I hypothesize that anger and enthusiasm will make salient a different set of considerations than sadness or fear when thinking about the core causes of crime, poverty, and environmental degradation. Moreover, since anger and enthusiasm tend to correspond with perceptions of confidence and certainty, I examine whether these emotions facilitate attitude polarization. Strong evidence is

found for the latter, which suggests that emotions may influence susceptibility to persuasive messages.

In chapter 6 I examine how emotion laden messages influence vote intentions. In this chapter, I hypothesize that anger and enthusiasm will lead to a heightened reliance on political predispositions- such as PID- when casting a ballot, whereas sadness and fear will lead promote the use of issue considerations in vote choice. I find mixed support for this expectation.

Finally, in chapter 7, I summarize my research and note that the role of emotions in politics is perhaps more complex than presupposed. Although anger, sadness, enthusiasm, and fear are highly correlated, they are functionally distinct, and have different effects on political attitudes and behavior. Not only do emotions have implications in the study of political campaigning, but are central to the structure of attitudes and can motivate political behavior. The findings in this dissertation suggest that only by integrating emotions into the study of "campaign effects" will we obtain a better sense of how voters respond to political communications.

Dedication

This work is dedicated to my wife and son

April Marie Weber

and

Asher Christopher Weber

With patience and support they have allowed me

to accomplish this dream.

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Acknowledgments

An individual who deserves infinitely more than a mere acknowledgement on a page of this dissertation is my wife, April. Not only has her patience and support allowed me to achieve this dream, but April has also shaped many of my social and academic interests. April has always seen more in me than Ive seen in myself. Throughout my undergraduate and graduate education, April was steadfast when I was doubtful, she pushed me when I was tired, and she had faith when I was worn ragged. On more than one occasion, she stood by me when others would have fled. Her unconditional faith resulted in an emotionally taxing stay in New York, merely so that I could pursue a dream- a dream that has never been realized in either of our families. Every word in the pages to follow belong equally to her, and every thought has been touched by her love. This dissertation is dedicated to her.

Of course, many people have shaped my academic development. I first thank my undergraduate advisor, Chris Federico, and my dissertation advisor, Stanley Feldman. My curiosities in social and psychological processes began at the University of Minnesota where I studied under Chris Federico. During my junior year, I conveyed to Chris my interest in studying political psychology. During my remaining undergraduate tenure, Chris provided a necessary foundation to study political psychology. I became fascinated by one of the oldest perspectives in social psychology, authoritarianism, and aspired to develop a summa honor's thesis exploring the psychological underpinnings of authoritarianism. Given Chriss eclectic interests, over an entire summer- a summer where my classmates were doing what "normal" college students do- Chris helped me understand the intellectual genesis of authoritarianism. It was told that I would never understand or study authoritarianism unless I understood the Frankfurt school and the neo-marxist ideas that were manifest in *The Authoritarian Personality*. Given my interests, Chris strongly recommended

graduate school in political psychology, urging me to apply to Stony Brook and study with Stanley Feldman, one of the eminent scholars in the field.

I thus chose Stony Brook because of Stanley, and couldn't have asked for a better, more intelligent, more tolerant advisor. Stanley and I have worked on multiple projects together, and I have benefited enormously from Stanley's courses and various collaborative projects. Stanley is undoubtedly one of the most intelligent, compassionate persons I've come to know, and I feel so incredibly fortunate to have trained under him over the past five years. I only hope that his future, as well as past, students realize how wonderful he is. I am extremely grateful!

Another scholar who has had a profound impact on my academic development is Howard Lavine. Howie was my 600 advisor and strongly urged me to revisit the basic ideas developed in my honor's thesis (with Chris). Howie is the ideal political psychologist. Trained as a psychologist, and working in a political science department, Howie always provides a nuanced perspective to research. I've come to know Howie quite well over the years, and view him as a close friend and colleague. We have worked on several projects together. For instance, Howie, Chris Federico, and I developed a systematic test to explore the developmental underpinnings of ideology. We jointly presented the paper at my first conference - the 2004 ISPP conference in Lund, Sweden - and subsequently revised the paper for submission. Howie and I handled much of the literature review and Chris conducted the analysis. After rejection from a top psychology journal, we aspired to have the paper published elsewhere, and because of it's psychological nature, the obvious choice was *Political Psychology*. Howie - realizing the conflict in simultaneously being one of the journal's editor as well as a coauthor on the paper - voluntarily removed his name from the paper. This was a hard decision for all of us (probably most for him), as Howie played such a central role in this project and without due credit. The paper was ultimately published in *Political Psychology*. For this, as well as the enormous role that Howie has played in my education, I owe a considerable debt to him.

I also want to thank the remaining members of my dissertation committee - Leonie Huddy, Chuck Taber, and Nick Valentino. They all did more than the "typical" dissertation committee. They provided guidance at every stage of my project- from the proposal, to the design, to data collection and analysis, and ultimately to a careful reading of this (long) document. The committee provided unique contributions on how to improve the project and they all played a formative role in the final outcome. Although Milton Lodge was not formally on my committee, Milt has also been influential in this (and other) projects. Milt's intellect and creativity are often breathtaking, and as one of the founders of this now sprawling sub-discipline that is Political Psychology, I am also indebted to him.

On a personal note, I thank a number of people that have been supportive and influential over the years. Fellow students and colleagues- Erin Cassese, Inna Burdein, Josh Houston, Rune Slothuus, Todd Hartman, Tony Carey, Suzanne Allsopp, Everett Young, Maxwell Mak, and Nadia Khatib - have always been a sounding board for the baggage that entails graduate student life. I also am grateful for the advice Matt Lebo and Jamie Druckman have provided over the years. Regarding the content of the dissertation, I am indebted to Bryce Corrigan and Ted Brader who both were influential in choosing the advertisements used in this dissertation. And without Everett Young's expert voice-overs in musical production, much of the stimulus materials would have proven to be rather amateurish. Also, special thanks goes to Todd Hartman for providing the LATEXtemplate used in this dissertation, and providing the many hours of assistance explaining this program to me.

And finally, I would never have accomplished this had it not been for my family. My parents, Joan and Bob Weber, and my grandparents, instilled in me the importance of education. My parents were both raised in families where higher education was merely a dream. As such, they always pushed hard- sometimes it seemed too hard - and emphasized the perseverance necessary for academic success. Never will I forget where I came from or how I got here.

Chapter 1

The Centrality of Emotions in Campaigns

Increasingly, political scientists are recognizing that emotions are integral to political decision making and behavior. One of the strongest predictors of vote choice is one's affective attachment to the Democratic or Republican Party, and emotional appeals now seem are a staple of American political campaigns. Salient campaign issues, such as abortion, stem-cell research, right-to-life, and gay marriage arouse anger, resentment, and anxiety for some, yet elicit hope and compassion for others. And as the content and style of political campaigns has varied greatly since the onslaught of television in the 1950s, some have noted that the most effective political campaigns are those that employ emotionally evocative themes and language (Westen, 2007). The more prominent ads of the last 50 years have arguably been the most emotion laden, defined by images and themes such as Johnson's "Daisy Ad", Reagan's "Morning in America" and "The Bear", and Clinton's "A Man from Hope".

Campaign ads frequently appeal to a host of emotions, ranging from public fear about the state of the economy, stagflation , drugs, and terrorism; to hope, enthusiasm, patriotism, and pride about the country. In an exhaustive study, Ted Brader and colleagues (Brader, 2005/2006; Brader and Corrigan, 2006) coded campaign advertisements from the 2000 election, finding that several types of emotions are heavily appealed to in campaigns: anger, fear, hope/enthusiasm, sadness, sympa-

thy, and amusement. What is more, only a fraction of one-percent of political ads were found to be unimpassioned, having no emotional appeal. The type of emotional appeals also vary by the electoral climate the candidate faces, where anxiety and anger are more widespread in close races and enthusiasm/hope in races where an incumbent is running for a safe seat (Marcus, Neuman, and Mackuen, 2000; Brader, 2006).

Despite what might seem to be scholarly consensus that emotions are politically important, relatively few empirical studies have examined the role of specific emotions in the voter calculus, and even less work has explored the effects of emotions in political campaigns, where learning about the issues, candidates, and parties is most pronounced (cf., Brader, 2005/2006). Save for the pioneering work of George Marcus and colleagues (Marcus and Mackuen 1993; Marcus et al. 2000; Marcus, Sullivan, Theiss-Morse, and Wood 1995; Marcus, Sullivan, Theiss-Morse, and Stevens and 2005; Brader, 2005/2006), published research on emotions in political science has been scarce, despite a flurry of theories and research in psychology. It is my hope to partially fill this void, documenting how sadness, enthusiasm, anger, and fear aroused in the context of a 30-second campaign ads can be politically consequential, affecting the likelihood of being politically active and shaping how one thinks about the candidates and issues. For this reason, I move beyond valence and two-dimensional models of emotion, examining whether specific emotions have political ramifications. Using insights from a well-established theory in psychology, cognitive appraisal theory, I generate and test multiple hypotheses regarding the unique effects of sadness, fear, anger, and enthusiasm on political judgment and behavior.

1.1   A Range of Emotional Appeals

Political ads vary considerably in the issues addressed, the images used, and the perspectives candidates take. Perhaps the only shared aspect of successful adver-

tisements is that they convey a simple message, a message juxtaposed with carefully selected images, music, and editing techniques (West, 2003). Many of the influential advertisements released in the last several decades have also been the more emotional (Westen 2007; West, 2006). Consider such prominent ads as Johnson's "Daisy Girl", Nixon's "Convention" featuring discordant tones, rapidly shifting images of the mayhem at the Democratic Convention and pictures of death in Vietnam, riots, and poverty, and more recently, and Dole's "The Threat", which paired ominous music with graphic images of children using drugs.

What these, as well as a host of other campaign ads imply is that emotional appeals are central to campaign strategy (Brader, 2005). Some have gone so far as to suggest that successful campaigns utilize emotions to persuade voters, which is one reason why Democrats have fared so poorly in recent years (Westen, 2007). Yet how have scholars systematically classified ads based on their emotional properties, given the fact that voters respond differently to political messages as a function of their partisan loyalties and extant beliefs? In one study, Brader (2005) had coders classify the "intended" appeal of 1,565 ads released in the major U.S. media markets in 2000. Fear and anger evoking ads tend to look qualitatively different from positive-emotion appeals. The visuals in these ads are often in black-and-white and display a shifting, almost abrupt editing style. Images and words are used to arouse public anxiety (see also, West, 2006). The focus is often the opponent, not the sponsor, and the political issues discussed tend to be crime, terrorism, and pollution, paired with images of "war, violence, drug-use, desolate landscapes, sewage, poverty, and death"(Brader, 2006 p.10). Fear and anger ads are much more likely to use a female narrator, perhaps due to gender stereotypes conveyed by the female voice (West, 2006).

Contrast these ads to enthusiasm ads, broadly defined as the constellation of positive emotional appeals, such as pride, enthusiasm, and patriotism, and the differences are striking (Brader, 2005; West, 2006). These ads elicit pride, happiness, and hope,

underscored by uplifting, patriotic music, positive chords with "feel good" visuals such as pastoral scenes, bright colors, images of children, applause, and American flags (West, 2006; Brader, 2006). Rather than abrupt editing, the frames seamlessly flow, often presenting a wider array of frames than negative ads. Examples of enthusiasm ads are Reagan's "Morning in America" ads, and Clinton's, "A Man from Hope". In response to a rebounding economy, the former instilled a sense of pride in the electorate, employing the metaphor of morning and a new, hope-filled day should Reagan be reelected. This was paired with visuals of small towns, a wedding, pastoral images of farms, and houses with white picket fences. Clinton's ad drew on a similar theme, emphasizing his small town roots and successes despite considerable adversity.

What little research does exist on the effects of emotional campaign ads has focused on two emotions, enthusiasm and fear/anxiety (Brader, 2006). This seems to be particularly limiting, since ads often appeal to multiple emotions emotional appeals. For instance, ads that evoke anger, sadness, sympathy, and hope are also quite common. During the 2004 presidential campaign, for instance, the Progress for America Voter Fund released an advertisement citing John Kerry's "endlessly changing position on Iraq"and inability to protect America against future terrorist attacks. Framing the issue in this way should have activated a sense of residual anger, hostility, perhaps even anxiety among conservative and Republican viewers. That same advertisement should have sparked disgust and disbelief among liberal and Democratic viewers. Similarly, some of the controversial ads in 2004 appealed to sympathy and sadness, such as MoveON.PAC's "Mother" featuring Cindy Sheehan distraught and in tears over the loss of her son in Iraq; or an ad in the 2005 Virginia gubernatorial race released by Jerry Kilgore attacking Tim Kaine by recounting a story of a father whose son was murdered.[1].

While it is likely the case that advertisers and candidates attempt to elicit many

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[1]All footnotes can be found at the end of chapter 7

emotions in the public, there is uncertainty regarding the distinct effects of these appeals. Much of the literature on campaign advertising has only examined the implications of valence-based appeals, i.e., positive versus negative advertising (Ansolabahere, Iyengar, Simon, and Valentino, 1993), appeals to diffuse anxiety or enthusiasm (Brader, 2005/2006), or appeals that appear as illegitimate versus legitimate attacks (Kahn and Kenney, 1999/2000). However, there is likely to be considerable variation in the number of emotions evoked in a 30-second ad, as well as individual level variation in the actual emotion felt by the viewer.

1.1.1 The Discrete Nature of Emotional Response

It is this variation in emotional response that has led many psychologists to stray from one and two-dimensional models of affect, exploring instead the behavioral and cognitive ramifications of discrete emotions. For instance, anger in many cases functions similar to positive emotions, leading to approach and optimistic risk-assessments, yet is quite distinct from other negative emotions, such as anxiety or sadness. Huddy, Feldman, and Cassese (2007) find that anger increased the desire to go to war in Iraq whereas the opposite was observed for anxiety, echoing Lerner and Keltner's (2000/2001) finding that anger leads to risk-seeking behavior and anxiety to risk-averse behavior. Although there is variation in emotional appeals, it remains unclear whether arousing particular emotions alters the persuasiveness and impact of messages in the context of a political ad. Similarly, it is an open empirical question as to whether emotional appeals in television advertisements have direct consequences for political reasoning by fundamentally influencing how citizens think about political issues.

In this dissertation, I explore the role of several commonly appealed to emotions in campaigns- enthusiasm, fear, anger, and sadness. I draw on a well-established theory in psychology, cognitive appraisal theory, which informs the hypotheses and experimental designs I employ. The theory posits that a core-set of cognitive appraisals

are associated with emotions, where, for instance, anger tends to be associated with elevated levels of control, certainty, and self-efficacy; as such, anger often leads people to attribute the causes of events to individuals over situations. For example, Small and Lerner (2008) find that people in an angry emotional state were more likely to draw on disposition-oriented causes of poverty (e.g., poverty is caused by lacking work ethic and laziness), whereas sadness was found to facilitate situational attributions (e.g., poverty is caused by failing communities and education). Moreover, these attributions had proximal effects for spending preferences, with anger leading to decreased spending, sadness to increased spending. Similarly, because anger is associated with certainty and control, it has also been linked to greater levels of political participation (Valentino, Hutchings, Gregorwicz, Groenendyk, and Brader, 2006), and unique information processing strategies (Valentino, Hutchings, Banks, and Davis, 2008).

Dissertation Outline

This critical emotion-appraisal link is the hypothesized mechanism in which emotions affect political attitudes and behavior. Specific emotions elicited in campaign advertisements should influence how people think about the issues and candidates. To explore the role of emotions in campaigns, in chapter 2 I detail an expanding literature on emotions, and generate a set of hypotheses regarding the distinct role of sadness, fear, anger, and enthusiasm aroused in campaign ads. All the hypotheses are derived from cognitive appraisal theory. As such, emotions are modeled as discrete, and I explore whether these emotions have substantively important implications for political behavior and persuasion.

Since emotions are generally understood to be intimately linked to cognitions, where one's emotional response triggers a set of core appraisal tendencies, in chapter 3, I detail some of the contemporary issues in measuring emotions during the political campaign. Attention to measurement is important in this domain. Vastly

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different conclusions have been uncovered regarding the structure of emotional response, and revealed emotions are strongly influenced by factors such as how items are presented and whether questions are presented on a common metric. In the first half of chapter 3, I outline the extant literature on the measurement of emotions, which has primarily found that emotions collapse to one, two, or several primary dimensions, However, appraisal theorists contend that considerable variation in emotional response can be explained by a set of appraisal dimensions. I, too, explore the structure of emotional response by estimating several measurement models using primary and secondary data. The general finding is that there is an underlying "discrete" structure to emotions. Using Confirmatory Factor Analysis (CFA) – assuming a priori that fear, sadness, enthusiasm, and anger are separate, correlated factors–this structure fits the data better than a two-dimension structure.

In chapters 4-6, I examine whether discrete emotions influence judgment and participation. In chapter 4 I test whether sadness, anger, fear, and enthusiasm have consequences for motivation and participation. I employ three studies to explore the effects of emotions on participation two based on a sample of Stony Brook students who viewed an emotionally evocative television advertisement and then completed a paper and pencil study, and one using the 2000 American National Election Studies (ANES) and exploring the relation between emotions and participation. The advertisements, which I describe in detail in chapter 2, make reference to fictitious candidates. I constructed the advertisements myself using evocative images from previous presidential and congressional campaigns, and a professional read the voice-overs and mixed the musical backdrop.

Yet, because the studies in chapter 4 relied predominately on student data, in chapters 5 and 6 I use non-student, adult data. In chapter 5, I rely on a sample of New York State adults who read a transcribed political advertisement and subsequently completed a survey on political issue attitudes; whereas in chapter 6 I analyze a web-survey consisting of 1,450 adults who viewed a political advertisement.

Finally, in chapter 7, I explore some of the normative implications of this research. I emphasize that the ways in which emotions are commonly understood is more complex than many models in political science have assumed. Although anger, sadness, enthusiasm, and fear are highly correlated, they are functionally distinct, and have different effects on political attitudes and behavior. I conclude by noting that emotions are crucial to integrate in the study of political communications, persuasion, and behavior.

Chapter 2

The Psychology of Emotions

Abstract

In this chapter, I outline the expanding literature on emotions. Since emotions have important psychological ramifications, I content that specific emotions aroused in the campaign should have implications for attitudes and behavior. The extant literature on emotions, however, leaves unanswered several politically important questions: (1) Can emotions toward political objects be differentiated, and, if so, what are the effects of particular emotions? Namely, can emotions such as anger and resentment be differentiated from emotions such as fear, sadness, and sympathy? (2) Do emotions fundamentally shape how citizens think about political issues in the context of a political campaign? And, (3) Do emotions have consequences for political behavior and persuasion. While these questions will be empirically addressed in the chapters to follow, here I detail the literature on emotion and decision-making, highlighting numerous conceptualizations and theories on the structure and sociopolitical implications of emotional response.

2.1 Emotions, Moods, and Feelings

Although the terms emotions, mood, feelings, and affect are used interchangeably, my primary concern in this dissertation is with emotions, their relation to

cognitions, and the ultimate consequence of cognitions and emotions on judgment and behavior. Emotions are the "physiological and mental dispositions triggered by the brain in response to the perceived significance of a situation or object for an individual's goals" (Brader, 2006, p.51). They are a function of evaluations as to the perceived significance of an event in reaching a goal. As such, emotions have psychological, physiological, and motivational effects that lead to particular action tendencies, such as the inclination to approach, attack, avoid, or freeze (Clore and Schnall, 2005). Emotions are fleeting and time-dependent, varying by one's interpretation of a situation. Levenson (1992) notes that "Emotions are short-lived phenomena, typically lasting for seconds and occurring in complex contexts cohabited by other psychological processes such as attention/orientation, appraisal, impression management, and social interaction". Engendered in this definition is the notion that emotions consist of constituent cognitive, behavioral, motivational, and physiological factors. This componential view suggests that emotions are functional, and serve an adaptive social psychological purpose, such as signaling to others in social situations one's wishes, intentions, and feelings (Horstmann, 2003; Plutchik, 1980). Fridlund (1994) even contends that emotional expressions may be nothing more than signaling devices, where an angry face, for example, implicitly conveys to others, "Back off, or I'll attack" (Horstmann, 2003, p. 152). Mood, on the other hand, is more stable. It is an enduring state not necessarily evoked from a particular stimulus (Forgas 1995; Robinson and Clore 2002). Feelings, however, consist of one's awareness of an emotion or mood-state (Damasio, 1994/2003), and feelings are what is commonly assessed in survey research with questions such as how much a particular candidate makes you feel angry, sad, or disgusted.

One of the inherent problems in measuring feelings, especially toward political objects, is that it is unclear how much of the evaluation is affective versus cognitive. Consider the American National Election Studies (ANES) question on candidate affects: "Now we would like to know something about the feelings you have toward

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the candidates for President. I am going to name a candidate, and I want you to tell me whether something about that person, or something he has done, has made you have certain feelings like anger or pride." Such questions render it difficult, if not impossible, to determine what percentage of the variance is explained by affective factors versus beliefs and other non-affective considerations. Ladd and Lenz (2008) question many of the findings on emotions using NES data by suggesting that what these questions measure are general candidate evaluations, rather than emotional reactions per se. This is perhaps one of the reasons why some have moved to experimentally inducing emotional states, examining the influence of these emotions on political judgment (Lodge, Taber, and Weber, 2006; Ottati and Isbell, 1996).

Affect is a broader label referring to moods, feelings, general evaluations, and emotions (Clore and Schnall, 2005). Affective experiences are often defined by valence and arousal (Russell, 2003). Valence is the evaluation of the "goodness" or "badness" of an object or situation, whereas arousal embodies urgency and importance. As much of the literature uses "affect" as a generic, umbrella term rarely distinguishing between emotions, feelings, and moods, I occasionally use these terms interchangeably throughout this chapter. This is because much of the established literature does so, making it difficult to ascertain whether particular findings are emotive, mood-based, or a function of one's feelings; however, the focus of the empirical portion of the dissertation is on distinguishing between temporary affective states - i.e., emotions and awareness of emotions (i.e., feelings). Specifically, I examine the extent to which specific emotions influence political decisions and behavior.

Finally, cognitions are the non-emotional beliefs people hold toward an attitude object. They range from specific knowledge (e.g., where does Hillary Clinton stand on the issue of abortion) to general beliefs about an object (e.g., Does Hillary Clinton best represent your values?). Both cognitions and affect can have proximal consequences for judgments, attitudes, and evaluations, which are loosely defined as the global preference for an object after comparing alternatives and assessing the

probability of obtaining these alternatives. Evaluations, attitudes, and judgment may be understood as the summary evaluation of relevant cognitive and affective considerations weighted by a probability function (Zaller and Feldman, 1992).

2.1.1 Why Emotions?

One of the cornerstones of Western thought has been that emotions are antithetical to reason. Historically, two distinct paths are believed to guide human behavior and decisions, one marked by cold, cognitive deliberation, the other by one's emotions. While the former "cognitive" route is generally seen as normatively superior - leading citizens to make dispassionate political decisions based on relevant considerations, such as the candidate's issue positions - the latter, "passionate" route is often judged normatively inferior, where impassioned, automatic, emotional factors displace prudence and rationality. Despite this distinction, political issues discussed in campaigns are often deeply emotional in nature, ranging from disgust and anger over moral issues, such as abortion and stem cell research, to pride and hope following a rebounding economy, to fear and anxiety of impending terrorist attacks. Political experts and scholars alike have bemoaned how these highly emotional issues have largely displaced many of the economic, rational concerns which structured politics in previous generations (Frank, 2004; Delli-Carpini and Keeter, 1996; c.f. Bartels, 2006). It appears as though the ideal citizen - i.e., the well informed individual who weighs candidate issue positions before casting a vote - has been replaced by a form of passionate irrationality.

With these normative considerations in mind, scholars have shown that affect and emotion are central to the political campaign. A vast majority of political advertisements make emotionally evocative appeals (Brader, 2006), candidates are now more likely to emphasize candidate qualities over concrete issue positions (West, 2006; Kahn and Kenney, 1999), and tend to use negative, fear or anger evoking tactics to persuade voters (Ansolabahere and Iyengar, 1997). Some have even argued

that the most successful political campaigns have been those that heavily draw on emotionally evocative advertising strategy (Westen, 2007). Indeed, emotional social issues often define political campaigns and mobilize voters. And when election-day arrives, voters seem to be influenced more by their long-standing affect toward the two-major parties, rather than careful cognitive deliberation (Campbell, Converse, Miller, and Stokes, 1960). Yet despite the pervasiveness of emotions in political decision making, political scientists have persisted in treating cognitions and affect as conceptually distinct and analytically separable, speculating that affect and cognition each having unique and independent effects on judgment and behavior [2]

While many now recognize the bounded nature of human cognition (Simon, 1959), much of the research on political attitudes and has ignored the role of specific emotions in the decision making calculus (cf., Lowenstein and Lerner, 2003; Lowenstein, Weber, Hseem and Welch, 2001; Haidt, 2003/2007). For instance, models of rational choice in political science and economics almost never include emotion as a variable affecting behavior, assuming that people rely on unimpassioned cost-benefit calculations. These models implicitly assume that cognitive factors can be disentangled from emotion, an assumption that, while common, is empirically tenuous (Spezio and Adolphs, 2007). For example, in decision making under uncertainty, emotions often overshadow rationality in judgment - a particularly striking example being Americans behavior following September 11, 2001, where air travel decreased by 6.5% and many adjusted transportation plans by driving rather than flying; this occurred despite the fact that one is 850 times more likely to die by car than by air (Marshall, Bryant, Amsel, Suh, Cook, and Neria, 2007). The emotional vividness and immediacy of the event, as recounted repeatedly in the media, outrivaled the more rational, cognitive calculations of the terror risk.

Due largely to inroads in neuroscience, social scientists are beginning to recognize that affect is central to rationality and reason, and, what is more, affect is difficult (if

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[2]All footnotes can be found at the end of chapter 7

not impossible) to separate from cognition (Damasio, 1993; LeDoux, 1996). Not being able to experience emotions can in fact reduce the likelihood of making rational decisions (Damasio, 2003). For instance, in the seminal work conducted by Damasio and colleagues, impairment to particular regions of the ventromedial prefrontal cortex - an area central to emotional response - was found to reduce the ability to reason and solve problems (Bechara, Damasio, and Damasio, 2005; Damasio, 1994). Despite this, there seems to be a continued emphasis on parsing emotion and cognition (Marcus et al., 2000), rather then exploring the ways in which the two are linked.

A host of psychological literature suggests that the ability to make reasoned decisions is intimately related to one's ability to experience reward and anguish, anticipate happiness or sadness (Lowenstein and Lerner, 2003), feel "likes" and "dislikes" (Wilson and Schooler, 1991), and adjust one's behavior to maximize positive, and minimize negative, emotions. It is this complex - perhaps inseparable - relationship between cognitive considerations, affect, judgment, and behavior that I explore in this chapter. Since the literature on affect and emotions is sprawling, spanning multiple decades and disciplines, this review only scratches the surface by providing a glimpse into the complex relationship between the beliefs people have and the feelings they hold, and how the synthesis of cognitions and emotion influence behavior and judgment. Moreover, much of the literature on affect has been primarily concerned with emotional valence - whether one is in a positive or negative mood state - rather than focusing on discrete emotions. Thus, at the end of the chapter I outline a series of hypotheses linking anger, fear, sadness, and enthusiasm to how one considers the candidates and issues during a political campaign. A burgeoning literature in psychology has suggested that emotions of the same valence can be differentiated. For instance, anger is quite distinct from sadness or fear. All the hypotheses I generate are derived from appraisal theories of emotion, which posits that specific emotions are linked to a core set of appraisal tendencies.

2.1.2 The Psychology of Emotional Response

Despite the increased role that affect is believed to play in reason and choice, there has been considerable disagreement as to how affect and cognition are related, and whether affect and cognition independently influence judgment, attitudes, and behavior (James 1890; Damasio 2001; Zajonc 1980; Murphy and Zajonc 1993; Lazarus 1982; Lodge and Taber, 2005; Forgas, 1995). Scholars have attempted to disentangle the relationship of affect and cognition with theoretical questions such as whether cognition is essential to affective responses, whether cognitions mediate the effect of emotions on behavior, and whether emotions mediate the effect of cognitions on behavior (Weiner, 2006). A growing body of literature has suggested that emotions serve as important sources of information when evaluating objects and events. Two routes - indirect and direct - have been used to describe the ways in which emotions are important in judgment (Forgas, 1995; Smith and Neumann, 2005). The "direct route" posits that emotions serve as a heuristic by influencing how a person responds in unfamiliar, novel situations; whereas the "indirect" route leads people to rely on predispositions or process information more thoroughly (Forgas, 1995). Indirect models comport with public opinion research suggesting that emotions influence how voters trade-off accuracy versus efficiency (Simon, 1959; Lau, 2003; Basinger and Lavine, 2005). For instance, efficiency may be weighted more heavily when the individual is experiencing a positive-affective state (Marcus and Mackuen, 1993); whereas effortful strategies are often used when one is in a negative affective state (Bower and Forgas, 2001; Forgas, 1995; Marcus and Mackuen, 1993; Lau, 2003).

Direct route theories contend that cognition is not essential for affect to influence judgment. The feelings and emotions a voter experiences in reference to a political candidate, for example, should influence evaluations irrespective of associated beliefs, such as where the candidate stands on an issue or the candidate's political history (Lodge, Steenbergen, and Brau, 1995; Ottati and Isbell, 1996). On the other hand,

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the indirect route posits a different relationship between affect and judgment, where affect triggers related thoughts and beliefs, which are in turn used in judgment. Indirect route theories suggest that affect promotes an action tendency, signaling to the individual what information should be used in judgment (Clore and Schnall, 2005). The dominant affective theory in political science, Affective Intelligence, has drawn heavily on the indirect role of emotions. Anxiety leads voters to actively process contemporary information, whereas enthusiasm signals to the individual that habit and predisposition are sufficient for judgment. Marcus and colleagues (2001) note that only enthusiasm directly translates to positive candidate evaluation. Below I outline several indirect and direct routes that affect judgment and behavior. At the end of the section, I suggest that a fundamental weakness is that many of the theories fail to distinguish between emotions of the same valence.

The Direct Route: Do Preferences Require Inferences?

The "direct route" denotes a process where affect directly informs judgments and behaviors. For instance, voters often respond to subtle audiovisual cues in campaign advertisements, and may consult these emotions in evaluative political candidates (Brader, 2005; Mendelberg, 2001) For example, Ottati and Isbell (1996) found that people in positive moods evaluated a political candidate more positively than those in negative moods. Direct route models contend that emotions are heavily relied upon in evaluation (Schwarz and Clore, 1983; Ottati and Isbell, 1996). For instance, Clore's affect-as-information model posits that feelings influence evaluative judgments. Sad moods trigger pessimism and happy moods lead to optimism. Consider the paradigmatic "street survey" conducted by Forgas and Moylan (1987). In this study, subjects were asked about their life satisfaction following the viewing of a happy or sad movie. Congruent with the affect-as-information perspective, happy films enhanced stated life satisfaction whereas sad movies resulted in decreased life satisfaction. Much of these experiments also include an attribution manipulation by

making alternative explanations for one's feelings cognitively accessible. For example, rainy days have been found to promote more pessimistic life-assessments; yet if individuals are asked about the weather beforehand, effectively attributing their mood to the weather, the relationship between weather and life satisfaction disappears (Schwarz and Clore, 1983). Similarly, Rahn (2000) finds that public mood strongly predicted policy attitudes, but only in the absence of additional information: "These feelings I've had towards the country are mostly due to the way the U.S. is portrayed in television advertising and TV programs". The affect-as-information model holds that individuals consult their affective state as a heuristic, though when one's affective state can be attributed to something irrelevant to the immediate evaluation or judgment, affective effects are attenuated. Similarly, mood-congruency studies demonstrate that mood influences the type of information retrieved. Particular affective states can trigger a set of related cognitions, resulting, for instance, in people being more pessimistic when in negative moods; whereas positive moods facilitate optimism (Bower, 1991).

Robert Zajonc and colleagues have suggested a similar direct effect of emotions on judgment. Here, affect and cognition operate as "separate systems" where the decision-maker uses the affective response as a cue in evaluating an object (Murphy and Zajonc 1993; Lodge and Taber 2005; Forgas, 1995). For example, Zajonc suggests that the mind is composed of an automatic affective system, and a considerably weaker cognitive system. The cognitive system is generally seen as weaker because the affective system is what primarily influences judgment. One way of testing this model has been to expose participants to affective words at subliminal rates (e.g., Cancer, Sunshine), examining whether the affective response cascades across the information processing sequence (Lodge et al., 2006; Murphy and Zajonc, 1993). What is particularly appealing about this approach is that the affective primes are often semantically unrelated to the evaluative target, allowing one to conclude that any observed effects are affective and not cognitive (since the words are unrelated

to the target and presented outside of conscious awareness). The problem with this approach has been that the effects are often short-lived. Others have noted that relying on a spontaneous affective response is rare in actual social situations (Robinson and Clore, 2002).

The separate systems model advances the position that "preferences need no inferences" whereby one's immediate affective response directly shapes judgment (Zajonc, 2001). As such, cognition is often seen as post-hoc justification of the automatic affective response. For instance, gut-level emotional responses have been shown to inform moral judgment. Haidt (2003) contends that the proximal cause of moral decisions is not cognitive (see also, Greene, 2001). He finds that several emotions - anger, disgust, embarrassment, contempt, empathy, shame, and guilt - strongly predict moral judgment, independent of cognitive factors. By asking participants to envision several morally questionable scenarios - such as protected, consensual sex between a brother and sister or eating your pet dog - then asking participants why they opposed this, most gave answers indicating justifications for their visceral disgust (e.g., "I don't know. It's disgusting"). Justification for moral actions is often post hoc, a "confabulation", of an automatic affective response; or as Haidt suggests, "Moral reasoning is nothing more than a press secretary for a secretive administration- constantly generating the most persuasive argument it can muster for policies whose origins and goals are unknown" (Haidt, 2007, p. 1000).

Evidence from neuroscience has supported the notion of independent affective and cognitive systems. Most notably, Joseph LeDoux (1996) finds evidence of a "low road" where emotions influence behavior independent of higher order, cortical activity. In studies with rats, LeDoux paired an electric shock with a change in the illumination of a light, with the intention of establishing a conditioned response. In short, the light would prompt an aversion response absent the shock. Not only was LeDoux able to condition this response, but what was novel was that the rats had lesions that eliminated the visual cortex. The emotional, aversive reaction

occurred without involvement of the cortex, indicating a "quick and dirty" route from the thalamus to amygdala, which completely bypassed the cerebral cortex. The separate systems approach forwarded by Zajonc and colleagues has recently been extended to political decision making by Lodge and Taber (2005) who suggest that two independent systems exist- a cognitive and affective. Because affect enters the information processing stream first, in many circumstances, affect may directly impact candidate and issue evaluations.

One of the contentious debates in the study of emotions has been whether it is affect or cognition which comes first in the information processing. The separate-systems-preferences/need-no-inferences paradigm posits that the spontaneous affective reaction to a stimulus precedes conscious awareness, influencing subsequent cognitions and evaluations (Zajonc, 1980; Murphy and Zajonc, 1993; Lodge and Taber, 2005; Lodge et al., 2006). Others have argued that cognitions precede emotions in that the ways in which a situation is interpreted shapes the emotion experienced (Lazarus, 2001). Support for former has drawn heavily from LeDoux's (1996) "low road" of affect influencing cognition, where the cortex is bypassed, though LeDoux (1996) suggests that in most circumstances categorization and semantic processes influence the emotion experienced- that is, a "high road". As Storbeck and colleagues note, the lion's share of research has suggested that semantic categorization is more robust than semantic categorization of stimuli . The suggest that complex stimuli are more likely to be processed semantically first and affectively second [3]. Storbeck and Robinson (2004) and Clore et al. (2005) also note that many scholars have overextended Zajonc's paradigm. As an example, Bargh (1997) suggests that in many cases affect influences evaluations without cognitions ever entering the process. In a series of studies, Storbeck and colleagues demonstrate that semantic priming is far more robust than affective priming, and semantic categorization generally occurs well before the valence of the attitude object is retrieved (Storbeck and Robinson, 2004/2006; Clore, Storbeck, Robinson, and Centerbar, 2005). What

this means is that "affective priming appears to be a subvariety of general semantic priming and is not evidence of 'affective primacy' in any shape or form"(Clore et al 2005, p.397). In many cases, semantic processes precede affective. "The direct thalamus-to-amygdala route championed by LeDoux et al. (1989), and subsequently by Murphy and Zajonc (1993) likely plays a non-existent role in most learning situations in which direct responses are paired with distinct stimuli"(Storbeck, Robinson, and McCourt, 2005, p.47).

In most situations, emotions and cognitions are likely inseparable, where the two reinforce one another in a recursive loop. For this reason, my concern isn't so much with distinguishing affect and cognition, but rather, how these two processes work in conjunction. I draw heavily from appraisal theory and related component approaches to emotions where emotions are believed to coexist with unique constellations of cognitive and motivational tendencies. (Lazarus, 1991; Weiner, 1986/2006). Rather than drawing on LeDoux's (1996) "quick and dirty" route, I focus on the interdependence between emotion, cognition, and behavior, exemplified in LeDoux's finding of a second slower thalamus-to-cortex-to amygdala circuit. This route suggests that emotions and cognitions reinforce one another. Especially in the political realm with complex stimuli- campaign advertisements, campaign speeches, media reports, and the like- cognitions and emotions are expected to be intimately linked.

The Indirect Route

In addition to one's feelings being directly consulted in judgment, a parallel literature has shown that affect can indirectly affect attitudes and behavior by moderating attention, encoding, and the processing of information (Marcus and Mackuen, 1993; Marcus et al., 2000). For the indirect route, the concern isn't so much in discerning affect from cognition, as much as exploring how affective states influence how information is processed, how information is encoded, and whether information is recalled. Empirical evidence has shown that affect can serve as a valuable cue as

to whether or not one should process information systematically or rely on predispositions in social and political evaluations (Gray, 1987; Marcus and Mackuen, 1993, Carver, 2001/2004). Compared to the previous discussion regarding the direct route, the indirect route posits a different relation between affect, cognition, and judgment. Here, affect may trigger a set of underlying cognitions, which are in turn used in judgment. As such, the main differences between "direct" and "indirect" models are that the latter assumes that cognitions are the necessary mediator between affect and judgment.

Much of the evidence supporting an indirect route finds that affective states affect memory and information processing strategies (Forgas 1995; Clore, Gasper, Gavin, and Forgas, 2001; Bower and Forgas 2001; Wagar and Thagard, 2004). For instance, mood-dependent recall and mood congruent processing theories implicate one's current emotional state in the encoding and retrieval of information. At the time of encoding, an emotional state may ready the individual to attend to particular pieces of information and disregard others (for neuroscience evidence see Damasio, 1994). Recently, Milton Lodge and Charles Taber (2006) found that one's prior belief and feelings towards political issues strongly influence how subsequent information is attended to, finding strong evidence of selective attention, disconfirmation, and confirmation biases in political information processing.

Affect also seems to be essential to persuasion and attitude change processes. For instance, when in positive moods, people are much more inclined to process information "peripherally", being equally as influenced by strong arguments as weak; negative moods, however, move people to pay more attention to argument quality, indicative of deliberative, "central route" processing (Bless, Bohner, Schwarz, and Strack, 1990). Positive moods also lead to a higher reliance on scripts, schemas, and habit; negative moods motivate effortful processing and reliance on contemporary information (Bless and Schwarz, 1999).

The dominant paradigm of emotion in political science, affective intelligence the-

ory, posits a similar "indirect" route where emotions signal to the individual whether habits can be relied upon - for instance, partisan allegiances in casting a vote - or whether contemporary information should be attended to. Based on the work of George Marcus and colleagues, emotions are believed to fall within two orthogonal "systems": the disposition and surveillance systems. The disposition system refers to the constellation of emotions that provide direct guidance and facilitate approach-oriented behaviors. When in this state, individuals tend to rely on political habits, such as casting a partisan vote, since nothing is threatening or provides the motivation to use alternate cues. On the other hand, when the surveillance system is activated- usually through the introduction of novel stimuli- the individual relies less on predispositions and habits, utilizing current information when making judgments. The key emotion in affective intelligence is anxiety which moves people from the disposition to the surveillance system.

Both the indirect and direct routes posit different roles of emotion and cognition on judgment. The latter posits that affect serves as a cue, the former represents the effect of emotion on information processing strategies and what considerations are relevant to judgment. Forgas (1995) provides a synthesis of these literatures, noting that a host of factors influence whether people rely on the direct or indirect route strategies. For instance, when decisions are quick, direct route processes are more pervasive, and individuals are more likely to make judgments in line with their affective response. In these situations, the role of emotions function via the "quick and dirty"route, where affect directly influences evaluations. In other situations- for example, when one encounters a novel stimulus- indirect processes will occur, altering the ways in which information is attended to. [4]

While it is certainly the case that emotions affect behavior and judgment in a variety of ways, as engendered in Forgas's (1995) model, perhaps most limiting in this research has been the failure to distinguish among emotions. Much of the extant literature on the indirect/direct route of emotion focuses on valence, or

enthusiasm and anxiety, failing to model the differences between emotions of the same valence. Empirical work has suggested important differences with respect to anger versus fear/anxiety, as well as anger and sadness, for example (see Clore and Schnall, 2005). Not only do these emotions have different, direct ramifications for judgment (see Lerner and Tiedens, 2006), but discrete emotions can also influence judgment indirectly by way of different information processing strategies (Bodenhausen, Sheppard, and Kramer, 1994; Moons and Mackie, 2007). While the insights gathered from the above models can clearly extended to specific emotions, whether specific emotions influence political judgment directly and/or indirectly has gone largely unexplored. Another limitation is that most of the research on emotions in political science has only examined the indirect route of affect, exploring the role of enthusiasm and anxiety on how contemporary information is processed. It remains an open-empirical question as to whether emotions directly inform judgment by making salient different sets of considerations when thinking about political issues.

Finally, there has been a heavy reliance in political science in measuring emotions in surveys - for instance, affect toward the candidates in the ANES (Marcus et al., 2000). This is a serious limitation, given a host of evidence demonstrating that individuals are often grossly unaware of their emotional states and recall of emotion has different implications than observed if one were actually experiencing an emotion (Innes-Ker and Niedenthal, 2002; Robinson and Clore, 2002). Similarly, it is unclear how much of the variance in these questions is truly emotional, rather than being a mere extension of one's global negative or positive evaluation of the candidate.

There has been a distinction in cognitive psychology between semantic and episodic memory, with the former being generalizations, cognitions, thoughts, and beliefs. Episodic memory, on the other hand, refers to remembering specific details of an event, which decreases quickly with time. Episodic memories are particular to a point in time; semantic memory is not situation specific, and often encompasses broad generalizations. Multiple studies, however, have demonstrated that

this distinction is essential to the study of emotion, since semantic recall of emotion is functionally different from the episodic experience. Ker and Innes-Ker and Niedenthal (2002), for instance, document differences between semantic and episodic aspects of emotion. Similarly, Keltner, Locke, and Audrain (1993) find that asking people to consciously reflect on their emotional response can mute the effect of emotions on judgment. And Lodge, Taber, and Lizotte (2005) find that recalling an emotional experience (how angry did the terrorist attacks on 9/11 make you), had different effects in predicting civil liberty restrictions compared to reliving the events of 9/11 by viewing a montage of anxiety and anger provoking 9/11 images. What this means is that the emotions people are experiencing (e.g., think about what the president does to make you angry) can have effects different from simply recalling emotional events (e.g., how often does the president make you angry). Dolan (2002) finds that the underlying neural structure for experiencing an emotion and being able to recall a feeling is different. Notably absent in the case of the latter is the activation of the amygdala, a neural structure frequently implicated in emotional response [5]. Because of these limitations, I rely on experimental methods to examine how emotions influence judgment and behavior.

2.2   The Structure of Emotional Response

As previously noted, much of the research examining the implications of emotions on judgment has focused on emotional valence - i.e., whether one feels positive or negative emotions - or, more recently, general levels of enthusiasm and anxiety (Forgas, 1995/ 2003; Bower, 1991; Schwarz and Clore, 1996; Lodge and Taber, 2005). Valence models tend to contrast positive with negative emotions (Russell, 1980). As such, two-dimensions are believed to define the emotional response - a positive or negative evaluation as well as the degree of arousal. For instance, anger is a high arousal, negative emotion, sadness is a low arousal negative emotion.

Excitement is a high arousal, positive emotion, and hope a low arousal positive emotion. Others have found that by rotating the two dimensions 45 degrees, one dimension is defined by positive emotions (or lack thereof) and one by negative emotions (or lack thereof) (Watson, Clark, and Tellegen, 1985). This solution is congruent with models drawing on the separability of positive and negative affect (Cacioppo, Gardner, and Bernston, 1997; Lavine, 2001), with these two emotion structures having very different consequences for behavior (Marcus et al., 2000). The separability of positive and negative affect has been heavily cited in affective intelligence theory, which contends that two separate systems- disposition (positive affect) and surveillance (negative affect)- explain political behavior and information processing.

These two systems - disposition and surveillance - have evolutionary bases as approach and avoidance systems (Gray 1987; Carver, 2004). Positive emotions signal to the individual that habit is sufficient, facilitating goal directed, approach behavior; whereas negative emotions lead to caution and inhibition, which results in increased attention to the surrounding environment. More recently, scholars have begun to explore which discrete emotions are rooted in these two systems, given evidence that negative emotions sometimes have effects similar to positive emotions. Indeed, anger leads to biased information processing (Bodenhausen et al., 1994; cf. Moons and Mackie, 2007) and facilitates approach behavior in a fashion comparable to positive emotions (Mackie, Devos, and Smith, 2000; Mackie and Smith, 2003). In an integrative treatment on the structure of emotional response, Watson and colleagues (Watson and Clark, 1992; Watson, Wiese, Vaidya, and Tellegen, 1999; (Tellegen, Watson, and Clark 1999; Watson, Clark, and Tellegen, 1988; Watson and Tellegen, 1999;) illustrate that emotions are arrayed in a hierarchical structure. The highest tier represents a pleasant versus unpleasant evaluation, which is linked to an intermediate tier consisting of two orthogonal positive and negative dimensions, which are in turn related to numerous discrete emotions, such as hope, enthusiasm,

sadness, anger, anxiety, and disgust.

There is a mounting body of evidence suggesting that emotions of the same valence - the lowest, discrete emotion tier - can be differentiated with respect to behavior and judgment, despite the fact that emotions are often highly correlated (among others, Ottati and Isbell, 1996; Lerner and Keltner, 2000/2001; Lerner and Tiedens, 2006; Keltner, Ellsworth and Edwards, 1993; Valentino et al., 2006). Specific emotions can manifest themselves in different action tendencies, such as approach, inaction, avoidance and attack (Izard 1971; Mackie et al., 2000, are intimately related to persuasion (DeSteno, Petty, Rucker, and Wegener, 2004), and can influence the causal attributions people make when thinking about political and nonpolitical issues (Keltner et al, 1993; Lerner and Tiedens, 2006).

Historically, much of the work on discrete emotions has been concerned with whether a set of fundamental emotions exist (Ekman, 1972). There are unique Autonomic Nervous System (ANS), neuropsychological, cognitive, and expressive markers associated with specific emotions. For example, Ekman's pancultural theory of emotions identifies seven basic emotions- disgust, contempt, anger, fear, happiness, sadness, and surprise. Others have suggested different numbers of "basic emotions", some include love (Panskepp, 1999), others exclude surprise (Izard, 1994), and in some cases, two positive emotions are added - joy and elation. Almost all the literature on basic emotions, however, agrees that anger, sadness, fear, and joy/enthusiasm entail different neurological markers, and result in distinguishable behavioral and attitudinal consequences (Panskepp, 1999). Scherer (2003) describes how emotions systematically covary with unique vocal configurations. Anger, for example, leads to increased speech intensity, decreased number of pauses between words, decreased syllable duration, and vocal jittering; sadness, while also a negative emotion, manifests itself in different speech patterns, leading to decreased speech intensity, an increase in the number of pauses between words, and increased syllable duration. What is more, Scherer (2003) demonstrates that these vocal configura-

tions are not solely a function of physiological arousal, as less extreme variants of anger- such as mild irritation- do not show the same pattern of vocal expression. There are also differences in how specific emotions are articulated.. Humans are also quite adept at detecting emotion from speech. Van Bezooijen (1991) found a mean accuracy rate of about 65% in detecting disgust, shame, interest, joy, fear, sadness, and anger.

As noted by R.J. Dolan, "Unlike most psychological states, emotions are embodied and manifest in unique recognizable, and stereotyped, behavioral patterns of facial expression, comportment, and autonomic arousal" (Dolan, 2002, p.1111). To demonstrate the many studies on discrete emotions and the diverse methodologies used, I've summarized a number of empirical findings in tables 2.1 to 2.5. These studies present evidence from a number of fields demonstrating that (1) emotions of the same valence have unique physiological and neural markers; (2) specific emotions influence behavior and behavioral intentions; and (3) specific emotions have unique consequences in the construction of attitudes, evaluation, and persuasion processes. Though this presentation is far from exhaustive, taken together, these tables suggest that emotional experiences are complex, having more nuanced effects on judgment and behavior than predicted by valence and dimensional models.

[INSERT TABLES 2.1-2.5]

Much of the literature exploring the distinct effects of specific emotions is grounded in componential views of emotions, where emotions arise from unique appraisals, action tendencies, and bodily experiences (Frijda, Kuipers, and ter Schure, 1989; Smith and Ellsworth, 1985). Perhaps the most flexible model to account for an array of emotions and how they influence social processes is cognitive appraisal theory.

2.3 Emotions, Appraisals and Behavior

Cognitive appraisal theory combines input from many different areas of psychology - cognitive psychology, neuroscience, and social psychology - and draws heavily on the notion that discrete emotional states can be distinguished from simple positive and negative affective states (Arnold 1960a/1960b; Lazarus 1982). The emotional response is believed to consist of constituent physiological, psychological, and social processes where one's cognitions mediate and differentiate emotional experiences (Ellsworth and Scherer 2003). The key to emotional differentiation is the appraisal process.

Most affective theories make the assumption, at least implicitly, that emotions result from appraising an event by its personal significance and whether it enhances individual well-being. Cognitive appraisal simply elaborates on this by suggesting that different combinations of appraisals elicit distinct emotions. While appraisal theorists have never been able to agree on the precise number of appraisal dimension (Marcus, 2003), in their seminal piece, Smith and Ellsworth (1985) identify six: certainty, pleasantness, attention, control, effort, and responsibility. By this account, emotional variation can be explained by different patterns of appraisals. Anger, for instance, is associated with elevated perceptions of personal control, attributing blame to an individual or set of individuals, and believing that an event is certain to occur (Lazarus, 2001; Berkowitz and Harmon-Jones, 2004); sadness and sympathy, on the other hand, stem from beliefs that an event cannot be prevented and is caused by something external to the individual.

Appraisal theory comports with functional perspectives, where emotions such as anger, sadness, fear, and enthusiasm serve adaptive purposes (Plutchik, 1980). Anger is empowering, often leading one to remove the object impeding a goal (Smith et al., 2008); sadness promotes behavioral withdrawal and 'giving up'; fear signals that there is something dangerous that should be actively avoided; and enthusiasm

reinforces one's existing behavior since nothing in the surrounding environment is viewed as threatening.

In a parallel literature, research by Bernard Weiner and colleagues has found that particular causal attributions lead to emotions, which are in turn, consulted in judgment and behavior (for a review see Weiner, 1986/2006). The crux of the model is that the linkage between behavior and emotions is strongly defined by the attributions made to explain social events. In other words, attributions cause emotions, which in turn influence attitudes and behaviors. As such, the ways in which people speculate about causation shape the emotions experienced and subsequent behavior. For instance, those making "internalistic" attributions for poverty (e.g., poverty is caused by lack of effort and laziness) are more likely to be angry about poverty and subsequently favor reduced outlays for welfare policy (Zucker and Weiner, 1993). The opposite has been found for individuals that make "externalistic" attributions, believing poverty is caused by failing communities, schools, and low wages. According to attribution theory, the key mediator between attributions and broader preferences are emotions.

Weiner's attribution theory has identified roughly the same dimensions as found in appraisal theory (Weiner, 2006). The attribution process has been consistently shown to reduce to three distinct dimensions: locus (internal/external), stability (constant, unstable), and controllability (could the outcome be prevented), which are comparable to the dimensions of certainty, control, and responsibility in appraisal theory. Extending these dimensions to the emotional experience, anger tends to co-vary strongest with attributions of control and beliefs that a negative event was caused by the illegitimate action of another (high control, certainty, and locus of cause being an individual). Anger is often referred to as an emotion that entails high coping potential, or the belief that one can effectively deal with the problem Emotions such as sadness and sympathy, on the other hand, are associated with low control, low certainty, and the locus of cause being external or systemic. As

such, sadness facilitates withdrawal and is a low coping potential emotion and often has the functional consequence of avoiding the situation or seeking the solace of a close attachment figure (Bowlby, 1969). Anger, sadness, and fear have unique consequences for behavior and attitudes, such as helping and aggression (Weiner, 2006), punitive beliefs (Weber and Cassese, 2007), and general support for government programs. For instance, Skitka (1999) extended appraisal theory to deservedness of federal aid following a natural disaster. Individuals believing that the victims were responsible for their own plight were far more likely to experience anger and favor far less aid being allocated; individuals believing that the event was beyond the victims control, however, were far more sympathetic and supportive of assistance. Extended to political ideology, Zucker and Weiner (1993) find that conservatives endorse individual attributions of poverty, are more likely to experience anger at welfare recipients, and subsequently, favor reductions in outlays to welfare.

Appraisals leading to Emotions or Emotions leading to Appraisals?

As traditionally conceived, appraisals (and attributions) are believed to shape emotions, which are in turn consulted in judgment. Notwithstanding, recent empirical work has examined how emotions influence the interpretation of events - that is, whether emotions influence appraisals and attributions of subsequent events. Under this componential view of emotions (Panskepp, 1998), emotions are seen as correlated components, including cognitive, behavioral and motivational tendencies (Horstmann, 2003). Lerner and Keltner (2000/2001) develop a theoretical framework arguing that appraisals stem from the emotions an individual is experiencing. As such, appraisals and emotions coexist in a recursive loop, where appraisals can follow from an emotion, by virtue of emotions being associated with a core set of appraisals. What this suggests is that the emotions may trigger a set of predispositional tendencies in line with the core-appraisal dimensions. For instance, anger facilitates perceptions of certainty, control, and internal attributions of responsibil-

ity; sadness and fear have different consequences, leading to decreased perceptions of control, less certainty and external attributions (Keltner et al., 1993). Niedenthal (2007) similarly notes that discrete emotions activate unique physiological patterns. For example, neuroimaging work shows that overlapping emotional circuits are activated when one expresses versus recognizes an emotion- in short, "when you smile, the whole world smiles back" (Niedenthal, 2007, p.1000). Experiencing an emotion entails a host of physiological, cognitive, and motivational changes: "The embodiment of anger might involve tension in muscles used to strike, the enervation of certain facial muscles form a scowl, and even the rise in diastolic blood pressure and in peripheral resistance, for example" (Niedenthal, 2007, p. 1001).

Similar to association-based models in psychology, there is evidence to suggest that discrete emotion concepts are stored in memory with a particular set of schemata, goals, memories, and motivational states. As noted by Smith and Neumann, "Emotion refers to a bundle of loosely related processes (involving appraisal, affect, motivation, expressive behaviors, activation, use of semantic knowledge, subjective feelings, and self-regulation), not to a single 'thing'". In paradigm cases, these processes may unfold in parallel in reaction to the same event" (p.288). Experiencing discrete emotions - such as guilt or sadness - may activate a set of unique cognitive and behavioral repoirtoires, often outside cognitive awareness (Lang, 1994; Lang, Bradley, and Cuthbert, 1998; Zemack-Rugar, Bettman, and Fitzsimons, 2007). Not only do cognitions cause emotions, as traditional appraisal theory would suggest, but experiencing particular emotions can also facilitate a unique set of cognitive and behavioral patterns. According to Berkowitz (1990) "associative networks link specific types of feelings with particular thoughts and memories and also certain kinds of expressive-motor and physiological reactions" (p.496). This view comports with Damasio and colleagues "somatic marker hypothesis", positing that one first categorizes an event, which is then linked to an emotional reaction. The link is based on some learned association stored in memory, and the emotion can have what Spezio

and Adolphs (2007) call a *feed forward* effect, where emotions influence downstream processes, such as "selective attention, memory encoding and retrieval, associative learning action planning, thought, and so on". (p. 842).

In perhaps the first empirical demonstration of this process, Keltner et al. (1993) find that anger and sadness elicit very different appraisals of responsibility and control, where anger leads people to make dispositional attributions centering on human agency; whereas sadness facilitates situational attributions. In a set of experiments, numerous negative scenarios were given to participants followed with an inquiry as to who was responsible for the eventcould the scenario be attributed to external, uncontrollable or internal, controllable factors (e.g., "You miss an important flight". Is this because of a "terrible cab driver" or "bad traffic"), with sad people favoring the uncontrollable (e.g., bad traffic) and angry people favoring the controllable (e.g., a terrible cab driver). In a political example, Weber and Cassese (2007) find that anger precipitates dispositional attributions for crime - believing crime is caused due to lacking morals and an aggressive tendency - whereas, fear promotes systemic attributions - believing that crime stems from failing communities. The bi-directionality of emotions and appraisals are believed to stem from networks of emotions and appraisals being stored in memory, where attribution *nodes* are linked to emotion *nodes*, resulting in particular attributions being more accessible when in a particular emotional-state (se Bower, 1991 and mood-congruency).

Lerner and Tienens (2006) and Berkowitz and Harmon-Jones (2004) emphasize the role of associations in modeling emotions and cognitions. In their *appraisal tendency framework*, Lerner and colleagues suggest that emotions are stored in memory with a unique constellation of cognitive and behavioral intentions. Similarly, the cognitive neoassociationist model contends that physiological reactions can trigger particular emotions (Berkowitz, 1990; Berkowitz and Harmon-Jones, 2004). Association models partially explain why a variety of manipulations can successfully evoke emotions. Consider the well-known Velten procedure- simply reading and thinking

about a series of sad statements is sufficient to elicit a depressed mood. Additional evidence on the proximal consequences for emotion finds that evoking a particular emotional state - anger or fear, for example - raises the tendency to experience anger or fear related thoughts. These findings comport with Chepenik, Cornew, and Farah (2007), who also find that sadness leads to mood congruent effects on memory and enhanced recognition of negative facial expressions. Zemack-Ruger and colleagues similarly demonstrate that subliminally priming participants with either guilt or sadness words leads to different pattern of behaviors; for example, guilt facilitates helping behavior, yet lowers indulgence behavior. Lang and colleagues (Lang et al., 1998) suggest that emotions are linked to neural networks of memories, motivations, and behaviors, and experiencing a particular emotion makes salient particular cognitive and behavioral concepts. Anger heightens the probability of blaming an individual, whereas fear leads to greater protectiveness and behavioral avoidance (Berkowitz and Harmon-Jones, 2004) Thus, I expect that four commonly appealed to emotions - sadness, fear, anger, and enthusiasm - should have unique and important behavioral and attitudinal ramifications.

2.3.1   Emotions and Political Persuasion

Emotions are integral to how information is processed, as evidenced by affective intelligence theory, as well as persuasion theory in psychology (for political science, see Marcus et al., 2000; for psychology see Petty, Fabrigar, and Wegener, 2003). An integrative view of discrete emotions is one where both indirect and direct affective processes influence evaluation and behavior (Forgas, 1995). In figure 2.1, two indirect routes are hypothesized: one where emotions influence processing depth, in accordance with the elaboration likelihood model (ELM) and heuristic-systematic model (HSM) (Eagly and Chaiken, 1993), and the second where emotions influence whether information is attended to objectively or in a biased manner (Marcus et al., 2000; Taber and Lodge, 2006; Lodge and Taber, 2005). How do these two indirect

routes differ? Consider fear, as it has been the most studied discrete emotion. Rogers (1975) notes that fear evoking messages are more persuasive than positive emotion messages, especially when sufficient information is provided as to effectively cope with one's fear (Boster and Mongeau, 1984; Rogers, 1975). Marcus and colleagues similarly suggest that fear- or what they refer to as anxiety- activates objective processing. It is important to note that equating objective processing with systematic processing is not entirely congruent with dual-process models of persuasion. Petty and colleagues (2003) demonstrate this by noting that fear will lead to reduced processing depth and a simultaneous reliance on objective information processing. Especially for highly arousing, fear evoking messages, weak arguments may be rated equal to strong arguments (an indicator of processing depth), but the message may still be processed without preexisting biases.

[INSERT FIGURE 2.1]

Consider a scenario where a participant is made fearful and then exposed to either a weak or strong counterattitudinal message. According to affective intelligence, one's preexisting attitude should be relatively unimportant, and the message itself should weigh heavily in evaluation- that is, objective processing. Affective intelligence, however, does not predict whether the strong or weak message will be more persuasive, only that the message will be evaluated without relying on extant beliefs. In some situations, fear has been found to reduce systematic processing, because highly arousing, fear evoking message reduces the ability to generate effective counterarguments (Petty, Wells, and Brock, 1976). Thus, two distinct paths may account for the indirect ways in which discrete emotions affect attitudes.

As for the direct routes, experiencing an emotion may trigger appraisal tendencies important to political behavior, candidate evaluation, and issue preferences. For instance, discrete emotions affect behavioral and motivational tendencies, particularly approach and avoidance behavior. Anger and positive emotions tend to elicit approach behavior, via elevated perceptions that one has control over a situation

(Weiner, 2006). As a "high action potential" emotion, anger stimulates confrontations, strengthens action intentions, and leads to attitude certainty (Averill, 1983). It is this augmented feeling of power, perceived control over the situation, and self efficacy which is why anger has been linked to risk-seeking propensities (Izard, 1991; Lerner and Keltner, 2001; Huddy et al., 2007); while sadness, and to a lesser extent, fear, are conceptualized as a "low action potential" emotion, leading to withdrawal and avoidance (Miller, 1948; Small and Lerner, 2008, cf., Marcus et al., 2000). Emotions also relate to the expectancy of success in reaching a goal. Since anger is often associated with controllability, it tends to result in higher degrees of personal efficacy and control over one's own fate (Lazarus, 2001; Berkowitz and Harmon-Jones, 2004; Valentino et al., 2006). Sadness and fear tend to reduce efficacy because of their association with low personal control and attributions to unstable causes. As such, the discrete emotions I explore- sadness, anger, fear, and enthusiasm- should affect political participation to varying degrees.

And as noted in the figure, discrete emotions may have a direct evaluative effect (far left box of figure 2.1). People may directly consult their emotions when considering political objects in line with appraisal tendencies (Rahn, 2000; Lerner and Tiedens, 2006). Small and Lerner (2008) demonstrate this by manipulating sadness and anger and then examine the effects of these emotions on preferences for welfare spending. Congruent with Keltner et al. (1993), sadness promoted systemic attributions for poverty (e.g., poverty is caused by failing communities); whereas anger led to individualistic attributions (e.g., poverty is caused by laziness and lack of work ethic). This was speculated to occur because sadness increased the salience of appraisals corresponding to external attributions, uncontrollability, and uncertainty; anger, on the other hand, increased the salience of internal attributions, controllability, and certainty.

2.3.2   Discrete Emotions, Behavior, and Judgment

Because of the centrality of emotions in social processes, I explore the role of emotions in the context of political campaigns, examining whether several commonly appealed to emotion - sadness, enthusiasm, fear, and anger - influence political behavior and judgment. My hypotheses are informed from a growing body of research on *appraisal theory*, demonstrating that these emotions are associated with different sets of core appraisals.

As a starting point, there has been much controversy in how to model and explore the structure of emotions. Some have suggested that two dimensions- positive affect and negative affect- underlie all emotions (Russell, 1994; Green, Goldman, and Salovey, 1993; Green, Goldman, and Salovey, 1999; Feldman-Barrett and Russell, 1998; Carroll, Yik, Russell, and Barrett,1999; Watson et al., 1988; Cacioppo and Gardner, 1999; Feldman-Barrett, 2005); others have argued that several basic emotions exist, of which all other emotions are derived (Ekman, 1992/1994; Izard, 1992/1994); and yet others have argued that emotional response is even more complex, where a wide array of emotions can be explained by various underlying appraisal dimensions (Smith and Ellsworth, 1985). Historically, there have been three schools of thought in the study of emotion: component models, valence models, and multidimensional models (Neuman, Marcus, Crigler, and MacKuen, 2007). Component models explore how discrete emotions, such as fear, anger, sadness, and enthusiasm, vary according to different patterns of behavior, cognition, and motivation. Much of this work draws from *cognitive appraisal theory*. Valence models assume that emotions fall along a single positive versus negative affect dimension, and multi-dimensional approaches contend that two or more dimensions explain the most of the variation in emotional response. Thus, the first hypothesis I test is whether the structure of emotional response is in fact "discrete".

Hypothesis 1: The structure of emotional response should be "discrete",

subsequently resulting in several emotions factors that are correlated, but distinguishable. Specifically, anger, sadness, fear, and enthusiasm should fall on separate, correlated dimensions (*The Structural Hypothesis*).

This hypothesis is primarily the focus of chapter 3, where I use data from the 1996 GSS, as well as data I've collected to explore the measurement structure of emotional response. Yet since examining the structure of emotional response is simply a data fitting exercise, lacking theoretical substance about the causes and consequences of specific emotions, I also explore the effects of the four target emotions in regards to political participation, issue considerations, and persuasion. Discrete emotions should make accessible corresponding cognitive, motivational, and behavioral tendencies. For instance, perceptions of control should lead angry people to be more politically active: voting in higher numbers, showing interest in campaigns, learning about the candidates, and demonstrating a heightened sense of internal and external efficacy. In chapter 4 I test whether discrete emotions aroused in a political advertisement influence political participation and variables related to participation. I contend:

Hypothesis 2: Anger and enthusiasm should be relatively strong predictors of the desire to participate in politics, whereas sadness and fear should lead to comparatively less participation. Moreover, anger, by virtue of being associated with less interpersonal trust, should translate to less trust in government (*The Participation Hypothesis*).

The relation of these emotions to political behavior should mainly be a function

of the control dimension, where control or the ability to effectively cope in response to a negative event is central to anger (Valentino et al., 2006; Lazarus and Folkman, 1984). As such, anger in the political domain should correspond to perceptions of efficacy. I focus on this hypothesis in chapter 4, where I use data from two student samples exposed to an emotionally evocative political advertisement. I then attempt to replicate the results using the 2000 American National Election Studies (ANES).

Discrete emotions should trigger different behavioral tendencies as a function of varying degrees of importance attached to situational versus individual control, as well as assessments of certainty. These attributions should, in turn, have additional consequences by fundamentally affecting the ways in which issues are considered (Small and Lerner, 2008; Keltner et al., 1993; Weber and Cassese, 2007). In chapter 5 I explore the direct consequences of discrete emotions for how crime, social welfare, and environmental issues are considered. Specifically,

Hypothesis 3: Sadness, anger, fear, and enthusiasm should influence beliefs on the root causes of crime, poverty, and environmental pollution. Since anger and enthusiasm are associated with attributions of individual agency and responsibility, anger should make salient internal attributions in these domains. For instance, anger should lead people to believe that crime is caused by "people that don't want to work", that environmental pollution is caused by corporations and humans not caring about the environment, and that poverty is caused by a lack of work ethic and laziness. Sadness and fear, on the other hand, are associated with elevated perceptions of situational control. As such, these emotions should lead people to attribute the causes of crime and poverty to failing communities and neighborhoods, environmental degradation to forces outside of human control. (*The Attribution Hypothesis*).

The experience and expression of emotions shouldn't be constant for all individuals. For instance, conservatives and Republicans are far more likely to endorse individualistic, dispositional attributions than liberals and Democrats (Weiner, 2006; McClosky and Zaller, 1984). Conservatives tend to value hard-work and individualism over egalitarianism and humanitarianism, are more likely to endorse internal, disposition based attributions (Skitka, 1999). Liberals, on the other hand, are more inclined to favor external, systemic attributions, preferring greater government spending to alleviate social maladies. As such, sympathy tends to be strongly related to policy attitudes for liberals. Thus, it is also likely that the link between emotions and attributions will vary depending upon one's ideology. I test whether the effects of ideology on these attributions are influenced by emotion. It is possible that there may not be a main effect of emotions on judgment because the political issues I explore are deeply entrenched in ideological thought. In line with appraisal theory, particular emotions may influence the degree of certainty people have in their beliefs. Positive emotions and anger have been shown to enhance perceptions of certainty, often leading to optimistic views of the future and risk seeking behavior; sadness and fear, however, tend to reduce certainty, leading to a heavier reliance on contemporary information. For this reason, particular emotions may moderate the differences between liberals and conservatives in these domains.

Hypothesis 4: The effects sadness, anger, fear, and enthusiasm evoked in the context should affect the differences in stated attitudes between liberals and conservatives. Anger and enthusiasm should facilitate belief polarization, sadness and fear should attenuate ideological differences (*The Polarization Hypothesis*).

Hypotheses 3 and 4 are the empirical focus of chapter 5. In this chapter, I rely

on a sample of New York State adults who completed a paper-and-pencil survey which included a transcribed emotional advertisement. This was followed with a number of questions on social issues.

Finally, emotional reactions to political messages should vary as a function of the message origin. Cues such as whether the ad-sponsoring candidate is a Democrat or a Republican should influence both the type and magnitude of the experienced emotion. An ad released by a Democrat attacking a Republican, for example, should elicit a stronger emotional response among Democrats than among Republicans.

Hypothesis 5: A stronger emotional response will be elicited when an advertisement comes from a congenial, than from a non-congenial source. Similarly, a message from a congenial source should be rated as more persuasive and more positive (*The Matching Hypothesis*).

Emotions should also vary the weights attached to message cues in decision making. I test whether the weights attached to particular factors vary when considering political candidates. Source cues should resonate differently with people depending on their emotional reactions to political ads.

Hypothesis 6A: Sadness and fear should lead to a decreased reliance on PID and other predispositions in affecting vote choice, as these emotions have been found to covary with a sense of uncertainty and control (*The Uncertainty Hypothesis*).

Thus, sadness and fear should facilitate relying on contemporary evaluations, rather than extant dispositions. The opposite pattern should emerge for enthusiasm

and anger, since these emotions are associated with an elevated sense of control and certainty. In other words, PID should not be nerrly as important as issue considerations for sad and fearful respondents.

Hypothesis 6B:Anger and enthusiasm should lead to a stronger reliance on predispositions whereby individuals should rely on PID source cues more heavily than issue considerations when forming vote intentions (*The Certainty Hypothesis*).

These final three hypotheses are explored in the final empirical chapter, chapter 6, where I rely on a web-sample of 1,450 adults. Taken together, these hypotheses address two important aspects of emotions in political communications: (1) Do emotions influence how people think about political issues, and (2) Do emotions have behavioral effects, influencing participation, interest, and political efficacy. Considering this with prior research, such as Affective Intelligence Theory, emotions are expected to serve as an important variable in political information processing, candidate evaluation, and, contrary to the predictions of "minimal effects", emotions are important to consider in the structuring of political preferences.

2.3.3 A Brief Note on the Stimulus Materials

To explore the causal impact of emotionally evocative advertisements, I rely mainly on experimental methods. In chapters 4 and 6, participants viewed an internet campaign advertisement, whereas in chapter 5, respondents read a transcribed version of a campaign ad. Participants were told they would be viewing and reacting to a political advertisement released from a previous congressional election. In fact, the advertisement was from a fictitious campaign, generated using video clips from previous presidential and congressional elections. The ad script was taken from ac-

tual ads, as well as from modified versions of the ads used by Brader (2005/2006) and Ansolabahere et al., (1993) [6] . All ad transcripts were sufficiently pilot tested and found to evoke one of the four target emotions (anger, fear, sadness, enthusiasm). Participants were randomly assigned to view one of four emotional ads.

The Internet Ads

For the internet ads, the voice-over was read by a professional who has narrated advertisements for the Florida Democratic Party, and music was mixed with the voice-over to maximize the emotional response (Gabrielsson and Juslin, 1996). For example, music in the anger condition consisted of a faster tempo and complex rhythm. In the fear condition, the backdrop music was marked by a fast tempo and dissonant sounds. Somber music was played in the sadness condition, defined by a slower tempo and a narrow pitch range. Finally, in the enthusiasm condition, uplifting, patriotic music was played. The full narrative and selected frames for the internet ads are presented in figure 2.2.

[INSERT FIGURE 2.2]

Participants were instructed that the ad was from a recent congressional election between two candidates, John Wilkins and Dave Reade. A brief history was offered, in that Wilkins and Reade had spent much of their operating budgets on internet advertising, sending numerous emails to constituents and releasing several web-advertisements.

What did the ads look like? The anger ad opens with a threatening statement, "It's happening right now...a generation of young people is in danger.more children are victims than ever before." The camera pans from images of police officers and children to a frame of a teenager injecting heroin. The narrator reads, "What's been done? John Wilkins vetoed mandatory sentencinghe supported cuts in federal funding to drug education. and even supported plans to release criminals known

for dealing drugs to children." The camera abruptly shifts to images of criminals with the sound of slamming jail door echoing in the background. "America deserves better. Vote Dave Reade for Congress." The fear ad also opens with threatening images. "When it happens, it catches you completely by surprise. Suddenly there's a gun, and it's pointed at you." The camera shifts from images of criminals, to an image of a masked man, and a gun pointing out from the screen. "Experts predict that you as an American are 12 times more likely to die in gunfire than citizens in other nations. The answer is getting criminals off the street. Vote Dave Reade for Congress." The camera slowly zooms on a jail cell.

The sadness evoking advertisement, while again focusing on crime, takes the perspective of a man grieving the loss of his murdered son and daughter-in-law and the inability of John Wilkins to effectively manage crime rates. The ad opens with the names and dates of the victims' deaths, and the narrator reading, "Stanley Rosenbluth's son and daughter in law were brutally murdered in their home." The camera slowly focuses on Mr. Rosenbluth, who mournfully notes, "Richard was our first born, married to Becky...Mark Shepard shot Richard twice, and went over and shot Becky two more times.[sigh]." As Mr. Rosenbluth speaks, faint gunshots ring in the background. "John Wilkins has a history of supporting cuts in law enforcement spending...and an endlessly changing position on crime." The camera pans back to Mr. Rosenbluth, now appearing in black-and-white, "He's not representing everyone in this state, and I say that as a father whose lost his son." The ad closes with an image of Mr. Rosenbluth holding a picture of his son and daughter-in-law, "more Americans today are victims than ever before. We need politicians that are tough on crime. Vote Dave Reade for Congress."

The enthusiasm ad cites the positive accomplishments John Wilkins has made in curbing the crime rate. The backdrop features the faint sound of a bugle, with numerous uplifting images, including veterans, children at a school, bald eagles, and the flag. The voice-over takes the form of a political speech. "And let me say to you

that I am honored to have been given the opportunity...to stand up for the values and interests of ordinary Americans. I've led the fight to reduce America's record rates of crime and substance abuse. In Congress, I fought for more jobs so that our youth don't turn to crime... We are stronger. We are more courageous. We are proud." The ad closes with several images of young children, paired with the voice-over, "If we hold out our hands in cooperation, and always stand up for what we know is right, our country's future will be even brighter than its brilliant past. It's our responsibility to make that happen."

The Transcribed Ads

For the transcribed advertisements, care was taken in selecting evocative advertisements that again drew on fear, sadness, anger, and enthusiasm. Again, the advertisements focused on a fictitious election, and participants were instructed that they would see a transcribed version of a television advertisements released in New York's 28th Congressional District. They were then told the race was a close contest between the incumbent, John Wilkins, and a number of promising challengers. Participants then were randomly assigned view one of eight advertisements, meant to elicit anger, sadness, enthusiasm, or fear that focused on crime or the environment. The ad was printed in color on high quality paper. This study included an additional manipulation: the issue focus of the ad. As such, participants were assigned to one of eight cells following a 2 (Ad's Issue appeal: Crime, Environment) x 4 (Emotional Appeal: Enthusiasm, Sadness, Fear, Anger) between subjects factorial design. While the ads obviously lacked an audio element, care was taken in selecting high-resolution images from previous state, local, and federal campaigns. Participants were told to pay close attention to the ad, read all the text and look at all the accompanying images, and imagine that they were watching the ad on television. These materials are in figure 2.3.

[INSERT FIGURE 2.3]

Data

A number of datasets and estimation strategies were used. In addition to relying on the the 1996 GSS and 2000 ANES, I also collected data from adults and Stony Brook students in 2007. Two Stony Brook student samples were collected. In the first, "Campaigns and Participation", participants were exposed to one of four emotionally evocative web-advertisements. This was followed by a number of questions about political participation. The purpose of this study was to measure whether emotions evoked in advertisements have effects on political participation. A replication study was conducted with Stony Brook students to explore the unique effects of anger and sadness evoking ads. I analyze these data in chapters 3 and 4.

Limitations of these two studies are that they rely on students for data, a particularly important issue to consider in social science research. For this reason, two additional surveys were administered, a paper-and-pencil survey administered to a sample of New York State adults and a web-survey administered to 1,450 American adults. The former presented a transcribed version of an emotionally evocative ad, followed by questions on crime, the environment, and poverty. Data from this study are analyzed in chapters 3 and 5. The second study was intended to measure the effects of an emotionally evocative internet ad on participation and attributions. The data from this study are analyzed in chapter 3 and 6. A thorough description of the samples and survey instruments are located in the chapters to follow.

Table 2.1: Physiological Expression of Emotions

Anger	Sadness	Fear	Enthusiasm
EEG Studies: Trait and state anger lead to left (approach) hemispheric brain activation. (Harmon-Jones and Sigelman, 2001; Harmon-Jones and Allen, 1998).	EEG Studies: Decreased left hemispheric activation; increased right hemispheric activation, indicative of sadness being associated with avoidance Allen, Iacono, Depue, and Arbisi, 1993).	fMRI Studies: Amygdala and thalamus activation (LeDoux, 1996; Bechara and Bar-On, 1996). In facial recognition of fear: Left inferior frontal gyrus, left amygdala (Phillips et al., 1998); bilateral legions to amydala affected fear but not other emotion facial recognition (Adolphs et al., 1994). Whalens (2001) notes that the amygdala is implicated in the recognition of fearful facial expressions, but not angry expressions (cf., Adams et al., 2008).	fMRI Studies: Facial recognition of happiness: medial frontal/sulcus (Kesler/West, Andersen, Smith, Avison, Davis, Krysico, and Blonder, 2007)

Anger	Sadness	Fear	Enthusiasm
<u>fMRI Studies:</u> Amygdala and orbital prefrontal cortex activation (Schreiber, 2007). In facial recognition of anger: Left fusiform gyrus, right orbitofrontal cortex (Kesler/West, Andersen, Smith, Avison, Davis, Krysico, and Blonder, 2007). ESB of medial hypothalamus induced rage (Panksepp, 1999)	<u>fMRI Studies:</u> Medial Regions of the Prefrontal Cortex (Chepenik, Cornew, and Farah, 2007). Activation of dorsomedial thalamus, anterior cingulated, and amygdala (Panskepp, 1999). Facial recognition of sadness: Left fusiform gyrus, left amygdale, left temporal lobe (Blair et al., 1998)	<u>ANS and Hormonal Signatures</u> Blood flow to large muscles in legs Heart rate and blood pressure increase Decreased peripheral blood flow Increased perspiration Epinephrine increase (Ekman, 2005; Henry, 1986; Panskepp, 1999; Levenson, Ekman, and Friesen, 1990)	<u>Hormonal Changes:Elation:</u> Testosterone, decrease in cortisol, ACTH and endorphin levels. (Henry, 1986)

table, continued

Anger	Sadness	Fear	Enthusiasm
ANS and Hormonal Signatures: Anger, sadness, and fear have unique autonomic nervous system signatures: Peripheral blood flow increase Heart rate and blood pressure increase Increased perspiration Norepinephrine increase Testosterone increase Slight Epinephrine increase (Ekman, 2005; Henry, 1986; Panskepp, 1999; Levenson, Ekman, and Friesen, 1990)	ANS and Hormonal Signatures Heart rate and blood pressure decrease Decreased peripheral blood flow Decrease in testosterone, increase in cortisol, increase in ACTH and endorphins. Inhibition of opiads, prolactin, and oxytocin. In cases of depression, depletion of domaine, serotonin, and noripiphrine. Similarly, sadness leads to parasympathetic nervous system activation. (Ekman, 2005; Henry, 1986; Panskepp, 1999; Levenson, Ekman, and Friesen, 1990; Rochman and Diamond, 2008)	-	-

table, continued

Table 2.2: Emotion Expression

	Anger	Sadness	Fear	Enthusiasm
Facial:	Lowered eyebrows, tense lower eyelids, jaws protrude forward (Ekman, 2003/1992; Ekman, Sorenson, and Friesen, 1969); Cultural Variation: Correct facial recognition in Western cultures (78 %); correct vocal recognition in Western Cultures (77%); correct facial recognition in non-western cultures (59%); correct vocal recognition in non-western cultures (64%)	Raised inner brow, drooping lower lip and lip corners pulled down, downward gaze "nasolabial furrow"-raised cheeks which push nostrils out and eyelids up (Ekman, 2003/1992; Ekman, Sorenson, and Friesen, 1969; c.f., Russell, 1994) Cultural Variation: Correct facial recognition in western cultures (79 %); correct vocal recognition in Western cultures (71%); correct facial recognition in non-western cultures (74%); correct vocal recognition in non-western cultures (58%)	Raised upper eyelids; tense, rigid lower lids; Brows drawn together; Jaw drops; Lips stretched forward (Ekman, 2003/1992; Ekman, Sorenson, and Friesen, 1969; c.f., Russell, 1994) Cultural Variation: Correct facial recognition in western cultures (77%); correct vocal recognition in Western Cultures (61%); correct facial recognition in non-western cultures (62%); correct vocal recognition in non-western cultures (38%)	Smile: Duchenne (Sincere)- muscles around eyes tighten; for insincere smiles, there is no contraction of these muscles (Ekman, 2003/1992; Ekman, Sorenson, and Friesen, 1969; c.f., Russell, 1994; Cultural Variation: Correct facial recognition in western cultures (95 %); correct vocal recognition in Western cultures (57%); correct facial recognition in non-western cultures (88%); correct vocal recognition in non-western cultures (28%)
Speech:	Increased intensity, decreased pauses, increased relative duration of voiced segments, decreased relative duration of unvoiced segments, vocal jitter, and decreased syllable duration (Scherer et al., 2003).	Decreased intensity, increased syllable duration, decreased number of syllables per second, increased pauses (Scherer et al., 2003)	Decreased intensity, increased syllable duration, decreased number of syllables per second, increased pauses (Scherer et al., 2003)	Increased intensity, decrease syllable duration, increased number of syllables per second, decreased pauses, vocal jitter (Scherer et al., 2003)

Table 2.3: Behavioral/Motivational Consequences

Anger	Sadness	Fear	Enthusiasm
Action Readiness Reactant, moving against (Frijda, Kuipers, and terShure, 1998)	Action Readiness Helplessness, approach, proximity seeking (Frijda, Kuipers, and terShure, 1998).	Action Readiness Helplessness, inhibition, protection, avoidance (Frijda, Kuipers, and terShure, 1998).	Action Readiness Approach, attend to information, cooperation (Frijda, Kuipers, and terShure, 1998; Neuberg and Cottrell, 2003).
Regulatory Focus: Agitation oriented emotions (fear, anger) facilitate out-group derogation (Shah, Brazy, and Higgins, 2003; Bizman and Yinon, 2003).	Regulatory Focus: Dejection oriented emotions (happiness, sadness) facilitate in-group approach (Shah, Brazy, and Higgins, 2003; Bizman and Yinon, 2003).	Regulatory Focus: Agitation oriented emotions (fear, anger) facilitate out-group derogation (Shah, Brazy, and Higgins, 2003; Bizman and Yinon, 2003).	Regulatory Focus: Dejection oriented emotions (happiness, sadness) facilitate in-group approach (Shah, Brazy, and Higgins, 2003; Bizman and Yinon, 2003).
Behavioral Aggression (Berkowitz, 1989; Berkowitz and Harmon Jones, 2004; Averill, 1983) Anger leads to intergroup aggression and attack (Mackie, Devos, and Smith, 2000; Esses, Haddock, and Zanna, 1993; Neuberg and Cottrell, 2003; Cottrell and Neuberg, 2005). Anger facilitated punitive beliefs in a tort reform case (Lerner et al., 1998).	Reactions to deprivation: In a study of faculty members pay inequity, sadness led to organizational withdrawal (Smith et al., 2008).	Intergroup avoidance (Neuberg and Cottrell, 2003; Cottrell and Neuberg, 2005;Mackie, Devos, and Smith, 2000; Esses, Haddock, and Zanna, 1993).	Intergroup approach (Neuberg and Cottrell, 2003; Cottrell and Neuberg, 2005;Mackie, Devos, and Smith, 2000; Esses, Haddock, and Zanna, 1993).

Anger	Sadness	Fear	Enthusiasm
Social Appraisal Anger facilitates retribution. Varies by gender (Fischer, Rodriguez-Mosquera, and Manstead, 2005).	Social Function Sadness and sympathy promote helping behavior and nurturance (Weiner, 2007). Sadness also can lead to interpersonal isolation and withdrawal (Neuberg and Cottrell, 2003).	-	-
Image Theory Group relation leads to containment or attack and outgroup image as an "enemy" (Brewer and Alexander, 2003). Political Protest Anger led to protest for perceived transgressions of one's country (Iyer, Schmader, and Lickel, 2007), as well as protest to decrease perceived ingroup advantages (Leach, Iyer, and Pedersen, 2008).	Image Theory Group relation is defensive and outgroup image as an barbarian (Brewer and Alexander, 2003)	-	Image Theory Positive image leads to cooperation and an outgroup image as an ally (Brewer and Alexander, 2003)

table, continued

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Table 2.4: Evaluative

Anger	Sadness	Fear	Enthusiasm
Risk Assessments Optimistic risk assessments and risk seeking behavior (Lerner and Keltner, 2000/2001; Fischhoff et al, 2005 Huddy et al., 2005). Anger reduced Intepersonal Trust (Dunn and Schweitzer, 2005). "Defensive optimism"- The likelihood of negative events were de-emphasized when angry (Hemenover and Zhang, 2004).	Economic decisions Sadness facilitated a "reverse endowment effect"- selling prices exceeded buying prices (Lerner, Small, and Lowenstein, 2004). In an ultimatum game, sadness led to lower acceptance rates, indicative of less rational behavior. Sadness heightened attention to perceptions of fairness (Harle and Sanfey, 2007).	Risk Assessments Pessimistic risk assessments and risk aversion (Lerner and Keltner, 2000/2001; Huddy et al., 2005; Huddy et al., 2007).	-
Attributional tendencies Internal attributions (Keltner et al., 1993; Quigley and Tedeschi, 1996; Goldberg et al., 1999; Weber and Cassese, 2007; Weiner, 1986/1987/2007). Anger mediated the relationship between fairness perceptions and retaliation (Barclay, Skarlicki, and Pugh, 2005)	Attributional tendencies External attributions (Keltner et al., 1993; Small et al., 2008 Weber and Cassese, 2007; Weiner, 1986/1987/2007).	Attributional tendencies External attributions (Keltner et al., 1993; Small et al., 2008 Weber and Cassese, 2007; Weiner, 1986/1987/2007).	Attributional tendencies Internal attributions (Weber and Cassese, 2007; Weiner, 1986/1987/2007).

table, continued

Anger	Sadness	Fear	Enthusiasm
Status Conferral Individuals perceived as angry were more likely to be seen as strong, effective leaders (Tiedens, 2001).	-	Status Conferral Individuals perceived as sad were viewed as less effective leaders (Tiedens, 2001).	

Table 2.5: Attitude Formation and Change

Anger	Sadness	Fear	Enthusiasm
Processing Strategy Biased information processing such that attention focused towards anger eliciting source (Valentino et al., 2008; Lerner and Tiedens, 2006);Discrete Emotion Matching: Angry messages were rated as more persuasive when angry than when sad (DeSteno et al., 2004; DeSteno et al., 2000). Heuristic Processing (Bodenhausen et al., 1994; Tiedens and Linton, 2001; Small and Lerner, 2008). However, Moons and Mackie (2006) only led to heuristic processing when source cues were related to the issue.	Processing Strategy Sadness has been linked to effortful, systematic processing (Bodenhausen et al., 1994; Tiedens and Linton, 2001; Small and Lerner, 2008; Bless, Bohner, Schwarz, and Strack, 1990).Discrete Emotion Matching: Sad messages were rated as more persuasive when sad than when angry (DeSteno et al., 2004; DeSteno et al., 2000). Extreme sadness and depression have been linked to less executive control and impaired working memory (Chepenik, Cornew, and Farah, 2007).	Processing Strategy Objective processing (Marcus et al., 2000; Valentino et al., 2008); Protection Motivation Theory: Fear appeals are more persuasive than positive emotional appeals, especially when circumstances are severe and actions are recommended (Rogers, 1975/1983; Impaired memory. Anxiety can inhibit working memory, limiting the comprehension and recall of information (Eysenck, 1992; Eysenck and Calvo, 1992 Huddy et al., 2005).	Processing Strategy Broaden and Build Theory: Positive emotions lead to global rather than local processing (Frederickson, 2001; Frederickson and Branigan, 2005); Shallow, non-analytic Processing-Persuasion was equally likely for specious relative to strong arguments. Happiness was also associated with relying on heuristic cues (Bless, Bohner, Schwarz, and Strack, 1990; Mackie and Worth, 1989/1991). Heavy reliance on stereotypes, and effect which dissipates when participant were made accountable for their judgments (Bodenhausen et al., 1994).

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Figure 2.1: An appraisal/component view of emotions. Emotions and appraisals influence one another, and activate a set of cognitive, motivational, and behavioral tendencies. These "components" in turn influence how information is attended to both directly and indirectly.
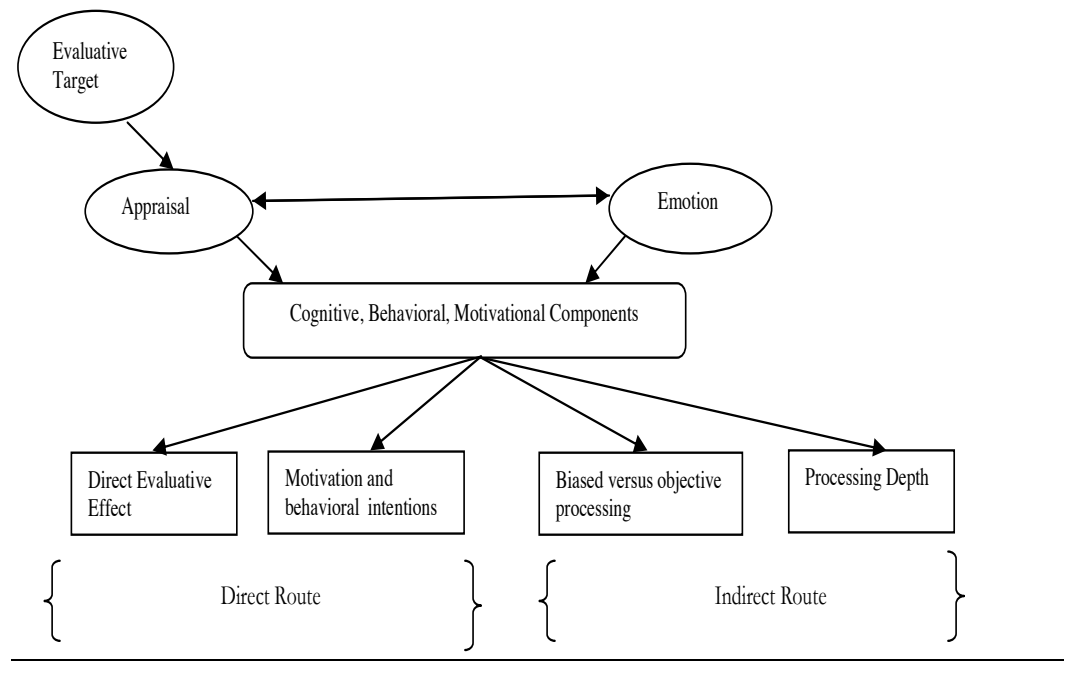
Figure 2.2: Selected frames and full text for the stimulus materials. Different music tracks were mixed with the voice-overs.
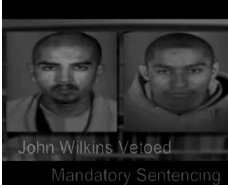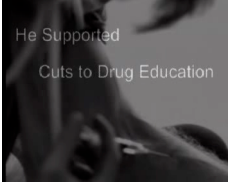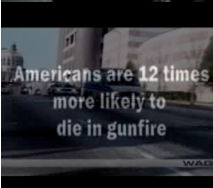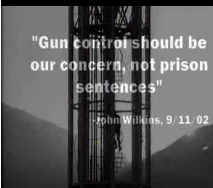
Anger Ad		**Fear Ad**	
	It's happening right now…in your neighborhood. A generation of young people is in danger.		When it happens…
	Violence and crime threaten to destroy their future. More children are victims of crime than ever before. What's been done?		…it catches you completely by surprise.
	John Wilkins vetoed mandatory sentencing for drug offenders.		Suddenly there's a gun, and it's pointed at you.
	He supported cuts in federal funding to drug education programs.		At times like these, gun control laws don't really mean much, do they?
	And John Wilkins *even* supported plans to release criminals known for dealing drugs to children…The Result		Experts predict that that you as American are 12 times more likely to die in gunfire than citizens in other nations.
	Drug and crime rates rose in some of the poorest areas of the country….		Yet John Wilkins blocked plans to increase sentences for those that use guns to commit crimes
	…putting us and our children at risk. John Wilkins is not the candidate to protect us from this tragedy.		Putting us and our children at risk. The answer isn't more gun control.
	America deserves better. Vote Dave Reade for Congress		The answer is getting criminals off the street. Vote Dave Reade for Congress

Figure 2.2: Web Ads(cont'd)
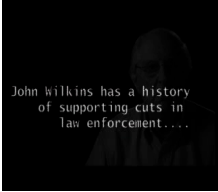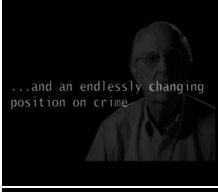
Sadness Ad	Hope Ad

[Narrator]: In 2002, Stanley Rosenbluth's son and daughter in law were brutally murdered in their home

And let me say to you that I am honored to have been given the opportunity…

[Stanley Rosenbluth]: Richard was our first born, we had a great relationship, married to Becky, everything they did together they were like two peas in a pod.

…to stand up for the values and interests of ordinary Americans.

[Stanley Rosenbluth]: Mark Shepard shot Richard twice, and went over and shot Becky two more times….(sigh)

My job as leader is to take care of this state. And I have done my best to take care of you. I've led the fight to reduce

[Narrator]: John Wilkins has a history of supporting cuts in law enforcement spending…

America's record rates of crime and substance abuse. In Congress, I fought for more jobs so that our youth don't turn

…and an endlessly changing position on crime.

to crime. And I led the fight to keep criminals where they belong, in prison. As a result, we are stronger; we are

[Stanley Rosenbluth]: He's not representing everyone in this state, and I say that as a father who's lost his son.

more courageous; we are proud. But in the end, what we stand for, the values we embrace and the things we fight for

Stanley Rosenbluth]: And the people are entitled to know just what he is and what he stands for.

will shape the future that we all live with. If we hold out our hands in cooperation, and always stand up

[Narrator]: More Americans today are victims than ever before. We need politicians that are tough on crime.

Vote Dave Reade for Congress.

for what we know is right, our country's future will be even brighter than its brilliant past. It is our responsibility to make that happen.

Figure 2.3: Stimulus materials for the New York State study

Crime Ad/ Anger

It's happening right now, in your neighborhood, a generation of youth slowly dying.

Violence and drugs threaten to destroy their future.
Teenage drug use has doubled in the last four years.
More children are victims to crime than ever before.

John Wilkins is **NOT** the candidate that can stop
this tragedy and preserve New York's future!

In the last four years, he supported cuts in funding to New York
police; he blocked plans to build new jails; and he supported
cuts in federal funding to drug education programs.
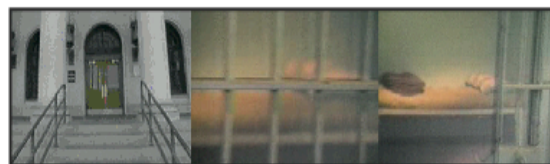
The result...violent crime rates rose in some of the poorest areas in the
state. Wilkins' record was condemned by the New York Association
of Police Chiefs. They know Wilkins will weaken our state's justice
system and oppose tougher sentencing.

Crime Ad/ Fear

When it happens, it catches you *completely* by surprise.

Suddenly there's a gun............ And it's pointed at you.
At times like these, gun control laws don't really mean much do they?
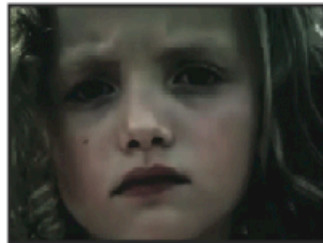
Experts predict that American children are **12 times** more likely to die in gunfire than children in other nations.

John Wilkins will fight in congress for a law that DOUBLES penalties for criminals that use guns to commit crimes......

......common-sense that protects our families.

Because the answer isn't more gun control, the answer is getting criminals off the street.

The Public Safety Voter Fund is responsible for this message.

Crime Ad/ Sadness

My wife, Wendy, was murdered on November 16, 2002.
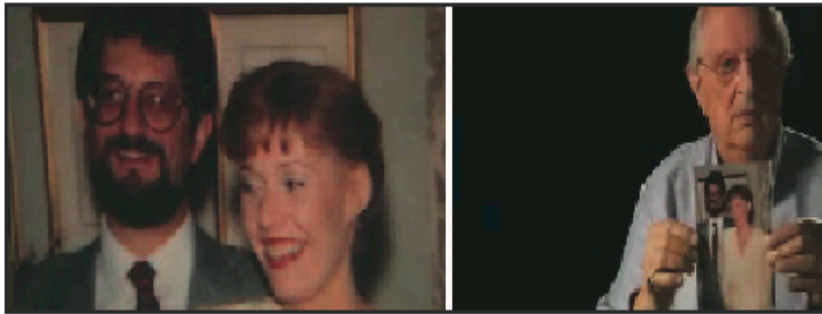
I was standing by the counter ready to close the restaurant [taking in a deep breath] when I saw him. He was standing in front of me and came out of nowhere. Then he pointed the gun at me [lifts head, eyes tearing]. I couldn't move [begins to weep]. I didn't know what was going on. I didn't know what to do [weeping, one hand on face]. The next thing I knew [eyes red], I woke up in the hospital. The nurse told me that I had been shot. I was there for about [frowning, takes deep breath] two weeks. Now I am back home [continuous sniffling, looking down], but I am feeling miserable. My wife is gone.

I don't trust John Wilkins to protect us.

Narrator: This time vote like your <u>whole world</u> depended on it.

This ad was paid for by the Public Safety Voter Fund.

Crime Ad/ Enthusiasm

Let me say to you that I am honored to have been given the opportunity to stand up for the values and interests of ordinary Americans.

My job as your leader is to take care of New York. And I have done my best to take care of this State. I've led the fight to reduce New York's record rates of rape and substance abuse.

We are **safer.** We are more **secure.** We are more **prosperous.**
But in the end, what we stand for, the values we embrace and the things we fight for, will shape the future that we will all live with.
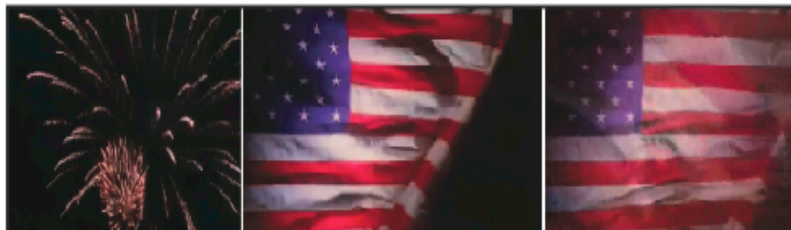
If we hold out our hands in cooperation, but always stand up for what we know is right, this country's future will be even brighter than its brilliant past. It is our responsibility to make that happen. The Public Safety Voter Fund is responsible for this message because we believe that John Wilkins is the best candidate to protect our society from crime.

Environment Ad/ Anger

As your Congressman, John Wilkins called the Long Island Sound **"an open sewer."**
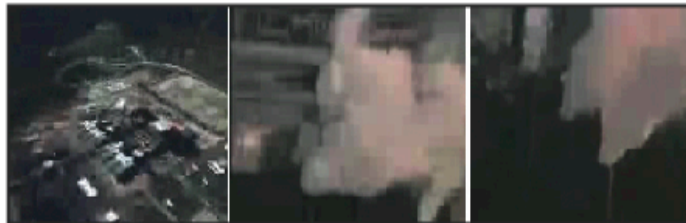
As Congressman, he had the opportunity to do something about it but chose not to.

Wilkins allowed bureaucrats to dump pollutants off the coast of New York. And when the automobile industry wanted to weaken emission standards, Wilkins agreed, putting the most vulnerable at risk.

The Environmental Protection Agency called this lack of action the most expensive public policy in the state in the history of New York. **Now the Long Island Sound is one of the dirtiest waterways in America.** It cost residents $6 billion to clean. New York can't afford a politician like John Wilkins.

John Wilkins will destroy the treasures that make New York great!

The Environmental Protection Group is responsible for this message.

Environment Ad/ Fear

Global Warming.....Some say irreversible consequences are thirty years away.
Thirty years, that won't affect me.

As Earth's temperatures soar, the ice sheets of Greenland
and Antarctica will melt into the oceans.

Experts predict that rising sea levels will devastate southern Florida, the Netherlands, and much of
Manhattan Island. Brutalizing storms, floods, heat waves, and droughts will turn more than 100
million people into refugees, plunging our world into chaos, famine, and war.

Maybe it won't affect you...
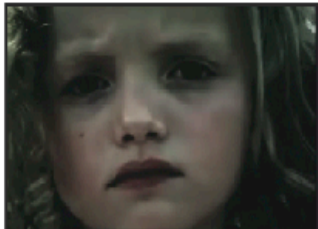
But what about her?

John Wilkins will protect
us from this tragedy.

The Environmental Preservation Group is responsible for this message.

Environment Ad/ Sadness

My daughter Cindy died on December 21, 2002.

For years we had lived by the old coal burning power-plant in Buffalo [takes a deep breath]. Nobody told us about the dangers. Cindy developed acute mercury poisoning. I didn't know how this could have happened [weeping, one hand on face]. The next thing I knew [eyes red], she eventually developed severe pneumonia and kidney damage. The doctors told me [frowning, taking deep breath] two weeks. She died in my arms [continuous sniffling, looking down].
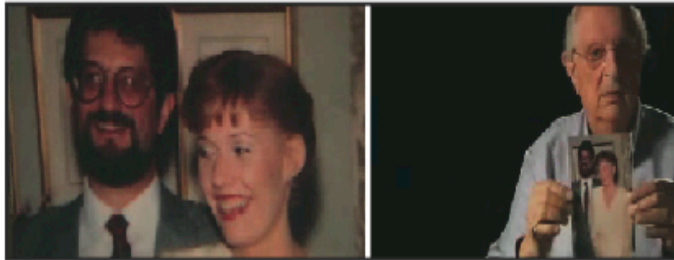
I don't trust John Wilkins to protect us.

Narrator: This time vote like your whole world depended on it.

This ad was paid for by the Environmental Preservation Group.

Environment Ad/ Enthusiasm
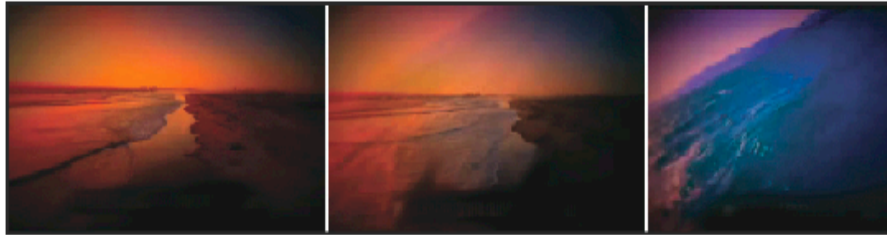
Tomorrow is going to be a little better than today for New York.

Because our children will enjoy 20 million acres of newly protected land and cleaner air, with millions spent in reducing polluting cars from our streets.

Reducing greenhouse gases.

And better protection for our oceans and coastlines.

Congressman Wilkins' leadership is making New York work again. The Environmental Preservation Group is responsible for this message because we believe that John Wilkins is the best candidate to protect our environment.

Chapter 3

One, Two (or More) Dimensions: The Measurement and Structure of Emotional Response

Abstract

An underlying assumption in survey research is that an instrument accurately measures the construct of interest. Yet in the study of affect, there has been considerable uncertainty regarding how best to assess emotions in surveys, and variation in question wording and response formats have contributed to vastly different conclusions regarding the structure of emotional reactions. Indeed, one of the more controversial aspects of this research has been whether emotions are a function of one, two, or more than two dimensions. The dominant paradigm in political science, *affective intelligence theory*, as well as work in psychology, has found that emotions collapse to two orthogonal dimensions, an enthusiasm (positive affect) dimension, and an anxiety (negative affect) dimension (Marcus and Mackuen, 1993); however, if one is to rotate this factor solution forty-five degrees, two different dimensions emerge: a valence dimension and an arousal dimension. Further confounding the issue is that when controlling for systematic measurement error, emotions seem to reduce to a single, bivalent, positive versus negative affect dimension (Green et al., 1993/1999). And it is this solution- that emotional valence captures the bulk of how information is attended to- which has motivated a parallel line of research conducted by Milton Lodge and colleagues (Lodge and Taber, 2005). Namely, Lodge and Taber find that

the valence of a stimulus is central to how political information is processed, and the positive or negative feelings associated with an attitude object is often the first thing to emerge when processing information (see also, Murphy and Zajonc, 1993).

I contend that many of the dimensional approaches are limited by not accounting for the unique effects of specific emotions. There seems to be considerable heterogeneity among emotions of the same valence. In this chapter I explore the measurement of emotions in survey research, and demonstrate that the structure of emotions is considerably more complex than being a function of one or two dimensions. Using confirmatory factor analysis, I illustrate that emotions *do not* reduce to one or two dimensions, but rather, consist of multiple, correlated dimensions. In the first half of the chapter, I explore the structure of emotional responses using the 1996 General Social Surveys (GSS) emotions module; in the second half of the chapter, I use pooled data collected from six surveys, finding a similar pattern of results. The results indicate that at least four correlated dimensions explain emotional reactions, and these dimensions approximate the "basic emotions" found repeatedly by Paul Ekman and colleagues (for a review, see Ekman, 2003).

3.1   Varying Structures

There has been much controversy in how to model and explore the effects of emotions. In the political science literature, *affective intelligence theory* posits that emotional reactions reduce to two orthogonal dimensions: an enthusiasm dimension and an anxiety dimension. Experiencing emotions associated with these dimensions has unique political consequences. Enthusiasm leads to a reliance on habit - such as PID when casting a ballot - whereas anxiety moves people to actively attend to the information environment, acting as rational choice models would predict (Marcus et al, 2000). This comports with work in psychology suggesting that two dimensions-positive affect and negative affect- underlie emotions. A parallel line of research

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on *hot cognition* has argued that emotions reduce to a single valence dimension, and political objects are associatively stored in memory with an online positive or negative affective tally. This research comports with the *circumplex* model of emotions in psychology, where emotions reduce to "core affect", or a blend of arousal v. deactivation and pleasantness v. unpleasantness (Russell, 1999). And yet other work has explored the role of discrete emotions. For example, Huddy et al. (2007) find that anger promotes optimistic risk assessments, evident by favoring military intervention in Iraq, whereas anxiety led to pessimistic risk assessments and a preference for military isolationism. Disagreement regarding the appropriate way to model emotion has not been restricted to political science. There has been a host of conflicting findings in the psychology literature, where some argue that emotions collapse to one or two dimensions that vary in meaning (Russell, 1994; Green et al., 1993/1999; Feldman-Barrett and Russell, 1998; Carroll et al.,1999; Watson et al., 1988; Cacioppo and Gardner, 1999; Feldman-Barrett, 2005); others have argued that several basic emotions exist, of which all other emotions are derived (Ekman, 1992/1994; Izard, 1992/1994); and yet others have argued that emotional response is even more complex, where a wide array of emotions can be explained by various underlying appraisal dimensions (Smith and Ellsworth, 1985).

Historically, there have been three schools of thought in the study of emotion: component models, valence models, and multidimensional models (Neuman et al., 2007). Component models explore how discrete emotions, such as fear, anger, sadness, and hope, vary according to different patterns of behavior, cognition, and motivation. Much of this work stems from appraisal theory, where it's been found that specific emotions covary with a unique constellation of cognitive and behavioral tendencies (Smith and Ellsworth, 1985). A related literature has posited that there exist a set of core discrete emotions, of which all other emotions stem. The pioneering work of Paul Ekman and colleagues, for example, find that anger, sadness, happiness, surprise, fear, and disgust comprise the bulk of the emotions humans

experience (see Panskepp, 1998 for neuroscience evidence)[7].

A second line of research has attempted to reduce the complexity of discrete models, not exploring how emotions differ, but rather, exploring how emotions relate to one another. This research relies heavily on data reduction techniques- such as factor analysis and multidimensional scaling- and two results have emerged from these studies: (1) the notion that emotions reduce to a single valence dimension, and (2) that emotional responses are multidimensional, arrayed along two orthogonal dimensions (among others, Russell, 1999a/1999b; Watson et al., 1988; Cacioppo and Gardner, 1999; Feldman-Barrett, 2005).

3.1.1 Valence and Two-Dimension Models of Emotion

Perhaps the simplest way to capture the array of emotions humans experience is to classify emotions based on valence, or simply put, whether an emotion is positive of negative. Indeed, research has found that between 50-75% of the variance in emotions can be explained by an underlying positive versus negative dimension (Smith and Ellsworth, 1985; Watson and Clark, 1998). Some have gone so far as to suggest that a bipolar positive and negative affect model is the most parsimonious way to conceptualize all emotional reactions. (Green et al, 1993). And valence-disliking or liking a candidate, feeling positive or negative about the state of the country, or having a positive or negative orientation toward a political issue is indeed a strong predictor of political behavior. But what exactly is meant by the term "valence"? Interpretations range from feeling good or bad, pleasant or unpleasant (Russell, 1980); pleasure or pain (Frijda, 1986), and approach versus withdrawal (Davidson, 1992). As Charland (2005) notes, "valence is generally defined in terms of pleasure and its opposites" (p. 238).

Theories of valence - whether evaluative or emotional - have been important in the study of sociopolitical behaviors. Scholars classify campaign ads based on their

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[7]All footnotes can be found at the end of chapter 7

overall positivity or negativity, exploring whether negative ads (de)mobilize voters (Iyengar and Kinder, 1997; West, 2006). Voters elect public officials based on how much they like or dislike a given candidate. Feeling positive about a candidate leads to a heavy reliance on habit in making decisions; feeling negative emotions or anxiety has quite the opposite effect, leading the voter to pay more attention to the contemporary information environment. In their review, Solomon and Stone (2002) note that virtually every psychological theory on emotions in the last century has at least indirectly made reference to valence.

However, much of the research on the dimensionality of emotions has found that at least two dimensions, not one, account for emotional reactions. Indeed, for thirty years, Russell and colleagues have noted that variation in emotional response is a function of two orthogonal elements: one dimension being *affect* or *valence*, represented by the degree of emotional positivity or negativity; and the second dimension is *activation*- the degree of physiological arousal accompanying an emotional state. The latter dimension can be thought of as mobilization or energy, where at one end of the dimension is fatigue and sleepiness, and at the other is hyperactivity and "frenetic excitement" (Russell and Feldman-Barrett, 1999). The combination of these two dimensions comprises "core affect", or the most "elementary consciously accessible affective feelings (and their neurophysiological counterparts)" (Russell and Feldman-Barrett, 1999, p. 806). Fear is a combination of negative affect and high arousal, depression and sadness are a combination of negative affect and low arousal, and hope is a combination of positive affect and low arousal. Support for this view ranges from self-report to physiological and neural evidence suggesting that arousal and valence have unique biological markers (Feldman-Barrett, 2005; cf., Ekman, Levenson, and Friesen, 1983; Panskepp, 1998).

Green and colleagues have challenged the view that two dimensions describe emotional response, arguing that after controlling for systematic measurement error, emotions collapse to a single bipolar, valence dimension. In a series of studies, they

find that the two dimensions found by other scholars are almost perfectly correlated, evident of a single positive versus negative affect dimension (Green et al., 1993). Thus, positive and negative affect are reciprocal- the more positive you feel toward an object, the less negative you feel (Green et al., 1999).

It is important to note that valence models- whether the bipolar Green et al. (1993) model or the bivalent Russell (1980) model- do not dismiss the occurrence of specific emotions, such as fear, sadness, disgust, happiness, elation, and guilt, but simply suggest that these emotions share a common origin marked by two elemental properties: valence and activation (Russell, 2003); or just valence (Green et al., 1993). Ontologically, specific emotions derive from applying knowledge of emotion categories to one's core affect by appraising the environment and action intentions of the self and others. Category knowledge dictates which emotion is perceived, and emotions can be thought of as concepts derived from a core affective reaction (Feldman-Barrett, 2005). Consider feelings toward Hillary Clinton. The very first thing to come to mind when seeing a picture of Clinton would be whether you like or dislike Hillary (Lodge and Taber, 2005). Then depending on the context and available information, such as how Clinton voted on a piece of legislation or how she performed in a debate, this would define the specific negative or positive emotion experienced. Lang et al. (1990) suggest that emotions exist hierarchically, with specific emotions defined by a superordinate division between positivity and negativity. For example, through learning we acquire information about anger - when to feel anger, and how to express anger.

An underlying assumption of valence models is that emotions are bipolar when holding arousal constant. Watson and colleagues have noted the conceptual problems in this approach whereby valence models assume that positive and negative emotions are reciprocal (Cacioppo and Garder, 1999; Watson and Tellegen, 1988). And statistically, there is an indeterminacy to the two dimension model of emotion proposed by Russell (1980). Simply rotating the affect and arousal dimensions 45

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degrees gives a different solution, a solution where one dimension can be labeled *positive affect* and the second *negative affect* (Watson and Tellegen, 1988); or approach and avoidance (Cacioppo and Gardner, 1999). For instance, Cacioppo notes that the "common metric governing approach/withdrawal is not a single dimension at response stages but is the consequence of two intervening metrics (i.e., evaluative channels)": one for positivity and the second for negativity. What is novel about this approach is that numerous studies have found that both channels can be simultaneously activated. Positive and negative affect can co-occur leading to ambivalence. This co-occurrence of positivity and negativity has unique sociopolitical ramifications, leading to decreased certainty and confidence in one's beliefs, systematic forms of information processing, and a weakened effect of party identification in predicting vote behavior (Lavine, 2001; Basinger and Lavine, 2004;). Neuroscience evidence has also supported the notion of orthogonal approach and avoidance systems (Cacioppo and Gardner, 1999; Allen, Iacono, Depue, and Arbisi, 1993; Harmon-Jones and Sigelman, 2001; Harmon-Jones and Allen, 1998). Positive emotions and approach behavior activate the left hemisphere of the brain, negative emotions activate the right.

Scholars have noted that the conflict over whether emotions reduce to an affect and arousal or positive and negative dimensional structure is confounded by the logical ambiguity surrounding terms such as *core affect, valence, and positive and negative emotions* (Charland, 2005). For example, is valence a pleasantness versus unpleasantness, approach versus avoidance, a feeling of goodness versus badness? Is core-affect a function of emotions or evaluations? Consider the question about "candidate affects" in the American National Election Studies (ANES), in which subjects are asked about particular emotions felt towards political candidates. Are answers to these questions primarily a function of emotion, a simple liking or disliking of the candidate, or some otherwise non- emotional, cognitive consideration? Further confounding the issue is the fact that positive emotions need not always be

pleasant, and pleasant emotions need not always be positive. One may experience pleasantness in *schadenfreude*, obtaining joy from the suffering of others; and likewise, anger can be pleasant, especially if righteous. Many emotions possess both positive and negative elements (Solomon and Stone, 2002; Solomon, 2007). Anger is traditionally referred to as negative but often reinforces existing beliefs, leading to approach-oriented behavior and optimistic views of the future (Lerner and Keltner, 2000/2001).

Although positive emotions correlate with one another, and negative emotions correlate with one another, this does not mean that there is intrinsic valence to all emotions. Diary reports of emotion make reference to global positive or negative affect less frequently than specific emotions (Lambie and Marcel, 2002). And while scholars have suggested that two dimensions underlie specific emotions, recent evidence has suggested that valence may be the proximal consequence- not cause- of specific emotions. Charland (2005) and Lambie and Marcel (2002) contend that valence is nothing more than a second order awareness ascribed to a first order emotion. The emotion is the phenomenon, awareness of that emotion and its associated cognitions, motives, and behaviors, is subsequently labeled as pleasant or unpleasant. For example, anger may be unpleasant due to increased heart rate and blood pressure, as well as the inability to focus on anything other than the anger-provoking event. Anger is also associated with a desire to lash out. On the other hand, anger can also be positive, and facilitate socially desirable behaviors, such as civic engagement (Valentino et al., 2006). Put another way, valence is dynamic, emerging from the intersection of an emotion (the phenomenon) and how the individual appraises that emotion (awareness). Lane (2000) suggests a neural basis for this distinction, where the dorsal anterior cingulate cortex is implicated in the experience of emotion, and the rostral anterior cingulate cortex is involved in reflective awareness of that emotion.

Recent work by Harmon-Jones and colleagues also brings into question the view

that there is a neural basis for positive and negative affect. While some have argued that negative emotions- sadness, for example result in reduced left hemispheric activation, it seems that these hemispheres better map onto behavioral approach and avoidance. For example, anger is frequently viewed as a negative emotion, and as such, should facilitate right anterior activation and inhibit left hemispheric activation. In two studies, the opposite was found. Both experimentally induced state anger and chronic, trait anger activated the left-hemisphere, suggesting that anger facilitates behavioral approach and should function similar to positive emotions (Harmon-Jones and Sigelman, 2001; Harmon-Jones and Allen, 1998). Such findings comport with other evidence that anger enhances self assurance and bravery (Izard, 1991), increases the belief that one can manage his/her own fate (Berkowitz and Harmon-Jones, 2004), and leads to behavioral aggression against disliked groups (Mackie, Devos, and Smith, 2000).

3.1.2 Alternative Approaches: The Basic Emotions and Appraisal Theory

A separate line of research has explored the heterogeneity in emotional response by assessing how discrete emotions differ from one another in their physiological expression (Ekman, 1992; cf, Ortony and Turner, 1990; Russell, 1994) and behavioral consequences (Lerner et al. 2001). Empirical evidence has suggested that there are at least six universal emotions: happiness, surprise, fear, sadness, anger, and disgust (Ekman, Friesen, and Ellsworth, 1972; Russell, 1994). Much of the evidence supporting the notion of basic emotions stem from the observation that systematic differences in facial expression and autonomic nervous system (ANS) activity accompany these emotions (Ekman et al, 1983, see chapter 2). Scherer (1997) merges appraisal theory with the "basic emotions" approach, finding that appraisal processes can account for the basic emotion categories (see also, Ekman, 2003). According to appraisal theory, one should be able to distinguish among multiple

emotions given that it is not necessarily the objective factors of a stimulus that elicit an emotional response, but rather, how one interprets the stimulus or event-that is, gives "relational meaning" to the object in terms of one's goals, motivations, and beliefs (Siemer et al., 2007).

Thus, it is unclear whether emotions should be thought of as discrete and categorical - unique states that warrant separate attention- or dimensional, conceptualized not by differences, but underlying similarities with emotions are arrayed along several dimensions. The categorical (discrete) approach draws heavily from evolutionary psychology whereby emotions serve unique functions. A given emotion signals to the organism via a host of behavioral, cognitive, and motivational patterns to fight, flee, or freeze, and solve complex problems. (Levenson, 2003). That is, there seems to be a functional basis for specific emotions. Fear readies an organism for flight; anger leads to approach, often to remove an obstacle blocking a goal; sadness leads to withdrawal and social isolation; and disgust leads to removing oneself from an aversive situation. The dimensional approach takes a social constructionist view, suggesting that humans learn to elaborate on their core affect, forming specific emotions based on how one subjectively interprets situations (Feldman-Barrett, 2005; cf., Marcus et al., 2000). For example, an individual may have an initial positive or negative reaction to a candidate, which is refined to a specific emotion based on additional information, such as that candidate's voting record, perceived competence, and integrity.

3.1.3 An Integration: The Hierarchical Structure of Emotions

One potential reason for these disparate findings is that diverse methodologies have been applied. A great deal of the dimensional empirical work employs self-report and data reduction methods, such as factor analysis and multidimensional scaling. More recently, neuroscience methods have also been used (Watson et al.,

1988; Russell, 1980/1981; Marcus et al., 2000). Literature on specific emotions, on the other hand, has relied on other methods such as facial recognition (Ekman, 2002), autonomic nervous system activation (Levenson, 1991), unique vocal patterns (Scherer, 2003), and how varying patterns of appraisals relate to emotions (Lazarus, 2001). Similarly, much of the discrete emotions literature hasn't been as concerned with the *structure* of emotions so much as with the behavioral and cognitive consequences of discrete emotions (Lerner and Tiedens, 2006).

More recently, Watson and colleagues have begun to integrate these disparate lines of research, exploring which discrete emotions are rooted in positive and negative (or valence and arousal) dimensions, given evidence that negative emotions sometimes have effects similar to positive emotions. In a comprehensive analysis on the structure of emotional response, Watson and colleagues (Watson and Clark, 1992; Watson et al., 1999; Lang, 1990) illustrate that emotions are arrayed in a hierarchical structure. The first tier represents a positive versus negative (valence) response, the second tier represents two positive and negative dimensions, and the third, lowest order tier consists of discrete emotions (Tellegen et al., 1999; Watson et al., 1999; Watson and Clark, 1992).

Incidentally, much of the pioneering dimensional work on emotions in the 1980s that detected a two-dimension structure relied on self-report without manipulating emotions directly and then asking about the emotions that the participants were experiencing. This is problematic for two reasons: first, positive emotions are experienced much more frequently throughout the day than negative emotions (Marcus et al., 2001; Watson et al., 1998), meaning that the probability of an individual being able to distinguish among negative emotional states may be reduced if the subject is not experiencing a negative emotion (Feldman-Barrett, 1998). From a methodological perspective, a majority of the analysis conducted has assumed that factor indicators are continuous, which they rarely are. Rather, response categories are ordinal, often having less than 5 categories (for a review, see Watson et al.,

1988). Simulation studies have shown that in situations where manifest variables are categorical and non-normally distributed, parameter estimates may be biased (Wirth and Edwards, 2007). Finally, the vast majority of existing work has relied on exploratory factor analysis. It is conceivable that separate, but highly correlated, discrete emotion categories existfor instance, an emotion such as anger may be highly correlated with fear, but still possess sufficient divergent validity to be modeled as separable from fear. Due to these high correlations, exploratory factor analysis would only retrieve two dimensions [8].

Thus, in the analysis to follow, I examine how emotions are structured, and in subsequent chapters I explore the substantive political implications of four emotions-anger, sadness, fear, and enthusiasm. This chapter provides the initial test as to whether emotions stemming from self-report are arrayed on one or two dimensions, or rather, whether emotions fall on more than two dimensions.

A Description of the Data

Data in this chapter come from two sources. I first explore responses from the General Social Survey (GSS) 1996 emotions module. The GSS is a probability sample of U.S. adults. The original survey consisted of 2,904 respondents, and among those participants a random sample of 1,460 people were administered the emotions module. Eighteen questions were asked regarding how many times in the last week the participant experienced a given emotion. For example, "On how many days in the past 7 days have you felt calm?". Scores then range from 0-7 [9]. In the second half of the chapter, I rely on data collected from 2007-2008. I pool data from six surveys, all designed to evoke a particular emotion. Table 3.1 provides details of these samples. Because of this pooling, I use multi-level factor models, given what could be substantial heterogeneity between samples and survey context. The analyzed items, however, are the same. Specifically, I explore how angry, afraid, fearful, irritated, disgusted, sad, depressed, hopeful, happy, and optimistic participants felt.

All of my analyses rely on confirmatory factor analysis, where I estimate and compare a number of different model specifications and explore overall model fit. I also use an estimator which is appropriate when manifest variables (factor indicators) are categorical and non-normally distributed, which is frequently the case for emotions items. Specifically, I rely on Mean and Variance Adjusted Weighted Least Squares (WLSMV), which I briefly describe in the technical appendix. This estimator was developed by Muthen (1984) and is implemented in M*plus*.

[INSERT TABLE 3.1]

3.2 Study 1: The 1996 GSS and Emotions Experienced in the Past Week

How well can participants distinguish among emotions? To examine this, I first explore the underlying structure of emotional reactions in the 1996 GSS (as revealed by participants in retrospective self report). Figure 3.1 presents density plots for the frequency of emotional reactions felt in the previous week. If emotions are simply categorized as positive (the average response for feeling joyful, proud, and excited, alpha=0.67) and negative (the average response for feeling blue, calm, rage, sad, ashamed, embarrassed, fearful, lonely, worried, content, anxious, and mad, alpha=0.85), people tend to experience positive emotions much more frequently than negative emotions. The mean for negative emotions was 1.69 (median=1.38), for positive emotions it was 2.79 (median 2.67). Yet classifying emotions as positive or negative may miss an important source of variation. For instance, is anger experienced at different rates than fear? To explore this, I created discrete emotions scales for negative emotions. Fear was defined by feeling calm (reverse coded), anxious, worried, fearful, and content (reverse coded) (alpha=0.70); anger was defined by being mad, angry, and feeling rage (alpha=0.85); sadness was defined by three items: blue sad, and lonely (alpha=0.73); guilt was defined by two items: embarrassed

and shameful (r=0.44); and enthusiasm was defined by three items: joy, proud, and excited (alpha=0.67). Prior research has shown that these emotions are relatively distinct (Levenson et al., 1990; Scherer, 2003; Lerner and Keltner, 2000/2001).

[INSERT FIGURE 3.1]

Clearly, there is significant heterogeneity in the (negative) emotions experienced by participants, with fear being the most frequent negative emotion experienced (mean=2.23, median=2). Shame and embarrassment are the least experienced emotions, experienced on average 0.53 times per week (median=0). Anger and sadness tend to be experienced more frequently. Sadness was experienced on average 1.45 times per week (median=1); fear was experienced 2.23 times per week (median=2); anger was experienced 1.53 times per week (median=1). Enthusiasm was the most frequently felt of all the emotions, with a mean of 2.79 and median of 2.67. Given that the distribution of emotions- specifically, negative emotions- do not completely overlap, this partially indicates that anger, sadness, fear, enthusiasm, and guilt are relatively unique constructs.

3.2.1 Estimation Strategy: Confirmatory Factor Analysis with Categorical Data

To estimate the factor structure underlying emotional responses- in the context of the GSS and my own survey data- I rely on confirmatory factor analysis for categorical variables. Just as probit or logistic regression are the most appropriate alternatives when dealing with observed dichotomous or categorical dependent variables, attempting to estimate factor models using traditional techniques (Jorsekog, 1969) with categorical manifest variables can lead to biased estimates. Notwithstanding, the bulk of measurement models in the emotions literature have assumed that categorical variables are continuous. Various methods have been proposed to deal with categorical variables in factor analysis, such as taking the average of several

items in long item scales and creating "item parcel" indicators (Little, Cunningham, Shahar, and Widaman, 2002; Weber and Federico, 2007); yet, this method cannot used if there are only several items as indicators of a construct. Another solution is to treat the categorical variables as representations of continuous latent responses. So, for example, if the traditional factor model is :

$$y_{pi} = \nu_p + \lambda_{pq}\eta_{qi} + \epsilon_{pi}$$

Confirmatory factor analysis explains the covariance among p observed variables by q underlying latent variable. The observed variable p for person i is written as a function of an underlying "true score" (η) linked to the observed score with a matrix of factor loadings (λ), and an error term (ϵ) (ν is a measurement intercept). If the observed variable is categorical, it can be treated as a "discrete representation of *continuous latent responses.*" (Wirth and Edwards, 2007, p. 59). That is,

$$Y_{pi} = \tau_{pk} < Y_{pij}^* < \tau_{pk+1}$$

The proportion of people who endorse a particular item with k categories then provides information about the latent response Y* with k-1 estimated thresholds. In sum, τ represent the point on the continuous latent variable that separates one manifest category from another. A regression of the observed manifest variable on the latent variable is equivalent to an ordered probit regression of p items on the underlying latent, true score.

One of the challenges of CFA when items are categorical and multiple factors are estimated is that integration is computationally inefficient (for technical details, see Wirth and Edwards, 2007; Skrondal and Rabe-Hesketh, 2004, as well as the technical appendix). One method in the context of categorical indicators is to use robust weighted least squares (WLSMV). Robust weighted least squares has been shown to have desirable properties when data are categorical and non-normally

distributed, which the density plots above indicate (Wirth and Edwards, 2007).

3.2.2   Results

To explore the structure of emotional responses in the GSS, I examined whether a parsimonious model - where discrete emotions collapse to a bipolar positive-negative affect factor - fit the data better than a model with separate, correlated discrete emotions factors. In the first model, all the emotions items load on a single factor. This naive, single factor model yielded an extremely poor fit to the data (CFI=0.68, TLI=0.79 RMSEA=0.20, WRMR=4.22) . Clearly, emotions in the GSS do not reduce to a single bipolar, positive versus negative affect dimension. A second model where positive emotions load on one factor and the negative emotions load on a separate, correlated factor, only marginally improved the fit (CFI=0.81, TLI=0.86 RMSEA=0.16, WRMR=3.41). Parallel to previous research, the correlation between these factors was quite small ($\varphi_{standardized}$=0.08). Given that Don Green and colleagues show that these correlations are attenuated by measurement error, I also estimated a two factor model with a "response set" controlling for acquiescence, or in this data, the tendency to simply reveal experiencing all emotions. This factor was specified so that all the emotions indicators loaded equally on this factor, and for identification purposes, the factor was declared to be uncorrelated with the positive and negative affect factors. Again, the model fit was quite poor (CFI=0.84, TLI=0.89 RMSEA=0.15, WRMR=3.09)[10], though the correlation between the factors did change in magnitude and direction ($\varphi_{standardized}$=-0.11). A number of additional models were specified, but the only model to obtain a reasonable fit to the data was a five-factor model, where anger, sadness, fear, enthusiasm, and guilt (shame/embarrassment) were estimated as separate factors. Table 3.2 presents the results from this analysis, and Table 3.3 presents the equivalent model, controlling again for acquiescence with a response set factor.

[INSERT TABLE 3.2 AND 3.3]

Table 3.2 indicates that the five-factor model provides a good fit to data (CFI=0.93, TLI=0.95 RMSEA=0.10, WRMR=1.91). Note that the way the *fear* factor is scaled from the pattern of factor loadings suggests that high scores denote less fear: calm and content positively load on this factor, whereas worried, fearful, and anxious negatively load on this factor. Thus, fear should be inversely correlated with the other negative emotions. Although anger, fear, sadness, enthusiasm, and guilt are estimated as separate factors, some of the factors are in fact substantially correlated. For example, fear and sadness are highly correlated ($\varphi_{standardized}$=-0.79), as are anger and fear ($\varphi_{standardized}$=-0.60). Enthusiasm, however, is not significantly correlated with the other negative emotion factors, with the exception of one unexpected finding: enthusiasm positively correlated with guilt ($\varphi_{standardized}$=0.31).

This positive correlation could stem from an acquiescence tendency. This would artificially inflate correlations between factors, and may account for the positive guilt with enthusiasm correlation. Table 3.3 presents the results of the same five factor model, this time including a methods factor. Again, the model provided a good fit to data (CFI=0.96, TLI=0.97 RMSEA=0.07, WRMR=1.35). Many of the correlations remain unchanged, though sadness now becomes strongly correlated with enthusiasm ($\varphi_{standardized}$=-.31), but guilt still remains positively related to enthusiasm, albeit the relationship is attenuated ($\varphi_{standardized}$=0.16).

Summary of Key Findings

Using a representative sample, it would seem that the structure of emotions is more complex than being a function of one or two dimensions. Although fear, anger, sadness, enthusiasm, and guilt were correlated, the confirmatory models support the notion that they are not completely redundant constructs. The findings comport with discrete models of emotions, as well as recent work suggesting that emotions are hierarchically organized. The significant correlation among several of the factors indicates that these constructs may be related by way of higher order factors. An

additional test was conducted exploring whether these correlations were a function of higher order positive and negative affect factors (Watson et al., 1998). In this specification, positive affect was defined by the enthusiasm and guilt factors (given their non-zero, positive correlation) and negative affect was defined by fear, guilt, anger, and sadness factors. Thus, guilt cross-loads on both positive and negative affect, which is somewhat counterintuitive, but fits with the overall pattern of correlations in Tables 3.2 and 3.3. A better model would be one where there are multiple positive emotion factors that define the higher order positive affect factor. The number of positive questions asked in the GSS weren't conducive to this sort of analysis. For identification, the variance of the higher order factors was fixed at roughly half of the variance of the lower order factors (0.30). In all, the hierarchical model fit the data moderately well (CFI=0.93, TLI=0.95, RMSEA=0.10, WRMR=1.91). The correlation between hierarchical positive and negative affect was non-significant ($\varphi_{standardized}$=0.05). However, with more latent factors, it is conceivable that these factors would be correlated, in which case a third-order valence factor could be estimated. These results support the notion that the measurement structure of emotions is considerably more complex than valence or two dimensional models imply. The results indicate that emotions, specifically negative emotions, are separable, an issue I further explore using data in a situation where emotions are directly manipulated.

3.3 Study 2: The Structure of Emotions following an Emotion Manipulation

In much of the existing literature on the structure of emotions, emotions are rarely manipulated directly. This is problematic from the perspective that people experience negative emotions much less frequently than positive emotions (see Figure 3.1), which may in turn make it difficult to discriminate among a range of negative emotions. This in turn would account for the strong correlations among

negative emotions and the inability to distinguish specific emotion constructs in factor analysis. Moreover, scholars have readily noted the differences in the episodic and semantic components of emotions (Innes-Ker and Niedenthal, 2002; Robinson and Clore, 2002).

By inducing a particular emotion in the context of an experiment, this may lead to a different structure than found in previous research on the dimensionality of emotions. To test this, I rely on six experiments conducted from the May 2006 to May 2007 which evoked emotions in a variety of ways (see table 3.1). Because the pooled data varied in how emotions were manipulated- in three of the samples the manipulation was a televised campaign ad, in one it was a transcribed ad, in two experiments it was an autobiographical recall manipulation- I estimate random intercept (variance components) confirmatory factor models, where participants are nested within experimental conditions. Examining table 3.1, this means that there are a total of 34 clusters. In other words, there were 34 unique manipulations that participants could have been exposed. I allow the intercepts of the latent factors to vary across these clusters. Why pool the data rather than independently running the analysis on the six datasets? Running the models with the individual datasets yields the exact same pattern of results, and would be largely redundant. Moreover, pooling the data allows one to explore whether parameter estimates change across conditions. This approach is also more parsimonious and provides more information than running the same analysis six times over.

The questions asked in these surveys were nearly identical. Specifically, participants were asked how angry, irritated, afraid, fearful, disgusted, sad, depressed, hopeful, happy, and optimistic they were following exposure to the manipulation. Across surveys, the responses options were the same, ranging from 1(not experiencing the emotion) to 4(strongly experiencing the emotion). Before exploring the results, I briefly explain the logic underlying multilevel confirmatory factor analysis, since it's a relatively new method in psychometrics and is rarely presented in

political science research.

3.3.1 Estimation Strategy

The multilevel model can best be understood in the context of classical test theory.

$$Y_{ij} = \eta_{ij} + \epsilon_{ij}$$

Where Y is the observed score for person i in cluster j. The average "true score" (η) may vary depending upon the cluster an individual resides. For example, latent levels of anger may be greater when exposed to an advertisement in a lab versus at home on a PC. Thus,

$$\eta_{ij} = \beta + u_j$$

β is the grand mean across all clusters and ϵ is the cluster level deviation. The reduced form equation now becomes:

$$Y_{ij} = \beta + u_j + \epsilon_{ij}$$

In terms of variances,

$$V(Y_{ij}) = V(v_j) + V(\epsilon_{ij}) = \sigma_b^2 + \sigma_w^2$$

The total variation in Y can be decomposed into within and between cluster variation. The ratio of between cluster variation to total variation is the *intraclass* correlation. The factor model can now be expressed in terms of within and between

cluster components.

$$Y_{wpij} = \lambda_{wp}\eta_{wij} + \epsilon_{wpij}$$

$$Y_{bpj} = \upsilon_p + \lambda_{bp}\eta_{bpj} + \epsilon_{bpj}$$

In graphical terms,

[INSERT FIGURE 2.2]

The latent variable, η, varies across individuals, as well as clusters. Since the factor loadings for Y_1 through Y_3 are constrained to be equal within and between clusters, this makes the variances directly comparable. Thus, one can compare the between cluster and the within cluster variation of the latent variables, exploring for example, what percentage of the latent variable variance is explained by the between cluster variance. That is, how much heterogeneity exists across clusters.

There are several specifications that need to be made when estimating multilevel factor models. For identification, the residual variances of the error terms are set to 0 at the between level, and there is a zero correlation specified between factors at the within and between cluster levels. Moreover, because the factor indicators are ordinal- measured on a scale of one through four, traditional maximum likelihood assuming continuous, normally distributed indicators could yield biased results. For this reason, I again rely on robust weighted least squares, though it is important to note that nothing has been published on the properties of this estimator in the context of multilevel modeling. Because of this, I examine this estimator in a simulation study. The results of this are in the technical appendix. Suffice it to say that the robust weighted least squares estimator does quite well in estimating the true population values and the results I present should be both consistent and efficient.

3.3.2 Results

To explore the structure of emotional responses in my data, I again examined whether the most parsimonious model - where discrete emotions collapse to a bipolar positive-negative affect factor provide the best fit to data. By all measures, the fit for this model was quite poor (CFI=0.81, TLI=0.78, RMSEA=0.15, $SRMR_{within}$=0.25, $SRMR_{between}$=0.42, WRMR=6.21). The fit for a two dimension model where positive emotions load on one factor and negative emotions on a separate factor- also provided a poor fit to data (CFI=0.91, TLI=0.90, RMSEA=0.11, $SRMR_{within}$=0.16, $SRMR_{between}$=0.33, WRMR=4.18). The best fitting model was a four factor model, with factors identical to those found in the GSS, save for guilt, since shame and embarrassment weren't measured in my samples. The four factor model fit was excellent (CFI=0.98, TLI=0.98, RMSEA=0.048, $SRMR_{within}$=0.05, $SRMR_{between}$=0.29, WRMR=1.5). The estimates from this model are listed in Table 3.4.

[INSERT TABLE 3.4]

One particularly interesting thing to emerge is the fact that there was substantial heterogeneity in latent emotions across clusters. The between cluster variation estimates was significant for sadness ($\varphi_{standardized} = 0.30, p < 0.01$) and anger ($\varphi_{standardized} = 0.50, p < 0.01$), and marginally significant for fear ($\varphi_{standardized} = 1.77, p < 0.10$), and enthusiasm ($\varphi_{standardized} = 1.94, p < 0.10$). One can make use of the ratio of this variance to the total variance for each latent variable, which is an extension of the *intraclass correlation* (ICC) to latent variables. The ICC is the percentage of between cluster variance relative to the total variance. The ICC was moderate for all four latent factors ($\rho_{sadness} = 0.12, \rho_{fear} = 0.19, \rho_{anger} = 0.16, \rho_{enthusiasm} = 0.30$).

As in the GSS, significant correlations emerged for the emotions factors. Within clusters, sadness was highly correlated with fear ($\varphi_{standardized}$=0.77), and sadness

was also substantially correlated with anger ($\varphi_{standardized}$=0.65). One deviant finding was obtained, where fear was moderately correlated with enthusiasm, albeit the correlation was quite small ($\varphi_{standardized}$=0.17). Between clusters - that is, the correlation of the average for each treatment condition- sadness was correlated with fear ($\varphi_{standardized}$=0.73). Unlike the within cluster correlations, sadness was not correlated with anger ($\varphi_{standardized}$=0.09). Enthusiasm was inversely correlated with anger ($\varphi_{standardized}$=0.83) and sadness ($\varphi_{standardized}$=0.76). Moreover, fear was virtually uncorrelated with enthusiasm ($\varphi_{standardized}$=0.06). The fact that the between cluster correlations differ from the within cluster correlations is important from the perspective of the ecological fallacy (King, Tanner, and Rosen, 2004). If one were to only examine the factor structure within clusters or solely between clusters, the conclusion regarding the correlations of emotion factors would be different.

Because of the positive correlation between fear and enthusiasm, I estimated the identical random intercept model including a response set factor at the within cluster level (CFI=0.98, TLI=0.98, RMSEA=0.05, $SRMR_{within} = 0.06, SRMR_{between} = 0.21$, WRMR=1.78). Again, all items were constrained to positively load on this factor, and the factor was specified to be uncorrelated with the other latent variables at both levels. Many of the substantive results remain the same, and the variance between clusters remains significant, with the intraclass correlations almost identical ($\rho_{sadness}$ =0.14, ρ_{fear} =0.20, ρ_{anger} =0.18, $\rho_{enthusiasm}$ =0.30). However, the patterns of correlations do change somewhat. The correlation between enthusiasm and fear stays positive, but is reduced in magnitude ($\varphi_{standardized}$=0.09).

[INSERT TABLE 3.5]

Summary of Key Findings

The results from the multilevel analysis are again compatible with discrete models, as well as a hierarchical structure of affect. While the four estimated factors were analytically separable, they were highly correlated, and with more factors this

likely would be sufficient to estimate higher order factors. The high correlations in these studies suggest that the emotional responses may co-occur, congruent with the notion that affective responses fall in a hierarchical structure with positive and negative dimensions predicting discrete emotions (Watson et al., 1999; Watson and Clark, 1992).

3.4 Discussion

Perhaps the most intuitive view of emotions is as distinct elements. And in recent years, the notion that specific emotions are unique in their physiological, neurological, behavioral, and subjective phenomenological characteristics, has been supported in multiple studies. 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. Yet as Watson and Clark (1998) note, these two dimensions account for anywhere from 50-75% of the variance in emotion-terms.

It would seem that these two approaches are incompatible. Discrete emotion researchers focus on a specific set of emotions, largely ignoring how emotions relate to one another, and dimensional theorists focus on how negative affect differs from positive affect (e.g., Marcus et al., 2000). Yet these approaches are not incompatible. Watson and colleagues have demonstrated in several papers that affect is hierarchical: at the highest tier is general valence, the intermediate tier consists of positive and negative factors, and the third tier consists of clusters of discrete emotions, such as fear, sadness, hostility and guilt. As noted by Watson and Clark (1998) note, "Because of the hierarchical arrangement, evidence supporting one level does not

necessarily constitute refutation of the other" (p. 499). The affective level that one explores should be motivated by the relevant research question. If one is only interested in how general feelings predict vote choice, valence may be important. If interest resides in exploring the distinct effects of various types of negative advertisements, attention to the lower order, discrete emotion tier may be advantageous. For instance, how do negative ads that make appeals to different emotions vary in their consequences?

The findings in this chapter underscore the complexity of emotional experiences. Ascribing solely to a one or two-dimension view fails to capture the richness of human emotion. On the other hand, the component, or discrete view, of emotions posits 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. For instance, clinical depression often co-occurs with anxiety disorders, and anger is sometimes viewed as a way of coping with fear (Feldman-Barrett, 1998; Solomon, 2007). Some scholars have taken the non-zero correlation among specific emotions as evidence discrediting discrete models. For example, "At this point, the two dimensional solution not only undermines the discrete model...but also the valence model as well" (Marcus et al., 2000, p. 158).

The notion that the only way discrete models can be correct is if specific emotions are uncorrelated, seems to be a straw man test that will result in always rejecting the discrete perspective. And empirical work has demonstrated that emotions can co-exist (Larson, McGraw, Mellers, and Cacioppo, 2004). In other words, the quote by Marcus and colleagues indirectly implies that without pure emotion, the discrete model must be false [11]. Experiencing pure emotional states would entail perfect awareness of one's emotion- that is, being able to correctly detect the physiological and psychological markers associated with an emotion. Humans are notoriously poor at this (Damasio, 2003). This *pure emotion* perspective also assumes that

discrete emotions don't share a common origin, such as "core affect". Yet most discrete theorists- especially coming from the appraisal theory tradition- have readily acknowledged that pure emotions are rarely observed. Izard (1972) notes:

> "Most theorists who deal with discrete emotions have suggested that existence of pure emotion, such as pure fear or pure guilt, is probably fairly rare in day-to-day living and virtually impossible to obtain in the laboratory or in any other research setting. I share this position" (p.103).

Thus, it would seem that an "either or" approach, contrasting dimension to discrete models, will invariably fail, never fully capturing the richness of emotional experience and expression.

The question then remains: why has this analysis on the structure of emotions diverged from the literature uncovering only one or two dimensions? The differences may be attributed to several things: first, the methodology I applied was considerably different from those applied in the emotions literature. Much of the extant work has relied on exploratory factor analysis, which may fail to detect specific emotion factors if dimensions are highly correlated. Thus, I use confirmatory models, specifying *a priori* that specific emotion categories do in fact underlie emotional reactions. Second, in the multi-level analysis, I manipulate emotions, perhaps affording participants superior ability to distinguish negatively valenced affect.

It is important to note some of the limitations of these findings. At this juncture, it is unclear exactly how many discrete emotions exist at the lower order tier defined by Watson and Clark (1998). While basic emotions theorists have identified six, these scholars have largely ignored introspection-oriented emotions, such as shame and guilt, which often have unique behavioral effects (Branscombe, Doosje, and McGarty, 2003). Second, the factor structure may change depending on the evaluative target (Marcus et al., 2000). In this chapter, the emotions questions focused on how many times the subject recalled experiencing a given emotion, as well as reactions to emotion-laden stimuli. How people respond to various emotional stimuli

is an open-empirical question. When assessing the reactions to polarizing political figures, it is conceivable that the structure of emotions is different than I find. For example, Eliot Smith and colleagues find divergence with respect to individual and group oriented emotions (Smith, Seger, and Mackie 2007). Marcus et al. (2000) find that emotions toward Bill Clinton were arrayed on three dimensions, rather than two. When evaluating well-known objects, it has been suggested that it is easier to distinguish among emotions (Marcus et al., 2000). Knowing more about the object may lead people to better recall anger, sadness, fear and happiness provoking events, for example. Yet other work has found the opposite. Huddy et al., (2007), for example, found only one factor underlying emotional reactions towards George Bush. With greater attention to the nature of the evaluative target, this will afford even more insight into the structure of emotions.

This chapter has provided the first empirical step demonstrating that anger, sadness, fear, and enthusiasm are differentiable constructs. It remains to be determined whether these emotions have unique political consequences. Given the adeptness of political candidates to evoke specific emotions during their campaigns, I now turn to exploring the consequences of emotions for political behavior, judgment, and persuasion.

Table 3.1: Description of Samples Used in Measurement Models

Sample	Population	Mode	Design	Sample Size
Sample 1	Adults from online blogs	Internet	4 (Emotion Ad: Fear, Sadness, Anger, Enthusiasm) x 2 (Ad Sponsor: Democrat, Republican)	1400
Sample 2	Stony Brook Students	Computer	4 conditions (Emotion Ad: Fear, Sadness, Anger, Enthusiasm)	287
Sample 3	Stony Brook Students	Computer	2 (Emotion Ad: Fear, Sad) x 2 (Emotional manipulation: Fear, Sad)	170
Sample 4	Stony Brook Students	Computer	2 (Emotion Ad: Anger, Sad) x 2 (Emotional Cues: Present, Absent)	82
Sample 5	New York State adults	Paper and Pencil	4 (Emotion Ad: Fear, Sadness, Anger, Enthusiasm) x 2 (Issue: Environment, Crime)	673
Sample 6[12]	Stony Brook Students	Computer	6 conditions (Emotion Manipulation: Anger, Sadness, Fear, Hope, Enthusiasm, Control)	430

Table 3.2: Confirmatory Factor Model, No Methods Factor. 1996 GSS

Var	Anger	Fear	Sad	Enth	Guilt
Rage	1 *0.77*	—	—	—	—
Mad	1.20*** *0.92*	—	—	—	—
Angry	1.17*** *0.90*	—	—	—	—
Calm	—	1 *0.56*	—	—	—
Anxious	—	-1.32*** *-0.74*	—	—	—
Worried	—	-1.21*** *-0.67*	—	—	—
Fearful	—	-1.10*** *-0.62*	—	—	—
Content	—	1.04*** *0.58*	—	—	—
Blue	—	—	1 *0.81*	—	—
Sad	—	—	0.96*** *0.77*	—	—
Lonely	—	—	0.78*** *0.63*	—	—
Joyful	—	—	—	1 *0.72*	–
Proud	—	—	—	0.91*** *0.65*	–
Excited	—	—	—	0.96*** *0.69*	–
Embarrassed	—	–	–	–	1 *0.90*
Shameful	—	–	–	–	0.97*** *0.78*

Factor Variance

Sadness	0.65***				
Fear	0.31***				

Table 3.2: Confirmatory Factor Model, No Methods Factor. 1996 GSS

Anger	0.59***	
Enthusiasm	0.51***	
Guilt	0.65***	
Model Fit		
CFI		0.93
TLI		0.95
RMSEA		0.10
WRMR		1.91
N		1455

Note: Confirmatory Factor Model. Cell entries are from robust weighted least squares. Italicized entries are standardized. Threshold values are excluded for parsimony #p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 3.3: CFA, with Methods Factor, 1996 GSS

Var	Anger		Fear		Sad		Enth		Guilt	
Rage	1	*0.75*	—		—		—		—	
Mad	1.22***	*0.81*	—		—		—		—	
Angry	1.23***	*0.72*	—		—		—		—	
Calm	—		1	*0.69*	—		—		—	
Anxious	—		-0.95***	*-0.65*	—		—		—	
Worried	—		-0.88***	*-0.60*	—		—		—	
Fearful	—		-0.77***	*-0.53*	—		—		—	
Content	—		1.05***	*0.72*	—		—		—	
Blue	—		—		1	*0.77*	—		—	
Sad	—		—		0.91***	*0.70*	—		—	
Lonely	—		—		0.56***	*0.56*	—		—	
Joyful	—		—		—		1	*0.59*	–	
Proud	—		—		—		0.86***	*0.51*	–	
Excited	—		—		—		1.25***	*0.74*	–	
Embarrassed	—		–		–		–		1	*0.75*
Shameful	—		–		–		–		0.96***	*0.72*

Factor Variance

Sadness	0.65***	

Table 3.3: CFA, with Methods Factor, 1996 GSS

Fear	0.31***	
Anger	0.59***	
Enthusiasm	0.51***	
Guilt	0.65***	
Model Fit		
CFI		0.96
TLI		0.98
RMSEA		0.07
WRMR		1.35
N		1455

Note: Confirmatory Factor Model. Cell entries are from robust weighted least squares. Italicized entries are standardized. Threshold values are excluded for parsimony

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 3.4: Random Intercept CFA, no Methods Factor. Pooled Experiments

Var	Anger		Sad		Fear		Enth	
Within								
Cluster								
Angry	1	*0.85*	—		—		—	
Disgusted	1.05***	*0.86*	—		—		—	
Irritated	0.83***	*0.80*	—		—		—	
Sad	–		1	*0.83*	—		—	
Depressed	—		1.01***	*0.84*	—		—	
Afraid	—		—		1	*0.94*	—	
Fearful	—		—		0.90***	*0.93*	—	
Hopeful	—		—		–		1	*0.91*
Happy	—		—		–		0.67***	*0.82*
Optimistic	—		—		–		0.89***	*0.88*
Within								
Variance								
Sadness	2.27***							
Fear	7.45***							
Anger	2.61***							
Enthusiasm	4.57***							
Within Co-								
variance								

	Fear	Anger	Sadness	Enthusiasm
Fear	1			
Anger	2.46***	1		
	*0.42			

Table 3.4: Random Intercept CFA, no Methods Factor. Pooled Experiments

Sadness	3.53*****0.77*	1.83**-*0.02*	1		
Enthusiasm	0.73***0.17	-0.83****-*0.32*	-0.76***-*0.02*	1	

Between

Variance

Sadness	0.30***
Fear	1.77#
Anger	0.50***
Enthusiasm	1.94#

Between

Covariance

	Fear	Anger	Sadness	Enthusiasm
Fear	1			
Anger	0.08 *0.06*	1		
Sadness	0.60**0.73*	0.25***0.56*	1	
Enthusiasm	-0.08 *-0.04*	-0.60****-*0.76*	-0.28****-*0.53*	1

Model Fit	
CFI	0.98
TLI	0.98
RMSEA	0.048
WRMR	1.77
SRMR(Within)	0.06
SRMR(Between)	0.22
Average n	34

Table 3.4: Random Intercept CFA, no Methods Factor. Pooled Experiments

N	3021

Note: Random Intercept Confirmatory Factor Model. Cell entries are from robust weighted least squares. Italicized entries are standardized. Threshold values are excluded for parsimony.
#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 3.5: Random Intercept CFA, with Methods Factor. Pooled Experiments

Var	Anger	Sad	Fear	Enth
Within				
Cluster				
Angry	1 *0.75*	—	—	—
Disgusted	1.22****0.81*	—	—	—
Irritated	1.23****0.72*	—	—	—
Sad	–	1 *0.76*	—	—
Depressed	—	1.06*** *0.77*	—	—
Afraid	—	—	1 *0.91*	—
Fearful	—	—	1.0****0.91*	—
Hopeful	—	—	–	1 *0.83*
Happy	—	—	–	0.82****0.82*
Optimistic	—	—	–	1.21****0.84*
Within				
Variance				
Sadness	1.78***			
Fear	6.14***			
Anger	1.69***			
Enthusiasm	2.84***			
Within				
Covariance				
	Fear	Anger	Sadness	Enthusiasm
Fear	1			
Anger	1.38****0.43*	1		
Sadness	2.55****0.77*	1.09****0.63*	1	

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Table 3.5: Random Intercept CFA, with Methods Factor. Pooled Experiments

	Fear	Anger	Sadness	Enthusiasm
Enthusiasm	0.35# *0.09*	-1.09****-*0.46*	-0.39***-*0.18*	1

Between Variance

Sadness	0.28***
Fear	1.54#
Anger	0.37***
Enthusiasm	1.24#

Between Covariance

	Fear	Anger	Sadness	Enthusiasm
Fear	1			
Anger	0.0 *0.09*	1		
Sadness	0.50* *0.76*	0.19** *0.59*	1	
Enthusiasm	0.06 *0.04*	-0.56***-*0.83*	-0.24****-*0.53*	1

Model Fit	
CFI	0.98
TLI	0.98
RMSEA	0.05
WRMR	1.78
SRMR(Within)	0.06
SRMR(Between)	0.21
Average n	34
N	3021

Table 3.5: Random Intercept CFA, with Methods Factor. Pooled Experiments

_____

Note: Random Intercept Confirmatory Factor Model. Cell entries are from robust weighted least squares. This model includes a methods factor. Italicized entries are standardized. Threshold values are excluded for parsimony.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Figure 3.1:
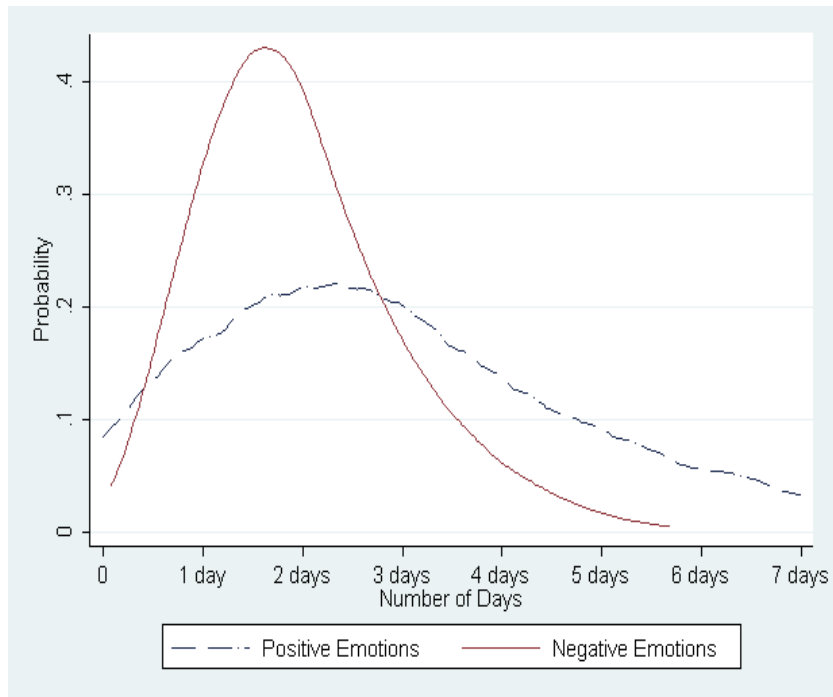
Kernel Density Plot for Feeling Positive and Negative Emotions. Question: How many times did you experience [*emotion*] in the past week?
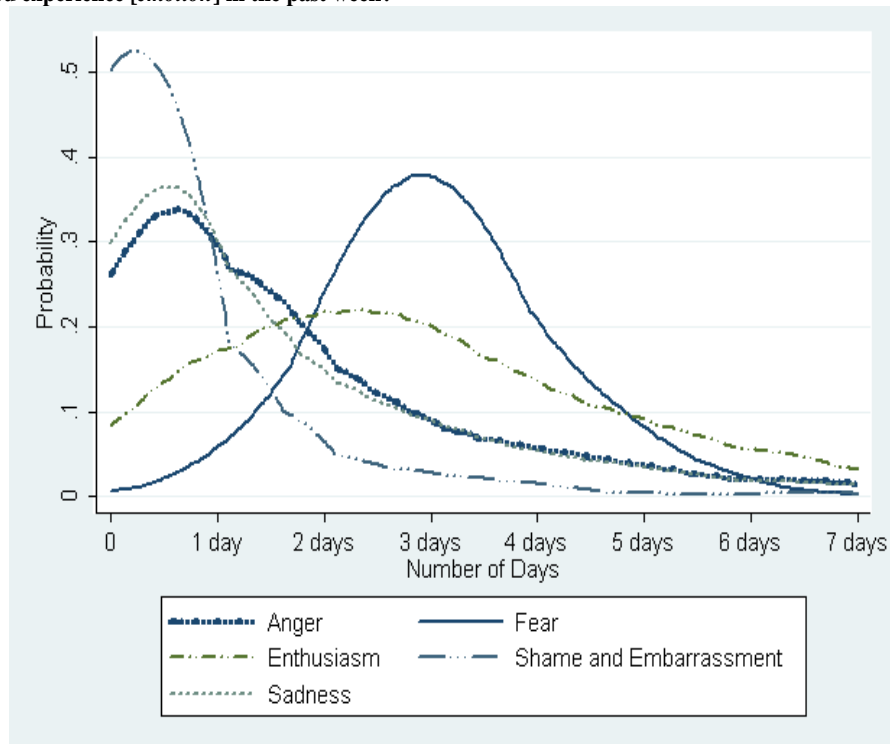
Kernel Density Plot for Feeling Specific Emotions: Anger, Enthusiasm, Sadness, Fear, and Embarrassment. Question: How many times did you experience [*emotion*] in the past week?

Figure 3.2: A Multi-Level Confirmatory Factor Model
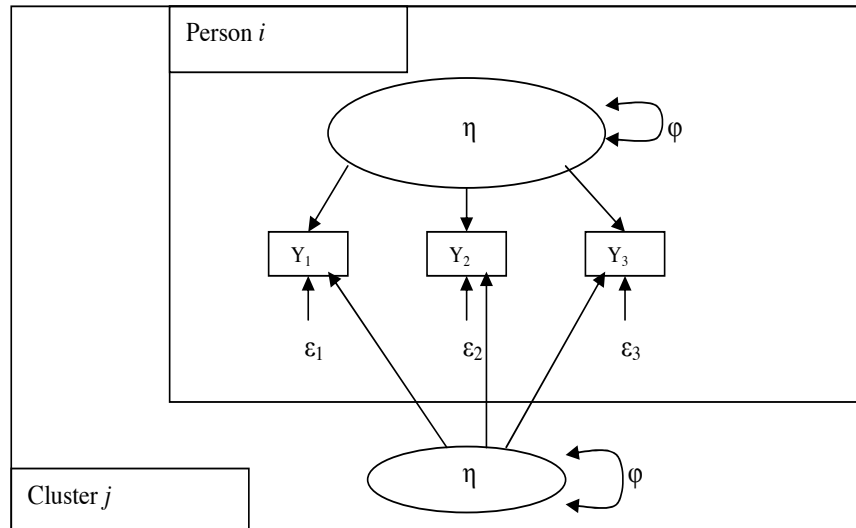
Chapter 4

Do Attacks (De)Mobilize? Exploring the Role of Discrete Emotions in Political Campaigns

Abstract

Emotional appeals are widespread in political campaigning. Political experts discuss how candidates sincerely reach out to voters, how a cold, detached persona alienates key demographics, and how campaign advertisements arouse passions - ranging from hope and enthusiasm to anger and discontent. Notwithstanding, it is unclear what the effects of specific emotional appeals are for political behavior and judgment. Much of the research in political science has only examined appeals based on emotional valence, or enthusiasm and anxiety. In this chapter, I investigate the effects of several discrete emotions - anger, sadness, enthusiasm, and fear - on political participation. Drawing on cognitive appraisal theory, I contend that discrete emotions elicited in campaign advertisements influence whether voters become politically active. To test this, two experimental web-surveys were administered to Stony Brook University undergraduates who were exposed to one of four emotionally evocative ads. Following exposure to the advertisement, respondents were asked questions about political participation. The results indicate that anger is politically mobilizing, whereas sadness is demobilizing. Following this analysis, I attempt to replicate the general pattern of results using the 2000 American National Election Studies (ANES), and I find these results parallel those from the first two studies.

In the discussion, I emphasize the notion that anger, sadness, fear, and enthusiasm have non-uniform implications, particularly on the desire to be politically engaged.

4.1 Introduction

Emotional appeals are a staple of American political campaigns. With the rise of television as a potent political medium, campaigns were defined by ads such as Johnson's "Daisy Girl" where an unaware girl picking apart a daisy precedes images of a nuclear explosion. In the decades to follow, television ads frequently appealed to an array of emotions (West, 2006). For instance, advertisements in the 2004 presidential campaign drew heavily on public fear about imminent terrorist attacks, despair over Iraq, and anger over the economy. And campaign strategy is often tailored to resonate and mobilize particular voters. Pundits and conventional wisdom alike seem to agree that emotions affect voting behavior; whether it be the lack of sincerity and affect conveyed in Michael Dukakis' statement as to whether he would favor the death penalty for someone who raped and murdered his wife, to Howard Dean's lack of emotional restraint evident in his yelp during the Iowa primaries, to George W. Bush's adoption of the "compassionate conservative" platform in 2000.

There seems to be considerable variation in the intended and actual emotion evoked during the campaign, and it remains unclear whether arousing particular emotions alters the persuasiveness and impact of political advertisements. Do emotions have non-uniform motivational effects for political participation and the desire to learn about politics and the candidates? Do emotions fundamentally shape how citizens think about political issues?

4.1.1 Emotions and Advertising

While it seems to be the case that political advertisers attempt to elicit many emotions in the public, there is uncertainty regarding the effects of these appeals.

Much of the literature on campaign advertising has only examined the implications of emotional valence - positive versus negative advertising (Ansolabahere et al., 1993) - or has examined ads that arouse enthusiasm or fear (Brader, 2005/2006). In reference to political participation, this classification scheme has contributed to a host of conflicting findings. For example, there is evidence suggesting that attack advertisements demobilize voters by reducing political efficacy, elevating distrust, and promoting apathy (Ansolahahere et al., 1993; Lau and Pomper, 2004); other compelling evidence suggests that attack advertisements mobilize voters by increasing awareness about key political issues, negative ads generate interest in the campaign, as well as engaging the candidates in informative political dialogue (Geer, 2006; Finkel and Geer, 1998). For example, Wattenberg and Brians (1999) find that voters in 1996 who remembered seeing negative ads were more, not less, likely to vote. Utilizing data from Campaign Media Analysis Group (CMAG), Goldstein and Freedman (2002) similarly find that "exposure to negativity actually stimulates voter turnout. Across the board, exposure to negative advertising appears to increase the probability that citizens will make it to the polls on election-day" (Goldstein and Freedman, 2002, p. 736). Lau and Pomper (2004) aptly note that it isn't altogether clear whether attack ads mobilize or demobilize; in fact, about as many published studies support mobilization as support demobilization.

This has led some to depart from the idea that attack ads uniformly mobilize or demobilize, and instead explore the particular *contexts* in which attack ads demobilize (Brader and Corrigan, 2006). For example, Kahn and Kenney (1999/2000) note that voters can distinguish among different types of negative advertisements. Voters that perceive attacks as legitimate tend to respond favorably to these messages-turning out to vote in larger numbers; it is only for ads that are perceived to be mudslinging, character assassinations in which voters are demobilized. There also seems to be heterogeneity in how voters respond to attack ads. Brader (2006) finds that negative, fear provoking ads stimulate turnout for sophisticated voters, and

Valentino et al. (2007) find that anger stimulates turnout among those with greater political resources. Lau and Pomper (2004) demonstrate that the advertising context is also important to consider. In high intensity campaigns, where the candidates spend a large amount of resources in getting out their message, attack ads increase turnout. Paradoxically, this only occurs for a certain type of voter - the voter who is least likely to see the political ad. In a high intensity campaign, voters most likely to be exposed to an attack ad are least likely to vote!

Again, it seems as though one of the reasons for these conflicting findings may be due to the ways in which advertisements have been classified. Exploring whether positive (advocacy) ads differ from negative (attack) advertisements assumes that ads of the same valence have uniform effects. Contrasting negative ads to positive ads misses an important source of heterogeneity (Kahn and Kenney 1999a/1999b). *Is there a specific type of negative advertisements that leads to (de)mobilization?* I contend that one source of important variation is the emotional appeal of the message. Specifically, I examine whether anger, sadness, fear, and enthusiasm aroused in the context of political advertisements influence the desire to be politically involved.

4.2   Emotions and Participation

Work in psychology has suggested that emotions of the same valence can be differentiated with respect to behavior, despite the fact that emotions are often highly correlated (among others, Ottati and Isbell, 1996; Lerner and Keltner, 2000/2001; Lerner and Tiedens, 2006; Keltner et al., 1993; Valentino et al., 2006; Weber and Cassese, 2007). Specific emotions can manifest themselves in different action tendencies, such as approach, inaction, avoidance and attack (Mackie et al., 2000). Appraisals that covary with discrete emotions often have behavioral implications. For instance, specific emotions have been found to impact behavioral tendencies, particularly approach and avoidance behavior. Anger and positive emotions tend

to elicit approach behavior, via elevated perceptions that one has control over a situation (Weiner, 2006). Anger has been categorized as a "high action potential" emotion, stimulating confrontations and strengthening action intentions (Averill, 1983). It is this augmented feeling of power, perceived control over the situation, and self efficacy which is why anger has been linked to risk-seeking propensities (Lerner and Keltner, 2000/2001); while sadness, and to a lesser extent, fear lead to withdrawal and avoidance (Miller,1948; Small and Lerner, 2008). Emotions also relate to the expectancy of success in reaching a goal. Since anger is often associated with controllability, it tends to result in higher degrees of personal efficacy and control over one's own fate (Lazarus, 2001; Berkowitz and Harmon-Jones, 2004; Valentino et al., 2006). Sadness and fear tend to reduce efficacy because of their association with low personal control and attributions to unstable causes.

In several studies, Aarti Iyer and colleagues (Iyer, Schmader, and Lickel, 2007; Leach, Iyer, and Pedersen, 2006) find that anger is strongly related to political protest. For example, anger at the British and American governments' decision to invade Iraq led to both passive (wearing a button) and active (attending a rally) political behaviors. Anger was a stronger predictor than other emotions, such as guilt. In the domain of intergroup relations, Leach et al. (2006) find that perceptions of intergroup advantage also stimulated political action for systematic compensation. In a study on relative deprivation and perceptions of pay inequity, Smith and colleagues (Smith et al., 2008) similarly find that emotions are related to participatory intentions. Anger strongly predicted collective protest, but sadness led to organizational withdrawal.

Thus, it is this perception of control that should lead angry people to be more politically active: voting in higher numbers, showing interest in campaigns, learning about the candidates, and demonstrating a heightened sense of internal and external efficacy. Valentino and colleagues find that specific emotions have consequences for political behavior. Comparing anger and anxiety, they find that anger

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predicts passive forms of participation (e.g., talking to others, voting) equally as well as anxiety, and anger is a stronger predictor of active participation (e.g., attending a rally, working for a campaign). Moreover, when angry citizens possess sufficient political resources, anger becomes an even stronger predictor of participation, suggesting that when people can cope with their anger it can be mobilizing. In a similar study exploring the link between resources, anger, and participation, Valentino et al. (2007) find that anger provides the mediating link between internal efficacy and participation. Only when citizens feel threatened and are internally efficacious does this stimulate anger and political engagement. My work extends Valentino and colleagues in that I explore the role of emotions in the context of political advertisements, as well as exploring whether emotions have consequences for the psychological correlates of participation, such as internal efficacy. I also examine an additional emotion, sadness, which should relate to participation (Smith et al., 2008).

Subsequently, I test whether discrete emotions aroused in a political advertisement influence political participation and variables related to participation. *Anger and enthusiasm should be relatively strong predictors of the desire to participate in politics, whereas sadness and fear should lead to comparatively less participation. Moreover, anger, by virtue of being associated with less interpersonal trust, should translate to less trust in government.* The relation of these emotions to political behavior should mainly be a function of the control dimension, where control or the ability to effectively cope in response to a negative event is central to anger. As such, anger in the political domain should correspond with perceptions of efficacy. However, since sadness and fear correspond to less control, these emotions should reduce efficacy and participatory intentions, or have no effect. Similarly, several studies have pointed to an effect of discrete emotions on trust. For example, Dunn and Schweitzer (2005) find that relative to a host of positive and negative emotions, anger leads to diminished interpersonal trust. Weber and Cassese (2007) similarly

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find that anger leads to less trust in government institutions.

4.2.1 Outline

Three studies were conducted to test these expectations. In study 1, the goal was to measure to the effects of emotional advertisements on participation. A sample of 300 Stony Brook students were asked to view one of four emotionally evocative advertisements about crime, followed with questions on political participation and trust. Results indicate that anger, and not fear or sadness, increase levels of efficacy and the desire to be politically active. One problem with this study was that the advertisements substantially varied in their political content. While all advertisements focused on the substantive issue of crime in the U.S., they focused on different aspects of crime. For example, the anger ad emphasized drugs and mandatory sentencing, whereas the sadness ad focused on victimization and violent crime. For this reason, it is conceivable that any documented results were driven by something non-emotional and idiosyncratic to the advertisements. Thus, in study 2, I implement a follow up experiment where less emotional baseline advertisements were compared to the original sadness and anger ads. A 2 (Emotional Ad: Anger versus Sadness) x 2 (Emotional Cues: Present versus Absent) between subjects experiment was used. The first factor refers to the ad people were exposed to - the anger or sadness eliciting ad - the second factor is whether a host of audiovisual cues designed to increase the emotional response were present or absent. The methodology is similar to that used by Ted Brader (2005/2006), but with different emotions. The results again indicate that anger is mobilizing, yet sadness demobilizing. Given the fact that I use undergraduate college students in these experiments - a subpopulation that is generally less involved in politics and holds different political attitudes than the general population (Sears, 1986) - I replicate the general pattern of results using an existing, representative dataset. Using the 2000 American National Election Studies (ANES), I demonstrate that anger enhances participation, supporting the general

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conclusion that anger is a mobilizing emotion.

4.3 Study 1: Emotions and Participation

A simple experiment was administered to test the hypothesis that emotions evoked in advertisements will influence political involvement. Participants were told they would be viewing and reacting to a political web-advertisement released from a previous congressional election, followed with several questions about political participation. The stimulus materials consisted of the videos explained in chapter 2. The ad was supposedly from a recent congressional election between two candidates, John Wilkins and Dave Reade. Upon debriefing, no participants indicated awareness of the fact that John Wilkins or Dave Reade or the race was fictitious. After reading a brief overview about the campaign, individuals were randomly assigned to view one of the advertisements designed to evoke anger, fear, sadness, or enthusiasm. All participants watched the advertisement at individual computers with headphones in an experimental lab.

4.3.1 Measures

Following the advertisement, participants then answered a number of questions about the ad and their emotional state, which served as a manipulation check. This was followed with several questions on participation. All the emotion manipulation check questions were intended to measure the manipulated discrete emotion. Scales were generated for anger (alpha=0.85) and enthusiasm (alpha=0.78), which consisted of three indicators, as well as sadness ($r_{polychoric} = 0.77$), and fear ($r_{polychoric} = 0.89$), constructed from two indicators. The scales were recoded to range from 0(did not feel the emotion) to 1 (strongly felt the emotion).

Participants were then asked about their *intention to contact* the campaign for more information (1=Definitely would not contact to 4=Definitely Would Con-

tact), the *importance of voting* ("People should vote whenever there is an election [1=Strongly Disagree] to [4=Strongly Agree]), a question on *internal political efficacy* ("People like me don't have a say in what the government does" 1=Strongly Disagree-4=Strongly Agree), and one question on *external political efficacy*, for example, "I don't think public officials care much about what people like me think" 1=Strongly Disagree- 4=Strongly Agree) [13]. Although there has been considerable debate on the measurement of political efficacy (Finkel, 1985), with some arguing that the measure of internal efficacy I use taps both constructs, the results from the NES presented below largely replicate the results found here. Moreover, others have relied on this measure of internal efficacy (Rudolph, Gangl, and Stevens, 2000; Finkel, 1985; Ansolabahere and Iyengar, 1997).

Several control variables were included. Gender (1=Female, 0=Male), whether the individual is registered to vote (1=Yes, 0=No), and whether the respondent was non-white (1=Yes, No=0) were included as demographic controls. Political knowledge was measured from five factual knowledge questions (KR20=0.59), and political participation was measured from five questions in the pretest regarding past participation and intent to participate in the future (alpha=0.73). Partisan strength was generated from a collapsed measure of PID, where strength varies from 0 (weak identifier) to 1 (strong identifier). By controlling for these factors, this provides a better estimate as to the precise effects of the ads in reference to one another. However, the results are comparable if I only explore mean differences by experimental condition. Following from appraisal theory, emotions should have important motivational implications. Anger should lead to increased interest and efficacy, whereas fear and sadness should attenuate interest and efficacy.

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[13]All footnotes can be found at the end of chapter 7

4.3.2 Results

Three hundred undergraduates at Stony Brook University completed the online survey for extra credit. Forty-five percent of the participants were male, 55% were female. Forty-six percent of the sample was white, followed by 44% which were Asian, 8% were Latino/Hispanic, 6% African-American, and 7% responded as Other. The sample was also relatively diverse with respect to political identification, with 52% being Democrat, 32% Independent, and 16% being Republican; Forty-eight percent were Liberal, 38% Moderate, and 14% were Conservative. Thirteen participants claimed they were not able to view or hear the ad and were excluded from the analysis.

Manipulation Check

Table 4.1 presents the zero-order correlations between the emotions experienced in the study. The correlation between fear and sadness was substantial (r=0.65), as were the correlations between anger and fear (r=0.57) and anger and sadness (r=0.59). However, the correlations between the negative emotions and hope were marginal, ranging from r=-0.37(between sadness and enthusiasm) to r=-0.02 (between fear and enthusiasm).

In figure 4.1, the means are plotted by experimental condition. What this figure shows is that the manipulations evoked the intended emotions. For instance, anger significantly varied across experimental conditions ($F[3, 283] = 17.21, p < 0.001$), as did sadness ($F[3, 283] = 45.18, p < 0.001$) and enthusiasm ($F[3, 283] = 21.42, p < 0.001$). The means also significantly varied for feelings of fear ($F[3, 283] = 21.59, p < 0.001$). However, because these tests are non-directional, I ran a series of contrast tests. Contrast analysis is appropriate in this context because there are more than two levels of the manipulation- recall, participants were assigned to view one of four ads. A priori weights can be generated to explore complex effects on the means by experimental condition (Rosenthal, Rosnow, and Rubin, 2000). Three sets of

weights were generated, all of which test an orthogonal hypothesis. The first set of weights corresponded to an effect of the valence of the ad, such that all negative emotions should be higher following exposure to an attack ad than to an advocacy ad ($\psi = -3, 1, 1, 1$). The two remaining weights tested whether participants could discriminate between emotions of the same valence and whether the target emotion was elicited in the advertisement- i.e., ($\psi = 0, -2, 1, 1; \psi = 0, 0, -1, 1$).

[INSERT FIGURE 4.1]

Beginning with the simple effects of the crime ads on reported *fear*, the valence contrasts were significant ($\psi = -3, 1, 1, 1, F[1, 283] = 57.46, p < 0.01$) as was the contrast pitting the fear ad/ anger ad against the sadness ad ($\psi = 0, -2, 1, 1, F[1, 283] = 7.22, p < 0.05$) but the contrast comparing the anger ad to the fear ad was non-significant ($\psi = 0, 0, 1, -1, F[1, 283] = 0.12, p < 0.01$). A similar pattern emerged for reported *anger*. All the contrasts were significant, suggesting that participants could successfully discriminate among discrete emotions, and the target emotion, anger, was highest in the anger ad condition ($\psi = 0, -2, 1, 1, F[1, 283] = 3.25, p < 0.10; \psi = 0, 0, -1, 1, F[1, 283] = 7.49, p < 0.01$). For reported *sadness*, the valence contrast was significant ($\psi = -3.1, 1, 1, F[1, 283] = 129.36, p < 0.01$), as was the contrast comparing sadness/fear ads to the anger ad ($\psi = 0, 1, 1, -2, F[1, 283] = 4.19, p < 0.05$), but sadness was not higher (by conventional standards) for those exposed to the sadness ad relative to the fear ad ($\psi = 0, 1, -1, 0, F[1, 283] = 1.96, p < 0.20$). Finally, the enthusiasm ad elicited comparably more enthusiasm than the negative emotion ads ($\psi = 3, -1, -1, -1, F[1, 283] = 63.51, p < 0.01$), but there were no differences in enthusiasm when directly comparing the negative emotion ads [14].

As indicated in Figure 4.1, the only unintended emotional response was that the anger ad led to both fear and anger. In other words, there weren't significant differences with respect to feelings of fear following exposure to the anger versus fear ads. Taken together, these findings suggest that while emotions of the same valence

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are highly correlated, the relative level of the emotion experienced does correspond to a discrete structure. For instance, while fear and sadness were highly correlated, fear was greater following the fear ad than the sadness ad.

Another way to demonstrate that the intended emotion was the actual emotion elicited in the ad is to standardize scores *across* experimental conditions, exploring whether the targeted emotion was in fact evoked *within* each condition. This corrects for varying baseline tendencies to reveal particular emotions. For example, because people tend to experience positive emotions more frequently than negative emotions, it is conceivable that the baseline level of positive affect will always be higher than negative affect. The standardized values plotted in the bottom panel figure 4.1. In all cases, the intended emotion was evoked by each advertisement above[15]. Thus, one can be relatively certain that the ads functioned as intended.

4.3.3   Emotions, Participation, Efficacy, and Trust

To test the hypothesis that discrete emotions have significant motivational implications, moving people to become more or less politically active, I examined responses to several measures meant to tap the propensity to be politically active, internal and external efficacy, as well as political trust. Table 4.1 presents ordered logistic regression coefficients, where *(1) The likelihood of contacting the campaign, (2) The importance of voting, (3) external and (4) internal political efficacy, and (5) political trust* were regressed on the experimental conditions (sadness is the baseline, excluded category) controlling for political participation, knowledge, partisan strength, and demographic variables.

[INSERT TABLE 4.1]

The results consistently indicate that anger has a mobilizing effect, resulting in a higher propensity to contact the candidates mentioned in the ad and attaching more importance to the act of voting. Anger also increases levels of internal and, to a

lesser extent, external political efficacy. However, there was not a significant effect of anger on trust. Since these estimates are in reference to sadness and not directly interpretable because of the non-linearity of the model, predicted probabilities for the experimental condition variables were generated for each equation, holding the remaining variables at their respective means and modes. The probabilities are presented in figure 4.2.

[INSERT FIGURE 4.2]

Anger appears to maximize agreement with these items, whereas sadness minimizes agreement, which is congruent with the notion that anger is associated with personal control and certainty, enhancing beliefs that one's actions are politically consequential. The predicted probability of being in the two most extreme categories for internal efficacy for angry participants was 0.69, for sadness the probability was 0.52. Examining the predicted probabilities for external efficacy, one can see anger again increases agreement (0.54), relative to sadness (0.38), fear (0.44), and enthusiasm (0.43). Anger also increases interest and the desire to learn more after being exposed to the campaign ad. The predicted probabilities for contacting either of the candidates mentioned in the ad were 0.52 for anger, 0.32 for sadness, 0.37 for fear, and 0.43 for enthusiasm. As for the importance attached to voting, anger also boosts agreement with this item, where the probability of being in the most extreme category is 0.82 for angry people and 0.81 for fearful people, though the estimates are considerably lower for sadness (0.65) and enthusiasm (0.71).

To further explore whether the predicted probabilities in figure 4.2 significantly varied from one another, a number of models were estimated varying the baseline condition in the ordered logit equation. Doing this simply allows me to determine whether the marginal effects of the ad significantly differ from one another, controlling for the other covariates. I also calculated first-differences in predicted probabilities of being in the most extreme category (also varying the baseline condition for the estimates in ordered logit equations)[16]. The results are the same regardless of

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which approach is used. The results from this analysis are summarized in table 4.2. Looking at internal efficacy, the anger ad significantly differed from the sadness ad. A consistent finding is that, with the exception of trust, the anger ad significantly differs from the sadness ad in its effect on participation. Relative to sadness, anger increases internal efficacy ($p < 0.05$), external efficacy ($p < 0.025$), the probability of contacting the campaign ($p < 0.05$), and enhances the importance attached to voting ($p < 0.025$). What this suggests is that anger has quite different effects on the likelihood of being politically engaged. These results all imply that emotional appeals - more specifically, negative emotional appeals - do not have uniform effects. Anger and enthusiasm energize voters. Sadness demobilizes.

[INSERT TABLE 4.2]

It is important to note that while all the ads focused on the substantive area of crime and targeted the same candidates, they varied somewhat in the issues discussed. The decision to use these ads was intentional, since after sufficient pilot testing the ads chosen were the ones that evoked the strongest discrete emotional response. The purpose of the study was to compare and contrast specific emotions, exploring the structure and implications of these emotions. Thus, it was important to minimize the co-occurrence of emotions. For example, an ad evoking sadness was considered superior to an ad evoking comparable levels of sadness and anger. By selecting ads that elicited one primary emotion rather than an indistinguishable blend of two or more emotions, I have greater confidence that the effects of the ads are due to the targeted emotion, rather than some other correlated emotional state. In this study, I also excluded a control condition, since a control condition would consist of a completely unimpassioned ad where no emotions were evoked. Since very few advertisements are emotion-free, a control condition in this study seemed implausible. A similar line of reasoning is provided in Brader's (2006) work on the emotional consequences of campaign ads.

The qualitatively different nature of the ads is also a weakness. While all the ads focused on crime, the advertisements did vary somewhat in the issues discussed, making it impossible to rule out alternative explanations for the effects. For example, exposure to different content in the ads could have evoked different cognitive considerations related to efficacy, interest, and intent to participate. Second, while the manipulations generally evoked the "correct" emotions, the anger ad evoked both anger and fear. Thus, it could be that anger, fear, or some combination of the two accounts for the differences between the anger ad and sadness ad, though by comparing the anger ad to the fear ad, and the fear ad to the sadness ad, this explanation is partially ruled out.

Two follow up tests were conducted addressing this issue, the results of which are included in the appendix. If the ad effects were due to something cognitive or otherwise non-emotional, then the emotions experienced by the participant - the manipulation checks - should be uncorrelated with the participation variables. To explore whether emotions effectively mediate the relationship between the advertisement and the proclivity to participate, a Sobel-Goodman test of mediation was conducted. This test examines the indirect effect of the independent variable (the ad) on a dependent variable (participation) via the mediator variable (the felt emotion). A general index of participation was created averaging all the items in table 4.2 (alpha=0.63). When testing for mediation, I included all the remaining emotion variables as covariates. What this revealed is a significant effect of the anger ad relative to the sadness ad on participatory intentions ($B = 0.17, SE = 0.08, p < 0.05$), but this effect was significantly reduced when including anger in the equation ($B = 0.13, SE = 0.08, p < 0.10$), and the Sobel test revealed a significant indirect effect of the anger ad on participation via feelings of anger ($IE = 0.04, Z = 2.04, p < 0.05, 24.21\%$ mediated by anger) This suggests that feelings of anger partially explain the effects in table 4.2. None of the remaining emotions were found to be significant mediators.

[INSERT FIGURE 4.3]

Because the anger ad consistently differed from the sadness ad in my measures of participation, I also tested mediation by running a series of two stage ordered probit least squares models, following Alvarez and Glasgow (2000). In these models, I truncate the data to only explore the anger versus sadness ad, since it was only this contrast that was consistently significant (see table 4.2). These models proceed by first estimating the endogenous variable (feeling angry) from the reduced form equation. The experimental dummy variable is thus included in this equation, but excluded from the second stage equation. Scores were then predicted for feelings of anger. In all these models, the endogenous anger variable strongly predicts the participation variables, again suggesting that the effect of the anger versus sadness ad is mediated by feelings of anger.

Summary of Key Findings

The findings from this study point to a unique effect of anger evoking advertisements (relative to sadness evoking messages). This runs counter to the assumption that attack ads uniformly mobilize or demobilize voters. Rather, there seems to considerable heterogeneity in the effects of attack ads, echoing work by Kahn and Kenney (1999a/199b), and more recently, Brader and Corrigan (2006). One weakness of the study, however, is that the information provided to participants varied across treatment conditions. While follow up tests did reveal that the effects of the ads were largely emotional- roughly 24% of the effect of the anger ad on participation was explained by feeling angry - this doesn't provide definitive proof that the effects were due to something otherwise non-emotional. In study 2, the anger and sadness evoking advertisements were more systematically analyzed by creating *baseline* conditions where the information provided to participants was held constant and non-semantic, audiovisual cues associated with emotional reactions were varied.

4.4   Study 2: Contrasting Anger and Sadness

One of the empirical difficulties in studying the role of emotions in politics, especially in political campaigns, is disentangling emotions from cognitions. Consider feelings and beliefs about the president. Are feelings towards President Bush untainted by the beliefs people hold, such as where the President stands on a particular issue; or are one's feelings and beliefs about the President inextricably linked? There have been many different conceptualizations of how affect and cognition are related, as well as a variety of empirical strategies to estimate the independent effects of affect and cognition on attitudes and behavior.

A central concern in communications and persuasion research is whether a documented effect can be explained by emotions, cognition, or some combination of the two. The complexity of political messages ranging from evocative cues, to editing techniques and "code" words renders it even more difficult to isolate the distinct effects of cognition and emotions. Indeed, there have been multiple studies documenting instances of media framing, priming, and agenda setting following exposure to campaign advertisements (Iyengar and Kinder, 1987; Mendelberg, 2001; Valentino, Hutchings, and White, 2002), where these effects are subtle enough that individuals may not be consciously aware of their occurrence. For instance, Tali Mendelberg (2001) examined the effects of racially coded language in the context of the 1988 presidential election, finding that at the height of the Willie Horton ad's prominence, racial attitudes were accessible to voters and strongly predicted candidate evaluations. Valentino, Hutchings, and White (2002) find that racial primes boosted the importance of racial considerations when evaluating political candidates. Similarly, Lodge, Taber, and Weber (2006) found that subliminally presenting affective words and images in a campaign advertisement affected evaluations of the ad-targeted candidates.

The ubiquity of priming effects means that it is important to craft emotional ma-

nipulations that circumvent cognitive, non-affective considerations. One approach is to use manipulations where information is held constant, and all that is varied are emotional cues. For example, Brader (2005/2006) created anxiety advertisements where all that varied was the presence of certain audiovisual cues. In one condition, participants were exposed to an advertisement that included emotionally evocative elements - ominous music and threatening images; in a second condition, these cues were absent. Thus, while the information was the same (the voice-overs were equivalent), the ads varied with respect to the degree of emotion which should have been evoked. Due to concerns over whether the effects in study 1 can be explained by something non-emotional, I conducted a second experiment where I contrast the anger ad to a less emotional baseline ad. I do the same for the sadness ad. In the less emotional version of the anger (sadness) ad the narrator takes on a less emotional tone, the musical backdrop is absent, and some of the frames were altered to be less emotionally evocative. The information provided to participants is the same and the only thing that varies is the presence of audiovisual cues associated with emotional reactions.

4.4.1   The Manipulation and Measures

The experiment follows from a 2 (Emotional Ad: Anger versus Sadness) x 2(Emotional Cues: Present versus Absent) factorial design. The first factor refers to the ad participants viewed, the second factor is whether the ad included or excluded audiovisual content associated with emotional reactions a musical backdrop, certain images, and the tone of the narrator's voice. In other words, participants either viewed the identical sadness or anger ads from study 1, or a less emotional version. Following exposure to the ad, participants were then asked a series of questions about political participation.

Several measures were asked after the advertisement to maintain comparability with the first study. Three questions were combined to form an anger scale (al-

pha=0.86). Two questions were combined to form a sadness scale ($r_{polychoric}$=0.69). Both scales were recoded to run from 0 (not experiencing the emotion) to 1 (strongly experiencing the emotion). Five internal efficacy questions were asked, and combined into a scale ranging from 0- 1 (alpha =0.81). Two external efficacy items were combined and recoded from 0 to 1 ($r_{polychoric}$=0.73). Similarly, a question on trust ("How much do you trust the government to do what is right.") and campaign contact ("How likely is that you'd contact either of the candidates mentioned in the ad."). Unlike the first study, questions were also included regarding the probability of voting ("How likely is it that you'll vote in the next election"), volunteerism ("How likely is it that you'll volunteer in the next election"), Interest in political campaigns ("How interested are you in election campaigns") and Interest in the News ("These days the news covers a wide array of issues. How interested are you in the news?").

4.4.2 Results

A total of 89 participants completed in the experiment, though only 82 participants stated no problems in viewing the advertisements. The seven participants who stated difficulties were dropped from subsequent analyses. Sixty three percent of the participants were female, 37% male. Twenty-seven percent of the sample was White, 7% Black, 9% Hispanic/Latino, 52% Asian, and 5% failed to reveal their ethnic/racial identity. Again, the sample was relatively diverse with respect to political identities, with 52% identified Democrats, 36% Independents, and 12% Republican. With respect to ideology, 49% were liberal, 41% moderate, and 10% conservative[17].

4.4.3 Anger, Sadness, and Participation

Figure 4.4 reveals the effects of the manipulation on internal and external political efficacy. In this case, a significant Emotion ad x Audiovisual Cues interaction suggests that the emotion advertisements have countervailing effects depending

on whether the emotional cues were present or absent. Specifically, the anger ad including the audiovisual cues should elicit a greater desire to participate (relative to the less emotional baseline); the opposite should occur for the sadness ad. This would suggest that anger is mobilizing, sadness demobilizing. For internal efficacy, a main effect emerged for the emotion appealed to in the advertisement ($F[1, 78] = 3.78, p < 0.06$), with the anger ad eliciting a higher degree of internal efficacy ($M = 0.53, SD = 0.24$) than the sadness ad ($M = 0.46, SD = 0.21$). This effect was qualified by a significant Emotion Ad x Audiovisual Cues interaction ($F[1, 78] = 7.05, p < 0.01$). Simple effects analysis indicated that the anger ad with the emotions cues elicited comparably more internal efficacy than when these cues were absent ($t = 1.78, p < 0.05, one - tailed$). The exact opposite pattern occurred for the sadness ad. When the cues were present, internal efficacy was reduced relative to the ad when these cues were absent ($t = 2.0, p < 0.025, one - tailed$).

[INSERT FIGURE 4.4]

A parallel set of findings emerged for external efficacy. Again, the main effect of the emotion appealed to in the ad ($F[1, 78] = 3.71, p < 0.06$) was qualified by a significant Emotion Ad x Audiovisual Cues interaction ($F[1, 78] = 7.30, p < 0.01$). Simple effects analysis indicated that this effect was mainly driven by the contrast between the anger ad with/without emotional cues ($t = 2.49, p < 0.01, one - tailed$), as the difference between the sadness ad with versus without the cues was non-significant ($t = 1.02, ns$). These results suggest that with respect to two psychological correlates of participation, internal and external efficacy, anger is mobilizing, enhancing the perception that one can competently function in democracy. Sadness has the opposite effect, attenuating internal and external efficacy.

Because the remaining variables - trust, interest in the campaign, likelihood of contacting the campaign, voting, and volunteering - were single item indicators of each construct, ordered logit analysis was conducted, the results of which are presented in tables 4.3 and 4.4. The analysis was run with and without participa-

tion related covariates, and predicted probabilities were generated and also plotted in figure 4.5[18] For campaign contact, the anger ad led to a greater likelihood of contacting either candidate mentioned in the ad relative the that same ad lacking emotional cues ($B = 1.29, SE = 0.76, z = 1.71, p < 0.04, one-tailed$); for sadness, the ad with the cues marginally decrease contact relative to the ad without the cues ($B = 0.78, SE = 0.54, z = 1.38, p < 0.10, one-tailed$). More specifically, the estimated probability of contacting the campaign for participants exposed to the more evocative anger ad was 0.76. For the same ad absent particular audiovisual cues, the probability dips to 0.48. For sadness, when the cues were present, the probability of contact was 0.49. When the cues were absent, the probability increases to 0.66. The same pattern occurs for general interest in election campaigns. Anger also spurs interest ($B = 2.01, SE = 0.83, z = 2.42, p < 0.01, one-tailed$). However, the contrast for the sadness ad with and without the audiovisual cues was non-significant. Anger increased the professed probability of voting ($B = 1.63, SE = 0.75, z = 2.19, p < 0.01, one-tailed$) and likelihood of volunteering in the upcoming election ($B = 2.71, SE = 1.14, z = 2.37, p < 0.01, one-tailed$).

[INSERT TABLES 4.3 AND 4.4 AND FIGURE 4.5]

As in study 1, the effect of these advertisements on trust in government was non-significant. The anger ad did not lead to a significant increase or decrease in trust relative to its less emotional baseline ad, nor did the sadness ad lead to an increase or decrease in trust relative to its baseline ad. It also appears as though the experiment did not increase interest in general interest in the news.

Summary of Key Findings from Study 2

One of the limitations in the study of campaigning, and campaign advertising more specifically, is that advertisements vary considerably in their content. The results from the first study, for example, could be explained simply by the fact that the information provided to participants varied. In study 2, these concerns

were addressed by only varying non-semantic, emotional cues. The effects largely replicate that of study 1, suggesting that anger motivates political behavior, whereas sadness leads to a greater likelihood of political withdrawal.

4.5 Study 3: Replicating the Results with the 2000 NES

Due to concerns about the non-representativeness of studies 1 and 2, I now explore the effects of emotions using a representative dataset- the 2000 ANES. Sears (1986) documents the problems in relying on college students to test sociopolitical behaviors, noting that students have less crystallized attitudes, a less well formulated sense of self, and are not as deeply embedded in stable social networks as non-student adults. For this reason, I explore the effects of emotions on participation, interest, and efficacy during an actual campaign using the 2000 ANES. I examine whether emotions revealed about the two-major party candidates have effects comparable to those presented in the experiments. I rely on pre-election candidate affect questions to predict post-election efficacy, interest, participation, importance of voting, and trust. The candidate affect questions ask how much the respondent felt angry, afraid, hopeful, and proud in reference to Al Gore and George W. Bush.

It is important to note that there are some limitations to using the NES to study emotions, among the most serious being the fact that sadness is never measured. In addition, it is unclear how much these questions tap emotions versus general evaluations of the candidates (Ladd and Lenz, 2008). Another limitation is that because the data are non-experimental, it is possible that emotions and participation oriented variables reinforce one another in a feedback loop. In other words, emotional reactions may be endogenous to variables such as internal efficacy, campaign interest, trust, and external efficacy. It is possible that anger increases internal efficacy, but internal efficacy may also elevate perceptions of anger, where believing that

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one can competently function in democracy and feels threatened about the current administration leads to anger. In fact, Valentino et al. (2007) demonstrate in panel data that internal efficacy predicts anger. It is because of this non-recursive relationship that modeling the effect of emotions in survey data using methods such as Ordinary Least Squares (OLS) is problematic. One statistical solution, however, is instrumental variables regression where one first finds a set of variables that predict emotional reactions, but that are conceptually and empirically unrelated to the dependent variable of interest. This corrects for bias due to endogeneity that ensues using OLS. Throughout the remaining analysis, I use instrumental variable regression- two stage least squares and two stage ordered probit least squares - to model the relationship between emotions and participation.

4.5.1 Measures

Traditionally, the angry and afraid items are scaled together to form a general "anxiety" index (Marcus et al., 2000). Doing this is problematic from the perspective that these two emotions may have divergent effects. For this reason, I model anger and fear as distinct constructs, and create an "enthusiasm" scale from the two positive emotions "hope" and "pride". I chose not to model the discrete effects of the enthusiasm emotions since they are more difficult to differentiate, and because I don't have a priori expectations about how pride should differ from hope with respect to participation.

A "fear" scale was constructed by taking the average of the respondent's fear toward both George Bush and Al Gore, and then rescaled from 0 to 1, with high scores denoting greater fear. Anger was created in a similar fashion, with the items measuring anger toward the two candidates combined and rescaled from 0 to 1. Finally, an enthusiasm scale was generated from the four positive emotion questions (hope and pride for Gore and Bush), recoded from 0 to 1 with high scores being greater positive affect toward the candidates[19] .

The target variables were constructed as follows. Internal efficacy was generated from five questions measuring one's subjective level of personal competence to participate in politics (alpha=0.80), and for external efficacy, I use a single item measuring beliefs about government responsiveness: "Public officials don't care much what people like me think."[20]. I also analyze the effects of emotions on campaign interest, measured from three questions and rescaled from 0(low interest) to 1 (high interest) (alpha=0.69). A measure of political trust was generated from 4 items tapping trust in government (alpha=0.63) and recoded from 0 to 1. For comparability with the experiment, I also include an item measuring the importance attached to one's vote. While the item I use "So many other people vote in the national election that it doesn't matter much to me whether I vote or not" was included in the 2000 NES as a measure of internal efficacy, it is conceptually unclear how this measures one's perceived political competence, since internally efficacious people could reasonably agree with this item. For this reason, I analyze the item separately[21]. A global measure of participation also was also generated, which ranges from 0 to 9 (kr20=0.60). This scale was also split and analyzed as passive participatory acts (e.g., voting, trying to influence others) and active participation (e.g., attending rallies, contributing to campaigns).

I also control of varying resources and motivation, since these are of crucial importance when modeling the relation between efficacy, interest, participation, and the emotions people experience (e.g., Finkel, 1985; Valentino et al., 2006; Verba, Schlozman, and Brady, 1995). A measure of news media consumption was assessed from five variables tapping interest and consumption of news (alpha=0.65), and combined into a standardized scale[22]. A measure of partisan strength was also included, which was constructed by folding the self identification question such that 0(non-partisan) to 1(strong Democrat/Republican). Contact by either of the campaign was generated from 4 items (kr-20=0.55), and ranges from 0 to 4 indicating how many times the respondent was contacted. Religiosity was summed and standardized from sev-

eral questions pertaining to church attendance, biblical interpretation, and degree in which religion is believed to guide one's life (alpha= 0.85). A number of demographic variables were also included: income, gender, region (1=South, 0=Otherwise), whether the respondent is a union member, race (1=Nonwhite, 0=Otherwise), homeowner status, religiosity (measured in number of times attending church/week), the log of how long the respondent lived in his/her community, union status, and one's religion (with Protestant serving as the baseline).

Instruments

Given the potential endogeneity of emotional reactions, in this analysis, I use several variables as instruments to predict anger, fear, and enthusiasm. Two trait evaluation scales were generated, one for Bush (alpha=0.83) and a separate for Gore (alpha=0.81), and recoded from 0 (negative evaluations) to 1 (positive evaluations). A variable on Clinton's legacy in making America safe was also created ($r_{polychoric}$=0.73), coded from 0 to 1. The open-ended candidate likes and dislikes questions were also used. A scale was created summing the average likes and dislikes of Gore and Bush ranging from 0 to 10. Finally, two scales of issue distance were created based on self relative to candidate placement on abortion, environmental protection, women's rights, welfare, and aid to blacks.

Tables 4.5-4.7 display the results of the 2SLS and 2SOPLS analysis. For all the equations, the test of exogeneity revealed that the emotion scales are, in fact, endogenous. That is, comparing the least squares estimator to the IV-estimators, the test for exogeneity (bottom of each table) revealed a significant change in parameter estimates, suggesting that the emotion items are correlated with the error terms - i.e., they are endogenous.

[INSERT TABLES 4.5-4.7]

First examining table 4.5, for internal efficacy and campaign interest, the entries are maximum likelihood coefficients from two stage least squares. The remaining

column- external efficacy- consists of maximum likelihood coefficients from two stage ordered probit least squares. For all three equations, fear is inversely related to participation variables, yet anger and enthusiasm are positively related to these variables. Examining the effect of these three emotions on political participation, table 4.6 indicates that anger is positively correlated with participation, and again, fear is inversely related. Going from minimum to maximum levels of anger results in about 4 more participatory acts; whereas going from minimum to maximum levels of fear results in about 3 fewer participatory acts. Splitting participation into active and passive forms, anger is much more heavily bound in active forms of participation. The last column in table 4.6 indicates that anger is strongly and positively related to active forms of participation, whereas fear again is inversely related. These findings replicate the findings of Valentino et al. (2006), even after controlling for the endogeneity of the emotion items. Finally turning to the effects of these emotions on trust in government and interest in the campaign (table 4.7), enthusiasm was positively related to the importance attached to voting, though no consistent effects emerged for the remaining variables.

Summary of Key Findings in Study 3

Consistent with my expectations, the experimental and NES analyses indicate that anger is unique relative to other negative emotions. All analyses revealed that anger promotes internal efficacy, external efficacy, and campaign interest. And compared to fear, anger is a mobilizing emotion by generating interest and involvement.

4.6   Discussion

With the onslaught of television advertising in the 1950s, scholars and theorists alike feared the adverse impact of televised campaigns, noting that advertisements offer little substantive information about political candidates and would displace

more personal modes of campaigning. Moreover, campaigns have become increasingly attack oriented (West, 2006). And while the electorate has grown increasingly dissatisfied with the state of American campaigns by staying away from the polls in large numbers and showing distrust of politicians, much of this dissatisfaction has been attributed to an exponential increase in negative, attack oriented campaigns. In their seminal work, Ansolabahere et al. (1993; Ansolabahere and Iyengar, 1997) demonstrate that attack advertising can have the adverse effect by lowering turnout an average of 5%. Attack advertisements lead people to have less trust in government and reduced efficacy, thus lowering the propensity to vote and be engaged in politics.

Yet, much of the work on demobilization has only examined the valence of appeals, ignoring whether campaign appeals can be differentiated using a more fine-grained method of classifying ads (cf. Brader, 2006, Kahn and Kenney, 1999b; Geer, 2006). What types of negative advertisements affect voters most? West (2006) notes that voters tend to respond favorably to legitimate attacks, as opposed to unwarranted, personal attacks. Brader (2006) finds that several types of emotions are heavily appealed to in political campaigns across the United States: anger, fear, hope/enthusiasm, sadness, sympathy, and amusement. In this work, he finds that very few advertisements are unimpassioned, having no emotional cast. My research follows this approach by examining the effects of specific emotions experienced in response to campaign ads.

The results indicated that negative emotions do not have uniform effects. Consistent with my expectations, the experiments and NES results showed that anger is unique relative to other negative emotions. Anger, an emotion marked by elevated perceptions of control, led to a higher stated propensity to become political active. Anger also leads to the belief that one's behaviors are politically consequential. On the other hand, sadness and fear had different effects by lessening civic engagement. The findings suggest that negative appeals do not have constant effects. Instead,

they vary by the emotions felt by the individual.

The findings also echo work in psychology and neuroscience demonstrating that emotions often have unique effects. While emotions of the same valence are highly correlated, Watson and Clark (1992) show that discrete emotions are differentiable constructs. Evidence has also shown a neural basis for discrete emotions, such as emotion specific autonomic patterns (Levenson, Ekman, and Friesen, 1990). The results also partially replicate the work conducted by Nick Valentino and colleagues, who find an effect of anger with respect to political participation. In their work, they suggest that the role of anger is most pronounced for those with sufficient resources. The evidence I present shows that emotions seem to be intimately tied the psychological correlates of participation, such as personal efficacy and interest. What is more, the emotions evoked in campaign advertisements have an effect irrespective of one's political resources.

This chapter has explored an important aspect of political campaigning: mobilization. It remains to be determined whether emotions are integral to political persuasion and issue considerations. In the next two chapters I explore these issues by examining the factors that moderate emotional reactions and how emotional reactions are intimately related to political thought and deliberation.

Table 4.1: Participation Results

Variables	Contact	Vote Importance	Internal Efficacy	Trust	External Efficacy
Anger Condition	0.80 (0.31)***	0.88 (0.37)**	0.62 (0.31)*	0.05 (0.33)	0.67 (0.31)**
Hope Condition	0.43 (0.31)	0.29 (0.36)	-0.48 (0.31)	-0.13 (0.37)	0.22 (0.32)
Fear Condition	0.18 (0.31)	0.94 (0.37)***	0.50 (0.31)#	0.14 (0.35)	0.27 (0.31)
Participation	0.63 (0.13)***	0.80 (0.17)***	0.18 (0.13)	0.23(0.5)	0.39 (0.14)***
Knowledge	0.20 (0.49)	0.86 (0.55)	1.52 (0.51)**	0.01 (0.55)	0.72 (0.51)
Non-White	-0.18 (0.23)	-0.73 (0.28)***	-0.09 (0.23)	0.05 (0.25)	0.01 (0.24)
Registered to Vote	-0.17 (0.26)	0.02 (0.29)	0.73 (0.27)**	0.12 (0.30)	0.22 (0.26)
Female	-0.02 (0.22)	0.53 (0.27)*	0.52 (0.23)*	-0.01 (0.26)	0.49 (0.23)*
Partisan Strength	0.15 (0.36)	0.62 (0.43)	0.55 (0.36)	-0.18 (0.14)	-0.02 (0.12)
Threshold 1	-0.98	-3.26	0.18	-4.14	-0.44
Threshold 2	0.73	-1.61	2.51	-1.16	1.66
Threshold 3	0.15	0.81	4.37	2.70	3.74
N	287	285	287	287	287
Log-Likelihood	-362.37	-226.46	-340.99	-244.51	-343.03

Note: Maximum Likelihood Estimates from ordered logit equations predicting the probability of contacting either campaign, the importance of voting, internal, and political trust by experimental condition, controlling for knowledge, participation, and demographic variables. The baseline category is the sad condition. Knowledge is coded from 0 to 1, Participation is standardized. Partisan strength is based on the extremity of party attachment, coded 0(not strong) to 1 (strong). The remaining variables are dummy variables. Tests are two-tailed.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 4.2: Experimental Condition Contrasts

Internal Efficacy

	Anger	Sad	Fear	Enthusiasm
Anger	–			
Sad	p<0.025	–		
Fear	ns	ns	–	
Enthusiasm	ns	p<0.12	ns	–

External Efficacy

	Anger	Sad	Fear	Enthusiasm
Anger	–			
Sad	p<0.025	–		
Fear	ns	ns	–	
Enthusiasm	ns	ns	ns	–

Campaign Contact

	Anger	Sad	Fear	Enthusiasm
Anger	–			
	Sad	p<0.01	–	
Fear	ns	p<0.05	–	
Enthusiasm	ns	ns	ns	–

Vote Importance

	Anger	Sad	Fear	Enthusiasm
Anger	–			
Sad	p<0.025	–		
Fear	ns	p<0.001	–	
Enthusiasm	P<0.10	ns	p<0.10	–

Trust

	Anger	Sad	Fear	Enthusiasm
Anger	–			
Sad	ns	–		
Fear	ns	ns	–	
Enthusiasm	ns	ns	ns	–

Note: Contrasts vary the baseline condition for each dependent variable. The models are equivalent to table 4.1, thus controlling for knowledge, participation, and demographic variables. The baseline category is the sad condition. Knowledge is coded from 0 to 1, Participation is standardized. Partisan strength is based on the extremity of party attachment, coded 0(not strong) to 1 (strong). The remaining variables are dummy variables. Tests are two-tailed.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 4.3: Participation Results, with Covariates

Variables	Vote	Volunteer	Interest	Trust	Contact	News Interest
Anger with cue	2.17 (1.19)#	1.53 (0.82)#	1.37 (0.89)	0.05 (0.33)	1.66 (0.82)*	0.77 (0.85)
Sadness , cue	0.02 (0.52)	-0.03 (0.54)	0.53 (0.55)	-0.13 (0.37)	0.08 (0.51)	-0.47 (0.55)
Sadness, no cue	0.12 (0.55)	0.05 (0.54)	0.96 (0.58)#	0.14 (0.35)	1.0 (0.58)	0.44 (0.57)
Non-White	-1.18 (0.54)***	0.85 (0.51)#	-1.10 (0.51)*	0.05 (0.25)	0.25 (0.24)	-0.48 (0.49)
Registered	1.51 (0.47)***	-0.03 (0.45)	0.95 (0.47)*	0.12 (0.30)	0.22 (0.49)	-0.07 (0.47)
Female	0.26 (0.46)	-0.20 (0.45)	0.83 (0.46)#	-0.01 (0.26)	0.04 (0.43)	0.61 (0.45)
Partisan Strength	-0.35 (0.71)	0.17 (0.65)	0.40 (0.69)	-0.18 (0.14)	-1.56 (0.69)**	0.88 (0.70)
T1	-1.86	0.12	-1.81	-4.14	-2.05	-3.48
T2	-0.63	1.39	0.69	-1.16	-0.24	-1.41
T3	0.91	3.07	3.24	2.70	1.62	1.17
T4	–	5.27	–	–	–	–
N	82	81	82	82	81	82
Log-Likelihood	-96.66	-103.88	-88.27	-68.13	-100.37	-86.63

Note: Maximum Likelihood estimates. The baseline category is the sad condition. Tests are two-tailed #p<0.10, *p<0.05, **p<0.01, ***p<0.001

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Table 4.4: Participation Results, without Covariates

Variables	Vote	Volunteer	Interest	Trust	Contact	News Interest
Anger with cue	2.71 (1.14)***	1.63 (0.75)*	2.01 (0.83)***	-0.39 (0.87)	1.29 (0.67)#	0.97 (0.78)
Sadness with cue	-0.07 (0.51)	0.01 (0.52)	0.66 (0.53)	0.02 (0.61)	0.07 (0.50)	-0.39 (0.54)
Sadness, no cue	-0.08 (0.53)	0.11 (0.54)	0.91 (0.56)#	-0.29 (0.65)	0.81 (0.55)	0.45 (0.57)
Threshold 1	-1.52	-0.35	-1.81	-3.09	-1.67	-3.69
Threshold 2	-0.41	0.88	0.46	-1.25	0.06	-1.63
Threshold 3	0.85	2.50	2.76	2.87	1.82	0.84
Threshold 4	–	4.72	–	–	–	–
N	82	81	82	82	81	82
Log-Likelihood	-105.75	-105.36	-94.89	-70.16	-103.63	-85.50

Note: Maximum Likelihood Estimates. The baseline category is the sad condition. Tests are two-tailed.#$p<0.10$, *$p<0.05$, **$p<0.01$, ***$p<0.001$

Table 4.5: Two Stage Ordered Probit and Least Squares Results. 2000 ANES

Variables	Internal Eff	Interest	External Eff
Fear	-0.33 (0.28)	-0.08 (0.31)	-4.25 (1.32)***
Anger	0.88 (0.30)***	0.75 (0.33)**	2.29 (1.38)#
Enthusiasm	0.13 (0.09)	0.49 (0.10)***	2.30 (0.44)***
Voted in 1996	-0.007 (0.02)	0.06 (0.02)***	0.06 (0.10)
Media Consumption	0.04 (0.01)***	0.08 (0.01)***	-0.03 (0.05)
Income	0.002 (0.003)	0.003 (0.002)	0.01 (0.01)
South	0.03 (0.00)	0.03 (0.01)#	-0.20 (0.08)***
Age	-0.00 (0.00)	-0.00 (0.00)***	0.000 (0.003)
Campaign Contact	0.02 (0.001)***	0.02 (0.008)*	0.03 (0.03)
Union Member	-0.03 (0.02)	-0.03 (0.02)	-0.12 (0.10)
Non-White	0.03 (0.02)#	-0.01 (0.02)	-0.08 (0.09)
Male	0.09 (0.02)***	0.01 (0.02)	0.07 (0.08)
Religiosity	-0.005 (0.009)	-0.006 (0.009)	-0.07 (0.04)#
Catholic	0.05 (0.02)***	0.05 (0.02)**	0.03 (0.09)
Jewish	-0.07 (0.07)	-0.03 (0.07)	-0.36 (0.31)
Other Religion	0.01 (0.02)	0.004 (0.02)	0.06 (0.10)
Knowledge	0.13 (0.06)***	0.04 (0.06)	0.20 (0.25)
Partisan Strength	0.04 (0.03)	0.06 (0.03)**	0.06 (0.11)
Education	0.07 (0.02)***	0.007 (0.02)	0.29 (0.08)***
Registered to Vote	0.07 (0.03)***	0.02 (0.03)	0.35 (0.13)***
Married	-0.01 (0.02)	0.02 (0.02)	0.08 (0.07)
Community	-0.009 (0.008)	-0.01 (0.008)	-0.04 (0.04)
Unemployed	-0.04 (0.02)#	-0.03 (0.03)	-0.12 (0.08)

Table 4.5: Two Stage Ordered Probit and Least Squares Results. 2000 ANES

Homeowner	-0.009 (0.02)	0.005 (0.02)	0.12 (0.08)
Constant	0.16 (0.05)***	0.26 (0.06)***	—
Threshold 1	—	—	0.03
Threshold 2	—	—	1.13
Threshold 3	—	—	1.40
Threshold 4	—	—	2.65
N	1084	1084	1081
Sargan Statistic	$\chi^2 = 5.83, ns$	$\chi^2 = 3.23, ns$	—
Exogeneity Test	$\chi^2 = 26.65**$	$\chi^2 = 24.41***$	$\chi^2 = 36.62***$

Note: Maximum likelihood Estimates from two stage least squares for external and internal efficacy, two stage ordered probit least squares for campaign interest. All variables are coded 0 to 1 with the exception of media consumption, political awareness, age, income, and length in community. Media consumption and awareness are standardized, and length in community is the log of years one has resided in his/her community. Age is the actual age of the respondent and income is his/her income measured in increments of ten thousand dollars. #p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 4.6: Global, Passive, and Active Participation. 2000 ANES

Variables	Global	Passive	Active
Fear	-2.73 (1.69)#	-0.49 (1.40)	-2.69 (1.51)#
Anger	4.80 (1.79)***	2.74 (1.48)#	4.71 (1.67)***
Enthusiasm	0.54 (0.57)	1.11 (0.47)***	-0.006 (0.51)
Voted in 1996	0.30 (0.13)**	0.50 (0.10)***	0.22 (0.12)#
Media Consumption	0.04 (0.07)	0.05 (0.06)	0.06 (0.06)
Income	0.02 (0.02)	0.01 (0.01)	0.001 (0.01)
South	0.03 (0.10)	-0.01 (0.08)	0.009 (0.09)***
Age	-0.002 (0.004)	-0.007 (0.003)*	0.007 (0.004)#
Campaign Contact	0.27 (0.04)***	0.21 (0.04)***	0.23 (0.12)***
Union Member	-0.03 (0.02)	-0.04 (0.11)	-0.11 (0.12)
Non-White	0.13 (0.10)	0.03 (0.10)	-0.16 (0.11)
Male	0.13 (0.10)	0.06 (0.08)	0.11 (0.09)
Religiosity	0.06 (0.04)	0.04 (0.04)	0.09 (0.05)*
Catholic	0.11 (0.12)	0.03 (0.10)	0.02 (0.11)
Jewish	-0.93 (0.41)**	-0.58 (0.34)#	-0.71 (0.37)*
Other Religion	0.13 (0.13)	0.04 (0.11)	0.22 (0.12)#
Knowledge	0.25 (0.32)	0.25 (0.27)	0.02 (0.13)
Partisan Strength	0.17 (0.14)	0.34 (0.12)***	0.12 (0.13)
Education	0.20 (0.10)*	0.10 (0.08)	0.22 (0.08)***
Registered to Vote	0.86 (0.16)***	1.71 (0.16)***	0.67 (0.20)***
Married	0.03 (0.10)	0.08 (0.08)	-0.03 (0.09)
Community	-0.004 (0.05)	-0.02 (0.02)	0.009 (0.04)
Unemployed	-0.33 (0.14)**	0.15 (0.12)	-0.37 (0.13)***

Table 4.6: Global, Passive, and Active Participation. 2000 ANES

Homeowner	0.26 (0.11)	0.16 (0.09)#	0.32 (0.10)***
Constant	-0.83 (0.32)***	—	—
Threshold 1	—	1.61	2.57
Threshold 2	—	3.56	3.46
Threshold 3	—	4.86	3.99
Threshold 4	—	—	4.41
Threshold 5	—	—	4.95
Threshold 6	—	—	5.41
Threshold 7	—	—	5.76
N	1084	1084	1084
Sargan Statistic	$\chi^2 = 6.80, ns$	—	—
Exogeneity Test	$\chi^2 = 10.29 **$	$\chi^2 = 6.57\#$	$\chi^2 == 12.77*$

Note: Maximum likelihood Estimates from two stage ordered probit for active and passive participation, two stage least squares for global participation. All variables are coded 0 to 1 with the exception of media consumption, political awareness, age, income, and length in community. Media consumption and awareness are standardized, and length in community is the log of years one has resided in his/her community. Age is the actual age of the respondent and income is his/her income measured in increments of ten thousand dollars.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 4.7: Vote Importance and Trust. 2000 ANES

Variables	Vote	Trust
Fear	2.41 (1.73)	-0.59 (0.19)***
Anger	-0.89 (1.83)	0.15 (0.20)
Enthusiasm	2.31 (0.57)****	0.20 (0.06)***
Voted in 1996	0.45 (0.11)***	-0.003 (0.01)
Media Consumption	-0.09 (0.07)	0.01 (0.007)#
Income	0.00 (0.02)	-0.002 (0.001)
South	-0.006 (0.09)	-0.04 (0.01)***
Age	-0.001 (0.004)	-0.000 (0.000)
Campaign Contact	-0.06 (0.04)	0.008 (0.005)
Union Member	0.03 (0.13)	-0.02 (0.01)***
Non-White	0.03 (0.11)	0.007 (0.01)
Male	-0.13 (0.10)***	0.02 (0.01)
Religiosity	-0.04 (0.05)	-0.01 (0.005)#
Catholic	-0.04 (0.13)	0.003 (0.01)
Jewish	-0.68 (0.36)	0.03 (0.05)
Other Religion	0.04 (0.13)	-0.003 (0.01)
Knowledge	1.19 (0.32)***	0.006 (0.004)
Partisan Strength	-0.06 (0.14)	0.005 (0.02)
Education	0.18 (0.11)	0.03 (0.01)***
Registered to Vote	0.41 (0.14)***	0.01 (0.02)
Married	0.02 (0.09)	0.003 (0.01)
Length in Community	-0.02 (0.04)	-0.004 (0.005)
Unemployed	0.03 (0.14)	-0.000 (0.01)
Homeowner	0.04 (0.11)	-0.01 (0.01)

Table 4.7: Vote Importance and Trust. 2000 ANES

Constant	—	0.26 (0.04)***
Threshold 1	-0.20	0.18
Threshold 2	0.25	–
Threshold 3	0.55	–
Threshold 4	1.25	–
Sargan Statistic	–	$\chi^2 = 12.99 **$
Test for Exogeneity	$\chi^2 = 9.78 **$	$\chi^2 = 51.93 **$

Note: Maximum likelihood Estimates from two stage ordered probit for the importance attached to voting, two stage least squares for trust. All variables are coded 0 to 1 with the exception of media consumption, political awareness, age, income, and length in community. Media consumption and awareness are standardized, and length in community is the log of years one has resided in his/her community. Age is the actual age of the respondent and income is his/her income measured in increments of ten thousand dollars.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Figure 4.1: Manipulation Check. The top panel compares felt emotions across the experimental conditions. The x-axis is the advertisement participants viewed, the y-axis is the degree of emotional reaction (fear, anger, enthusiasm, and sadness) following exposure to the ad. The bottom panel compares the standardized emotion scales within each experimental condition.
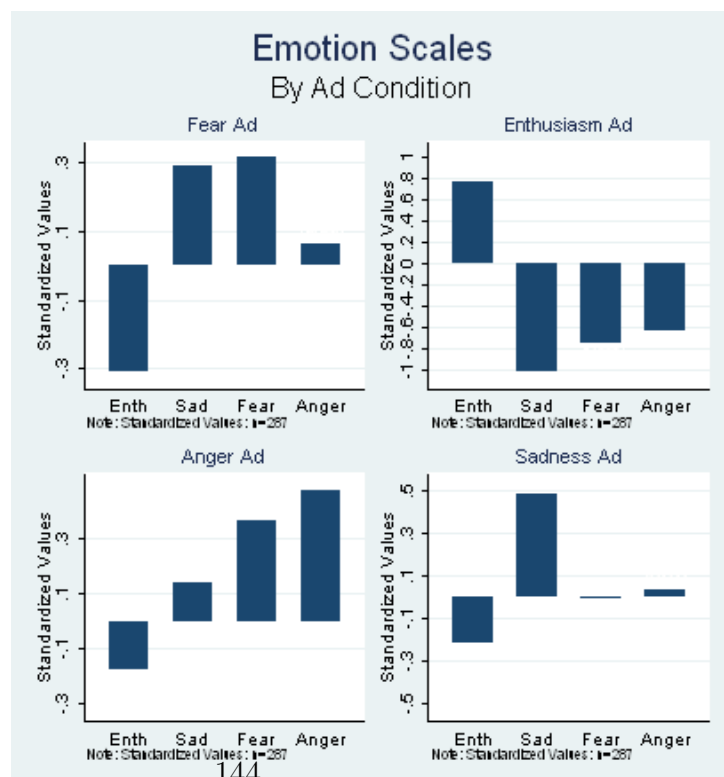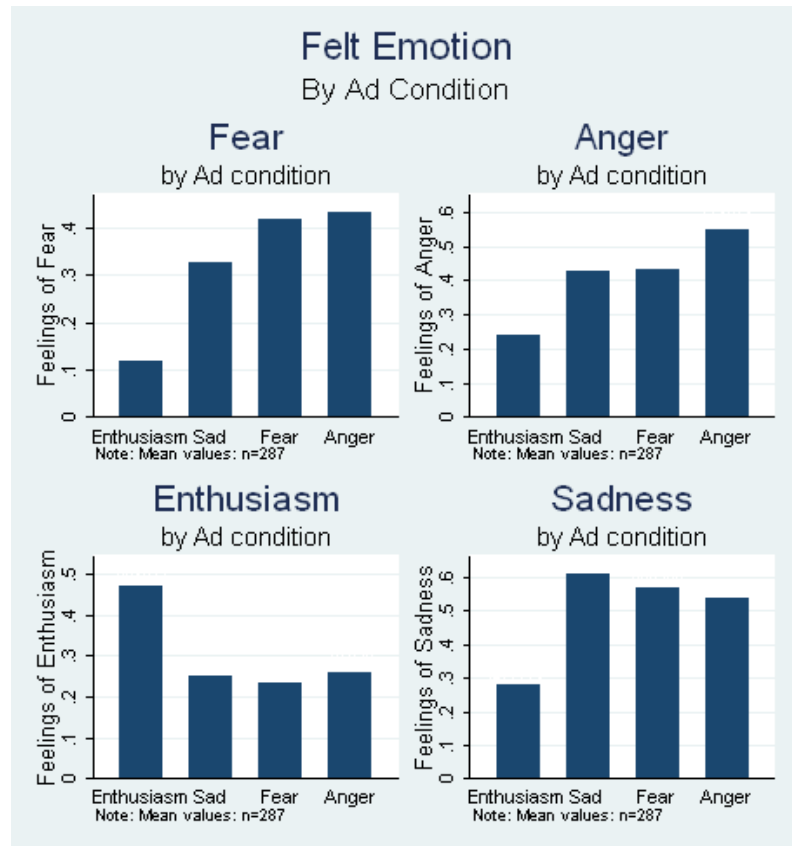
Figure 4.2: Study 1 Dependent Variables. Predicted probabilities of being in the two most extreme conditions by experimental condition

Figure 4.2: Study 1 Dependent Variables,(cont'd)

Probability of Trust in Government
by Emotion Ad Condition

Probability of Trust in Government, categories 3 and 4. n=287

Vote Importance
by Emotion Ad Condition

Probability of saying voting is important, category 4. n=287
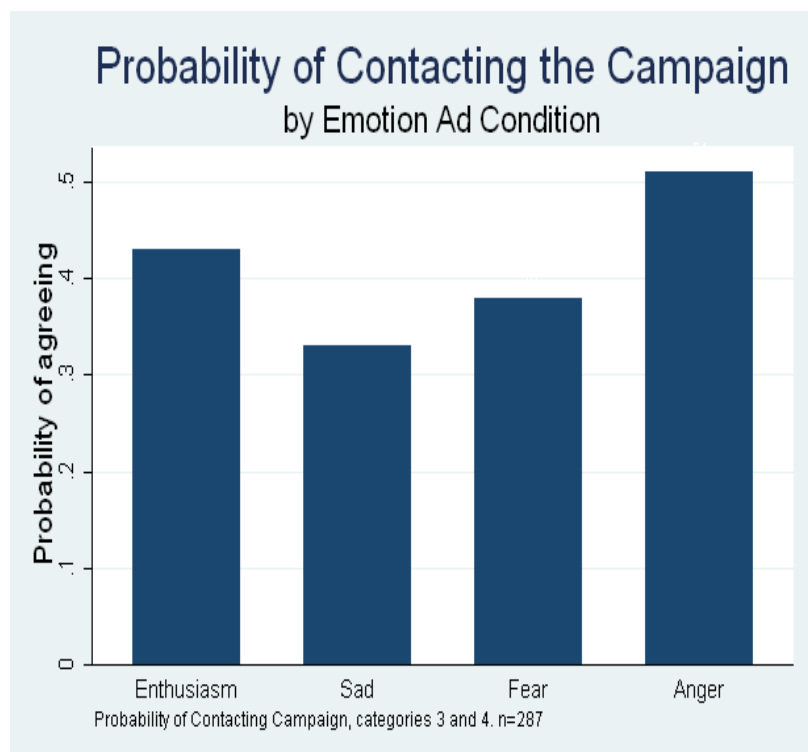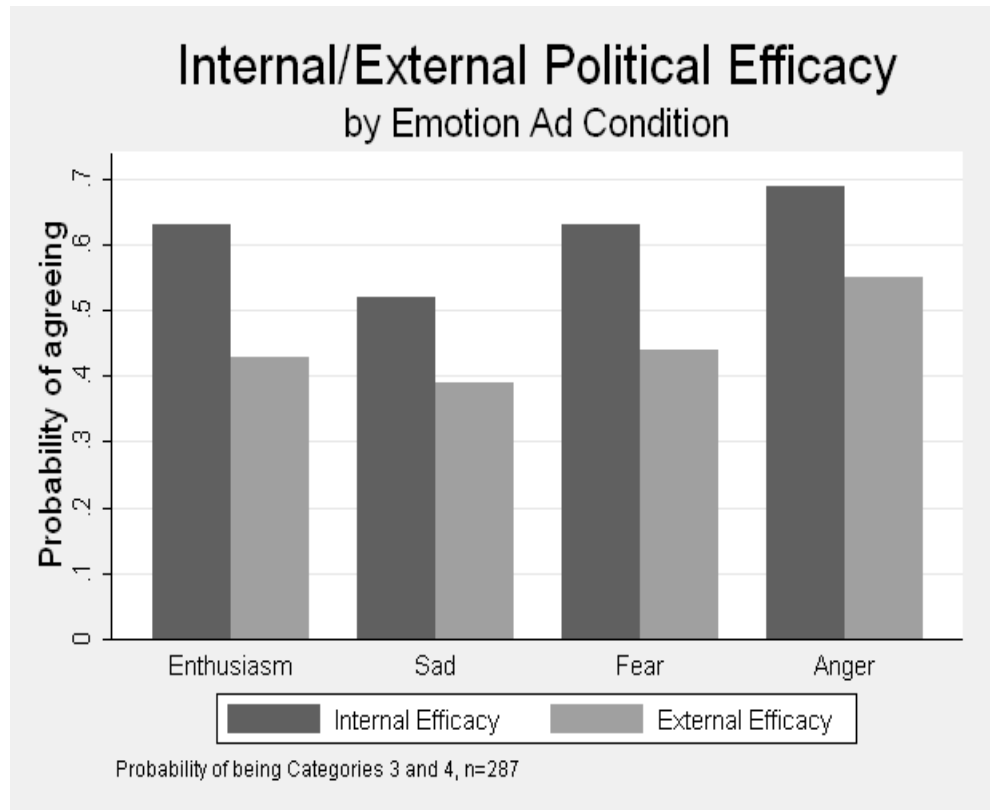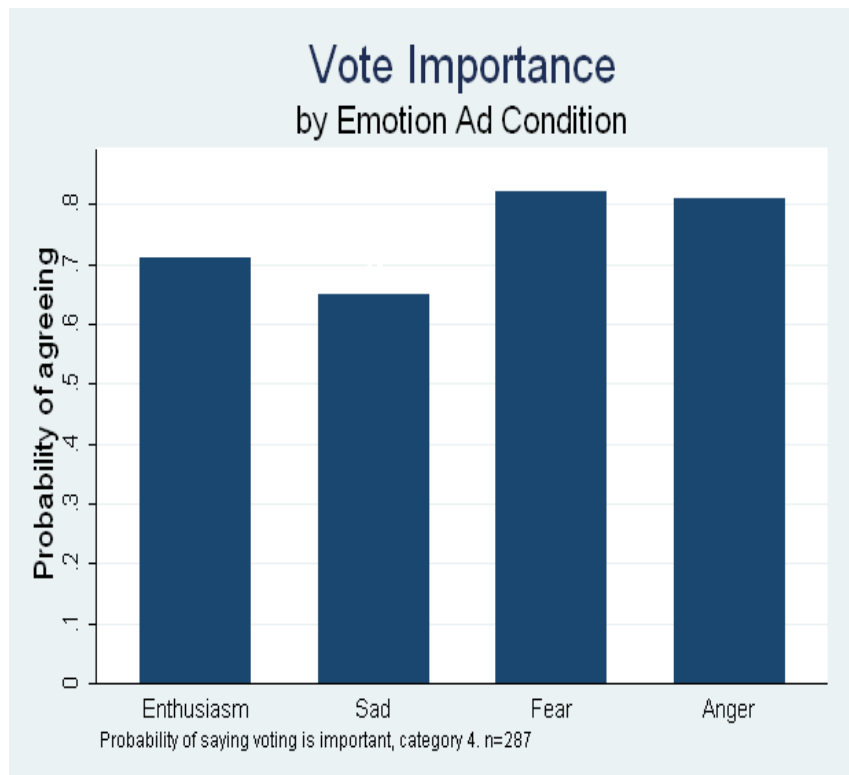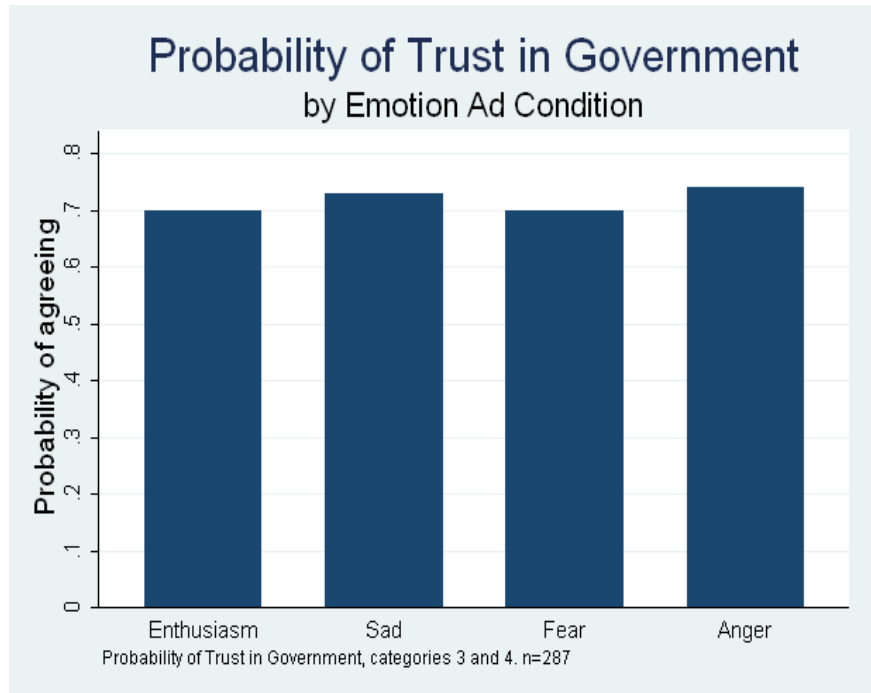
Figure 4.3: Mediation Analysis

B=0.41, se=0.11, p<0.01

Anger

B=0.14, se=0.05, p<0.01

Anger v.
Sadness Ad

Participation

B=0.13, se=0.09, p<0.10

Anger IE: 0.04, z=2.04, p<0.01
24.21% mediated.
Other emotions: non-significant
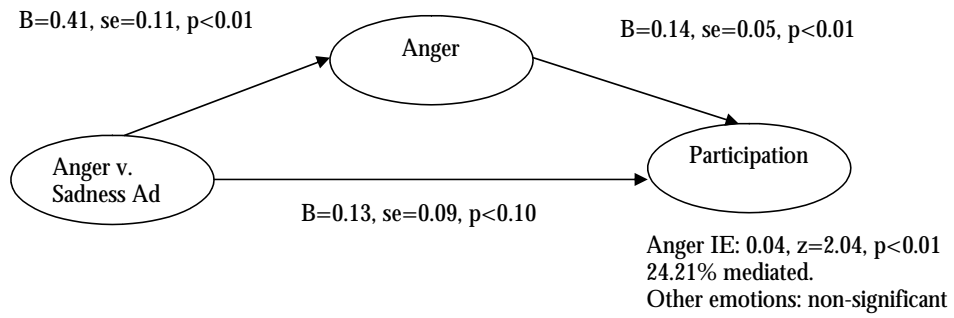
Figure 4.4: Study 2 Dependent Variables. Means by experimental conditions for internal and external efficacy. Predicted probabilities of being in the two most extreme condition for the remaining variables.

Figure 4.4: Study 2 Dependent Variables,(cont'd)

Contact the Campaign
Ads with and without audiovisual cues

Note: n=82. Predicted probabilities from ordered logit, two extreme categories

Campaign Interest
Ads with and without audiovisual cues

Note: n=82. Predicted probabalities from ordered logit, two extreme categories

Figure 4.4: Study 2 Dependent Variables,(cont'd)

Probability of Voting
Ads with and without audiovisual cues

Note: n=82. Predicted probabalities from ordered logit, two extreme categories

Probability of Volunteering
Ads with and without audiovisual cues

Note: n=82. Predicted probabalities from ordered logit, two extreme categories

Figure 4.4: Study 2 Dependent Variables,(cont'd)

News Interest
Ads with and without audiovisual cues

Note: n=82. Predicted probabalities from ordered logit, two extreme categories

Trust in Government
Ads with and without audiovisual cues

Note: n=82. Predicted probabalities from ordered logit, two extreme categories

Chapter 5

Emotions, Issue Considerations, and Ideological Polarization

Abstract

Much of the literature on emotions in political science has explored their indirect effects. For instance, negative emotions influence judgment by affecting how heavily contemporary information is weighted in information processing (Marcus et al., 2000). In this chapter, I explore the more direct consequences of emotions on specific policy beliefs- attitudes toward crime, the environment, and social welfare. I explore two hypotheses regarding the effects of emotions in these domains. Drawing again on attribution and appraisal theories, emotional states should influence how one reasons about political events. Anger, for example, should heighten the tendency to blame, facilitating *internal attributions* regarding the root causes of poverty, crime, and environmental problems; sadness and fear, on the other hand, should heighten external, systemic attributions. I also test a second hypothesis, where I contend that ideology may be a moderator of emotional expression. Given that attitudes in the explored issue domains are deeply rooted in liberal and conservative ideology, it is conceivable that the emotion manipulation will not have a direct effect on attitudes, but could influence belief certainty. This hypothesis is an extension of prior research showing that anger and enthusiasm tend to lead to greater confidence in one's beliefs, risk-seeking propensities, and belief that one can control his/her fate; sadness and fear have different effects, reducing certainty and confidence. By

extension, anger and enthusiasm should facilitate ideologically based attitude polarization, whereas sadness and fear should reduce the differences between liberals and conservatives regarding attitudes poverty, crime, and the environment. The data used in this chapter comes from a sample of 673 New York State adults who were exposed to a transcribed version of a political ad, and then given a follow up survey. In all, the results largely support the second hypothesis, suggesting that emotions are important factors when considering the structure of attitudes and ideological belief.

5.1 Introduction

The ways in which political issues are considered are critical to political strategy. Consider the issue of immigration in 2006. Conservatives cast the Bush advocated immigration plan in terms of an *amnesty frame*, eliciting fears about jobs and healthcare and anger over illegal immigrants escaping penalties for breaking the law. Moderates and liberals viewed the plan in a different way, either by endorsing the legislation or contending that it didn't go far enough. Moral issues have also been framed in numerous ways, and with differing degrees of success (Feldman and Weber, 2008). For example, Republican candidates have emphasized that abortion is the destruction of life, using terms such as *unborn child* and *baby* more frequently than the more sterile, scientific alternatives, such as *fetus* and *embryo* (Zucker, 1999; Luker, 1984). Liberals and Democrats, on the other hand, have viewed the issue in a completely different light, where abortion is a question of individual choice. The battle to influence how issues are considered has also been evident in emotionally evocative metaphors as titles for legislative initiatives- such *The No Child Left Behind Act, Contract with America, and The Death Tax* (Westen 2007; West, 2007).

The ability of elites to cast political issues in a particular light has been documented to be a strong determinant of attitudes, evident in numerous studies on

issue framing, and the contextual moderators of issue framing (Zaller, 1992; Druckman, 2004; Hartman and Weber, 2008). For example, Iyengar (1990) demonstrates that when news stories about poverty are presented *thematically*, drawing on trends in the poverty rate and changes in the government's position on poverty, individuals are more likely to attribute the cause of poverty to systemic factors, such as failing government programs and communities (see also, Gross, 2008). Contrast this to *episodic frames*, where poverty stories focus on specific instances of poverty, and individuals are more inclined to attribute responsibility to the poor person. In other words, the episodic frame entails a stronger degree of individual responsibility, whereas the thematic frame leads to attributions of social responsibility.

At the heart of how issues are considered are the causal attributions that citizens make (Iyengar, 1989/1990/1991; Nelson, 1999; Zucker and Weiner, 1993; Skitka, 1999; Weiner, 2006; Carroll, Perkowitz, Lurigio, and Weaver, 1987). A consistent finding in political psychology has been that attributions regarding political and non-political events shape experienced emotions, as well as subsequent behaviors (Weiner, 2006). Iyengar (1989/1990), for example, demonstrates that attributions structure political attitudes and motivate vote choice. By examining how individuals reason about public security and social welfare, he finds considerable variation, and this variation roughly collapses to individual and social factors. For example, for racially inequity and poverty, roughly 70% of Iyengar's sample of his sample cited social conditions: "*economic conditions, institutional or cultural barriers (such as racial prejudice), and inadequate or failed government efforts*" (Iyengar, 1989, p. 882). However, an additional, dispositional category, accounted for a large portion of variance in attributions, where a number of people drew on individual character flaws, laziness, and inadequate education as causes of social problems. Other scholars have suggested that this attributional structure- individual versus societal-is deeply embedded in the American political culture, such that individualism and the protestant work ethic often coexist with egalitarian and humanitarian values

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(McCloskey and Zaller, 1984; Katz and Hass, 1988; Kluegel and Smith, 1986).

The distinction between individual and social attributions has been used to explain beliefs in an array of domains, from beliefs towards racial groups (Nelson, 1999), to moral attitudes (Zucker and Weiner, 1993), and even to beliefs about obesity (Skitka, Mullen, Griffin, Hutchinson, and Chamberlain, 2002). As an example, roughly half the items in the racial resentment scale draw on individual attributions ("Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up") versus external attributions ("Government officials have paid less attention to a request or complaint from a black person than from a white person"). Nelson (1998) finds that attitudes towards affirmative action are strongly related to endorsing internal or external attributions for poverty, echoing previous work by Kluegel and Smith (1986). As Nelson notes, "while few would deny the historical relevance of prejudice and racism; what citizens must resolve is whether or not social pressures continue to impede blacks' progress" (p.355).

The divergence in individual and social attributions has also been used to understand the structure of conservative and liberal political beliefs, as well as social behaviors more generally (Skitka et al., 2002; Weiner, 1986/2006). Consider how liberals and conservatives would differ in their reactions to the following questions: *What causes poverty? Why do some individuals turn out to be criminals, while others do not? Why are income disparities in the US greater than other post-industrialist cultures?*

An Attribution Theory of Ideology

The central premise of attribution theory is that humans have an innate motivation to understand the underlying causes of social events. In over three decades of work, and hundreds published articles later, Weiner and colleagues have uncovered three dimensions underlying attributions: locus (internal/external), stability (constant, unstable), and controllability (whether the event can controlled) (for an

extensive review, see Rudolph, Rosch, Greitemeyer, 2004 meta analysis). Stemming from work on educational achievement, locus of cause refers to whether an outcome originates from internal or external factors- for instance, is failure due to a teacher that doesn't like the student (external) or because the student lacks ability (internal). Control is the degree to which an outcome is "volitionally alterable". Using the previous example, can failure be attributed to lack of effort or was it due to bad luck? Oftentimes, control and responsibility are analytically inseparable, confounded by the notion that if something is internal (e.g., ability), it also tends to be controllable. Finally, causal stability is the probability that an outcome will persist in the future. Failure due to lack of intelligence is a stable outcome, failure due to sickness and the inability to study is an unstable outcome.

One need not look far for political analogues to these dimensions. Consider attitudes towards the environment. In a 2005 an ABC/Washington poll Americans were asked how much personal *control* they have regarding environmental problems: "Do you think the hurricanes this country has been experiencing is a deliberate act of God, or an occurrence on God's earth, but not a deliberate act of God", with 23% stating that hurricanes were a deliberate act of God. Regarding *locus of cause*, a CNN poll found that 22% of the population believes that global warming is an unproven theory and cannot be attributed to emissions and industrial facilities. Similarly, a 2007 FOX/opinion dynamics poll found that 46% of Americans believe global warming can be attributed to human activities. And finally, *stability* in reference to environmental attitudes can be assessed with the degree of certainty and likelihood that issues such as global warming will be realized: "Thinking about what is said in the news, in your view, is the seriousness of global warming generally exaggerated, generally correct, or is it generally underestimated?", with 33% saying generally exaggerated, 29% saying generally correct, and 35% saying generally underestimated (2007 Gallup Poll). In other words, stability approximates the notion of risk that (1) environmental problems are real and will occur, and (2) that one

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will be affected by environmental problems.

Beyond anecdotal evidence, attribution theory has been used to systematically explore American ambivalence toward moral issues such as abortion (Zucker, 1999). When unwanted pregnancy is perceived to be outside of the woman's control, due to rape, for example, a vast majority of Americans approve of the practice; when this is contrasted to unwanted pregnancy due to failure to use birth control, fewer Americans approve. Conservatives tend to draw heavily on individual responsibility and control when considering social issues, often resulting in preferences for reduced government outlays for social programs. Liberals, on the other hand, demonstrate greater internal conflict between attributions of individual versus social responsibility, but tend to ultimately gravitate to the position that systemic factors reside at the heart of many social problems (Skitka and Tetlock, 1992/ 1993; Skitka, 1999; Sahar and Karsawa, 2005; Skitka et al., 2002). According to this view, attributional styles are the proximal consequence of ideological scripts, where liberalism facilitates external attributions and conservatism leads to internal attributions.

Brickman (1982) elaborate on how attributions influence preferences for social policy by deriving four attribution linked typologies- the *moral model, the medical model, the compensatory model, and the enlightenment model.* The model ascribed to is determined by the varying degrees of personal responsibility for social problems, as well as how much blame is placed on an individual. The moral model posits that the individual is the cause of social problems, and as such, these individuals are responsible for a solution. For example, beliefs about the criminal justice system frequently invoke the moral model, holding the criminal responsible for his past actions, as well as providing some form of restitution to victims and/or society (Brickman, 1982; Iyengar, 1989). The compensatory model follows from the notion that people are not individually responsible for the event, but are held accountable for a particular solution. Returning to the issue of crime, support for this model comes from preferences for criminal rehabilitation by having the individual to take responsibil-

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ity for his actions and develop strategies to prevent recidivism. The medical model contends the individual is neither responsible for the problem, nor for the solution. For example, crime may be attributed to systemic factors and institutional barriers, requiring social, rather than personal, reform. And finally, the enlightenment model holds that people are not responsible for solving a problem, but are to blame for the problem. This is provided as justification for imprisonment, where a community of criminals provides the "discipline and self-control they lack" (Brickman, 1982, p. 380).

Enter Emotions

According to attribution theory, emotions mediate the relationship between attributions and behavior (Weiner, 2006; Brickman, 1982; Weber and Cassese, 2007). For instance, Skitka (1999) extended attribution theory to deservedness of federal aid following a natural disaster. Individuals believing that victims were responsible for their own plight were far more likely to experience anger and favor far less federal aid being allocated. Individuals believing that the event was beyond the control of the victim, however, were more sympathetic and supportive of assistance. Extended to political ideology, Zucker and Weiner (1993) find that conservatives tend to endorse individualistic attributions regarding poverty, are more likely to experience anger at welfare recipients, and subsequently, favor reductions in welfare spending. The opposite pattern was observed for liberals. By this account, emotional variation can be explained by different patterns of attributions. Anger, for instance, is associated with elevated perceptions of personal control, attributing blame to an individual or set of individuals, and believing that an event is certain to occur (Lazarus, 2001; Berkowitz and Harmon-Jones, 2004); sadness and sympathy, on the other hand, stem from beliefs that an event cannot be prevented and is caused by something external to the individual.

There are clear linkages between attribution and appraisal theories of emotion.

As detailed in previous chapters, appraisal theory has uncovered six dimensions of evaluations underlying emotional reactions: certainty, pleasantness, attention, control, effort, and responsibility. Applied work has shown that only four of these factors differentiate negative emotions: control, responsibility, certainty, and attention (Smith and Ellsworth, 1985). The dimensions that explain the bulk of the variance in the emotions I explore are mainly differentiated by control, responsibility, and certainty. These dimensions closely parallel the three dimensions outlined in attribution theory: locus of cause (responsibility), controllability, and stability (certainty). Thus, to maintain consistency with previous chapters, I shall refer to attributions as control, responsibility, and certainty.

The notion that specific emotions are related to a unique pattern of appraisals should have implications for political behavior and communications. Feelings of anger or enthusiasm should make salient perceptions of control, individual responsibility, and certainty. As such, these emotions should heighten individualistic and disposition-based attributions when thinking about the causes of social problems. Sadness and fear, by their association with lacking control, situational responsibility, and uncertainty, should facilitate external, systemic attributions. I test the following hypothesis: *Anger and enthusiasm should enhance dispositional attributions when considering social issues; sadness and fear should enhance systemic attributions.*

Appraisal theorists have also demonstrated a robust relationship between discrete emotions and risk assessments, with fear leading to pessimistic assessments and anger leading to optimistic risk-assessments and elevated risk-seeking propensities (Lerner and Keltner, 2000/2001; Lerner et al., 2003; Lerner and Gonzalez, 2004; Fischoff, Gonzalez, Lerner, and Small, 2005). Lerner and Keltner (2000) found that anger attenuated estimates as to the number of deaths per year due to factors such as cancer, strokes, floods, whereas fear elevated these assessments. Subsequent work demonstrated that this was mediated by perceptions of certainty and control over the situation (Lerner and Keltner, 2001). Leonie Huddy and colleagues find unique

effects of anger versus anxiety, demonstrating that fear and anxiety about terrorism led Americans to favor an isolationist posturing with respect to Iraq, whereas anger led to a preference for military intervention (Huddy et al., 2007). Lerner and Tiedens (2006) suggest that this occurs because anger enhances belief certainty and perceptions of control over the situation. Sadness and fear, however, reduced belief certainty.

In the persuasion literature, anger has been linked to a greater tendency to process information heuristically, attending to peripheral cues such as the source of the message (Bodenhausen et al., 1994; cf., Moons and Mackie, 2007). Sadness, however, is linked to more effortful, systematic processing (Small and Lerner, 2008). These findings are congruent with the notion that anger enhances certainty and confidence in one's beliefs, whereas sadness reduces these perceptions. With this in mind, a second hypothesis I test is whether the effects of emotions are moderated by variation in ideological commitment. It is possible that there may not be a main effect of emotions on judgment because the issues I use are deeply entrenched in ideological commitments. It has been widely documented that ideology and attributional tendencies are intertwined, with conservatives drawing heavily dispositional attributions, blaming social issues such as poverty on lack of moral standards and laziness; liberals, on the other hand, are more inclined to draw on systemic factors, such as unjust social practices and institutional barriers to equality (Weiner, 2006). However, particular emotions may also influence the degree of certainty people have in their beliefs. Enthusiasm and anger have been shown to enhance perceptions of certainty, often leading to optimistic views of the future and risk seeking behavior; sadness and fear, however, tend to reduce certainty, leading to a heavier reliance on contemporary information. For this reason, ideology may moderate the effects of emotional advertisements in the explored issue domains. Put another way, *anger and enthusiasm should facilitate polarization between liberals and conservatives, whereas sadness and fear should reduce belief differences.*

5.1.1 Study Design

A paper-and-pencil survey was administered to 673 New York State adults. All the data were collected in the fall of 2006 and spring of 2007 by a set of 25 trained interviewers instructed to seek out participants at coffee shops, bus-stops and trains, places of employment, and via door-to-door solicitations, with specific instructions that surveys were to only be completed in areas with minimal distractions. All interviewers were instructed that they were not to collect data from college students, family members, friends or close acquaintances. Also no more than several completed surveys were to be collected from a single town or New York City borough, and participants were given particular quotas to meet in order to maximize diversity. To ensure compliance, meetings were held with interviewers during several periods of data collection, and phone calls were made to a randomly selected list of participants to ensure the required parameters were met. Interviewers only sought out participants from New York State. Surveys were completed in cities and towns throughout the state, ranging from upstate New York, to Manhattan and the surrounding boroughs, to Suffolk County, Long Island. Table 5.1 demonstrates that the sample roughly approximates that of New York State, with the exception of my sample being more educated and under-representing African-Americans. Entries are descriptive statistics from my sample relative to the 2000 Census and 2000 American National Election Studies (ANES). The sample, while being one of convenience and not a simple random sample, proved relatively diverse, with characteristics approximating that of New York State. Finally, interviewers were instructed to keep detailed record of those that refused to complete the survey. In total, 1080 participants were approached to participate, leading to a response rate of roughly 66%.

[INSERT TABLE 5.1]

All participants were told they would be completing a 20-30 minute survey meant to gauge how people think about political issues and campaign advertise-

ments. Three-quarters of the data were collected at the height of the 2006 midterm campaigns (late September to late October), lending topical relevance to the survey. On the first page of the survey, participants were instructed that they would see a transcribed version of a television advertisements released in New York's 28th Congressional District. They were then told the race was a close contest between the incumbent, John Wilkins, and a number of promising challengers. Participants then were randomly assigned view one of eight advertisements, meant to elicit anger, sadness, enthusiasm, or fear that focused on crime or the environment. The study followed a 2 (Ad's Issue appeal: Crime, Environment) x 4 (Emotional Appeal: Enthusiasm, Sadness, Fear, Anger) between subjects factorial design. While the ads obviously lacked an audio element, care was taken in selecting high-resolution images from previous state, local, and federal campaigns. Similarly, the advertisements shown were drawn from a list of 30 advertisements sufficiently pre-tested and found to evoke the targeted emotion. Participants were told to pay close attention to the ad, read all the text and look at all the accompanying images, and imagine that they were watching the ad on television. Following this, participants were to proceed immediately to the survey, which included a number of questions about crime, the environment, poverty, and demographic characteristics.

The post-manipulation survey included a host of questions about attributions in these three issue areas. For example, questions on the environment focused on the core causes of environmental degradation, ranging from lack of government effort and corporate pollution to the notion that environmental problems, such as global warming, are naturally occurring events that cannot be controlled. Questions were also asked regarding the inherent risk of environmental catastrophes, the ability to manage environmental problems, and the urgency of environmental issues. For example, "In general, would you say that environmental issues like global warming and the depletion of the ozone layer are extremely dangerous, somewhat dangerous, or not at all dangerous to you and your family?" For crime, similar attribution

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questions were asked. Given previous work on the structure of attributions in this domain, questions were constructed according to Weiner's (1986) identified attribution dimensions: (1) internal versus external to the criminal (e.g., "Only evil people commit crime", "Crime in this country is caused by poverty", (2) intentional or uncontrollable (e.g., "How much influence do communities have on crime", and (3) certainty, which I operationalized as risk and salience ("How important is the issue of crime", "Can the government manage the crime rate". Several additional questions were asked to measure global beliefs about punitiveness, sentencing, and spending on anti-crime legislation (Carroll et al., 1987). Finally, a battery of questions were asked regarding attributions for poverty also designed to fall on attribution dimensions (e.g., "Poverty is due to bad luck", "Poverty is due to lazy people not wanting to work". The questions are included in the appendix.

5.2 Results

Manipulation Check

[INSERT FIGURE 5.1]

To compare whether the mean level of anger, fear, sadness, and enthusiasm vary by condition, I ran four 4 x 2 ANOVAs (there are four dependent variables of interest: feelings of fear, anger, sadness, and enthusiasm). A significant two- way interaction indicates that felt emotions differ by the emotion appealed to in the ad, as well as the ad's issue appeal. For instance, it is possible that an ad about the environment designed to evoke anger, elicits more anger than an anger evoking message about crime. For the four felt emotions, a main effect emerged regarding the emotional appeal of the message ($Fear : F[3, 660] = 22.71, p < 0.01; Anger : F[3.363] = 11.26, p < 0.01; Sadness : F[3.644] = 9.94, p < 0.01; Enthusiasm : F[3, 664] = 32.88$). For two of the four emotions- Anger and Fear- there was also a main effect of the issue appeal ($Anger : F[1, 663] = 4.57; Fear : F[1, 347] = 3.36, p < 0.10$), such that both anger

and fear were considerably higher in the environment condition (M=0.33, M=0.39, respectively), relative to the crime condition (M=0.33,M=0.32, respectively). These omnibus ANOVAs also indicated a significant two-way interaction in three out of the four models ($Anger : F[3, 363] = 4.75, p < 0.01; Sadness : F[3, 664] = 0.31, ns; Enthusiasm : F[3, 664] = 2.68, p < 0.05; Fear : F[3, 360] = 1.17, p = 0.11$). To parse out these effects, I use simple effects with complex contrast weights. Contrast analysis is appropriate in this context because there are more than two treatments for the emotion ad condition. As such, a (non)significant F value fails to indicate whether the effect is driven by condition 1 versus condition 2, condition 1 versus condition 3, condition 2 versus condition 3, and so forth. Weights were generated to explore complex effects on the means by experimental condition (Rosenthal et al., 2000). The first set of contrasts I test is that of emotional valence, where the enthusiasm ad was compared to the mean of the anger, sadness, and fear ads on reported emotions.

Beginning with the simple effects of the crime ads on reported fear, the experiment was found to have a significant effect ($Omnibus\ F[3, 312] = 13.67, p < 0.01$). Testing the valence contrasts ($\psi = 3, -1, -1, -1$) reported fear was greater for participants in the anger/ sadness/and fear ads than for those exposed to the enthusiasm ad ($F[1, 312] = 30.56, p < 0.01; SS_{remaining} = 0.70, F_{remaining}(2, 312) = 5, p < 0.01$). The remaining effect was driven by a significant difference between the anger/fear ads with respect to sadness ($\psi = 0, -2, 1, 1; F[1, 312] = 7.09, p < 0.01$), though the difference between anger and fear was only marginally significant ($\psi = 0, 0, 1, -1; F[1, 312] = 2.0, p = 0.15, t = 1.34, p < 0.10, one - tailed$). The anger ad also significantly differed in reported anger relative to the sadness ad ($t = 2.88, p < 0.001, one - tailed$). A similar pattern was found for the environment ad with respect to reported fear ($Omnibus\ F[3, 348 = 11.49, p < 0.01$). The valence contrast was again significant ($F[1, 348] = 38.49, p < 0.01; SS_{remaining} = 0.23, F_{remaining}(2, 348) = 1.55, p < 0.10$). The difference between anger and fear was

significant ($t = 1.68, p < 0.05, one-tailed$); though the fear and sadness conditions did not significantly differ.

Turning now to the effects of the manipulations on reported anger, the crime ads had a significant effect ($Omnibus\ F[3, 314] = 27.05, p < 0.01$)[23]. The valence contrast was significant ($F[1, 314] = 79.89, p < 0.01; SS_{remaining} = 0.08, F_{remaining}(2, 314)=1.14$, ns)[24]. No other contrasts were significant. This was not the case for the environment ads. The valence contrast was significant ($F[1, 349] = 68.78, p < 0.01; SS_{remaining} = 1.71, F_{remaining}(2, 349) = 10.69, p < 0.01$), as was the contrast between anger/fear and sadness ($F[1, 349] = 5.01, p < 0.05; SS_{remaining} = 1.33, F_{remaining}(1, 349) = 16.63, p < 0.01$), and anger and fear ($F[1, 349] = 15.12, p < 0.01$), but the anger and sadness ad elicited comparable levels of anger ($t = 0.03, ns$).

As for the crime ads on reported sadness, the experiment again had a significant effect ($Omnibus\ F[3, 315] = 19.55, p < 0.01$). Again, the valence contrast was significant ($F[1, 315] = 56.5, p < 0.01; SS_{remaining} = 0.18, F_{remaining}(2, 315) = 1.28, ns$). The remaining contrasts were non-significant. In other words, the crime ad was relatively ineffective at getting participants to distinguish among negative emotions. Participants were better able at discriminating among emotions in the environment ad condition ($Omnibus\ F[3, 349] = 19.55, p < 0.01$). The valence contrast was significant ($F[1, 349] = 74.13, p < 0.01; SS_{remaining} = 0.66, F_{remaining}(2, 349) = 4.71, p < 0.01$), as was the contrast between sadness and anger/fear ($F[1, 349] = 4.06, p < 0.05; SS_{remaining} = 0.37, F_{remaining}(1, 349) = 5.29, p < 0.01$), and sadness and fear ($F[1, 349] = 4.70, p < 0.01$). Sadness was also greater following the sadness ad relative to the anger ad in the environment condition ($t = 2.82, p < 0.05$). Thus, it would seem that the environment ads were much more effective in evoking a discrete emotion than the crime ads.

Finally, enthusiasm was comparably higher for the enthusiasm ad relative to the negative emotion ads in the crime ad condition($omnibus F[3, 315] = 18.59$;

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[23]All footnotes can be found at the end of chapter 7

valence contrasts, $\psi = 3, -1, -1, -1 : F[1.315] = 41.58, p < 0.01; SS_{remaining} = 0.71, F_{remaining}(2, 315) = 7.0, p < 0.01$). T-tests revealed that enthusiasm was greater in the enthusiasm ad relative to the fear ($t = 2.89, p < 0.01$), sadness ($t = 6.72, p < 0.01$), and anger ($t = 4.95, p < 0.01$) ads . The same pattern emerged for the environment ads ($Omnibus\ F[3, 349] = 17.02, p < 0.01; valence\ contrasts, \psi = 3, -1, -1, -1 : F[1.349] = 41.41, p < 0.01; SS_{remaining} = 0.49, F_{remaining}(2, 315) = 4.9, p < 0.05$) . And a series of t-tests again revealed significant differences in enthusiasm for the enthusiasm ads relative to the negative emotion ads (enthusiasm ad v. fear ad, t=3.82; enthusiasm ad v.sad ad , t=4.32; enthusiasm ad v. anger ad, t=4.95).

In sum, the emotion manipulation was quite effective in evoking the correct emotion, especially for individuals exposed to advertisements about the environment. For the environment ad, the manipulation checks indicate that the sadness manipulation was the least discrete, such that sadness, fear, and anger followed from this ad. Despite the lack of precision, this shouldn't pose a problem in comparing groups in subsequent analyses. Although this ad evoked multiple emotions, it was the only one to evoke the highest degree of the targeted emotion, sadness. The overlapping emotions evoked from this ad should actually pose a more conservative test of sadness versus anger, for example. As for the crime ads, participants had a difficult time discriminating among negatively valenced emotions, which may render any conclusions about the emotional impact of these messages less precise.

As presented in chapter 4, another way to demonstrate that the intended emotion was the actual emotion elicited in the ad is to standardize scores on each scale (across experimental conditions), exploring whether the targeted emotion was in fact evoked *within* each condition. The standardized values plotted across the experimental conditions are shown in figure 5.2. In all cases, except for crime/fear ad, the intended emotion was evoked by each advertisement above. Given considerable certainty that the manipulation evoked the expected emotional response, especially in the

environment ad condition, and that these responses are somewhat distinct, I now turn to the effects of the emotion manipulation on patterns of attributions regarding the root causes of crime, poverty, and environmental issues.

5.2.1 Testing the Attribution Hypothesis

The emotions identified in figure 5.1 should have implications for the attributions people make regarding the core causes of social and political problems. For example, internal attributions should be greater when in an angry emotional state than when in a sad or fearful state. To further explore the structure of how people reason about social issues, I conducted several exploratory factor analyses.

To explore the structure of attributions for environmental problems, an exploratory factor model was run (and factors with eigenvalues greater than 1 were retained). This led to a four factor solution, followed with an oblique (quartimin) rotation. In initial tests, some of the items failed to cleanly load on the identified dimensions and were subsequently excluded from this analysis. Of the 17 items meant to assess environmental attributions, 15 cleanly loaded on one of four retained dimensions. The two items that failed to load on either dimension were - "Other countries are to blame for environmental problems" and "We worry too much about prices and jobs and not enough about the environment". As noted in table 5.2, the first dimension converges with the idea that environmental problems are caused by humans and can be prevented. This is similar to the control dimension found by attribution theorists. The second and fourth dimension broadly define attributions of responsibility, specifically, external attributions (e.g., Environmental problems are caused by ineffective government programs) and internal attributions (e.g., How much influence do your actions have on the quality of the environment). The third dimension taps a sense of certainty or risk that environmental problems are serious and harmful to oneself and one's family. The dimensions are moderately correlated, with the strongest correlation between the prevention and internal attri-

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bution factors ($\Gamma = -0.54$), though the correlations for the remaining factors were also substantial, all having Γs greater than $|0.30|$.

[INSERT TABLE 5.2]

Following this structure, additive scales were created corresponding to each of the four dimensions (Prevention: alpha=0.73 , External Attribution: alpha=0.70 , Certainty/Risk: alpha=0.76 , Internal Attribution: alpha=0.61). Because three of the scales (Internal Blame, External Blame, and Risk/Certainty) included items on varying metrics, I chose to standardize each scale to facilitate interpretation. The prevention scale, however, was rescaled from 0 to 1, since the three questions used were measured from 1 to 4 and with similar response options. High scores for all these scales indicate agreement with the construct - i.e., environmental problems can be prevented, they can be blamed on Americans and oneself (internal attributions), environmental problems can be attributed to government and businesses (external attributions), and environmental problems are important and pose a threat (certainty/risk).

Regarding the structure of attributions for crime, the same factor analysis with an oblique rotation was conducted, and factors were retained with eigenvalues greater than 1. This resulted in a three factor solution: one corresponding to internal attributions, a second corresponding to external attributions, and a third corresponding to cultural attributions. Internal attributions were anchored by person-based factors - e.g., "People break the law because they don't want to make an honest living." However, two systemic-oriented factors were retrieved, one corresponding to external attributions, where family income and poverty are believed to be the cause of crime; and the other corresponding to cultural and community oriented attributions, such as "How much influence do you think good teachers and schools have on preventing people from turning to crimes." The structure is similar to Cozzarelli, Wilkinson, and Tagler's (2001) finding that attributions for poverty fall along three related dimensions (see also, Zucker and Weiner, 1993). The three factor solution is shown

in Table 5.3. The correlations between factors was marginal, with the strongest correlation being between external and cultural attributions ($\Gamma = -0.18$). Following this structure, additive scales were created (External Attributions: $r_{polychoric} = 0.64$, Internal Attributions: alpha=0.55 , Cultural Attributions: alpha=0.65). The low reliability for internal attributions is disconcerting, but because the items are moderately correlated and cleanly load on only one dimension, I chose to create a scale rather than analyzing each item separately. Because two of the scales (Internal and Cultural attributions) included items on varying metrics, these scales were standardized. The external attribution scale was recoded to range from 0 to 1. Again, high scores denote external attributions, internal attributions, and cultural attributions, respectively.

[INSERT TABLE 5.3]

Finally, for poverty, only two dimensions emerged, corresponding roughly to an internal and external dimension. The external dimension was anchored by items such as "Poverty is caused by industry not providing enough jobs", "The Government should be doing more to deal with poverty"; the internal dimension was anchored by items drawing on individualism and the protestant work ethic: "All in all, income differences are justified", "Luck has nothing to do with poverty", and "Anyone can live well in America." Several items failed to load on either dimension and were subsequently excluded form further analysis: "It is wishful thinking to believe that poverty can be reduced" and "poverty is caused by inadequate education opportunities". The two factors were highly correlated ($\Gamma = 0.63$). Two scales were generated, one from the six items that loaded on the external attributions factor (alpha=0.67), and the second was generated from the remaining five items that loaded on the internal attributions (alpha=0.57) factor. These scales, too, were standardized.

[INSERT TABLE 5.4]

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To examine whether environmental attributions vary by the emotional ad participants were exposed, several 4 (Emotion Ad: Enthusiasm, Sadness, Fear, Anger) x 2 (Issue: Crime, Environment) ANOVAs were conducted. The effect of the two-way interaction was non-significant for all four scales, and no lower order main effects emerged, with the exception of one main effect of the Emotion Ad condition on internal attributions ($F[3, 665] = 2.07, p < 0.10$). Given the non-directional nature of these tests, contrast analysis was conducted using weights such that anger and enthusiasm should enhance the belief that environmental problems can be prevented, that environmental problems should be blamed on government and business (external attributions), and that environmental problems are certain to occur. For internal attributions, anger and enthusiasm should attenuate scores on this scale, given that anger often leads people to attribute blame to others, rather than taking personal responsibility. According to both appraisal and attribution theories, the exact opposite pattern should emerge for sadness and fear. I test this in two ways: (1) on the main effect of the ad's emotional appeal, as well as the Ad Issue x Emotion Ad interaction. The weights corresponding to the main effect were: ($\psi_{Ad\ Emotion} = 1, -1, -1, 1$). The effects of these contrasts on the four substantive factors were all non-significant. Two sets of orthogonal weights were generated corresponding to the notion that only the crime ad, or only the environment ad, would have the expected effects ($\psi_{Crime} = 1, -1, -1, 1, 0, 0, 0, 0; \psi_{Environment} = 0, 0, 0, 0, 1, -1, -1, 1$). The only significant effect to emerge was for the environment contrast on internal attributions ($F[1, 665] = 4.3, p < 0.05$), accounting for roughly half or the explained variance ($SS_{remaining} = 3.79, F[5, 665] = 0.86, ns$). Thus, with the exception of internal attributions, it appears that attributions regarding environmental problems were not directly affected by the manipulations themselves.

The identical analysis was then conducted with respect to crime attributions. Several 4 (Emotion Ad: Enthusiasm, Sadness, Fear, Anger) x 2 (Issue: Crime, Environment) ANOVAs were conducted, followed with contrast analyses. For the om-

nibus tests, there were no significant lower order or interactive effects ($ps > 0.2$). The same a priori weights were again used testing whether the main effect and/or interactive effect followed a pattern where anger and enthusiasm should lead to internal attributions, and sadness and fear should facilitate external and cultural attributions. Testing the main effect on the three attribution scales ($\psi_{Ad\ Emotion} = 1, -1, -1, 1$), none of the effects were significant.. The orthogonal weights for the interaction-($\psi_{Crime} = 1, -1, -1, 1, 0, 0, 0, 0; \psi_{Environment} = 0, 0, 0, 0, 1, -1, -1, 1$)- only resulted in a significant effect of the environment weights on external attributions, (F[1, 650]=4.3, $p < 0.05$), accounting for 30% of the explained variance ($SS_{remaining} = 0.24, F[5, 650] = 1.41ns$). The only supporting evidence for the attribution hypothesis was an effect of the environment ads with respect to external attributions. For these ads, external attributions were considerably lower in the anger (M=0.59) and enthusiasm (M=0.55) conditions relative to the sadness (M=0.68) and fear (M=0.68) conditions.

As for internal attributions for poverty, a significant main effect of Emotion Ad was found ($F[3, 665] = 4.27, p < 0.01$). The contrast weights used above for the main effect of the ad ($\psi_{Ad\ Emotion} = 1, -1, -1, 1$) was non-significant. In fact, the means go in unexpected directions, with fearful people making internal attributions (M=0.16), followed by anger and enthusiasm (M=0.01, 0, respectively), and sadness (M=-0.16). Both interaction contrasts were non-significant ($ps > 0.2$).

Finally, I explore whether the treatment conditions influenced global preferences for spending in these three domains. Three questions were administered asking whether spending should be increased or decreased on the environment, welfare, and anti-crime initiatives, where high scores denote preferences for *decreased* spending. Again, no consistent effects emerged. The omnibus F-tests demonstrated no significant effect, and all sets of contrasts were non-significant.

In all, there appears to be little support for the idea that emotional ads fundamentally change the weights attached to particular considerations. This was unexpected

given prior work suggesting that anger and positive emotions facilitate internal attributions, whereas sadness and fear lead to external attributions. In this analysis, I explored 12 dependent variables, with 3 separate contrasts conducted on each of these variables (the main effect contrast and the two interaction contrasts). Of the 36 (12 x 3) tests, significant effects emerged for 3, with the means for internal attributions on poverty going in an unexpected direction. Thus, only 2 of the 36 tests corresponded to my expectations. Given that these effects are likely just capitalizing on chance, one shouldn't place much faith in these several significant findings.

One potential explanation for the null results may be due to the domains explored. Much of the work in psychology on emotions and attributions has employed scenarios where subjects lack crystallized beliefs. For example, Keltner et al. (1993) manipulated anger versus sadness and asked participants to think about the causes of various non-political scenarios- for example, "You miss your flight. Why?" It is entirely conceivable that in the realm of politics- where participants hold strong beliefs towards environmental issues, poverty, and crime- the manipulation was simply too weak to significantly alter attributional patterns, as these attributional tendencies are deeply embedded in conservative and liberal ideologies. Thus, I now turn to the second hypothesis that (1) attributional styles should vary by ideology, and (2) the relative degree of certainty attached beliefs should be influenced by one's emotional state. Since anger and enthusiasm enhance belief certainty (Lerner and Tiedens, 2006; Huddy et al., 2007; Marcus et al., 2000), often leading to biased forms of information processing (Valentino et al, 2008), I expect that angry and enthusiastic liberals and conservatives should differ most on the attributional dimensions outlined above. On the other hand, sadness and fear should reduce belief certainty, whereby sad or fearful ideologues will perhaps not diverge as greatly on these attributions (Bodenhausen et al., 1994). In a nutshell, anger and enthusiasm should lead to belief polarization; sadness and fear should reduce the differences between liberals and conservatives.

5.2.2   Testing the Polarization Hypothesis

As a first test of this hypothesis, I examined the zero-order correlations between ideology and attribution tendencies. The correlation matrix (table 5.5) indicates that ideology is, in fact, strongly correlated with attributions, where conservatives are more likely to make internal attributions, and less likely to make external attributions. The one notable exception is internal attributions for environmental problems. However, the items that made up this scale were quite different from the internal attribution items for poverty and crime. For poverty and crime, these items referred to the criminal/poor person being personally responsible for his fate; for the environment items, the questions referred to Americans and oneself being responsible for environmental problems. Thus, the environment internal attribution scale includes attributions of personal responsibility.

[INSERT TABLE 5.5]

To explore whether ideological differences on these attributions vary by experimental condition, I conducted a similar analysis to the one above, including a variable indicating whether the participant was a liberal, conservative, or moderate based on their ideological self placement. Figure 5.2 illustrate the means for each attribution by experimental condition and ideology. Note that the differences between liberals and conservatives are the most extreme in the anger condition, especially in the anger condition using the environmental ads. This is to be expected given the fact that the manipulation check indicated the environmental ads were superior at eliciting discrete emotions. Examining in the top panel of Figure 5.2, the difference between liberals and conservatives on the issue of whether environmental problems can be prevented is significant following exposure to the environment/anger ad ($t = 5.72, p < 0.01$) and the environment/enthusiasm ad ($t = 2.7, p < 0.05$), but these differences disappear in the environment/sadness and environment/fear conditions ($t = -0.09, ns; t = 0.07, ns$). The same pattern emerges for the remaining

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variables.

[INSERT FIGURE 5.2]

Several strategies were used to systematically explore the idea that anger and enthusiasm ads lead to ideological polarization. First, a trichotomous variable was created denoting ideological identification with -1 corresponding to liberals, 0 to moderates, and 1 for conservatives. Multiple ANOVAs were run based on the corresponding 3 (Ideology: Liberal, Moderate, Conservative) x 4 (Emotion Ad: Enthusiasm, Sadness, Fear, Anger) x 2(Issue Area: Crime, Environment) design. Again, planned contrast analysis was used. This method, however, is restrictive in the sense that a continuous variable- ideology- is transformed to a categorical variable. As such, extreme conservatives are classified in the same category as weak conservatives (and the same holds true for weak liberals and strong liberals). Given the stark cognitive differences between those that hold extreme versus moderate beliefs, this method is not without problems (Tetlock, 2005; Jost, Glaser, Kruglanski, and Sulloway, 2003). Thus, I conduct the same analysis using multiple regression where ideology is treated as a continuous variable interacted with dummy variables corresponding to each experimental condition. Since ideology was not directly manipulated, I also control for additional factors which may account for any documented effect. Finally, because the ads vary substantially in content, the same problem of spurious effects detailed in the previous chapter could also hold here. Perhaps there was something cognitive, rather than affective, which influenced the results. As in the previous chapter, I use instrumental variables regression to explore this alternative.

As an appropriate point of departure, separate ANOVAs were run on all the attribution scales created above, as well as preferences for overall spending on crime, the environment, and welfare. Because of the complexity of these omnibus ANOVAs, I only present the results of the contrast analysis. The omnibus ANOVAs are now

effectively comparing 24 means (see Figure 5.2) rather than the 8 means from the previous analysis. Because of the increased likelihood for Type II error, weights were created such that liberals and conservatives should be most polarized when exposed to an anger or enthusiasm ads relative to the sadness or fear ads. I also test whether this effect is most pronounced in the environment ad condition, mainly because these ads were better able to elicit discrete emotional reactions. In other words, the *ideology* × *emotion ad* interaction should be more pronounced in the environment ad condition. To test this, interaction contrasts for the *ideology* × *emotion ad* interaction were specified. In total, this interaction has six degrees of freedom for the effect, meaning that six orthogonal contrasts can be derived to test for systematic differences. The matrix of contrasts I use are listed in Table 5.6. Note that these contrasts are orthogonal, as the row sum and sum of their product is equal to 0. Each contrast tests a unique hypothesis. $\psi_{polarization}$ tests whether liberals and conservatives diverge mostly in their beliefs following exposure to the anger/enthusiasm ads relative to the fear/sadness ads. $\psi_{anger\ v.\ enthusiasm}$ tests whether there are differences between the anger and enthusiasm ads by liberalism and conservatism. The last three columns represent individual tests for moderates - i.e., whether moderates display differing attribution patterns across experimental conditions. It is important to consider that these are not the only contrasts that can be derived, though the expectations that anger and enthusiasm should enhance confidence in one's belief, whereas sadness and fear should decrease confidence, comports with these weights. Also, note that these contrasts only test the two way interaction between ideology and the emotional appeal of the ad. The three way interaction necessitates adding 12 more columns to Table 5.6. For simplicity, I ran simple effects analysis where ANOVAs were separately run by the issue appealed to in the ad (i.e., crime versus environment), though the results are the same if I create a matrix of contrasts corresponding to the notion that the polarization pattern is more pronounced for the environment ads.

[INSERT TABLE 5.6]

For all the models a significant main effect emerged for ideology, suggesting that liberals and conservatives strongly differ on these issues. However, this effect was qualified by the interaction contrasts. Regarding the question of whether environmental problems can be prevented, the $\psi_{polarization}$ contrast was marginally significant for the crime ads ($F(1, 308) = 3.66, p < 0.10$), and highly significant for the environment ad ($F(1, 341) = 16.10, p < 0.001$). Tables 5.7-5.9 summarize the results for the remaining scales. Both the polarization and anger versus enthusiasm contrasts are consistently significant for the environment ads, but not the crime ads. This suggests that there is both a polarization trend in the data, but also that polarization is most pronounced in the anger ad condition.

[INSERT TABLES 5.7-5.9]

Turning to attitudes towards crime and poverty, a similar pattern emerges, but again, mainly for those exposed to environmental ads. For example, the polarization contrasts are significant for external and internal poverty attributions, as are the enthusiasm versus anger contrasts. Somewhat surprisingly, for crime, none of the contrasts yielded significant effects. Since the external attribution scale for crime only could take one of three values (it was the average score of three dichotomous items), I also analyzed this item using ordered logistic regression. After predicting probabilities, there were no systematic differences between liberals and conservatives comparing the various experimental conditions. Thus, there seems to be limited evidence for polarization in the domain of crime attributions.

The same analysis was conducted on global spending preferences. High scores denote preferences for reduced spending. The results are presented in table 5.10. The same trend outlined above holds for welfare and environmental spending, with anger leading to polarization between liberals and conservatives. These findings reinforce the pattern evident in Figure 5.2: the anger ad leads to the largest divergence in

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beliefs, and in all cases there doesn't appear to be ideological differences following exposure to the sadness or fear ads. These findings support the idea that anger leads to belief certainty facilitating attitude polarization, a finding echoed in both affective intelligence theory (Marcus et al., 2000; Valentino et al., 2008), as well as appraisal theory (Lerner and Tiedens, 2006).

[INSERT TABLES 5.7-5.9]

To demonstrate the magnitude of the differences between liberals and conservatives in each condition, I standardized each dependent variable and calculated the difference between liberals and conservatives (Cohen's d). The full results are presented in the appendix, but simply calculating the average effect size pooling across all 12 scales, $\bar{d}$, the starkest differences are clearly between liberals and conservatives for the anger evoking environmental ad- $\bar{d}_{anger/env} = 0.91$- whereas the differences between liberals and conservatives were attenuated in the remaining emotion conditions ($\bar{d}_{fear/env} = 0.16$; $\bar{d}_{sad/env} = 0.36$; $\bar{d}_{enth/env} = 0.30$)The average effect size was significantly reduced in the crime ad conditions ($\bar{d}_{anger/crime} = 0.48$; $\bar{d}_{fear/crime} = 0.37$; $\bar{d}_{sad/crime} = 0.37$; $\bar{d}_{enth/crime} = 0.41$)

5.2.3 The Weights Attached To Environmental Considerations

As noted by Zaller and Feldman (1992) in their theory of survey response, attitudes are constructed based on a sampling from a set of considerations. And as illustrated in much of the work on ideology, liberals and conservatives tend to differ regarding which considerations are chronically accessible, with conservatives drawing heavily from individualistic considerations, and liberals from a mix of individualism, egalitarianism, and humanitarian values (Skitka et al., 2002; McClosky and Zaller, 1984). As noted above, the largest attitudinal differences occurred in situations where liberals and conservatives felt angry. Another way in which conservatives and

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liberals might diverge could be in the weights they attach to the contributing factors of social issues.

With this in mind, all participants were asked to complete a ranking task by ordering the degree to which particular factors contribute to environmental problems. Six options were given, and participants were asked to rank the relative importance from 1 "Most Important" to 6 "Least Important". The options were population growth, the growth of big business, wasteful human behavior, poverty, government decisions, and the expansion of major cities. Note that these alternatives range from systemic and external (e.g., poverty) to internal (e.g., human behavior). There were 35 participants who clearly misunderstood the instructions and either left the question blank or offered ratings rather than rankings- for instance, one participant put 1s next to each option. These participants were dropped for this analysis and the remaining 602 participants were used to explore the rank ordered data.

Table 5.11 displays a summary of rankings pooled across- as well as stratified by-ideology. Entries are the proportion of respondents who chose the alternative as the top contributor to environmental pollution. Clearly there are important ideological differences. For example, 22% of liberals but only 9% of conservatives thought that the growth of big business was the top contributor. The tests of significance (rightmost column in Table 5.11) are individual chi-square tests comparing total rankings across ideology. What this suggests is that, with the exception of population growth, liberals and conservatives significantly vary with respect to the factors contributing to environmental problems.

[INSERT TABLE 5.11]

To examine whether rankings significantly differ by ideology and treatment condition, a rank ordered logit, frequently referred to as an exploded logit (EL) was used (Allison and Christakis, 1994). Hereafter, I shall refer to the model as the latter, so as not to confuse the term rank ordered logit with ordered logit. Since this

model hasn't been extensively used in the political science or psychology literature, I provide a short discussion. The model is a generalization of a conditional logit model (McFadden, 1974).

Assuming that each respondent assigns a unique ranking to each object, let Y_{ij} be the rank given to alternative j for respondent i. Further it is assumed that each alternative takes on an integer value of 1 for the "best" ranked item and j for the "worst" ranked item. In this case, 1 is given to the alternative that would contribute most to environmental problems, and 6 the least. If each subject has a particular preference for each item- U_{ij} - and the respondent will always rank item j better than item k, when $U_{ij} > U_{ik}$, then Allison and Christakis(1994) note that U_{ij} can be rewritten as a combination of a systematic and random component, or $U_{ij} = \mu_{ij} + e_{ij}$

Moreover, the model can be further decomposed into variables that contain characteristics of the items but are constant across individuals, as well as factors that vary across individuals influencing the relationship between item j and respondent i. As in a conditional logit model, the effects of both item and respondent characteristics can be directly modeled. The EL model takes the form:

$$L_i = \prod_{k=1}^{j} \frac{e^{\{\mu_{ij}\}}}{\sum_{k=1}^{j} \delta_{ijk} e^{\{\mu_{ij}\}}}$$

Where δ_{ijk} if $Y_{ik} > Y_{ij}$ and 0 otherwise. Put another way, by assuming that the respondent chooses sequentially from the list of alternatives, the number options decrease as the number of rankings increase. The probability of choosing item j among the total set of items is simply:

$$\frac{e^{\{\mu_j\}}}{\sum_{k=1}^{j} e^{\{\mu_k\}}}$$

When j is chosen, then the subject must choose from the remaining set of items. At the very final stage, two items remain, say between item b and c. The probability of choosing item b is simply:

$$\frac{e^{\{\mu_b\}}}{e^{\{\mu_b\}} + e^{\{\mu_c\}}}$$

The product of these probabilities results in the likelihood equation above. While the equation assumes that each respondent provides "clean" rankings (e.g., 1, 2, 3, 4, 5, 6 by answering with no ties, the EL model can accommodate ties (e.g., 1, 1, 2, 3, 4, 5) using the marginal likelihood of choosing one tied item over another (e.g., 1a versus 1b) (see Allison and Christakis for technical details). Several "approximation" methods have also been proposed to deal with ties. In this analysis, I use the exact likelihood, though various approximation methods yield comparable results.

As is the case for the conditional logit, the EL can accommodate both item and person level predictors. Table 5.12 displays the results of the EL allowing the alternatives- population growth, the growth of big business, wasteful human behavior, government decisions, and city expansion (poverty is the baseline)- to vary by ideology. This is a continuous measure of ideology, ranging from 0 (liberal) to 1(conservative). The significance of several of the coefficients indicates that ideology does influence the relative importance attached to each alternative. For example, the Big Business x Ideology interaction indicates that, relative to poverty, liberals are 2.6 times more likely to list big business as the first most contributing factor to environmental problems ($e^{-0.96} = -2.6$). Similarly, liberals are about 3 times as likely to name government decisions as the most contributing factor. To fully explore these models, I generated predicted probabilities of choosing each alternative as the first choice across levels of ideology, where high scores denote conservatism. These are plotted in figure 5.3. Note that liberals are more likely than conservatives to cite big business and humans as responsible for environmental problems; conservatives, on the other hand, are more likely than liberals to blame environmental problems on expanding cities and population increases.

[INSERT TABLE 5.12]

However, the critical test is whether these rankings vary across experimental conditions. Thus, I conducted the identical analysis, interacting the *ideology × item* interaction with the emotional ad viewed by participants (sadness is the baseline, excluded category). To simplify interpretation, I ran this equation separately for the issue area appealed to in the ad- crime or the environment. Any odds ratios e^b and predicted probabilities, however, are mathematically identical to a single model including all the interaction terms- i.e., *ideology × item × emotion ad × issue of ad*. The results from these analyses are presented in table 5.13, and predicted probabilities of choosing an alternative as the greatest contributor to environmental problems are presented in Figure 5.4.

[INSERT TABLE 5.13 AND FIGURES 5.3 AND 5.4]

Figure 5.4a shows the predicted probabilities for the crime ads, figure 5.4b the environment ads. In the "anger ad" panels, the difference between liberals and conservatives is more pronounced than is evident in figure 5.6. For example the predicted probability of a conservative stating that environmental problems are caused by expanding cities is about 0.2 in figure 5.4a, whereas in the anger/crime and anger/environment the respective probabilities are 0.32 and 0.25. However, if sadness and fear reduce the differences between liberals and conservatives than the "slopes" should be flat and not intersect; that is, conservatives and liberals should rate the alternatives in a comparable manner. Figure 5.4a provides some support for this as there is much greater variation in ratings for the anger ad relative to the sadness ad. However, this pattern was not replicated for the environment ad (figure 5.4b). This provides mixed support for the notion that emotions affect the weight attached to particular considerations.

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5.2.4 Alternative Explanations: Emotion or Cognition

Again, the advertisements varied in content. The crime/anger ad drew heavily on sentencing requirements, whereas the crime/fear ad focused on victimization. The environment/anger ad made reference to water pollution and the John Wilkins inability to protect the environment, yet the environment/fear ad drew on the threat of global warming. The documented effects could be cognitive, influenced by something idiosyncratic to the messages, rather than the emotion appealed to in the message. And as demonstrated in Chapter 4, there are many ways to rule out this alternative hypothesis. The method I employ in this chapter again is instrumental variables regression. Specifically, if attitude polarization is influenced by the emotion felt in response to the advertisement, then one's subjectively stated emotion should moderate the influence of ideology on attitudes. In other words, anger and enthusiasm should increase the effect of ideology on attitudes, whereas sadness and fear should decrease this relationship.

$$y_j = \alpha + \beta_1 x_{1j} + +\beta_2 x_{2j} + \beta_3 x_{1j} x_{2j} + \epsilon_j$$

Where, $x_2 j$ is endogenous, predicted by three variables, $d_{1j}, d_{2j}, d_{1j} \times d_{2j}$, denoting membership to one of four experimental conditions. Because the endogenous variable has a non-linear effect, moderated by ideology, x_{2j} and the product $x_{1j} x_{2j}$ are treated as endogenous, where the reduced form equations become:

$$x_{1j} \, and \, x_{1j} x_{2j} = \gamma_0 + \gamma_1 d_{1j} + \gamma_2 d_{2j} + \gamma_3 d_{1j} d_{2j} + \gamma_4 d_{1j} x_{1j} + \gamma_6 d_{2j} x_{1j} + \gamma_7 d_{1j} d_{2j} x_{1j} + \zeta_j$$

The identical dependent variables were predicted- attributions and spending preferences on crime, poverty, and the environment. The results from these models are presented in tables 5.14-5.16.

[INSERT TABLES 5.14-5.16]

There seems to be marginal support for the idea that emotions moderate the impact of ideology on attributions. While the coefficients in the equations tend to be non-significant or marginally non-significant- most likely due to multicollinearity- the effects always go in the expected direction, where anger and enthusiasm strengthens the impact of ideology, but sadness, and to a lesser extent fear, have countervailing effects. This provides yet further evidence that anger strengthens the relationship between ideological predispositions and attitudes.

5.2.5 Multivariate Estimation

An additional concern with the study is that the moderated effects are not due to ideology, but some other factor. One of the more serious concerns in studies of ideology in psychology, in particular, is that ideology is only measured with self-placement, failing to take into account the multidimensional nature of ideology (as an example, see Jost et al., 2003). Thus, it is conceivable that by controlling for other factors in the model, the significant *ideology × emotion* interaction will disappear. An additional reason why it is beneficial to control for other factors is that doing so will provide a more precise estimate as to the magnitude of polarization following the experiment. For this reason, I re-estimated the interactive effect of *ideology × emotion of ad* controlling for a host of other variables. Several motivational factors were included in the model, need for cognition, which consisted of three items summed together and scaled from 0 to 1 (alpha=0.67); need to evaluate which was created from three items, summed, and rescaled from 0 to 1 (alpha=0.57). Trait emotions were included: trait anger was generated from 2 items ($r_{polychoric} = 0.57$), trait anxiety was generated from 6 items (alpha=0.81), and trait sadness/depression was constructed from 4 items (alpha=0.75). These three trait emotion scales were also rescaled to range from 0 to 1. Since it is conceivable that the effect of ideology could be due to underlying value orientations, I also include a measure of authoritarianism, constructed from four items (alpha=0.52) (Feldman, 2003). And finally,

a number of additional control variables were included in the model: PID (1=Republican, 0=otherwise), whether the participant is non-white, income, gender, age, degree of political knowledge, which is the sum of correct scores on a four question political knowledge test (kr20=0.56), and how many children the participant has. Descriptive statistics can be found in the appendix. Dummy variables were then constructed corresponding to the emotional ad condition, with sadness as the excluded baseline. The regression models were estimated separately for crime and environment ads using OLS and ordered logistic regression.

Since the main interest is in demonstrating a polarization effect in the anger ad condition, Table 5.17 presents predicted values on the attribution and spending scales, generated from a number of regression models. These models can be found in the appendix. This was followed by a simple slopes analysis to explore whether the slope of ideology on the various dependent variables were significant in the each experimental condition. For example, in the first row of results, the predicted value of thinking that environmental problems can be prevented was 0.54 for conservatives, 0.69 for liberals (in the crime/anger ad condition), whereas the comparable predictions were 0.57 and 0.78 (in the environment ad condition). The relationship between ideology and prevention was highly significant in the crime/anger ad condition and marginally significant in the environment/anger ad condition. The results largely support the notion that anger polarizes ideologues, but sadness reduces ideological differences on these measures.

[INSERT TABLE 5.17]

5.3   Discussion

Two hypotheses were tested in this chapter: (1) that emotion laden advertisements would affect the pattern of attributions made regarding the core-causes of crime, poverty, and environmental pollution; (2) that emotional ads should affect

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the degree of belief polarization in these three domains. Virtually no support was found for the first hypothesis. While interpreting null results is problematic, this can be taken as preliminary evidence regarding the boundary effects of emotions affecting attribution tendencies. Several studies have found, for example, that emotions-specifically, anger and sadness- translate to differing attributional patterns (Keltner et al., 1993; Small and Lerner, 2008). However, in these studies the scenarios used were non-political. Given a growing line of research showing that prior beliefs are difficult to alter even following exposure to a balanced information stream, perhaps it is unsurprising that attitudes pertaining to poverty, the environment, and crime were relatively immutable to a single political advertisement (Zaller, 1992; Lodge and Taber, 2005; Hartman and Weber, 2008).

Strong support was found for the second hypothesis, where ideologues did differ substantially in their beliefs when in an angry or enthusiastic states. Sadness, and to a lesser extent, fear, consistently reduced the differences between liberals and conservatives. These findings are compatible with two e lines of research on emotions: appraisal theory and affective intelligence theory. Appraisal theory posits that anger and enthusiasm strongly correlate with perceptions of control, certainty, and confidence. Sadness and fear, however, tend to reduce confidence, often promoting a sense of helplessness and behavioral withdrawal (see the previous chapter). From this work, it was expected that anger and enthusiasm should lead to belief polarization by increasing the confidence and certainty liberals and conservatives have regarding their attitudes towards crime, the environment, and poverty.

These findings are also congruent with affective intelligence theory, where a number of studies have shown that enthusiasm, and more recently, anger, facilitate relying on habit and biased information processing. Thus, affective intelligence would also predict the largest difference between liberals and conservatives when in these emotional states, simply by virtue of participants relying on their ideological predispositions. The one area where affective intelligence has been silent, however,

concerns the role of sadness in politics.

In sum, this chapter has suggested that fear and enthusiasm, as well as anger and sadness, have important implications for political attitudes. There are limitations to these findings, one being that belief certainty was not directly measured, but was inferred to be the mechanism accounting for the polarization effects. Second, only attitudes in several issue domains were explored, all of which are deeply entrenched in ideology. Perhaps evaluating the *attribution hypothesis* with respect to an unknown policy initiative may lend to more promising results. Third, the manipulations lacked strong external validity- participants were asked to imagine that they were watching an advertisement on television while reading a transcribed political ad. Finally, in this chapter and the previous one, I demonstrated that the effects of the advertisements were driven by their emotional tenor, though the advertisements themselves were somewhat artificial. Recall that the ads made reference to fictitious candidates, of which PID and other important indicators were lacking. Given the ubiquity of motivated reasoning in political information processing (Zaller, 1992; Taber and Lodge, 2006), it seems important to consider how these cues moderate emotional reactions to political ads. These issues are addressed in the next chapter.

Table 5.1: Sample Statistics.

		NYS Sample	NYS (Census and ANES)
Gender	Female	54%	54%
	Male	46%	48%
Race	Black	8%	16%
	Hispanic	11%	12.5%
	White	70%	68%
College		46%	27.4%
Citizen		94%	89%
PID		3.44	2.77
Ideology		3.45	4.18

Note: PID and Ideology are measured on a seven point scale where high scores denote

Republican, conservative leanings, respectively. All entries in the rightmost column are from the

2000 Census, with the exception of PID and Ideology, which are from the 2000 ANES

Table 5.2: Exploratory Factor Analysis for Environmental Attitudes

Item	Prevent	External	Certainty	Internal
Environmental problems are caused by humans.	**0.47**	-0.25	0.01	-0.21
Most all environmental problems can be prevented	**0.93**	-0.06	0.04	0.01
Environmental problems like global warming and natural disasters are inevitable and can be prevented.	**0.42**	-0.15	0.16	-0.12
To what degree can the government be blamed for environmental problems?	-0.03	**-0.82**	0.06	0.02
To what degree should private businesses be blamed for environmental problems?	-0.03	**-0.63**	-0.03	-0.05
Environmental problems are caused by large, private corporations.	0.02	**-0.73**	-0.06	-0.01
Environmental problems are caused by ineffective government programs.	0.17	**-0.57**	0.07	0.04
How dangerous is global warming and the depletion of the ozone layer to you and your family?	0.06	0.10	**-0.66**	-0.03
How important to you personally is the issue of protecting the environment?	0.10	0.04	**-0.91**	0.03

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Item	Prevent	External	Certainty	Internal
Do you think that environmental protection should be treated as a serious issue?	0.02	-0.02	**0.78**	-0.08
How much influence do you feel your actions have on the quality of the environment?	-0.23	-0.11	-0.03	**0.42**
To what degree should the average American be blamed for environmental problems?	0.13	-0.06	0.09	**-0.67**
How many of are environmental problems are caused by Americans consuming too many resources?	-0.21	-0.07	0.04	**-0.61**
If the average American cared more about the environment, there would be less environmental damage.	0.01	-0.02	0.07	**-0.66**
Model Fit				
RMSEA	0.06			
RMSR	0.03			

Correlations	Prevention	External	Certainty	Internal
Prevention	1			
External	-0.54	1		
Certainty	0.45	-0.50	1	
Internal	-0.35	0.43	-0.39	1	1

Note: Exploratory factor analysis. External=External Attributions, Internal=Internal Attributions

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Table 5.3: Exploratory Factor Analysis for Crime Attitudes

Item	External	Internal	Cultural
Crime is caused by poverty.	**0.94**	0.01	-0.17
Crime is caused by families not having adequate incomes.	**-0.72**	-0.09	0.16
Crime is caused by lacking moral values.	-0.11	**-0.41**	-0.31
A bad family upbringing makes people more inclined to break the law.	-0.05	**0.67**	-0.19
Only evil people commit crimes.	-0.12	**-0.68**	0.03
People break the law because they don't want to make an honest living.	-0.05	**-0.63**	0.06
Only bad people commit crimes.	-0.05	**0.67**	-0.19
Building strong communit	0.23	-0.04	**-0.42**
How much influence do good schools and teachers have on preventing crime	-0.06	-0.08	**0.67**
How much influence do you think parenting has on whether someone commits a crime?	-0.16	-0.02	**0.89**
How much influence do abuse and neglect have on whether someone commits a crime.	-0.23	-0.15	**-0.71**

Model Fit			
RMSEA	0.04		
RMSR	0.03		

Factor Correlations			
	External	Internal	Cultural
External	1		
Internal	0.03	1	
Cultural	-0.18	-0.04	1

Table 5.4: Exploratory Factor Analysis for Poverty Attitudes

Item	External	Internal
Poverty is caused by private industry not providing enough jobs.	**-0.36**	-0.05
For the most part, anyone can live well in the US.	**-0.53**	-0.06
How much do you worry about the issue of poverty?	**-0.72**	0.02
How much is the government doing to deal with poverty?	**-0.59**	-0.08
How serious is the issue of poverty?	**0.74**	-0.05
Poverty is caused by ineffective money management.	**-0.36**	-0.05
For the most part, anyone can live well in America.	**-0.54**	-0.06
People are poor because of bad luck.	-0.21	**0.35**
Poverty is caused by prejudice in this country	0.11	**0.38**
In all, there are still great differences between social levels.	0.01	**0.68**
All in all, income differences are justified in this country.	0.02	**0.88**
Income differences are too large.	0.02	**0.35**
Model Fit		
RMSEA	0.06	
RMSR	0.05	

Factor Correlations

	External	Internal
Internal	1	
External	0.63	1

Table 5.5: Zero-order correlations.

	Ideology	Prevent(E)	Risk(E)	Int(E)	Ext(E)	Int(P)	Ext(P)	Com(C)	Int (C)	Ext(C)
Prevent (E)	-0.28	1								
Risk(E)	-0.22	0.45	1							
Internal(E)	-0.26	0.53	0.39	1						
External(E)	-0.15	0.40	0.33	0.32	1					
Internal(P)	0.30	-0.28	-0.27	-0.35	-0.26	1				
External (P)	-0.26	0.20	0.35	0.27	0.19	-0.50	1			
Community(C)	0.05	0.12	0.14	0.10	0.09	-0.06	0.06	1		
Internal(C)	0.26	-0.15	0.19	-0.13	-0.13	0.28	-0.31	0.05	1	
External(C)	-0.02	0.00	-0.04	0.07	0.02	-0.15	0.09	0.21	-0.09	1

Note:Variables are as follows: Environmental Attitudes(E); Poverty Attitudes(P); Crime Attitudes (C)

Table 5.6: Contrast Weights

$\psi_{polarization}$	(-2, -1,-1, -2, 0, 0, 0, 0, 2, 1, 1, 2)
$\psi_{Anger\ v.\ Enthusiasm}$	(1, 0, 0 ,-1, 0, 0, 0, 0,-1, 0, 0, 1)
$\psi_{Sadness\ v.\ Fear}$	(0, 1, -1 ,0, 0, 0, 0, 0, 0, -1, 1, 0)
$\psi_{Moderates:Sadness\ v.\ Fear}$	(0, 0, 0, 0, 0,-1, 1, 0, 0, 0, 0, 0)
$\psi_{Moderates:Polarization}$	(0, 0, 0, 0, 1,-1,-1, 1, 0, 0, 0, 0)
$\psi_{Moderates:Anger\ v.\ enthusiasm}$	(0, 0, 0, 0,-1, 0, 0, 1, 0, 0, 0, 0)

Table 5.7: Interaction contrasts for attitudes towards the environment.

	Prevention	Certainty/Risk	Internal	External
Crime Ads				
$\psi_{Polarization}$	$F(1, 308)=3.66\#$	$F(1, 308)=0.68$	$F(1, 308)=3.85^{*}$	$F(1, 308)=0.64$
$\psi_{Anger\ v.\ Enthusiasm}$	$F(1, 308)=0.44$	$F(1, 308)=1.13$	$F(1, 308)=1.08$	$F(1, 308)=0.40$
$\psi_{Sadness\ v.\ Fear}$	$F(1, 308)=0.00$	$F(1, 308)=0.74$	$F(1, 308)=0.73$	$F(1, 308)=1.75$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F(1, 308)=3.17\#$	$F(1, 308)=0.28$	$F(1, 308)=0.73$	$F(1, 308)=0.82$
$\psi_{Moderates:Polarization}$	$F(1, 308)=0.20$	$F(1, 308)=2.55$	$F(1, 308)=0.59$	$F(1, 308)=0.61$
$\psi_{Moderates:Anger\ v.\ enthusiasm}$	$F(1, 308)=0.23$	$F(1, 308)=0.41$	$F(1, 308)=0.17$	$F(1, 308)=1.10$
Environment Ads				
$\psi_{Polarization}$	$F(1, 341)=16.10^{***}$	$F(1, 341)=4.17^{*}$	$F(1, 341)=4.42^{*}$	$F(1, 341)=5.56^{***}$
$\psi_{Anger\ v.\ Enthusiasm}$	$F(1, 341)=4.43^{*}$	$F(1, 341)=8.64^{**}$	$F(1, 341)=2.49$	$F(1, 341)=2.73\#$
$\psi_{SadnessV.Fear}$	$F(1, 341)=0.02$	$F(1, 341)=0.14$	$F(1, 341)=0.10$	$F(1, 341)=3.37\#$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F(1, 341)=5.86^{**}$	$F(1, 341)=1.12$	$F(1, 341)=4.98^{**}$	$F(1, 341)=0.55$
$\psi_{Moderates:Polarization}$	$F(1, 341)=0.27$	$F(1, 341)=0.04$	$F(1, 341)=1.82$	$F(1, 341)=3.44\#$
$\psi_{Moderates:Anger\ v.\ enthusiasm}$	$F(1, 341)=1.80$	$F(1, 341)=1.95$	$F(1, 341)=0.01$	$F(1, 341)=0.46$

$\#$p$<$0.10, *p$<$0.05, **p$<$0.01, ***p$<$0.001

Table 5.8: Interaction contrasts for attitudes towards poverty.

	Internal	**External**
Crime Ads		
$\psi_{Polarization}$	F(1, 308)=0.21	F(1, 308)=0.21
$\psi_{Anger\ v.\ Enthusiasm}$	F(1, 308)=0.28	F(1, 308)=0.00
$\psi_{Sadness\ v.\ Fear}$	F(1, 308)=0.07	F(1, 308)=0.01
$\psi_{Moderates:Sadness\ v.\ Fear}$	F(1, 308)=1.85	F(1, 308)=0.06
$\psi_{Moderates:Polarization}$	F(1, 308)=0.08	F(1, 308)=0.01
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	F(1, 308)=0.44	F(1, 308)=0.40
Environment Ads		
$\psi_{Polarization}$	F(1, 341)=4.83***	F(1, 341)=6.13***
$\psi_{Anger\ v.\ Enthusiasm}$	F(1, 341)=8.90**	F(1, 341)=14.27***
$\psi_{Sadness\ v.\ Fear}$	F(1, 341)=3.05#	F(1, 341)=0.18
$\psi_{Moderates:Sadness\ v.\ Fear}$	F(1, 341)=0.47	F(1, 341)=1.03
$\psi_{Moderates:Polarization}$	F(1, 341)=2.02	F(1, 341)=2.04
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	F(1, 341)=0.19	F(1, 341)=1.24

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.9: Interaction contrasts for attitudes towards crime.

	Community	External	Internal
Crime Ads			
$\psi_{Polarization}$	$F(1, 308)=3.41\#$	$F(1, 301)=0.79$	$F(1, 308)=0.58$
$\psi_{Anger\ v.\ Enthusiasm}$	$F(1, 308)=3.31\#$	$F(1, 301)=0.31$	$F(1, 308)=1.38$
$\psi_{Sadness\ v.\ Fear}$	$F(1, 308)=0.73$	$F(1, 301)=0.76$	$F(1, 308)=0.45$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F(1, 308)=0.02$	$F(1, 301)=0.45$	$F(1, 308)=0.06$
$\psi_{Moderates:Polarization}$	$F(1, 308)=1.84$	$F(1, 301)=5.24**$	$F(1, 308)=0.00$
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	$F(1, 308)=0.00$	$F(1, 301)=0.01$	$F(1, 308)=1.73$
Environment Ads			
$\psi_{Polarization}$	$F(1, 340)=2.31,$	$p=0.11\ F(1, 333)=0.39$	$F(1, 340)=0.46$
$\psi_{Anger\ v.\ Enthusiasm}$	$F(1, 340)=0.07$	$F(1, 333)=0.47$	$F(1, 340)=5.40**$
$\psi_{Sadness\ v.\ Fear}$	$F(1, 340)=0.06$	$F(1, 333)=0.02$	$F(1, 340)=0.69$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F(1, 340)=1.24$	$F(1, 333)=0.63$	$F(1, 340)=0.56$
$\psi_{Moderates:Polarization}$	$F(1, 340)=0.05$	$F(1, 333)=0.72$	$F(1, 340)=0.13$
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	$F(1, 340)=2.26$	$F(1, 333)=1.20$	$F(1, 340)=2.10$

$\#p<0.10$, $*p<0.05$, $**p<0.01$, $***p<0.001$

Table 5.10: Spending Preferences.

	Crime	Welfare	Environment
Crime Ads			
$\psi_{Polarization}$	$F_{(1,\ 304)}=0.53$	$F_{(1,\ 305)}=0.02$	$F_{(1,\ 305)}=0.06$
$\psi_{Anger\ v.\ Enthusiasm}$	$F_{(1,\ 304)}=0.00$	$F_{(1,\ 305)}=1.39$	$F_{(1,\ 305)}=0.00$
$\psi_{Sadness\ v.\ Fear}$	$F_{(1,\ 304)}=0.70$	$F_{(1,\ 305)}=0.60$	$F_{(1,\ 305)}=0.05$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F_{(1,\ 304)}=4.37^{*}$	$F_{(1,\ 305)}=0.03$	$F_{(1,\ 305)}=0.04$
$\psi_{Moderates:Polarization}$	$F_{(1,\ 304)}=0.02$	$F_{(1,\ 305)}=0.03$	$F_{(1,\ 305)}=0.24$
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	$F_{(1,\ 304)}=0.17$	$F_{(1,\ 305)}=0.55$	$F_{(1,\ 305)}=0.01$
Environment Ads			
$\psi_{Polarization}$	$F_{(1,\ 340)}=0.01$	$F_{(1,\ 338)}=3.60^{*}$	$F_{(1,\ 338)}=6.24^{***}$
$\psi_{Anger\ v.\ Enthusiasm}$	$F_{(1,\ 340)}=0.30$	$F_{(1,\ 338)}=7.50^{**}$	$F_{(1,\ 338)}=5.31^{**}$
$\psi_{Sadness\ v.\ Fear}$	$F_{(1,\ 340)}=2.64$	$F_{(1,\ 338)}=1.27$	$F_{(1,\ 338)}=1.11$
$\psi_{Moderates:Sadness\ v.\ Fear}$	$F_{(1,\ 340)}=0.33$	$F_{(1,\ 338)}=0.44$	$F_{(1,\ 338)}=0.58$
$\psi_{Moderates:Polarization}$	$F_{(1,\ 340)}=0.02$	$F_{(1,\ 338)}=0.05$	$F_{(1,\ 338)}=0.16$
$\psi_{Moderates:Anger\ v.\ Enthusiasm}$	$F_{(1,\ 340)}=0.00$	$F_{(1,\ 338)}=0.07$	$F_{(1,\ 338)}=1.02$

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.11: Percent ranking alternative as number one contributor to environmental problems.

	Pooled	Liberals	Conservatives
Population Growth	0.23	0.49	0.42
Big Business	0.15	0.22	0.09**
Wasteful Behavior	0.32	0.30	0.33*
Poverty	0.04	0.49	0.04#
Government Decisions	0.13	0.30	0.20#
Expanding Cities	0.13	0.26	0.24#

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.12: Exploded logit results for each alternative.

Variables	Coefficients
Population Growth	1.96 (0.18)***
Big Business	2.24 (0.18)***
Wasteful Behavior	2.49 (0.18)***
Government Decisions	2.02 (0.18)***
Expanding Cities	1.76 (0.18)***
Population Growth x ID	-0.26 (0.35)
Big Business x ID	-0.96 (0.34)***
Wasteful Behavior x ID	-0.85 (0.35)
Government Decisions x ID	-1.09 (0.34)***
Expanding Cities x ID	-0.15 (0.34)***
Log-Likelihood	-3274.794
Δ AIC	157.89

Note: Maximum Likelihood coefficients from Exploded Logit model. Model was estimated using the exact likelihood for ties. Baseline condition is poverty. Δ AIC represents the change in the Akaike Information Criterion for a model with reversed scores. The default in Stata is high scores indicating the more preferred alternative, which in this case they were not. Changing the order doesn't merely change the signs of the coefficients, it changes the estimates themselves. A high Δ AIC indicates that the reversed model fit better, as it was calculated from AIC(nonreversed)-AIC(reversed). #p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.13: Exploded logit results for each alternative.

Variables	Crime Ads	Environment Ads
Population Growth	3.44 (0.67)***	1.21 (0.55)***
Big Business	3.33 (0.68)***	2.43 (0.58)***
Wasteful Behavior	3.58 (0.27)***	2.43 (0.56)***
Government Decisions	2.81 (0.26)***	2.06 (0.56)***
Expanding Cities	3.29 (0.26)***	1.46 (0.56)***
Population Growth x ID	-2.38 (1.24)*	1.66 (1.17)
Big Business x ID	-2.38 (1.27)#	0.12 (1.21)
Wasteful Behavior x ID	-1.64 (1.27)	-0.06 (1.18)
Government Decisions x ID	-2.29 (1.25)#	0.13 (1.19)
Expanding Cities x ID	-2.59 (1.28)*	1.74 (1.20)
Population Growth x Anger	-2.21 (0.80)***	1.21 (0.77)
Big Business x Anger	-2.34 (0.81)***	0.93 (0.80)
Wasteful Behavior x Anger	-1.73 (0.81)*	0.59 (0.79)
Government Decisions x Anger	-1.26 (0.80)*	1.04 (0.79)
Expanding Cities x Anger	-2.53 (0.81)	0.73 (0.79)
Population Growth x Fear	-0.55 (0.91)*	0.60 (0.77)
Big Business x Fear	0.10 (0.90)***	-0.75 (0.80)
Wasteful Behavior x Fear	-0.41 (0.91)	-0.13 (0.80)
Government Decisions x Fear	-0.29 (0.89)	-0.43 (0.79)
Expanding Cities x Fear	-0.79 (0.90)	0.49 (0.78)
Population Growth x Enth	-1.57 (0.85)#	0.34 (0.71)#
Big Business x Enth	-1.03 (0.86)	-1.06 (0.73)
Wasteful Behavior x Enth	-1.28 (0.86)	-0.38 (0.72)
Government Decisions x Enth	-0.88 (0.86)	-0.77 (0.71)

Table 5.13: Exploded logit results for each alternative.

Expanding Cities x Enth	-1.94 (0.85)**	-0.09 (0.71)**
Population Growth x ID x Anger	4.23 (1.57)**	-2.84 (1.52)#
Big Business x ID x Anger	3.79 (1.59)**	-2.87 (1.55)#
Wasteful Behavior x ID x Anger	2.21 (1.59)	-2.21 (1.55)
Government Decisions x ID x Anger	2.50 (1.56)	-3.18 (1.53)*
Expanding Cities x ID x Anger	4.98 (1.60)***	-2.88 (1.55)#
Population Growth x ID x Fear	-0.03 (1.65)	-1.84 (1.54)
Big Business x ID x Fear	-1.04 (1.65)	-0.41 (1.53)
Wasteful Behavior x ID x Fear	-0.44 (1.66)	-0.54 (1.54)
Government Decisions x ID x Fear	0.02 (1.62)	-0.70 (1.54)
Expanding Cities x ID x Fear	0.72 (1.66)	-2.43 (1.55)
Population Growth x ID x Enth	2.62 (1.62)	-1.52 (1.43)
Big Business x ID x Enth	0.89 (1.63)	-0.00 (1.45)
Wasteful Behavior x ID x Enth	0.46 (1.66)	-0.05 (1.44)
Government Decisions x ID x Enth	-0.56 (1.58)	-0.13 (1.42)
Expanding Cities x ID x Enth	3.05 (1.64)#	-1.50 (1.44)#
Log-Likelihood	-1559.68	-1670.56
Δ AIC	84.93	48.97
N	306	329

Note: Maximum Likelihood coefficients from Exploded Logit model. Model was estimated using the exact likelihood for ties. Baseline condition is poverty. Δ AIC represents the change in the Akaike Information Criterion for a model with reversed scores. A high Δ AIC indicates that the reversed model fit better, as it was calculated from AIC(nonreversed)-AIC(reversed)#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.14: 2SLS: Attitudes about the environment.

Variables	Prevention	Risk	External	Internal	Spending
Anger	0.0574	0.479	2.984	2.852	-0.273
	(0.420)	(2.201)	(2.079)	(2.505)	(0.429)
Sadness	-0.802*	-1.812	-2.321	-2.127	0.453
	(0.407)	(2.127)	(2.178)	(2.429)	(0.414)
Fear	0.243	-0.0854	0.182	-1.129	0.0374
	(0.425)	(2.213)	(2.224)	(2.531)	(0.431)
Enthusiasm	-0.556*	-1.935	0.587	1.606	0.266
	(0.335)	(1.762)	(1.739)	(2.000)	(0.339)
Anger x Ideology	-0.130	-2.736	-5.306#	-5.047	0.659
	(0.691)	(3.606)	(3.439)	(4.119)	(0.700)
Sadness x Ideology	1.433#	5.450	3.410	8.736*	-0.783
	(0.739)	(3.828)	(3.877)	(4.405)	(0.744)
Fear x Ideology	0.0528 0.122	2.090	-0.322	-0.464	
	(0.732)	(3.779)	(3.831)	(4.363)	(0.750)
Enth x Ideology	1.039*	3.910	-1.024	-0.0698	-0.651
	(0.582)	(3.086)	(2.974)	(3.467)	(0.591)
Ideology	-1.029***	-2.969	-0.246	-1.778	0.570
	(0.350)	(1.883)	(1.726)	(2.089)	(0.356)
Constant	1.133***	1.447	-0.292	-0.214	0.0742
	(0.175)	(0.927)	(0.896)	(1.046)	(0.178)
N	629	628	625	629	625

Note: Entries are maximum likelihood coefficients from two stage least squares. The instruments used to predict Anger, Sadness, Fear, and Enthusiasm

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were dummies corresponding to each experimental condition, which were also interacted with ideology. #p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.15: 2SLS: Attitudes about poverty.

Variables	Internal	External	Spending
Anger	-3.451	-0.265	-0.407
	(2.571)	(2.280)	(0.552)
Sadness	2.998	-3.085	1.132*
	(2.493)	(2.211)	(0.551)
Fear	0.741	2.257	-0.454
	(2.598)	(2.304)	(0.555)
Enthusiasm	-0.341	-3.056*	0.817#
	(2.052)	(1.820)	(0.441)
Anger x Ideology	7.629#	-0.755	0.804
	(4.228)	(3.749)	(0.901)
Sadness x Ideology	-11.29*	8.002*	-2.207*
	(4.522)	(4.009)	(0.983)
Fear x Ideology	4.466	-5.323	0.978
	(4.478)	(3.971)	(0.976)
Enth x Ideology	0.972	5.399*	-1.272*
	(3.559)	(3.156)	(0.766)
Ideology	0.361	-3.630*	0.800*
	(2.145)	(1.902)	(0.462)
Constant	-0.275	1.896**	0.0768
	(1.074)	(0.952)	(0.232)
N	629	629	625

Note: Entries are maximum likelihood coefficients from two stage least squares. The instruments used to predict Anger, Sadness, Fear, and Enthusiasm were dummies corresponding to each experimental condition, which were also interacted with ideology. #$p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Table 5.16: 2SLS: Attitudes about the crime.

Variables	External	Community	Internal	Spending
Anger	-5.005	1.211	1.209	-0.778
	(4.187)	(2.644)	(2.182)	(0.478)
Sadness	1.301	1.391	-1.134	-0.0535
	(4.223)	(2.563)	(2.115)	(0.465)
Fear	4.196	-0.976	-0.638	0.612
	(4.065)	(2.680)	(2.212)	(0.483)
Enthusiasm	3.121	3.653*	1.038	-0.499
	(3.263)	(2.121)	(1.750)	(0.385)
Anger x Ideology	-6.048	-3.916	-0.0367	1.485#
	(7.031)	(4.350)	(3.589)	(0.781)
Sadness x Ideology	-4.781	1.720	0.527	0.0518
	(7.680)	(4.647)	(3.835)	(0.838)
Fear x Ideology	11.25	-3.400	2.111	-1.010
	(7.49)	(4.605)	(3.800)	(0.842)
Enth x Ideology	-4.156	-6.320#	-0.305	0.878
	(5.547)	(3.661)	(3.021)	(0.665)
Ideology	1.944	4.276#	0.0805	-0.657
	(3.326)	(2.205)	(1.819)	(0.401)
Constant	—	-1.877*	-0.532	0.665***
	—	(1.109)	(0.915)	(0.202)
Cut 1/2	1.32/1.47	—	—	—
N	620	628	628	626

Note: Entries are maximum likelihood coefficients from 2SLS and 2SPLS#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table 5.17: Simple slopes analysis.

Environmental Attitudes	Crime Ads		Environment	
	Conservative	Liberal	Conservative	Liberal
		Prevention		
Anger	0.54	0.69***	0.57	0.78, p<0.07
Fear	0.64	0.75	0.80	0.65
Sadness	0.64	0.71	0.70	0.67
Enthusiasm	0.54	0.79**	0.51	0.76***
		Certainty/Risk		
Anger	-0.85	0.16***	-0.57	0.15*
Fear	-0.40	0.22	0.13	0.10
Sadness	-0.41	0.46	0.23	0.14
Enthusiasm	-0.22	0.43	0.17	0.20**
		Internal		
Anger	-0.29	0.16	-0.20	0.13
Fear	0.00	0.22	0.44	-0.16
Sadness	0.66	-0.19	0.44	0.03
Enthusiasm	-0.63	0.40	-0.90	0.15
		External		
Anger	-0.63	0.05***	-0.43	0.39***
Fear	-0.81	0.93***	-0.18	-0.05
Sadness	-0.58	0.10	-0.40	0.44
Enthusiasm	-0.38	0.18	-1.92	0.34***
		Spending		
Anger	0.42	0.31*	0.43	0.26***

Table 5.17: Simple slopes analysis.

Fear	0.32	0.19	0.22	0.30
Sadness	0.47	0.21	0.32	0.24
Enthusiasm	0.34	0.21	0.41	0.25**
Crime Attitudes		**Internal**		
	Conservative	Liberal	Conservative	Liberal
Anger	0.17	0.61**	0.49	0.54
Fear	0.11	0.00	-0.16	-0.06
Sadness	0.11	-0.42	0.65	-0.51*
Enthusiasm	0.03	0.12	-0.07	-0.16
		External^		
Anger	0.54	0.55	0.44	0.55
Fear	0.50	0.50	0.74	0.42
Sadness	0.30	0.59	0.53	0.58
Enthusiasm	0.55	0.46	0.40	0.57
		Community		
Anger	0.11	0.32	-0.23	0.54
Fear	-0.48	0.02	-0.34	-0.16
Sadness	-0.15	-0.19	-0.33	0.29
Enthusiasm	-0.03	-0.18	-0.47	0.10
		Crime Spending		
Anger	0.33	0.26	0.34	0.28
Fear	0.41	0.27	0.22	0.39**

Sadness	0.39	0.34	0.33	0.27
Enthusiasm	0.33	0.30	0.47	0.38
Poverty Attitudes		**Internal**		
	Conservative	Liberal	Conservative	Liberal
Anger	0.43	-0.21	1.29	-0.33***
Fear	0.11	-0.24	0.69	-0.70***
Sadness	0.43	-0.33	-0.23	0.39
Enthusiasm	-0.27	-0.19	0.20	-0.53
		External		
Anger	-0.03	0.35	-0.79	1.04***
Fear	-0.11	0.39	0.35	0.07
Sadness	0.19	0.44	-0.13	0.42
Enthusiasm	0.02	0.19	-0.36	0.44
		Welfare Spending		
Anger	0.54	0.61	0.73	0.46**
Fear	0.61	0.39	0.50	0.54
Sadness	0.60	0.41	0.61	0.47
Enthusiasm	0.57	0.55	0.66	0.48

Note: Entries are predicted values from a multivariate regression. All entries are from OLS, unless denoted with ⌢ These are predicted probabilities of being in the third most extreme category from an ordered logit equation. Differences were calculated by simple slopes analysis.#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Figure 5.1: Manipulation Check

Figure 5.1: Manipulation Check,(cont'd)

Feelings of Enthusiasm
by Ad Emotion condition/Crime Ad

Note: Mean values: n=320

Feelings of Enthusiasm
by Ad Emotion condition/Environment Ad

Note: Mean values: n=353

Figure 5.1: Manipulation Check,(cont'd)

Averages for Emotions Questions
for Enthusiasm/Crime ad
Note: Standardized Values: n=320

Averages for Emotions Questions
for Enthusiasm/Environment ad
Note: Standardized Values: n=353

Averages for Emotions Questions
for Sadness/Crime ad
Note: Standardized Values: n=320

Averages for Emotions Questions
for Sadness/Environment ad
Note: Standardized Values: n=353

Figure 5.1: Manipulation Check,(cont'd)

Averages for Emotions Questions
for Fear/Crime ad

Note: Standardized Values: n=320

Averages for Emotions Questions
for Fear/Environment ad

Note: Standardized Values: n=353

Averages for Emotions Questions
for Anger/Crime ad

Note: Standardized Values: n=320

Averages for Emotions Questions
for Anger/Environment ad

Note: Standardized Values: n=353

Figure 5.2: Environmental Attitudes

Prevent Environmental Problems
by Emotion Ad Condition and Ideology

Variable is coded from 0 to 1, n=673

Certainty/Risk of Environmental Problems
by Emotion Ad Condition and Ideology

Standardized Value, n=673

Internal Attributions
by Emotion Ad Condition and Ideology

External Attributions
by Emotion Ad Condition and Ideology

Figure 5.2: Environment Spending Preferences (top panel) and Poverty attitudes (bottom panel)

Preferences for Spending
on the environment

Variable is coded from 0 to 1, high scores denote decreased spending n=673

External Attributions
by Emotion Ad Condition and Ideology

Standardized Value, n=673
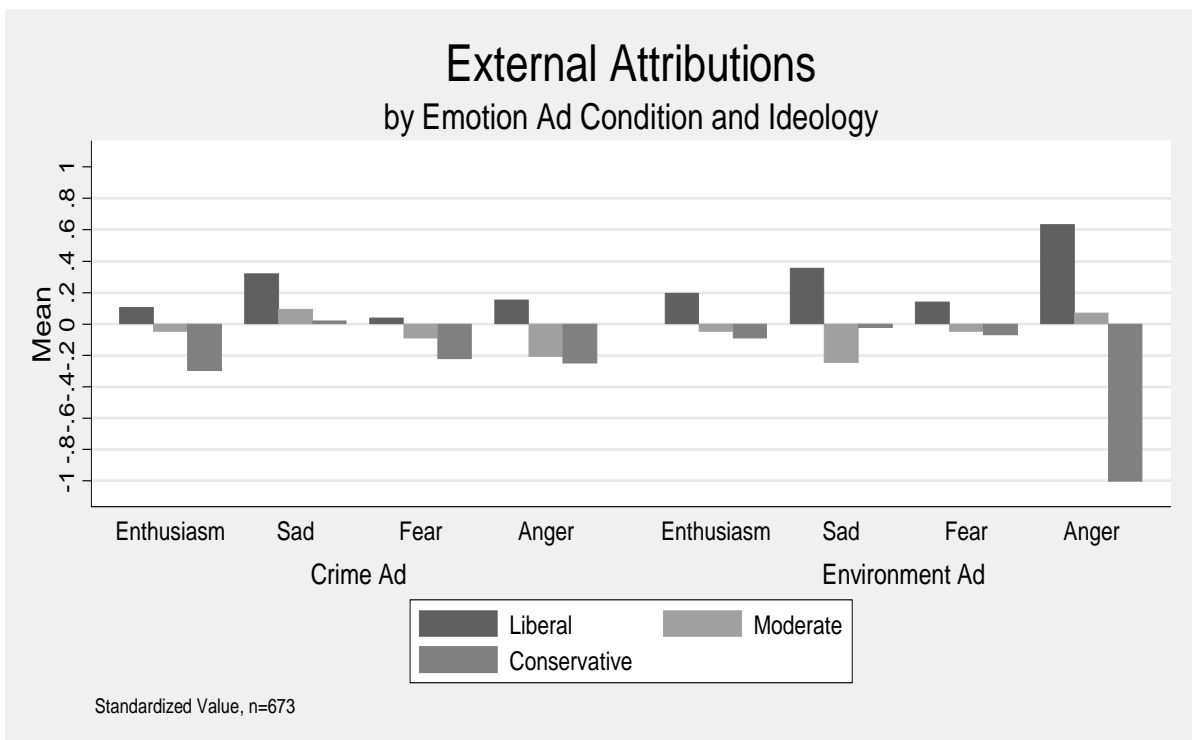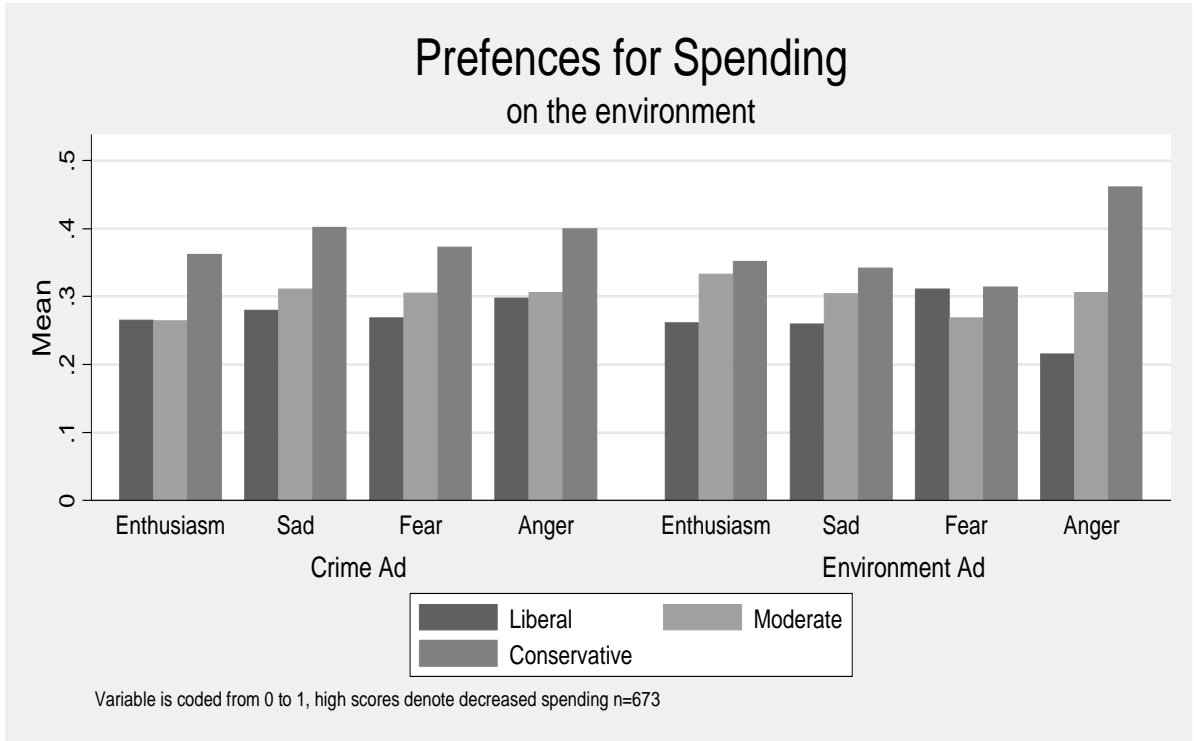
Figure 5.2: Poverty Attitudes,(cont'd)

Internal Attributions
by Emotion Ad Condition and Ideology

Standardized Value, n=673

Prefences for Spending
on welfare

Variable is coded from 0 to 1, high scores denote decreased spending n=673

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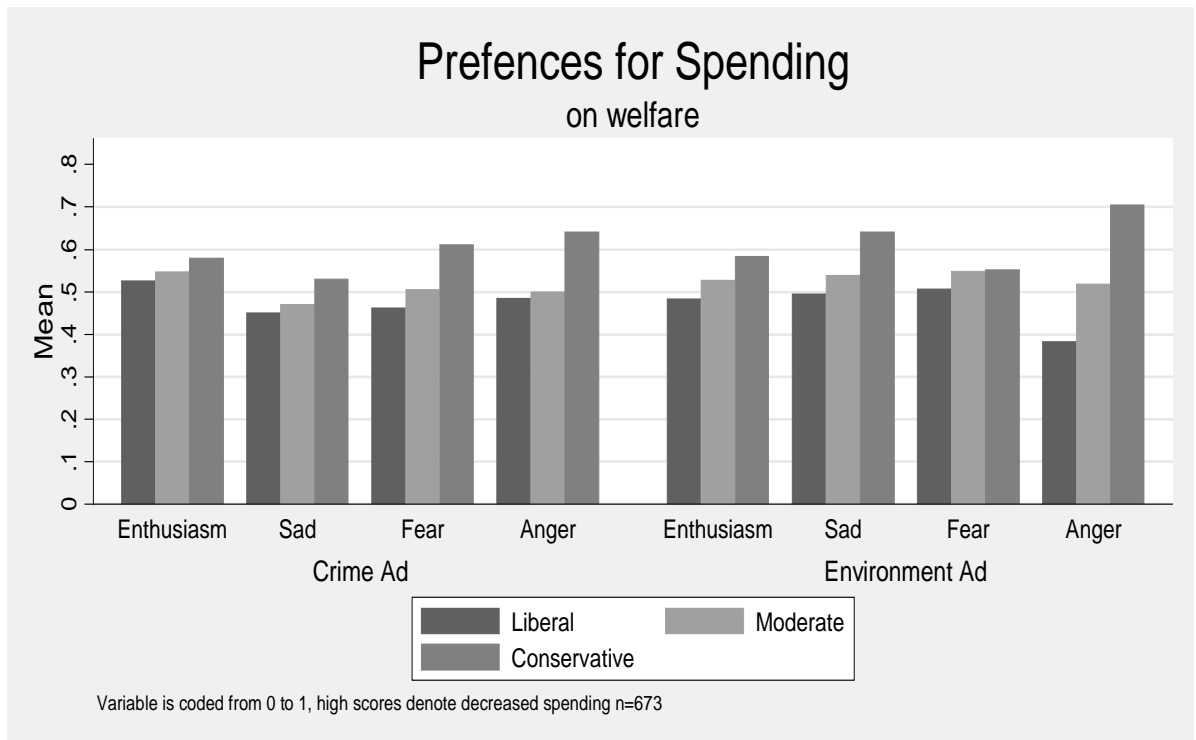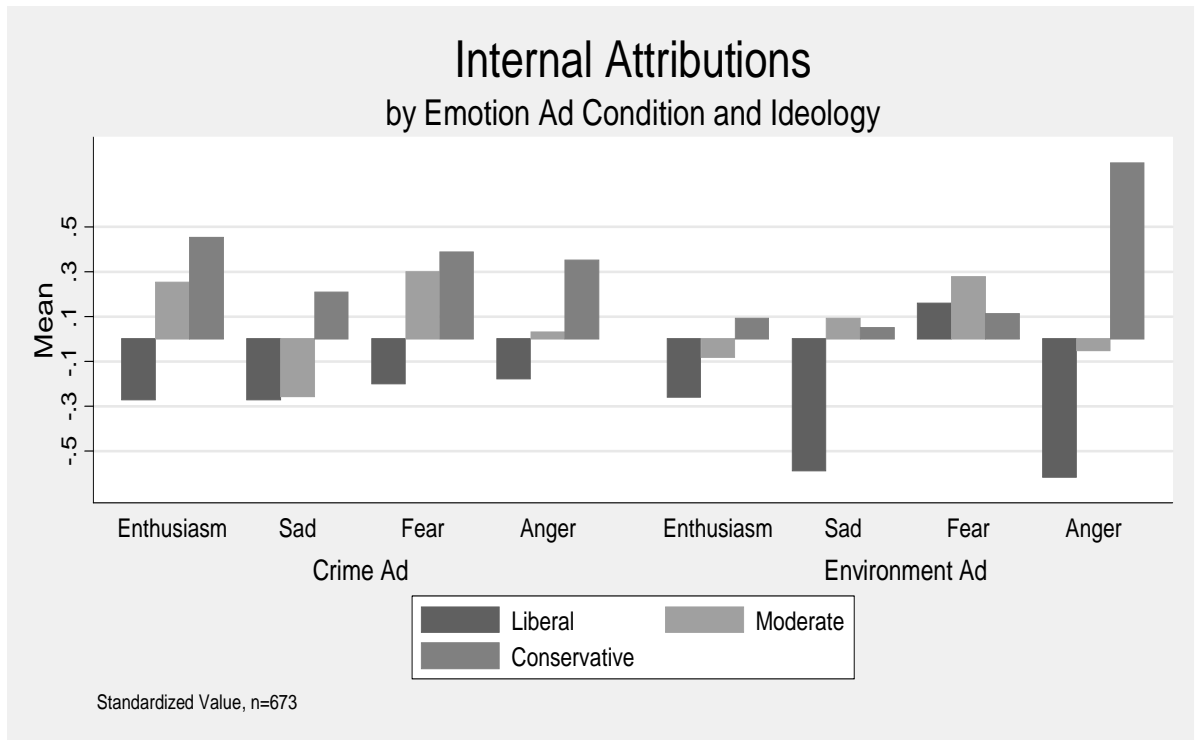
Figure 5.2: Beliefs About the Causes of Crime

Internal Attributions
by Emotion Ad Condition and Ideology

Standardized Value, n=673

External Attributions
by Emotion Ad Condition and Ideology

Standardized Value, n=673
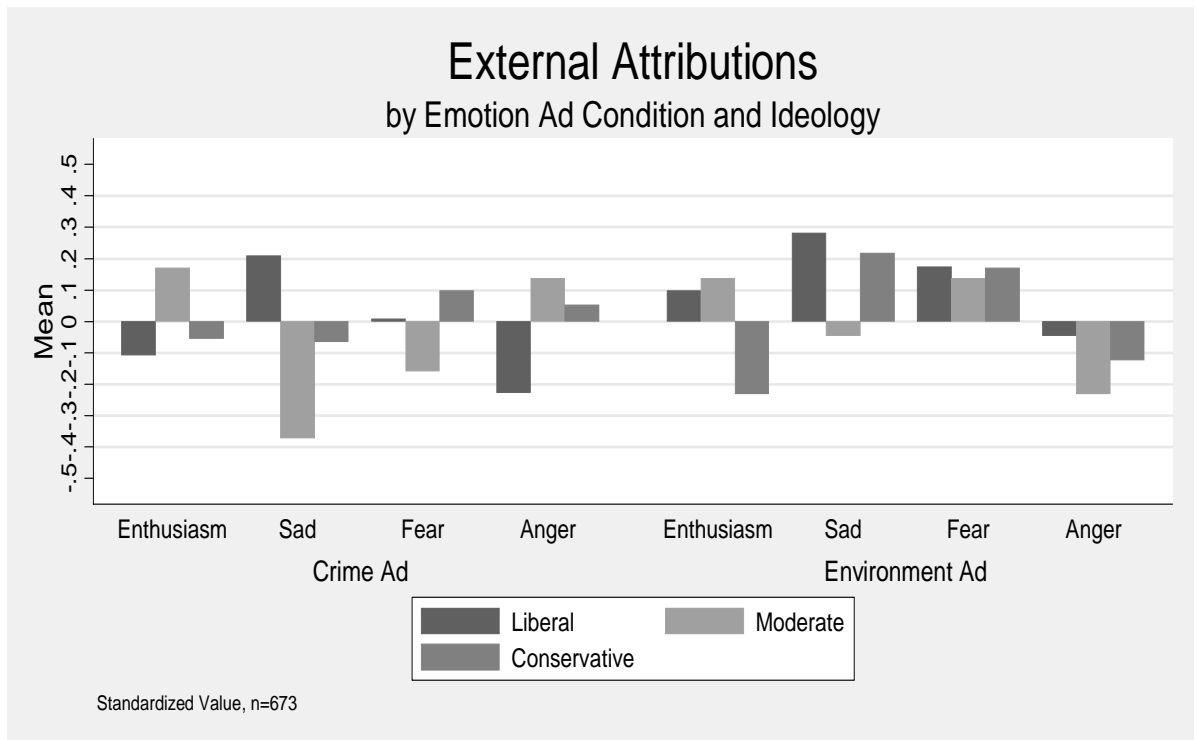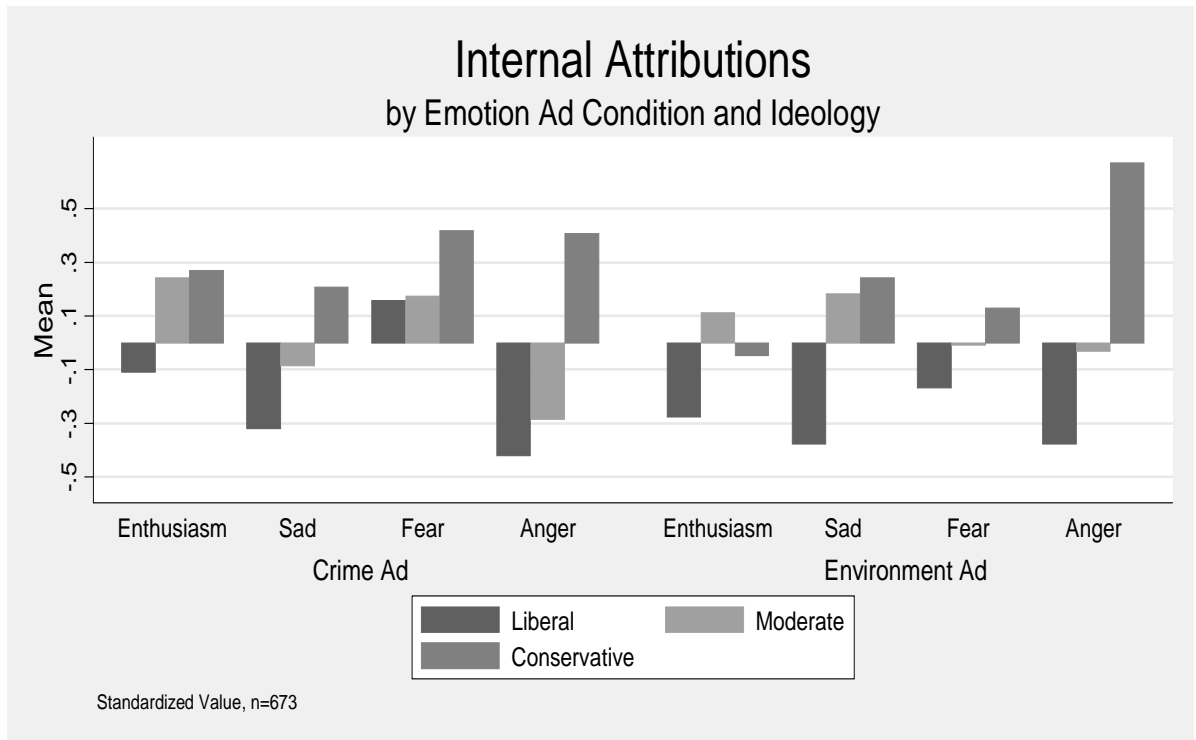
Figure 5.2: Crime Attitudes,(cont'd)

Community Attributions
by Emotion Ad Condition and Ideology

Standardized Value, n=673

Prefences for Spending
to reduce crime

Variable is coded from 0 to 1, high scores denote decreased spending n=673

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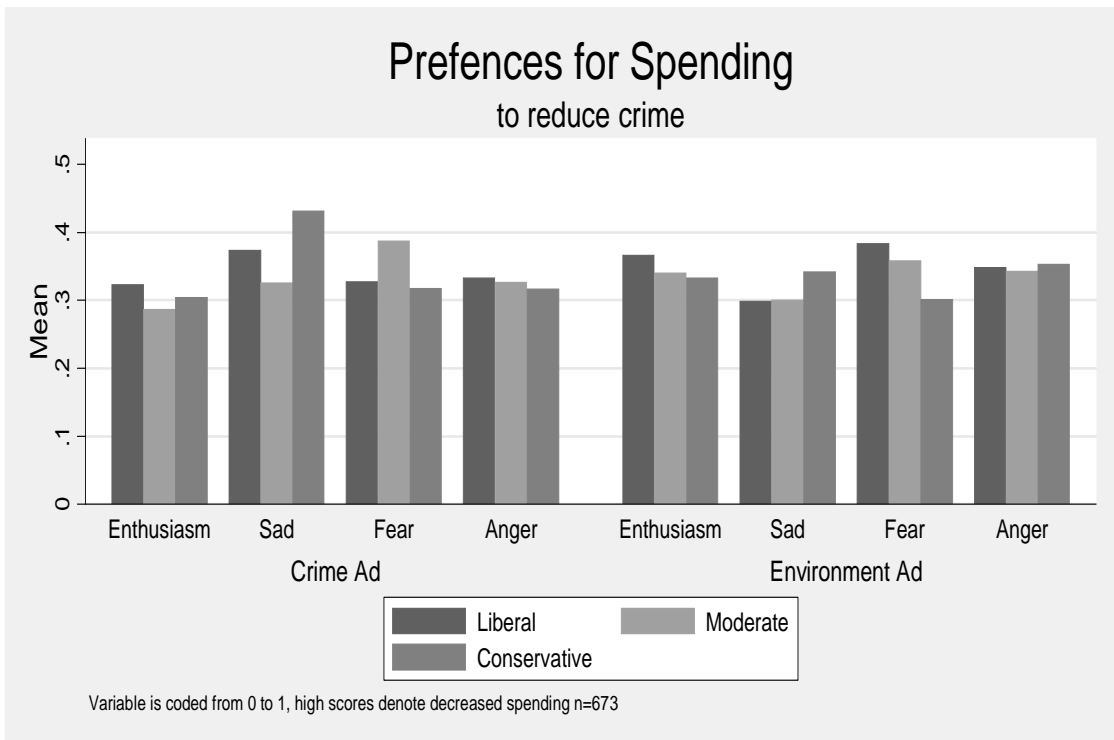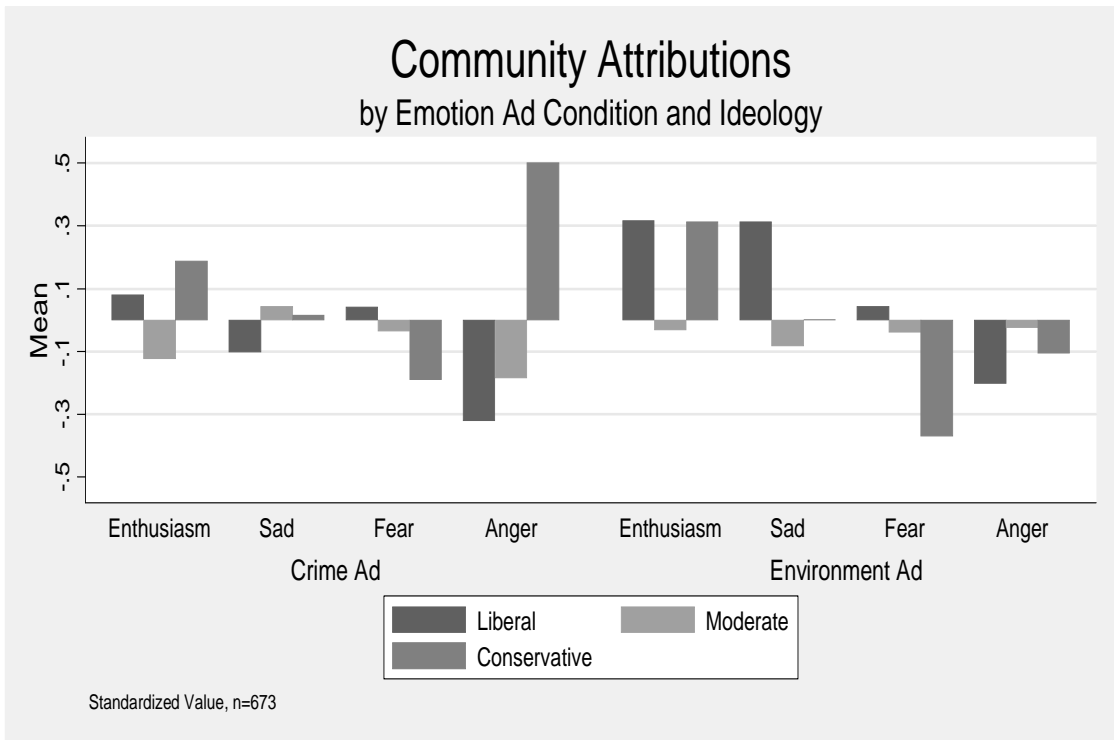
Figure 5.3: Probability of Choosing Option as First Choice

Note: Exploded Logit Estimates. Probability of being first choice
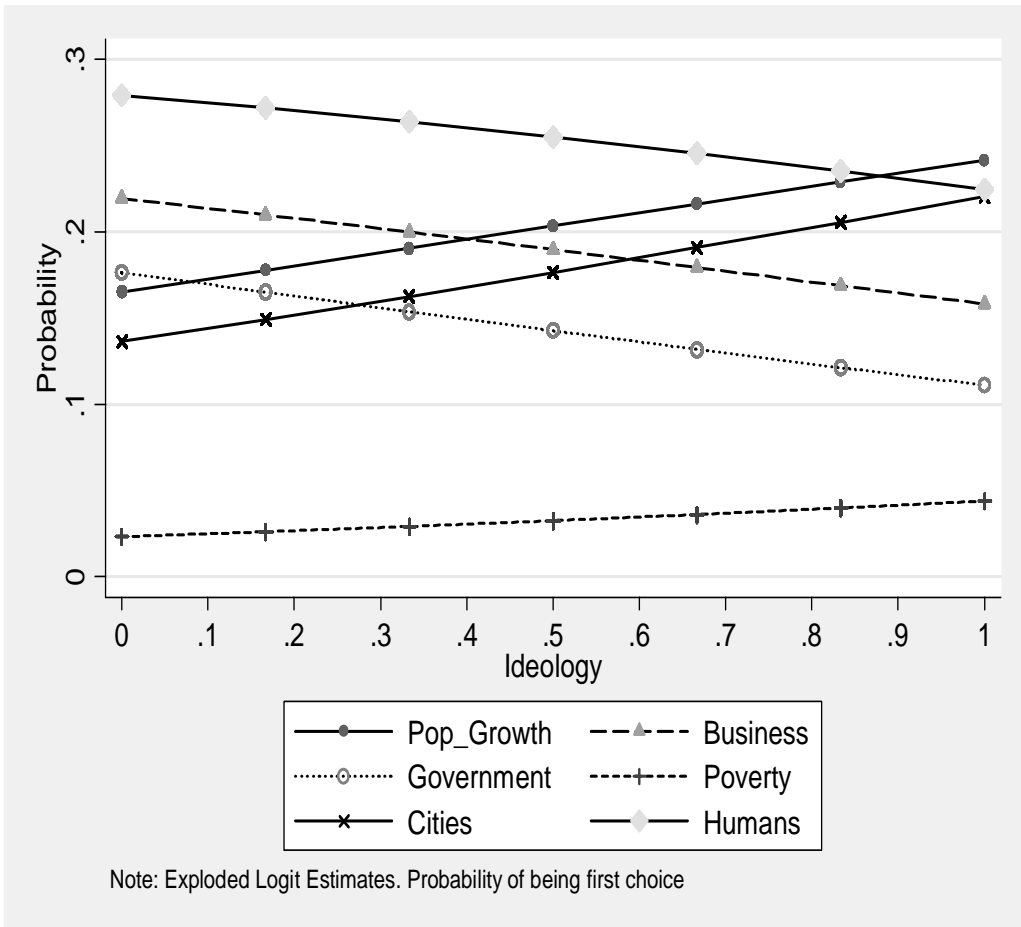
Figure 5.4: Probability of Choosing Option as First Choice, Crime Ads
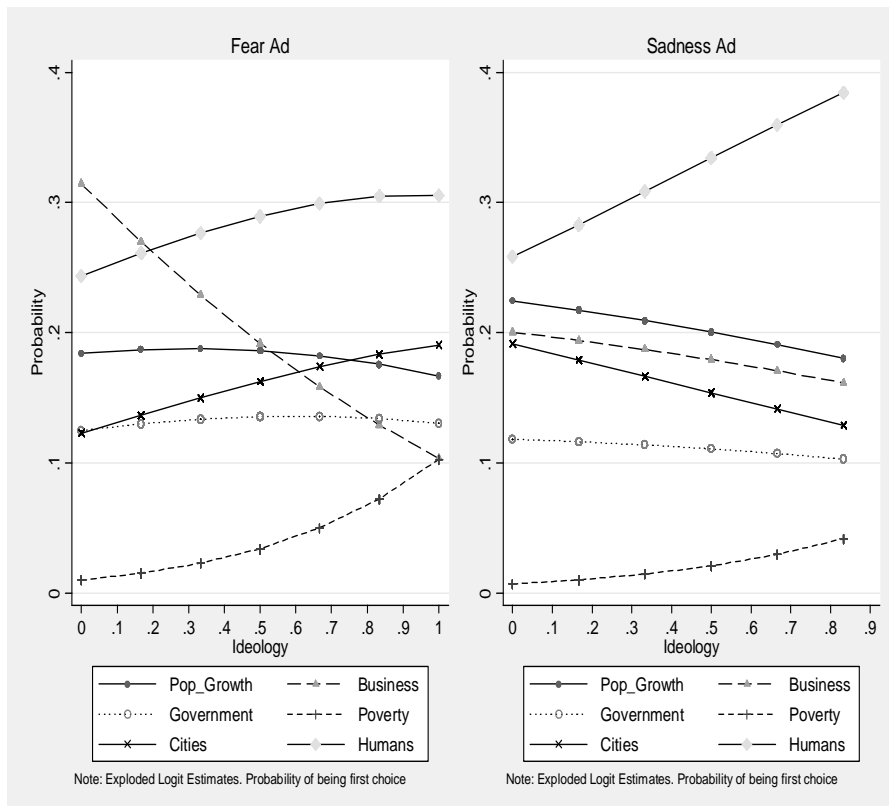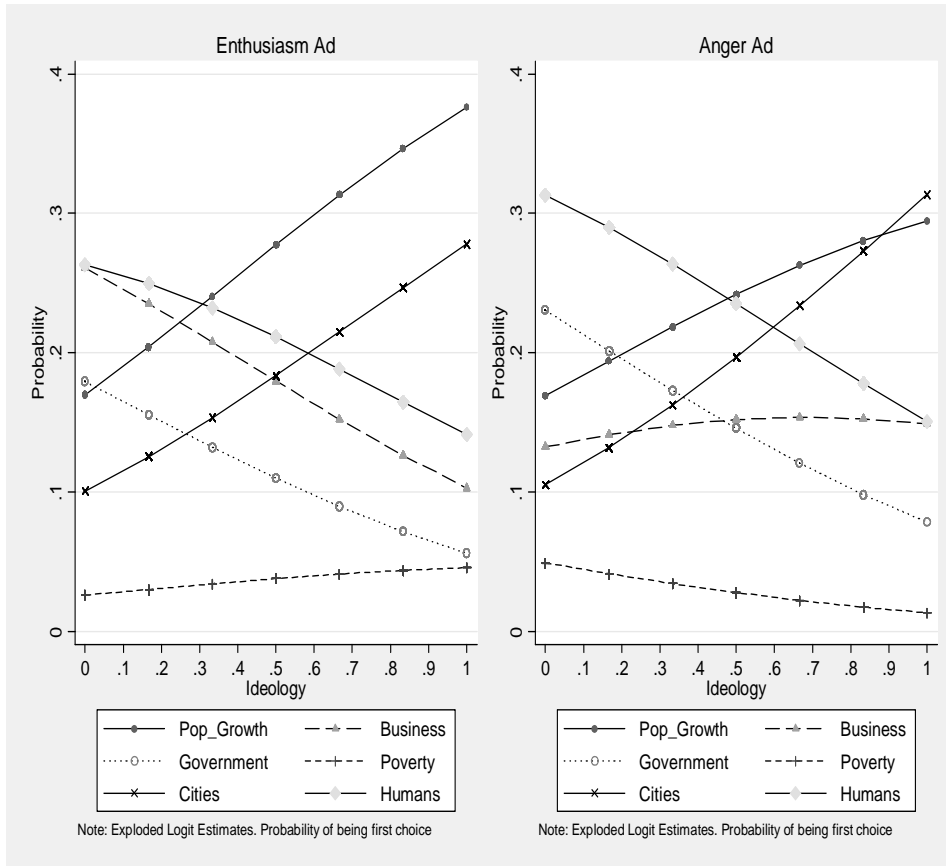
Figure 5.4: Probability of Choosing Option as First Choice, Environment Ads
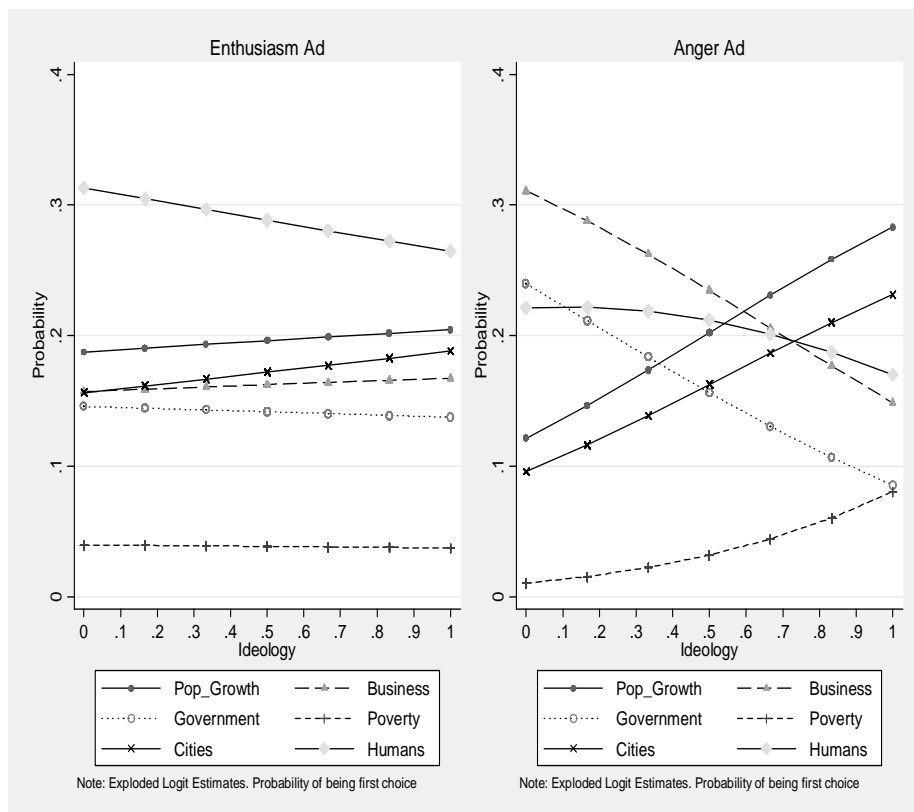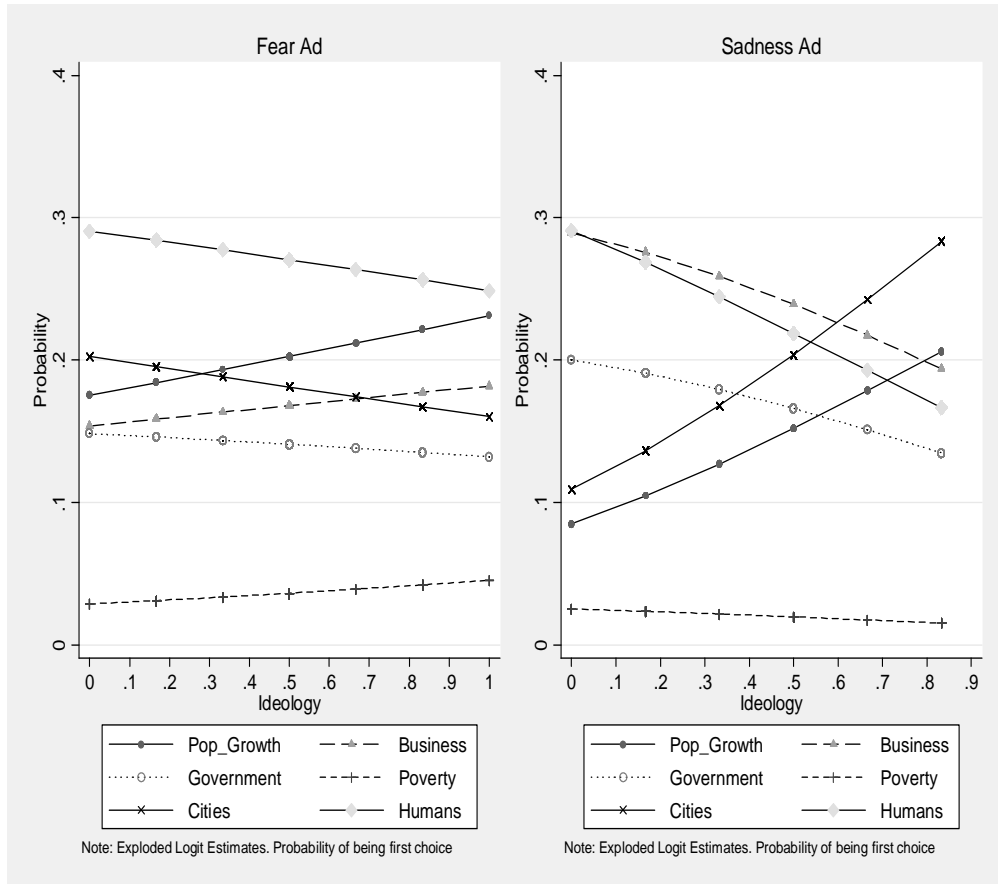
Chapter 6

Emotions and Political Persuasion

Abstract

The primary concern thus far has been exploring whether discrete emotions have unique effects on political behavior and issue attitudes. In the previous two chapters I demonstrated that emotions play an important role in motivating civic behavior, as well as affecting the ways in which political issues are considered. One of the weaknesses of the studies in these chapters, however, was their lack of external validity. Specifically, the campaign ads focused on a fictitious election, where important cues- such as the ideology and PID of the candidates- were absent. Rarely are advertisements presented without these cues, and given the ubiquity of source cues in political communications, in this chapter I explore several additional questions that hinge on matching the characteristics of the political message with the characteristics of the recipient. Specifically, (1) do source cues influence the emotions felt in response to political advertisements?; (2) do source cues embedded within political ads moderate the affect of emotions on political engagement?; and (3) do emotions influence how information is used in forming vote intentions? These three questions all address a related theme by exploring how emotions are related to political persuasion.

6.1 Introduction

Political elites possess an important role in shaping political beliefs. Elites affect opinion directly, providing information to citizens and affecting how issues are considered, as well as indirectly: because of their elevated status, many voters simply use elite positions as a heuristic. Often it is the case that simply knowing how a partisan stands on a political issue is often sufficient to determine one's own position (Cohen, 2003; Hartman and Weber, 2008). With this in mind, political scientists have increasingly been attending to the importance of motivational factors- such as pre-existing beliefs and cues from elites- in studying how political information is processed (Zaller, 1992). For instance, Taber and Lodge (2006) advance the notion that citizens process information in a biased manner. Literature on issue framing has similarly shown that information from an un-trusted source is less persuasive and weighs less heavily on evaluation than information from a trusted source (Druckman, 2004; Hartman and Weber, 2008). Yet much of this literature has ignored the role of emotions, which is the emphasis of this chapter.

Source information is often a potent cue in political communications, adding credibility to candidate issue positions and couching political concerns in a broader political debate. For example, in early 2006, news coverage about the immigration debate not only discussed the core-issues at stake, but also, focused on the positions taken by partisan elites. In addition, Zaller (1992) finds that elite position-taking strongly affected attitudes towards the Vietnam War. Americans who endorsed Hawkish foreign policy positions diverged most from those of Dovish positions toward the end of the conflict. Zaller contends that this was due largely in diverging elite positions on the war (see also, Druckman, 2001). Druckman (2004/2005) similarly argues that such effects can be explained, in part, by the fact that elites- especially elites that hold similar beliefs- are viewed as trusted and credible sources. In one experiment, Druckman finds that persuasion was most likely to occur when a

persuasive message originated from a credible source (*The New York Times*) relative to a non-credible source (*The National Enquirer*).

Simply knowing how an elite stands on a political issue is often adequate in forming one's own opinion (Druckman, 2004; Zaller, 1992; Tomz and Sniderman, nd). For instance, Hartman and Weber (2008) find that in the context of issue framing, persuasion only occurred when there was an ideological match between the participant and the source of the information- i.e., a liberal reading a news story from a liberal and a conservative reading a story from a conservative. Others contend that politicians often invoke political brand names, such as party and ideological labels, in attempts to shape public opinion (Tomz and Sniderman, nd). The very notion that a member of one's group holds a particular commitment is often a potent indicator of political beliefs, and a the position taken by opinion leaders can be used to explain why individuals hold what would seem to be logically contradictory beliefsfor instance, a conservative's endorsement of the death penalty but opposition to abortion, and a liberal's position that abortion is a woman's fundamental right but that the death penalty is murder; or why conservatives generally favor more government spending in the case of national defense but less for domestic issues, and vice-versa for liberals (Cohen, 2003; for an interesting interpretation of these contradictions, see Lakoff, 2002). As summarized by Cohen (2003): "social meaning is not inferred but transferred [and] it is defined by the judgments of other individuals who are trusted to share one's moral allegiancesthat is, individuals who share one's social identity" (p.809). Extending these findings to campaign dynamics, the effectiveness of a campaign advertisement should be related to factors such as whether the ad-sponsor holds belief similar to the viewer. Specifically, a match between viewer and ad-sponsor's party identification should influence felt emotions, persuasion and the motivational impact of the message.

6.1.1 Varying Emotions and the Appraisal Process

In this chapter I test how source information relates to emotional response and expression. Source information is expected to be important in shaping reactions to campaign ads, where emotions should be strongly related to where the message originates. For example, in 2004 George W. Bush's "safer, stronger" advertisement (3/3/2004) was clearly designed to elicit hope, enthusiasm, and optimism for a "steady leadership in times of change". This effect should have been pronounced among conservative and Republican viewers, whereas a Democratic or liberal viewer likely experienced skepticism, disdain, and perhaps anger. Notwithstanding, nearly all the literature on message source effects has examined the cognitive ramifications of these cuesfor example, how much is a source relied on in constructing an attitude, and how influential is source information for the depth of information processing.

Voter heterogeneity in emotional response should be a function of two factors- the content of the message as well as the sponsor or source of the advertisement. Up until this chapter, I only considered the former, examining how message content- shifting audiovisual cues, music, and information- elicits emotion. The latter is also central to campaign strategy. An advertisement released by a Democrat should resonate differently with Democrats than Republicans or Independents. While it may not be surprising that messages are often processed in reference to source characteristics (Petty and Wegener 1999; Chen and Chaiken 1999; Petty et al. 2003), it is novel to suggest that emotional reactions to political messages are attributable to both characteristics of the message and characteristics of the individual. As in other chapters, this expectation is grounded in appraisal theory, where it has been shown that emotional reactions are explained by how an event is interpreted or appraised. Variation in interpretation leads to variation in emotional reactions. Thus, it follows that systematic differences in appraisals will lead to qualitatively different emotions. An ad may evoke an array of emotions across individuals- some may experience anger, others sadness, and yet others, fear.

In an empirical test of this, Siemer et al. (2007) exposed subjects to an "ambiguously negative event" where participants were told they performed poorly on an exam. This was followed with an assessment of emotional reactions. The authors found a great deal of variation in experienced emotions. Some participants felt angry, others sad, and others ashamed. What is more, these emotions were linked to unique appraisal patterns. Similar research has found variation in appraisal processes by culture, where some emotions, such as anger, are more prevalent in post-industrialist, western cultures. (Williamson, Gonzales, Avery, Sullivan, Riedel, and Bos, 2003). This variation has been explained, in part, by differing frequencies of particular appraisals: Westerners tend to value place a greater reliance on individualism, the protestant work ethic, and the tendency to attribute failure to internal factors (Zucker, 1999). There are also gender differences in emotional experience and expression, with women more likely to report and express powerless emotions (e.g., fear, anxiety) and men more likely to report empowering emotions (e.g., anger, disgust) (Simon, 2004).

A critical ingredient in explaining variation in emotional reactions to political ads should be the source of the message. I contend that cues, such as whether the ad-sponsoring candidate is a Democrat or a Republican, should influence both the type and magnitude of the experienced emotion. An ad released by a Democrat attacking a Republican, for example, should elicit a stronger emotional response among Democrats than among Republicans. Thus, the first hypothesis I test in this chapter is: *a stronger emotional response will be elicited when an advertisement comes from a congenial, than from a non-congenial source. Similarly, a message from a congenial source should be rated as more persuasive and more positive.*

Due to source-caused emotional heterogeneity, political ads should not have uniform effects for voters. Indeed, one of the looming questions from chapter 4 concerned what type of voter is mobilized by anger and enthusiasm messages. Is it anger at the opposing party that leads to mobilization, similar to the notion of mobilizing

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the partisan base; or are these effects more general? Do anger evoking message influence partisans and moderates alike? To examine how source cues may ultimately affect behavior, take a hypothetical example where a Democrat and Republican voter view an ad attacking a Republican candidate for supporting the Iraq war. The Republican voter should discount the relevance of the advertisement, experiencing disgust and disbelief. The Democrat should view the ads as more convincing, and as such, be more inclined to experience anger- anger directed at the Republican candidate. Yet why does this occur and what are the behavioral implications? These different emotional reactions should be the proximal consequence of different appraisals. The Democrat should be more inclined to draw on human agency (e.g. the Republican supporting the war) and illegitimate actions (e.g., favoring continued military intervention) which should become manifest an angry response to the advertisement; whereas the Republican may discount the relevance of the message, perhaps a general sense of disbelief. As such, the advertisement would mobilize the Democrat (by evoking anger), but it should have no effect or may even demobilize the Republican. Given the absence of source cues in the studies of previous chapters, I was unable to explore these possibilities. Thus, I am now in a better position to test a second hypothesis that *anger and enthusiasm evoking messages should lead to voter mobilization when originating from a congenial source, but these ads should have no effect on members of the opposing party. Similarly, sadness and fear should lead to demobilization when originating from a congenial source, but should have no effect when released by an uncongenial source.* After exploring these hypotheses, I then explore whether emotional reactions to campaign messages, in turn, have proximal consequences for how political information is processed and what factors are decisive in vote choice.

6.1.2 The Persuasive Effects of Emotions

Political scientists have increasingly been attending to the role of emotion in the processing of political information (Huddy et al., 2007; Marcus et al., 2001; Lodge and Taber, 2005; Lodge, Taber, and Weber, 2006). For example, Valentino et al. (2008) find that anger leads to biased information processing, whereas anxiety leads to systematic, objective information processing. Psychologists have also found variation in processing strategies depending upon one's emotional state. Happiness increases reliance on heuristics; sadness promotes systematic processing (Bless, Schwarz, and Wieland, 1996; Park and Banaji, 2000). For instance, argument strength is less important for happy people than sad (Bless et al., 1990), and happiness facilitates relying on peripheral cues, such as the message source. Leith and Baumeister (1996) find that negative emotions facilitate impulsive, less deliberative behavior, particularly because these emotions lead to a breakdown of self-regulation. Fredrickson (2001) similarly finds that happiness and other positive emotions facilitate global processing and attention to broader integrative themes (the individual focuses on the proverbial forest rather than the trees); negative emotions facilitate local processing (the individual focuses on the trees, not the forest). Positive moods promote the use of general knowledge structures, habits, and stereotypes, mainly because nothing in the environment is threatening, and one can maintain the pleasant state without expending greater effort on systematic processing.

More recently, research has explored whether emotions of the same valence vary in their persuasive appeal. Appraisal theorists contend that anxiety and sadness promote systematic processing because these emotions correspond to reduced perceptions of control and certainty. As such, individuals are less confident in their preexisting beliefs and more likely to actively seek out additional information. A similar approach has been taken in the affective intelligence literature, whereby anxiety signals to the individual that habit is insufficient and greater attention need be paid to contemporary information (cf., Ladd and Lenz, 2008). While some have

noted that a dose of anxiety is healthy for the electorate, motivating citizens to pay more attention to contemporary information and rely less heavily on cues and heuristics (Marcus et al., 2000), this is quite at ends with conventional wisdom regarding the effects of *fear mongering* campaigns. Pundits have suggested that such tactics promote apathy, disengagement, and reduced rates of political knowledge (Valentino et al., 2008). Similarly, heightened levels of anxiety have been shown to impair learning (Eysenck and Calvo, 1992), and anxiety has been linked to *biased* information processing and adverse health consequences (LeDoux, 1996). In a political extension, Huddy, Feldman, Taber, and Lahav (2005) find that heightened levels of anxiety about terrorism reduced learning about the war in Iraq, perhaps because of its effect on reducing the number of items accessible in working memory[25] .

Affective intelligence has been silent about the precise role of emotions discrete emotions. For example, how does sadness differ from fear and how does fear differ from anger? As noted in previous chapters, appraisal theory is better situated to address the unique effects of discrete emotions (Bodenhausen et al., 1994; Lerner and Tiedens, 2006). Perhaps the most consistent finding in the appraisal literature is that that anger tends to have effects similar to enthusiasm, whereas fear is more closely aligned with sadness. It is important to underscore, however, that the empirical evidence has be somewhat mixed (Clore and Schnall, 2005). In addition to uncertainty as to whether anxiety facilitates or inhibits learning, there have been conflicting findings for anger. Some suggest that anger should reduce the propensity to attend to contemporary information, subsequently enhancing a reliance on heuristics. Lerner and Tiedens (2001) posit that this is because anger corresponds to elevated perceptions of control and belief certainty. As such, anger can lead to stronger attitudes and polarized beliefs (see previous chapter). Similarly, there are physical markers suggesting that anger inhibits systematic processing. Namely, anger leads to high levels of physiological arousal, which has been linked to suppressed analytic processing. (Walley and Weiden, 1973; Roseman, 1984; Tiedens

and Linton, 2001).

On the other hand, Wegener and Petty's (1994) hedonic-contingency model suggests that negative moods in general should lead to systematic processing, mainly to exit the aversive state. As such, angry people should be more likely to rely on analytic processing. Moons and Mackie (2007) find strong evidence for this: anger leads individuals to rely on argument quality, angry individuals scoring high on need for cognition prefer strong to weak messages, and only in instances where peripheral cues are relevant, do these cues exert an influence on attitudes. Taken together, this suggests that anger can have the effect of increasing the motivation and capacity to process information analytically rather than heuristically.

The effect of sadness in persuasion has yielded a more consistent story. Lerner and Tieden's (2001) *appraisal tendency framework* contends sadness should increase analytic information processing, given that sadness corresponds to reduced perceptions of certainty. In an applied example, Small and Lerner (2008) demonstrate this by manipulating sadness and anger and then examine whether the effects of these emotions on preferences for welfare spending. Sadness strongly predicts spending preferences, but only given sufficient cognitive resources. When participants were sad and subjected to a cognitive load task, there were no effects of sadness on spending preferences, which indicates that depth of processing accounted for these effects (see also, Bodenhausen et al., 1994). It is only under extreme degrees of sadness that information processing and learning are impaired [26].

Given the conflicting findings of specific emotions on information processing, it remains an open empirical question as to how anger, sadness, fear, and enthusiasm affect the way information is attended to, and what type information is important in forming a vote choice, for example. Anger may lead to biased processing and an importance attached to one's prior beliefs when forming a vote choice (Marcus et al., 2000; Bodenhausen et al., 1994), *or* anger may lead to more effortful processing and

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[26]All footnotes can be found at the end of chapter 7

less of a reliance on mental shortcuts (Moons and Mackie, 2007; Wegener and Petty, 1994). Similarly, affective intelligence theory has found that fear facilitates effortful processing; whereas others have found the opposite- namely, that fear and anxiety can lead to biased information processing and recall (LeDoux, 1996). Thus, I test whether the weights attached to particular factors vary when considering political candidates. Specifically, by making known the party allegiances of the candidates in the advertisements, I can test the relative importance of respondent PID on vote choice, as well as determining whether contemporaneous evaluations and feelings are influential in forming a vote intention. Thus, the third hypothesis I test is: *sadness and fear should enhance systematic forms of information processing, as these emotions have been found to covary with a sense of uncertainty and control.* These emotions should facilitate relying on contemporary evaluations, rather than extant dispositions, and PID should not be nearly as important as issue considerations for sad and fearful respondents The opposite pattern should emerge for enthusiasm and anger. These emotions are associated with an elevated sense of control and certainty. *Anger and enthusiasm should lead to a stronger reliance on predispositions whereby individuals should rely on PID source cues more heavily than issue considerations when forming vote intentions.* To maintain comparability with the literature in political science, I use an approach similar to Brader (2005/2006) and Marcus et al. (2000) by exploring the importance of PID and contemporary issue evaluations in vote intention and candidate evaluation.

6.2   Experimental Design and Results

To test the hypotheses that emotional reactions and voter mobilization should vary as a function of the message source, and that emotions should lead to different weights attached to considerations when forming vote intentions, a 2 (Message Source: Republican, Democrat) x 4 (Emotion Ad: Anger, Sadness, Fear, Enthu-

siasm) experiment was designed. The advertisements were the same ads used in chapter 4, but with an important caveat: the PID of the ad sponsor and attacked candidate were made explicit. I did this by adding the following instruction set: "The advertisement below is an internet ad taken from a recent congressional election. The election was a close race between two candidates, John Wilkins and Dave Reade. Both Dave Reade, the **Democratic (Republican)** candidate, and John Wilkins the **Republican (Democratic)** candidate spent much of their operating budgets on internet campaigning, sending numerous emails and web ads to voters. We would like to get your reactions to one of the advertisements released during this campaign." This was followed with instructions on how to view the advertisement: "Internet campaigning has increased in recent years. Yet it is unclear what voters think about political information released on the web. For this reason, we ask that you view an internet ad from a previous congressional election. Please watch the advertisement and then answer the questions that follow. To view the advertisement, you'll need a computer with speakers. Please make sure the sound on your PC or laptop is turned on."

On the next page of the survey, the video appeared. The ad was embedded within the survey and streamed from *Google Video*. Since the video required an updated version of *Adobe's Flashplayer 9*, a download link for this software was provided. Again, the candidates were unknown to participants (recall that the candidates were fictitious) Participants were free to watch the advertisements as many times as desired. Follow up questions were asked regarding how many times the ad was viewed. The post-test consisted of vote intention, ad evaluation, a manipulation check, political participation questions, as well as attributions regarding the core causes of crime in the U.S.

The sample consisted of 1,452 adults who completed the survey by clicking a on a link from a weblog. One hundred and ninety eight blog authors were emailed and asked to post the survey. Reminders were sent 3-5 days after the initial email

requesting the survey to be posted. This resulted in 18 bloggers who posted the survey. The URL for each blog is listed in the appendix, but suffice it to say that an ideologically diverse array of bloggers posted the link, and most of the blogs were political in nature. It was extremely difficult getting non-political blogs to link the survey, primarily due to fears about offending readers with a political survey and because of the apolitical nature of the blog content . The survey was in the field during the late spring and summer of 2007 and was programmed so that only one survey could be completed by a given respondent[27]. Naturally, some respondents (n=54) indicated difficulties viewing or hearing the video, and were subsequently excluded from further analysis. This left 1400 analyzable surveys. Descriptive statistics can be found in the appendix.

6.2.1 Manipulation Check

Scales were constructed for anger (alpha=0.83), enthusiasm (alpha=0.88), fear ($r_{polychoric} = 0.88$), and sadness ($r_{polychoric} = 0.68$). These scales were then recoded from 0 to 1, with high scores denoting an elevated degree of the particular emotion. To test whether the ads evoked the targeted emotion, the means by experimental condition are plotted in figure 6.1. Several notable findings stem from this figure. First, with the exception of the anger ad, the manipulations were not very successful in eliciting a high degree of fear, enthusiasm, or sadness. Most of the means for the emotions are below the midpoint on the scale (0.5).

[INSERT FIGURE 6.1]

To ensure that the intended emotion was evoked by each advertisement, a one-way ANOVA was run assessing whether reported emotions varied as a function of the advertisements (Anger, Sadness, Enthusiasm, or Fear) The effect of the manipulation was significant for all four emotions (Feeling Anger: $F[3, 1395] = 17.95, p < 0.01$; Feeling Enthusiasm: $F[3, 1395] = 89.54, p < 0.01$; Feeling Fear:

$F[3, 1395] = 9.75, p < 0.01$; Feeling Sad: $F[3, 1395] = 17.99, p < 0.01)^{28}$. Complex contrasts were run identical to those in the previous chapters. Three sets of orthogonal contrasts were used: a valence contrast and two sets to explore difference in means for emotions of the same valence. Overall, the contrast analysis in table 6.1 and figure 6.1 illustrate that the advertisement elicits the target emotion, rendering cross ad comparisons reasonable.

[INSERT TABLE 6.1]

6.2.2   PID Matching, Emotions, and Mobilization

To test the hypothesis that reported emotions are influenced by whether the source is congenial (a member of one's own party), the means by the *Emotion Ad × PID Participant × PID Source* are plotted in figure 6.1. There is some support for the expectation that when an advertisement comes from a congenial source, it is more effective at eliciting the targeted emotion. For example, examining the first panel (figure 6.2a), which is the participants reported level of enthusiasm, when the source is Democrat, Democratic participants showed more enthusiasm (M=0.21) than when the source was Republican (M=0.17, $t = 3.30, p < 0.01$). The same pattern exists for reported sadness and fear. When the message comes from one's own party it elicits a higher degree of the targeted emotion. What is also noteworthy in this figure is the degree of heterogeneity in reported emotions. Participants clearly did not have uniform reactions to the ads.

To systematically explore these differences, omnibus ANOVAs yielded a significant main effect of the Emotion appealed to in the advertisement (all $ps < 0.01$), and the participant's PID (all $ps < 0.01$). No other consistent effects emerged regarding the main effects and two-way interactions. The critical test, however, is the three way -*Source PID × Participant PID × Emotion Ad*- interaction. That is, the targeted emotion should be strongest when coming from congenial source. For two of the four models, this interaction was significant(Feeling Anger: $F[6, 1356] = 1.64, p < 0.15$;

Feeling Fear: $F[6, 1356] = 0.59$, ns; Feeling Sad: $F[6, 1356] = 0.83$, ns; Feeling Enthusiastic: $F[6, 1356] = 1.77, p < 0.10$). Again, because of the non-directional nature of these ANOVAs, simple effects with complex contrasts were conducted. I simplify the analysis by exploring the effect of each ad on reported emotions, based on the participant's PID and whether the message comes from a Democrat or Republican source. This entailed running separate ANOVAs for each advertisement and including the effects of *Participant PID, Source PID, and the Source PID × Participant PID* interaction. Since my main concern is the two-way interaction, contrast weights were generated accordingly and listed in table 6.2.

[INSERT TABLE 6.2]

These contrasts have been slightly modified from the previous chapter, and they test two unique hypotheses: $\psi_{matching}$ tests the hypothesis that the targeted emotion should be the highest in the matching condition (a Democrat viewing an ad from a Democratic Source *and* a Republican viewing an ad from a Republican Source). In other words, if a Democrat is exposed to an anger evoking ad from a Democrat, anger should be higher than if that same ad were released by a Republican. $\psi_{moderates}$ tests a different hypothesis, corresponding to the notion that there aren't significant differences for partisans, but rather, for Independents. It is important to note that the results presented in this table are only in reference to the targeted emotion. For example, the Anger column represents feelings of anger for participants exposed to the anger ad; Sadness represents sadness following the sadness ad, and so on. While at first these contrasts may appear confusing, given the number of mean comparisons being made for each manipulation check (4 x 2 x 3=24), this is the most parsimonious way to analyze these data.

The results in table 6.1 provide marginal support for the hypothesis that the targeted emotion is highest when the ad comes from a congenial source. Feeling enthusiastic is greater for the enthusiasm ad when coming from a like-minded partisan.

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Similarly, professed fear was greater for Democrats viewing a fear evoking message attacking Republicans than a fear evoking message attacking Democrats. The opposite trend was found for Republican participants: Republicans viewing a fear evoking ad attacking a Democrat were more fearful than following than Republicans who viewed an ad attacking a Republican. In short, for fear and enthusiasm, evidence was found for the *matching effect*, in that the ad-targeted emotion was evoked to the greatest degree when the ad supported one's own party and attacks the out-party. Paradoxically, the $\psi_{moderates}$ contrast is significant for feelings of anger, such that anger was comparably higher for Independents viewing an (anger) ad attacking a Republican (M=0.62) than the same ad attacking a Democrat (M=0.51).

As in previous chapters, I also explored the standardized emotion scales within each advertisement. As illustrated in figure 6.1, there is considerable heterogeneity in reported emotions, but overall, this figure provides support for the *matching hypothesis*. For example, enthusiasm was greater following the enthusiasm ad for a Democratic participant/ Democratic sponsor relative to a Democratic participant/Republican sponsor, and enthusiasm was greater for Republican participant/Republican sponsor relative to Republican participant/Republican sponsor. Yet it is important to note that while the means consistently go in the right direction, they do not reach conventional levels of significance. To test whether means are different, the data were converted to "long format" and t-tests were conducted with participant clustered standard errors. From this figure, it seems that Democrats, not Republicans, respond more to source information. For the enthusiasm ad, Republican participants reported comparable levels of this emotion, irrespective of the message source ($t = 0.44, ns$). However, enthusiasm is comparably greater for a Democrat viewing Democrat-sponsored ad relative to a Republican ad ($t = 3.23, p < 0.01$). The same pattern holds for sadness and the sadness ad: levels of sadness are similar for Republicans irrespective of the source ($t = 0.10, ns$); a Democratic ad (relative to a Republican ad) evokes slightly higher levels of sadness

for Democrats ($t = 1.32, p < 0.20$). Also noticeable from this figure are the unintended emotional reactions. For example, the sadness ad evokes more anger than sadness among Democrats (exposed to a Republican ad), though the effect does not quite reach conventional levels of significance ($t = 1.00, p < 0.40$). A similar pattern emerges for the fear ad, with Democrats responding to a Republican sponsored ad with more anger than fear ($t = 1.02, p < 0.30$).

In addition to the emotional effects of the ads, there should also be cognitive ramifications by embedding source cues in the ads. Specifically, attack ads should be viewed as considerably less negative when they come from one's own party and attack the opposing party. The following question was asked after the advertisement: "How positive or negative in tone is this ad?". The five point item was subsequently recoded to range from 0(Very Positive) to 1(Very Negative). A Republican viewing an ad that attacks a Democrat is expected to report that ad as less negative than that same ad attacking a Republican. The opposite trend should exist for Republican participants. The expectation was supported for two out of the four tests, in that the matching contrasts used above were significant (Fear Ad: $F[1, 328] = 5.51, p < 0.01$; Sad Ad: $F[1, 341] = 10.41, p < 0.01$). The means are listed in table 6.3. The shaded columns represent the situation where a message comes from congenial source- a Republican participant/Republican ad-sponsor; a Democratic participant/Democratic ad-sponsor.

[INSERT TABLE 6.3]

To elucidate this pattern, consider the fear ad viewed by a Republican participant. Compare the first bold column in table 6.3 with the column to its left. Republican participants expressed that the ad was more negative when the ad was released by a Democrat (and attacked a Republican) (M=0.82) than when it attacked was released by a Republican (M=0.79,$t = 1.16, p < 0.12, one-tailed$). The same pattern emerges for Republicans who viewed the sadness ad ($t = 2.07, p <$

$0.025, one-tailed$). On the other hand- examining the second bold column and the column to its right - a Democrat viewing a fear ad attacking a Republican reports less negativity (M=0.89) than the same ad attacking a Democrat (M=0.95, $t = 2.48, p < 0.01, one-tailed$); the same pattern exists for Democrats and the sadness ad ($t = 2.70, p < 0.01, one-tailed$). The means go in the expected direction for the enthusiasm and fear ads, though the differences are non-significant. Specifically, the enthusiasm message is rated as more positive when coming from the in-party, and the anger ad is rated as more negative when coming from the out-party. Participants tend to discount the negativity associated with the message depending upon the PID of the source.

[INSERT TABLE 6.4]

The same pattern was expected to occur for persuasiveness, with professed persuasion being greater when the ad comes from the in-party. To examine this, two items were averaged and coded from 0 to 1: "How persuaded were you by the ad", and "How convincing was the advertisement" ($r_{polychoric} = 0.89$). High scores denote a more persuasive message. When a message comes from a congenial source it should be more persuasive. Strong evidence for this emerged, as evident in table 6.4. The matching contrasts were significant for all the ads (Enthusiasm Ad: $F[1, 341] = 15.23, p < 0.01$; Sadness Ad: $F[1, 360] = 8.92, p < 0.01$; Fear Ad: $F[1, 328] = 5.63, p < 0.01$; Anger Ad: $F[1, 328] = 2.81, p < 0.10$). When an ad originates from one's own party it was rated as more persuasive than the same ad attacking the participant's party. This can be seen by contrasting the means in table 6.4. In all cases the means are higher when the advertisement comes from one's own party.

6.2.3 Re-Testing the Partisan Mobilization Hypothesis

One of the compelling findings to emerge from chapter 4 was that anger and sadness were differentially linked to participation, with anger elevating participatory intentions and the psychological correlates of participation. Sadness had the opposite effect. What was lacking in these experiments was a depiction of whether this pattern is exclusive to a certain type of voter for a particular type of advertisement. Do anger evoking advertisements only mobilize fellow partisans, or do they have broader, more uniform effects, influencing Independents and perhaps people of the opposing party? Because the political parties of the attacked and sponsoring candidate were made known in this study, I am in a better position to answer this question.

As in the studies used in chapter 4, participants were asked the same set of participation items: *internal efficacy, external efficacy, importance of voting, trust in government officials, and probability of contacting the campaign.* As in chapter 4, the participation items were regressed on the experimental condition variables (using ordered logit), controlling for demographic factors[29]. The predicted probabilities from this analysis are plotted in figure 6.2; the estimated models are included in the appendix.

[INSERT FIGURE 6.2]

Setting aside Independents, there does seem to be some support that the anger and enthusiasm ads only have a mobilization effect when released from a congenial source. Examining the *Internal Efficacy* panel (top left), the probability of a Republican scoring in the top two categories for the efficacy is 0.6 when the source of the message is a Republican, but only 0.47 when the source is a Democrat. The exact opposite pattern emerges for Democratic participants. The probability of endorsing the efficacy item is 0.58 when the source is a Democrat, but is reduced to 0.48 when the source is Republican. For enthusiasm on internal efficacy, efficacy is considerably higher in the Republican participant/Republican sponsor

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condition (0.58) relative to the Republican participant/Democratic sponsor condition (0.41). The effects are reduced in magnitude for Democratic participants, with Democratic participant/Democratic sponsor individuals scoring marginally higher (0.56) than in the Democratic participant/Republican sponsor condition (0.53). Further support for the findings of chapter 4 is evident in the effects of the sadness ad. This ad led to slight demobilization when coming from one's party- Republican participant/Republican sponsor (0.51), Republican participant/Democratic sponsor (0.55). Democratic participant/ Democratic sponsor (0.49), and Democratic participant/Republican sponsor (0.53). These patterns should be due, in part, to the fact that sadness is greater in magnitude when the message originated from the in-party.

The effects of the ads on the remaining variables are somewhat mixed. For campaign contact and vote importance, the predicted effects of the anger ad go in the wrong direction. Regarding campaign contact, Republicans who view an anger message from a Democratic candidate are more likely to contact the campaign (0.3) than if that same message originated from a Republican candidate (0.18). For Democrats, the predicted effects go in the hypothesized direction, as expected from the *matching hypothesis*. Democrats who view an anger ad attacking a Republican are more likely to contact the campaign (0.3) than for that same ad attacking a Democrat (0.24). The same asymmetric pattern occurs for the enthusiasm ad. For vote importance following exposure to the anger ad, the *matching effect* was found for Republican participants, but not Democrats. The anger ad led to greater importance attached to voting for Republicans viewing a Republican ad (0.9) relative to a Democratic ad (0.8). Exploring the Vote Importance estimates for Democrats in the anger ad condition, the weights attached to voting are nearly equivalent. For the remaining ads, the probabilities do not significantly vary by the PID of the sponsor and participant. The estimates in figure 6.4 also demonstrate, paradoxically, that source cues resonate more with Independents than partisans. Consider the effect of the sadness ad for Independents. A Republican ad led to considerably more internal efficacy

(0.6) and external efficacy (0.31) than a Democratic ad (0.48, 0.28, respectively).

There are several reasons for these mixed results. As illustrated in the manipulation checks (the various panels in figure 6.2), there was considerable heterogeneity in experienced emotions. For example, anger, not fear, was most likely to be experienced by a Democratic participant viewing a fear-ad sponsored by a Republican. By including source cues in the advertisements, the felt emotions were more complex and potentially reduced experimental control. Related to this, it is possible that the underlying cause of one's emotion varied. The anger ad for Democratic participants led to more anger when the ad was sponsored by a Republican than a Democrat. At first blush, this seems confusing, but it is conceivable that cause of anger varied. For a Democrat viewing a Democratic ad, it is possible that the reason for the anger was the content itself; for a Democrat viewing a Republican ad, the anger may have not been a function of the information provided in the ad, but rather, could have been because a Republican released an attack ad. In both cases, the end result is anger, but the cognitive underpinnings of this anger are different: in the first case, it may have been issue based and linked to the ad content. In the second, anger may have been principally rooted in aversion to attack advertisements, especially when released by the opposing party.

Unfortunately, I only asked about general emotional reactions to the ad, without an additional probe as to the reasons for one's emotion. Nonetheless, I address this possibility with two approaches- briefly exploring participants' open ended reactions to the survey, and using instrumental variables regression to assess whether expressed feelings influence participation. At the end of the survey, participants were asked to report any thoughts they had regarding the survey. While the vast majority of reported content was in reference to the questionnaire, a fair number of participants mentioned the advertisements. Notable is that when the candidate attacked was of the same party, many people reported anger or disgust at the very fact that the ad was negative. For example, one participant said, "The anger/irritability I felt

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was because the advert [*sic*] said nothing and simply wrapped the candidate in the flag." Another participant reported: "The ad shown is clearly an attack ad, and I find it irritating and disgusting because it clearly is trying to elicit an emotional response. I have an almost pathological reaction to attack ads in general." A cursory glance at these reactions revealed that this form of principled disgust was not nearly as prevalent when the ad was released by one's own party. A superior measure of emotional reactions in this survey would have included detailed reasons as to why a particular emotion was felt. For example, was the emotion due to the issue positions taken by the candidates, or was it due to a general aversion to attack oriented politics?

As in previous chapters, instrumental variable regression was run with the condition variables serving as exogenous instruments predicting subjective emotions- the same scales used in the manipulation check above. These emotions were then freed to predict participation items. Five two-stage ordered probit models were estimated and are presented in table 6.5. The models provide mixed support for the contention that anger and enthusiasm lead to anger leads to mobilization. Anger and enthusiasm lead to greater importance attached to voting, and (non-significant) increases in external efficacy, but paradoxically, these anger and enthusiasm reduce internal efficacy and the probability of contacting the campaign. As expected, sadness is correctly (negatively) signed in four out of the five models, but only significant in predicting internal efficacy. Fear has a more consistent effect, significantly reducing the probability of contacting the campaign and leading to reduced trust in government, for example.

[INSERT TABLE 6.5]

Summary of Findings

The expectation that emotional reactions are linked to the source of the advertisement was only weakly supported. For the enthusiasm and fear ads, some evidence

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was found supporting the notion that the targeted emotion was elicited to a greater degree when the ad came from a congenial source. The findings were mixed for anger and sadness manipulations. This could have been due to the unforeseen possibility that the ads elicited emotions for reasons other than the ad content. This also could partially explain the mixed results for the effects of the advertisements on participation. Despite quite strong evidence in chapter 4 of anger leading to mobilization, and sadness leading to demobilization, I was unable to replicate that pattern in this chapter. With greater attention to the emotional target this will afford greater leverage in gauging what type of advertisement leads to (de)mobilization.

6.3 The Factors Underlying Vote Choice

I now turn to the third hypothesis that the emotional ad should lead to varying weights attached to particular considerations in forming vote intentions. Up until this chapter, the candidates in the advertisements were unknown and lacked a party affiliation, meaning that it was not possible to extensively explore the factors motivating vote decisions. Since party cues were made accessible in this experiment, I am now in a better position to examine whether the PID of the source serves as a heuristic, as well as whether contemporaneous evaluations influence vote choice. In this section I specifically test whether sadness, fear, enthusiasm, and anger vary the weights attached habitual political factors - such as PID- when forming vote intentions.

To maintain comparability with much of the extant literature, I analyzed the data similar to Brader (2005/2006) and Marcus et al. (2000). Vote intention was predicted from PID, ideology, issue evaluations, and emotional reactions to the advertisements. The participant's self reported PID and ideological leanings were included and range from 0 to 1 with high scores denoting Republican, conservative leanings, respectively. Emotional reactions to the campaign messages were also in-

cluded. These are simply the fear, anger, sadness, and enthusiasm manipulation checks from above. And finally, I include attitudes towards crime and punishment as predictors to explore how strongly issue evaluations affect vote choice. Since the candidates were unknown and the only learned information would have come from a 30 second advertisement, this is the best predictor of "issue based voting".

As in chapter 5, questions were asked regarding crime related attributions. Of the eight questions included in the survey, two dimensions were retrieved, again corresponding to internal and external crime attributions. Since two of the items failed to cleanly load on either dimension, only six of the items were retained. Due to the reduced number of items, I was unable to retrieve a community attributions dimension. With this in mind, I created a scale for internal attributions from the following items: "How much influence do moral values have on crime?, How much influence does poverty have?" "People commit crimes because they don't want to make an honest living", and "Only evil people commit crimes" (alpha=0.82). Two items were used to create an external attribution scale: "How much influence do good teachers and schools have on preventing people from turning to crime?", and "How much influence does abuse and neglect have on whether someone commits a crime?" ($r_{polychoric} = 0.33$). The correlation between these scales was minimal ($\Gamma = -0.36; r = -0.27$). In addition to these scales, I also include a measure of spending preferences based on the average preference for crime spending and the perceived severity of crime as a political issue ($r_{polychoric} = 0.40$). The three scales were recoded to range from 0 to 1. Although these scales were asked following the manipulation, the manipulation itself had no effect on these scales.

To test whether PID is a stronger predictor when feeling anger or enthusiasm, and whether fear and sadness elevate the importance of contemporary information, I used two approaches: (1) running logistic regression on vote intention (Table A2 in appendix), and (2) running OLS on a graded measure of vote choice and exploring the effect sizes of independent variables (Table A3 in appendix)[30]. Vote intentions

were assessed from a single item: "If you were to vote in this election, would you vote for John Wilkins or Dave Reade". Following this, participants were asked how confident they were in this decision. The estimates from the logistic regression equation were used to generate predicted probabilities, which can be found in figure 6.3; the relative effect sizes are illustrated in figure 6.4.

[INSERT FIGURES 6.3 AND 6.4]

Since the PID of the attacked and sponsoring candidate was randomly assigned, two analyses were conducted: one when the attacked candidate (John Wilkins) is Democrat and the sponsoring candidate (Dave Reade) is Republican; the other when Wilkins is Republican and Reade is Democrat. For all the negative emotion ads the attacking candidate was held constant- Reade attacking Wilkins. Varying the name of the attacked candidate was cost prohibitive, as this would have entailed making four additional advertisements with a different set of voiceovers and mixed musical backdrop. The enthusiasm ad was an ad released by John Wilkins, and because the ad is positive, it does not directly mention Reade (though the instructions do)[31]. By separately running the analysis based on the PID of the ad sponsor, this will correct for any participant-level biases as to whether a Democrat or Republican is perceived more likely to release attack advertisements. The predicted probabilities in this figure are equivalent to the predicted probabilities from a model including all the main effects and higher order interactions between the PID of the source and participant. Moreover, since vote choice is dichotomous, the probability of voting for Wilkins can be simply calculated by 1-pr(voting for Reade). Figure 6.3 shows the full range of predicted values across self-reported PID corresponding to the likelihood of voting for Reade.

The top panel of figure 6.3 shows the influence of PID on voting for Anger and Enthusiasm ads, the second panel shows the effects for the Sadness and Fear ads. According to appraisal and affective intelligence theories, PID should exert a much

stronger effect when experiencing enthusiasm or anger than when experiencing fear or sadness. Indeed, support for this is found when comparing two panels. In the anger ad condition, the probability of a Democrat voting for a Democratic Reade is 0.58, but is only 0.29 for a Republican participant, a difference of $\Delta 0.29$. Similarly, in the enthusiasm ad condition, the probability of a Democrat voting for a Democratic Reade is 0.9, but only 0.38 for a Republican participant ($\Delta 0.52$). Contrast these to the bottom panel of figure 6.3. In the Sadness Ad condition, the slope is virtually flat for situation in which Reade is a Republican, meaning that PID is not used as a cue. Republican participants are only slightly more likely to say they would vote for Reade (0.18) relative to Democrats (0.12) ($\Delta 0.06$). The effects are greater when Reade is a Democrat. The probability of a Democratic participant voting for Reade is 0.32, yet is 0.6 for a Republican participant ($\Delta 0.28$). In the fear ad condition, the effects of PID is somewhat less than when in the other conditions (Reade=Republican: $\Delta 0.27$; Reade=Democrat: $\Delta 0.25$).

The findings provide some support for the notion that enthusiasm and anger lead to a reliance on disposition, whereas sadness and fear reduce the influence of PID on vote choice. The effects of PID on vote choice were most pronounced for enthusiasm and least important for the sadness ad. Yet this is only a part of the picture. The equations used to derive these probabilities also control for issue evaluations, emotional reactions, and ideology. To explore the relative influence of contemporary evaluations and dispositional factors on vote choice, I follow the procedure of Marcus and colleagues (Marcus et al., 2000). OLS regression was conducted on vote choice and the relative effect sizes were calculated (figure 6.4). The dependent variable ranges from 1 to 8, and along with all the independent variables, was recoded to run from 0 to 1. Again, the analyses were run separately for the PID of the Wilkins versus Reade. The relative effect size was calculated by dividing the coefficient for a specific independent variable by the sum of all the independent variable coefficients.

The first row of 6.4 reveals the weights attached to these factors in the enthu-

siasm ad condition. PID is a relatively strong predictor of vote choice, explaining roughly 18% of the total effect size. Issue evaluations are only slightly less important, accounting for about 17% of the total effect size. On the other hand, in the sadness condition, issue considerations are much more important, accounting for 35% of the total effect size, on average. What is more, PID is relatively unimportant in the sadness condition, accounting for around 5% of the effect size. Ideology accounts for a substantial share of the effect size in the sadness ad condition (averaged across both ads, about 21%). A similar finding emerges for the fear ad condition: PID accounts for about 14% of the effect size, whereas issue evaluations account for around 30%. The findings were not as clear for the anger ad condition. PID seems to exert a sizeable impact when Reade was a Republican (0.19), but virtually no effect when Reade is a Democrat (0.01); though in both conditions, issue evaluations are quite important (27% and 41%, respectively). The results show some support that discrete emotions influence the use of heuristics. Specifically, sadness, and to a lesser extent, fear, leads to a stronger reliance on issue considerations; enthusiasm, however, leads to a stronger reliance on PID and a decreased effect of issue evaluations.

Summary of Findings

These findings reinforce the importance of emotions in vote choice. Following exposure to fear evoking messages, weak evidence was found to support the notion that issue considerations were more important than party loyalties on vote choice, whereas enthusiasm advertisements strengthened the effect of PID on vote choice. Moreover, anger was found to have an effect comparable to enthusiasm, as both affective intelligence and appraisal theories would suggest. What is perhaps most compelling was that sadness reduced the importance of PID and elevated the relative importance attached to issue considerations, a finding congruent with prior research (Bodenhausen et al., 1994).

6.4 Concluding Remarks

Despite years of research on discrete emotions in psychology, political scientists have only recently begun exploring the unique role of emotions of the same valence (Huddy et al., 2007; Valentino et al., 2008; Valentino et al., 2006; Brader, 2006; Brader and Corrigan, 2007). Much of the extant work has drawn heavily from affective intelligence theory, which posits that positive (enthusiasm) and negative (anxiety) emotions have different effects on behavior and learning. Specifically, anxiety signals to the individual that habit is insufficient in judgment, and as such, greater attention need be paid to the current information environment. Anxiety triggers the surveillance system, moving people to be more politically aware and carefully weigh competing considerations when choosing among political candidates. An anxious citizenry should subsequently act as rational choice dictates. Enthusiasm, on the other hand, results in the voter relying on habit, rather than contemporary information, in decision making. The enthusiastic voter is said to function in the disposition system, relying on cognitive heuristics and predispositions when casting a ballot.

This chapter partially reaffirms the role of anxiety and enthusiasm in political persuasion and vote choice. Weak evidence was found supporting the notion that issue considerations were more important than party loyalties following exposure to a fear evoking message, whereas enthusiasm advertisements strengthened the effect of PID on vote choice[32]. Unlike much of the work on affective intelligence, the effect was documented for unknown political candidates. This reduces the potential for any unmeasured, preexisting biases affecting how an advertisement is evaluated. In contrast to Ladd and Lenz (2008) who argue that anxiety as measured by Marcus and colleagues is no more than party discontent, fear was found to have an effect similar to what affective intelligence theory predicts.

Notwithstanding, affective intelligence theory, seems ill-suited to explore the unique effects of emotions other than anxiety and enthusiasm. Recently, scholars

have begun to explore whether emotions rooted in these two systems have unique and differentiated consequents, finding strong evidence that anger, fear, and sadness can be differentiated both physiologically and in manifest behavior (Valentino et al., 2006; Brader and Corrigan, 2006; Valentino et al., 2007; Huddy et al., 2007). This chapter has gone one step beyond existing literature on emotions and campaign effects by showing how anger, sadness, fear, and enthusiasm have unique effects on persuasion. Perhaps the strongest findings were in reference to sadness, where sadness reduced the importance attached to dispositional factors in vote intentions, and effectively elevated the importance attached to issue considerations.

It is important to underscore that the findings in this chapter were not nearly as strong as in previous chapters. For example, source cues did not consistently moderate the type of emotion experienced by respondents, nor was I able to adequately demonstrate that source cues altered the impact of emotions on political participation. As previously mentioned, this may have been due to the heterogeneity in emotional reactions to the campaign messages. This heterogeneity, combined with a manipulation check that was unable to disentangle why a particular emotion was felt, made comparisons of the ads problematic. Similarly, the sample itself was relatively homogeneous, consisting primarily of political sophisticates who linked to the survey from political blogs. It is conceivable that these individuals were simply not persuaded by the advertisements, which is evident from the figure 6.1, which shows that the advertisements were unsuccessful in eliciting a strong emotional response. Despite these empirical weaknesses, by viewing these findings in conjunction with previous chapters, the general theme has been supported that emotions of the same valence are differentiable constructs. As such, the results from this chapter should be viewed as a step closer to understanding the role of emotions in the process of political persuasion.

Table 6.1: Contrast Weights

Weights	Anger	Fear	Sad	Enthusiasm
$\psi_{Valence}$	(-3,1,1,1)***	(-3,1,1,1)***	(-3,1,1,1)***	(3,-1,-1,-1)***
$\psi_{Discrete1}$	(0,-2,1,1)*	(0,-2,1,1)*	(0,1,1,-2)	(0, -2,1,1)
$\psi_{Discrete2}$	(0, 0,-1,1)	(0, 0, 1,-1)***	(0,1,-1, 0)***	(0,0,-1, 1)

Note: Contrast Weights for the ad's main effect. The Emotion Ad variable was coded as follows: E1, Enthusiasm; E2, Sadness; E3, Fear; E4, Anger. The first contrast tests whether there is a valence effect- that is, whether negative emotions are higher than positive emotions following a negative emotional ad; the second two sets change depending upon the dependent variable. For example, in the Anger column, $\psi_{Discrete1}$ is a test of whether the anger and fear ads evoke more anger than the sadness ad, whereas the $\psi_{Discrete2}$ is a test of whether the anger ad elicits more anger than the fear ad. Asterisks represent the significance level from each respective F-test, where ***p<0.01, **p<0.025, *p<0.05.

Table 6.2: Contrast Weights

Weights Contrasts	Anger	Fear	Sadness	Enthusiasm
$\psi_{Matching}$ 1-1 0 0-1 1)	F(1,328)=0.00	F(1,341)=3.35#	F(1,327)=0.12	F(1,360)=4.64*
$\psi_{Moderates}$(0 0 -1 1 0 0)	F(1,328)=3.92*	F(1,341)=0.35	F(1,327)=1.13	F(1,360)=2.78#

Note: Contrast Weights and Results for the PID Source x PID Participant interaction. ANOVAs were run separately based on the emotion appealed to in the advertisement. The dependent variable corresponds to the targeted emotion (e.g., Feeling anger for participants exposed to the anger ad). The contrasts are coded as follows: Source PID: E1, Republican participant, Republican Source; E2, Republican participant, Democratic Source; E3, Independent participant, Republican Source; E4, Independent participant, Democratic Source; E5: Democratic participant, Republican Source; E6: Democratic Participant, Democratic Source). Note that this analysis only explores whether the targeted emotion was highest when the ad comes from a congenial source

Table 6.3: Perceptions of Mudslinging

Participant:	Republican		Independent		Democrat	
Source:	*Dem*	*Rep*	*Dem*	*Rep*	*Dem*	*Rep*
Enthusiasm Ad	0.30	**0.24**	0.27	0.26	**0.33**	0.32
Sadness Ad	0.85	**0.76**	0.85	0.87	**0.90**	0.94
Fear Ad	0.82	**0.77**	0.90	0.92	**0.90**	0.95
Anger Ad	0.90	**0.89**	0.92	0.94	**0.96**	0.97

Entries are mean level of reported ad negativity by emotional appeal of the ad, PID of ad sponsor, and PID of the participant. The bolded entries represent a "match": the ad comes from one's own party and attacks the opposing party. Note that reported negativity is lessened when the ad comes from one's own party.

Table 6.4: Persuasiveness of the ads are source dependent.

Participant:	Republican		Independent		Democrat	
Source:	*Dem*	*Rep*	*Dem*	*Rep*	*Dem*	*Rep*
Enthusiasm Ad	0.29	**0.36**	0.22	0.27	**0.28**	0.15
Sadness Ad	0.20	**0.39**	0.17	0.15	**0.17**	0.14
Fear Ad	0.35	**0.41**	0.27	0.23	**0.24**	0.14
Anger Ad	0.28	**0.37**	0.13	0.18	**0.14**	0.13

Entries are mean level of reported ad persuasiveness by emotional appeal of the ad, PID of ad sponsor, and PID of the participant. The bolded entries represent a match: the ad comes from one's own party and attacks the opposing party. Note that the ad is rated as more persuasive when coming from one's own party.

Table 6.5: Two stage ordered probit least squares.

	Contact	Internal	Vote	External	Trust
Anger	-2.174**	-2.160**	4.706***	1.601	0.801
	(1.029)	(1.046)	(1.634)	(1.052)	(1.114)
Enthusiasm	-1.157	-2.687**	4.874**	0.610	-1.124
	(1.339)	(1.357)	(2.180)	(1.376)	(1.439)
Sad	-0.271	-2.156*	2.504	-0.107	-1.869
	(1.277)	(1.274)	(2.024)	(1.320)	(1.373)
Fear	-2.195#	-0.847	-0.575	-1.530	-2.694**
	(1.209)	(1.201)	(1.977)	(1.232)	(1.296)
Awareness	0.190***	0.298***	0.536***	0.274***	0.149**
	(0.0631)	(0.0622)	(0.0814)	(0.0652)	(0.0678)
Nonwhite	0.322	-0.0549	-0.136	-0.148	-0.320
	(0.197)	(0.193)	(0.298)	(0.192)	(0.208)
Registered	-0.177	-0.758	-0.652	0.427	0.0839
	(0.441)	(0.464)	(0.618)	(0.451)	(0.450)
Female	0.803***	0.731***	0.200	0.256	0.245
	(0.159)	(0.163)	(0.260)	(0.163)	(0.171)
Partisan	0.0955	-0.0304	0.0781	-0.742***	-0.686***
	(0.183)	(0.182)	(0.278)	(0.189)	(0.199)
Threshold 1	-2.66	-4.24	-0.72	-0.22	-3.78
Threshold 2	-1.25	-2.77	0.2	1.57	-0.9
Threshold 3	0.02	-1.43	1.71	3.16	4.14
Observations	1252	1265	1264	1263	1264

p< 0 0.1, ** p< 0.05, ***p<0.01

Figure 6.1: Manipulation Check

Figure 6.1: Manipulation Check,(cont'd)

Feelings of Enthusiasm
by Ad Emotion condition/PID of sponsor and participant

Note: Mean values: n=1400

Feelings of Sadness
by Ad Emotion condition/PID of sponsor and participant

Note: Mean values: n=1400

Figure 6.1: Manipulation Check,(cont'd)

Feelings of Fear
by Ad Emotion condition/PID of sponsor and participant

Feelings of Anger
by Ad Emotion condition/PID of sponsor and participant
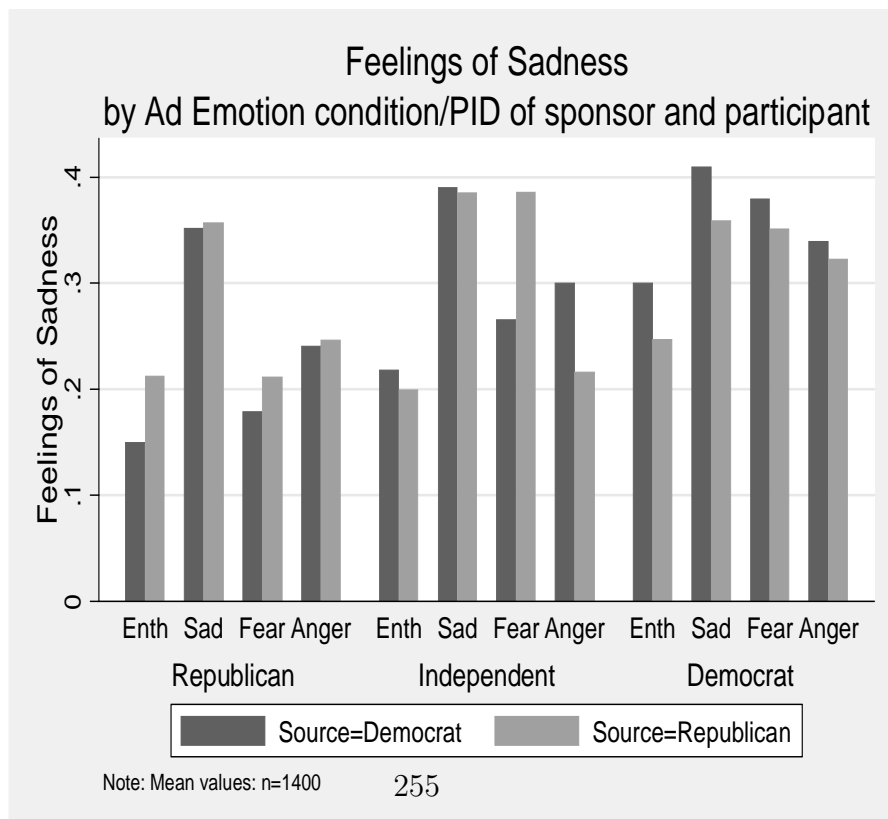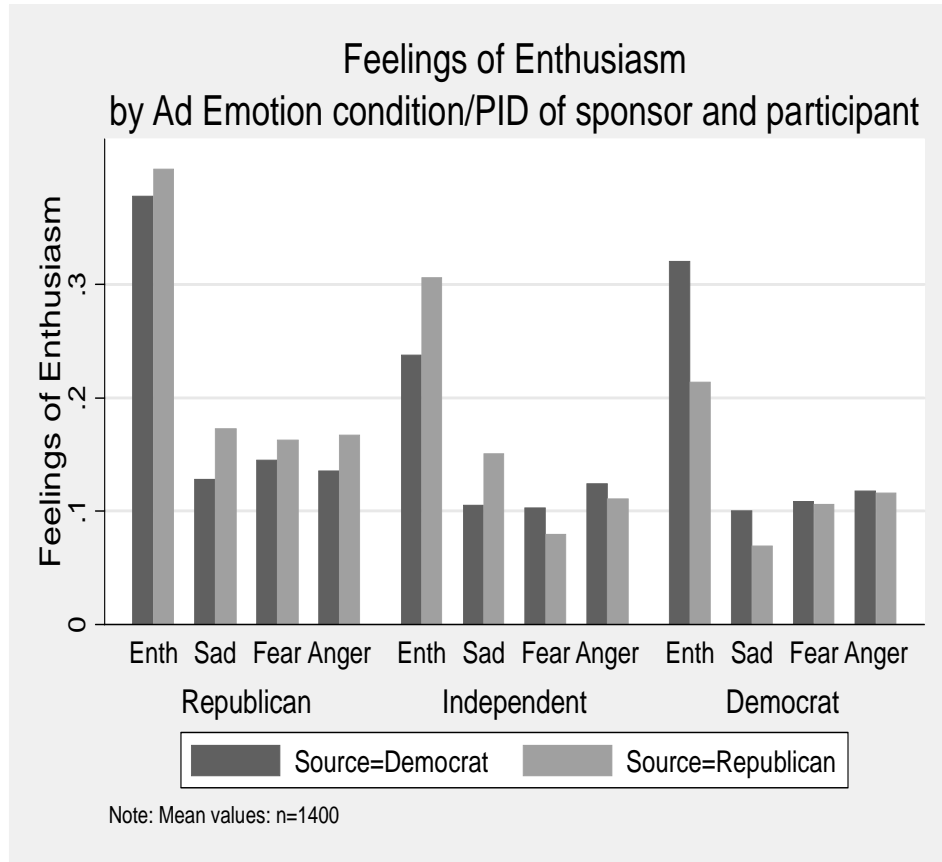
Figure 6.1: Manipulation Check,(cont'd)
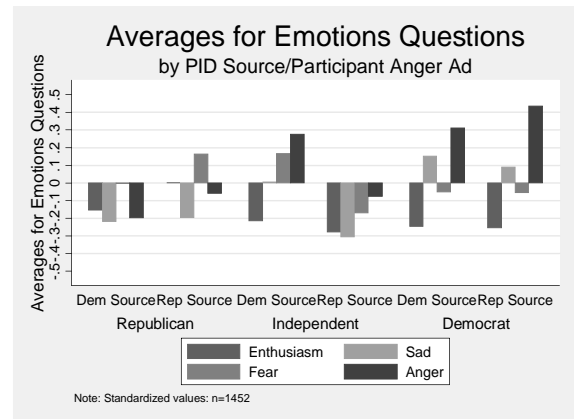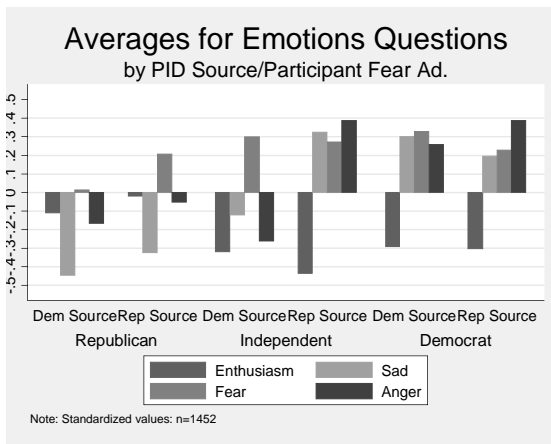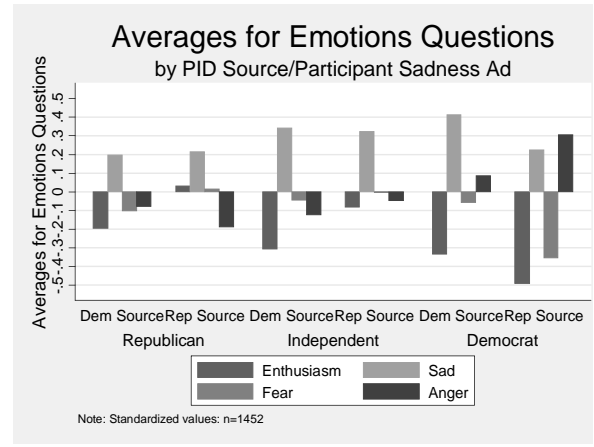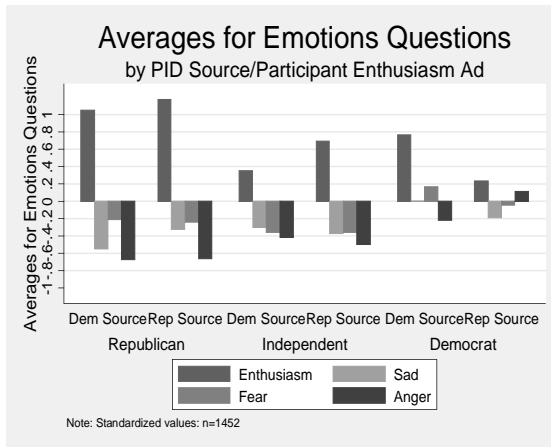
Figure 6.2: Predicted probabilities of participation by PID of message source, PID of respondent, and emotion appealed to in the advertisement.
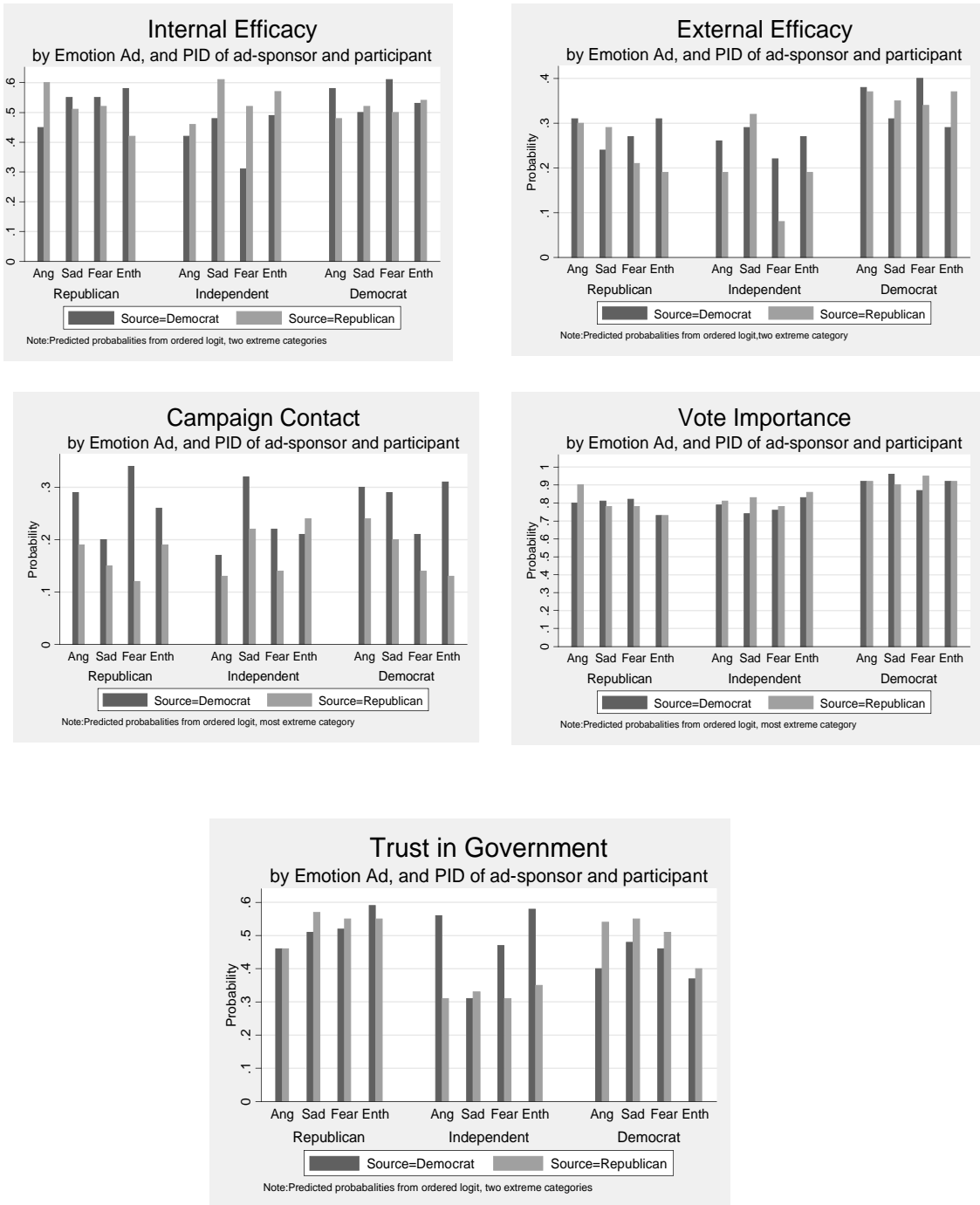
Figure 6.3: Predicted probabilities of voting for Dave Reade by ad and whether Reade is a Democrat or Republican across the full range of participant PID.
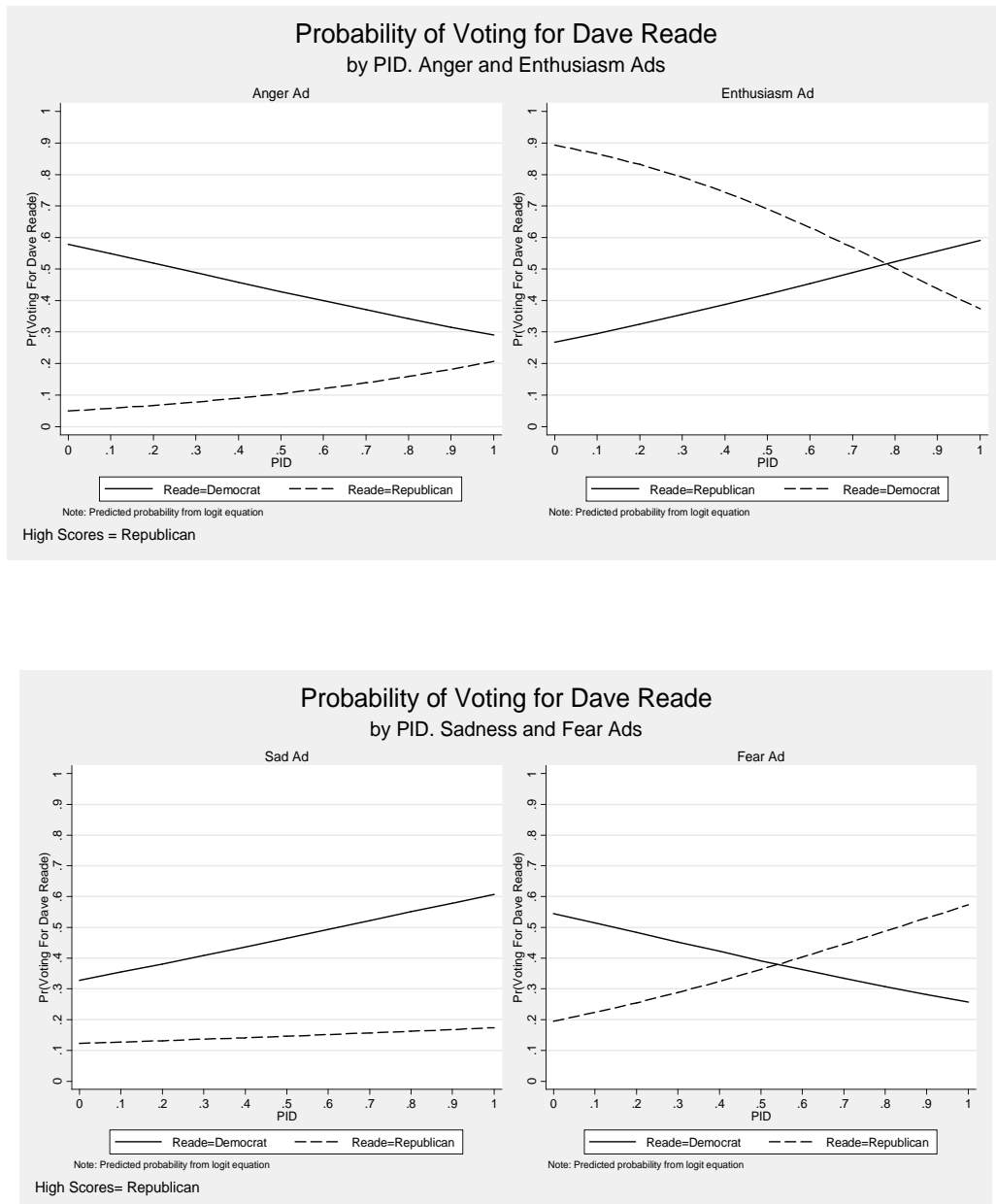
Figure 6.4: Relative weights attached to PID, ideology, issue considerations, and contemporary feelings in vote choice. This was calculated by dividing the IV coefficient by the sum of all IV coefficients. For Issues, this was the relative effect of the three issue-based effects- i.e., internal attributions, external attributions, and spending preferences (Marcus et al., 2000
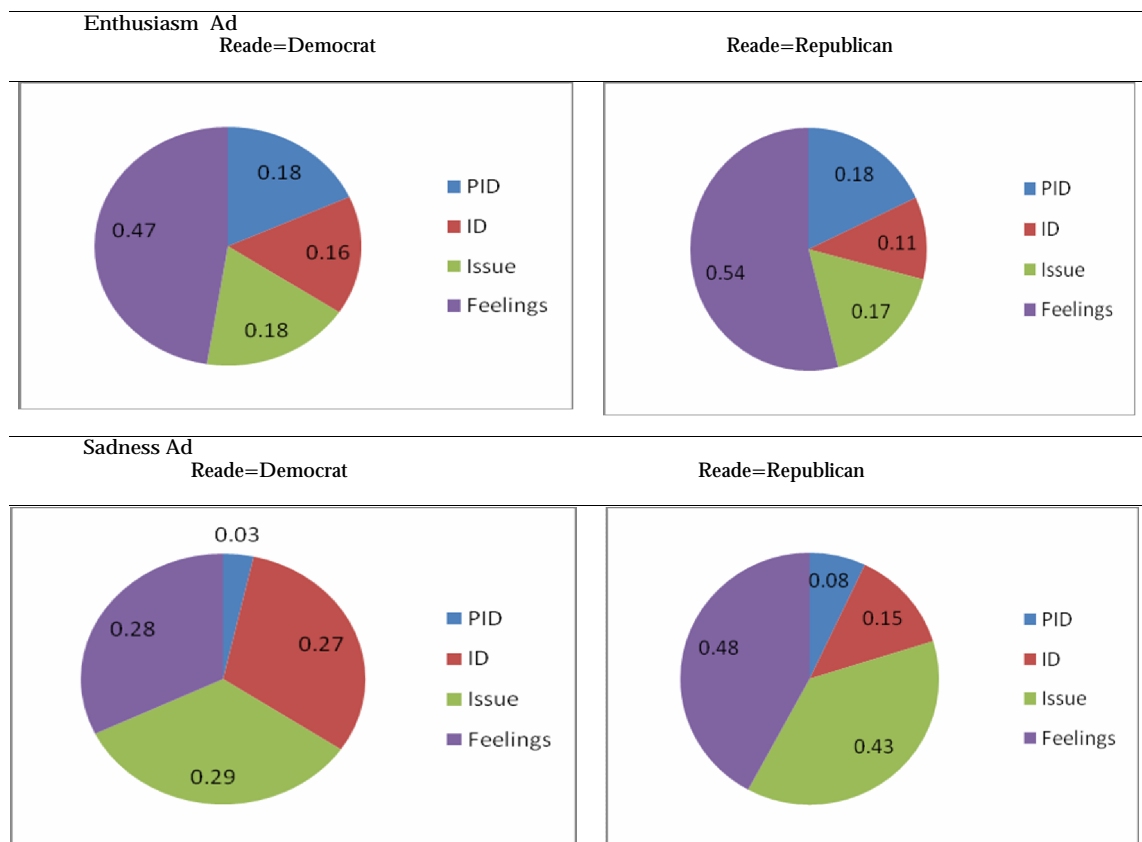
Figure 6.4: The Weights Attached to Vote Choice,(cont'd)

Anger Ad

Reade=Democrat

Reade=Republican

Fear Ad

Reade=Democrat

Reade=Republican
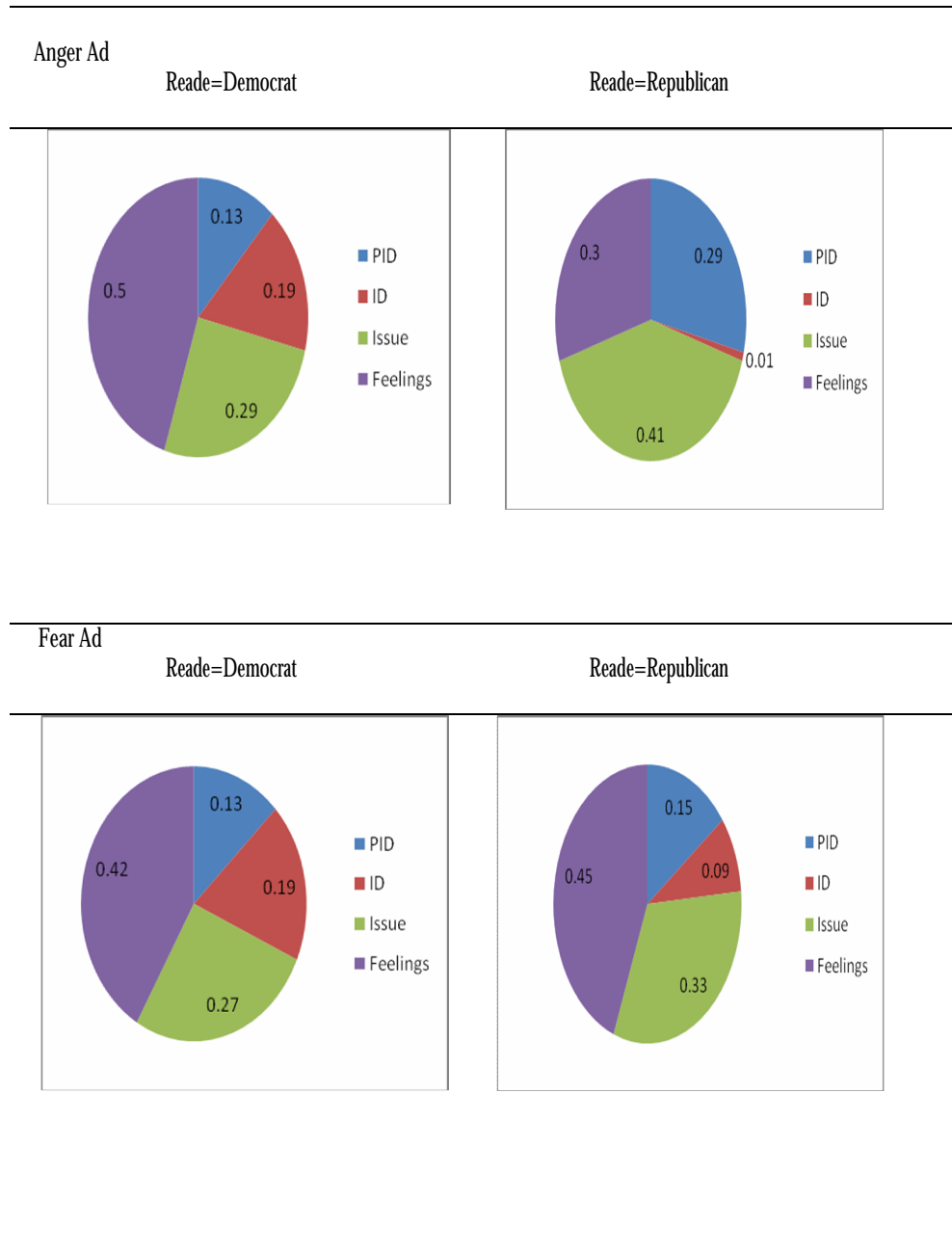
Chapter 7

Emotions and Negativity: Future Directions and Normative Considerations

> "when thinking about electoral campaigns, you can slog it out for those few millimeters of cerebral turf that process facts, figures, and policy statements. Or you can take your campaign to the broader neural electorate...targeting different emotional states with messages designed to maximize their appeal"
>
> -Drew Westen, *The Political Brain*

Research on affect has increased, and a mounting body of literature in the social sciences suggests that affect is an essential component in social judgment and behavior (for psychology, see Davidson, Scherer, and Goldsmith 2003; for political science, see Marcus 2003; Brader 2006; Lodge and Taber, 2005; Lodge, Taber, and Weber, 2006). Although research on affect has increased in political science, there has been comparatively little work in our discipline examining the motivational and persuasive impact of discrete emotions (with the exception of, Valentino et al., 2007; Valentino et al., 2006; Brader and Corrigan, 2006). In this dissertation I have explored the effects of specific emotions aroused in the context of political advertisements, and demonstrated that anger, sadness, fear, and enthusiasm have differing consequences for political behavior, judgment, and persuasion.

All of my hypotheses were informed by cognitive appraisal theory, which is per-

haps best suited to examine the implications of discrete emotions. Appraisal theory contends that emotions are related to unique constellations of evaluative tendencies. This critical emotion-appraisal link was the hypothesized mechanism in which emotions were expected to affect political attitudes and behavior. To explore the role of emotions in campaigns, in chapter 2, I reviewed an expanding literature on emotions from psychology and generated a set of hypotheses regarding the distinct role of sadness, fear, anger, and enthusiasm aroused in campaign ads. Unlike previous work in political science, emotions were modeled as discrete, since my interest was in discerning whether discrete emotions have unique and differentiable consequences for political behavior Several strategies were employed to examine whether emotions are unique in their occurrence and their expression. Regarding the former, emotions can be differentiated in their occurrence- as evident in chapter 3- whereby the structure of emotional response was found to be considerably more complex than one and two-dimensional models would suggest. In this chapter, I detailed much of the psychological work pertaining to the measurement structure of emotions. While some have suggested that emotions collapse to one, two, or several primary dimensions, appraisal theorists contend that emotions are more nuanced, and can be explained by a host of appraisal dimensions. Given the many conflicting findings in this literature, chapter 3 was mainly dedicated to exploring the structure of emotional response by estimating several measurement models with primary and secondary data.

Strong evidence was found in this chapter for the *Structural Hypothesis*, where I expected that a "discrete emotions" measurement model would fit the data better than a one or two-dimension model. Using the 1996 GSS and pooled data from six surveys, at least four dimensions were found to explain emotional response, and these dimensions approximated the "basic emotions" repeatedly found by Paul Ekman and colleagues (Ekman, 2003). Using the GSS data, a five-factor model was supported, where anger, sadness, fear, enthusiasm, and guilt were specified as

separate, but correlated factors. This model was shown to fit the data better than one or two dimension models; in data collected over several years, four dimensions were retrieved- anger, sadness, fear, and enthusiasm. These findings can be taken as one step to suggest that emotions should be modeled as discrete.

Nonetheless, as a data fitting exercise, the results in chapter 3 fall short in determining whether discrete emotions vary in their political ramifications- that is, do emotions of the same valence differ in expression? The remaining empirical chapters were thus situated to explore the unique effects of emotions aroused during the political campaign. More specifically, I examined the effects of anger, sadness, fear, and enthusiasm on political behavior and persuasion. Rarely have emotions been integrated into the study of political advertising, despite the fact that nearly all political ads are designed to strike an emotional chord (Brader, 2005; Westen, 2007). Indeed, the only comprehensive account on how emotions aroused in campaign ads systematically affect behavior is the work of Ted Brader (2005/2006). Yet this work is limited in that the focus was on general anxiety and enthusiasm rather than discrete emotions. For this reason, I explore whether four emotions- three of which are the same valence- have unique consequences for political behavior and judgment. Recall, that in nearly all of the studies used throughout the dissertation I employed experimental methodology where participants were exposed to emotionally evocative campaign advertisements. I constructed the advertisements myself using state-of-the-art video editing software, and a paid professional read the voice-overs and mixed the musical backdrop.

The studies analyzed in chapter 4 were designed to explore the effects of emotions on political behavior. In two studies, participants were randomly exposed to ads carefully designed to elicit political anger, fear, sadness, or enthusiasm. This was followed with a number of questions on political participation. Strong evidence was found for the *Participation Hypothesis*, in that anger and enthusiasm led to mobilization, but sadness and fear led to demobilization. Given the shortcomings of

these studies, I replicated the experimental results with a representative sample, the 2000 ANES. Using the ANES, evidence was found supporting the contention that anger and enthusiasm mobilize whereas fear demobilizes.

Chapters 5 and 6 explored the more direct, persuasive consequences of emotions and the political campaign Indeed, only a small portion of candidate expenditures are put forth for the *Get out the Vote* campaign; much of the advertising budget is designed to educate and persuade voters, providing candidate issue positions and information on important political issues (West, 2006). In chapter 5, several hypotheses were tested regarding the effects of emotions for political issue considerations. From appraisal theory, I hypothesized that emotions would have specific consequences for issue deliberation and the degree of confidence associated with ones beliefs. Specifically, since anger and enthusiasm tend to enhance attributions of individual agency, personal control, and certainty (Huddy et al., 2007; Lerner and Keltner, 2000/2001), I expected that these emotions would influence the perceived root causes of crime, environmental pollution, and poverty. Given previous work (e.g.,Keltner et al., 1993), anger and enthusiasm were expected to heighten individual attributions, leading to a greater propensity to attribute the causes of these issues to individual laziness, a poor work ethic, and a lack of moral restraint. Sadness and fear were expected to have the opposite effect. By virtue of these emotions corresponding with a sense of lacking control, uncertainty, and external agency, sadness and fear should have led to attributing responsibility to systemic factors, such as failing schools, failed government programs, and crumbling communities.

To test this hypothesis, I relied on non-student, adult data. A sample of 670 New York State adults were exposed to one of eight political advertisements intended to elicit anger, sadness, fear, or enthusiasm. The advertisement was followed with a number of questions regarding the core causes of poverty, crime, and environmental degradation. In the end, virtually no evidence was found in support of the attribution hypothesis. The ads did not vary the ways in which these issues were considered.

While problematic to place too much evidence on null results, the lack of significant findings can be tentatively interpreted potential boundary conditions of emotions influencing judgment. In several non-political scenarios, emotions have been found to affect attributions (e.g., Keltner et al., 1993; Small and Lerner, 2008). Perhaps when the evaluative target is highly partisan and ideologically charged, emotions have a negligible impact on how these targets are considered. In other words, it may be the case that emotional states do not alter the structure of attitudes vis a vis crime, the environment, and social welfare, three ideologically charged issues.

Although emotions did not directly affect issue considerations, appraisal theorists contend that discrete emotions also affect attitudes indirectly by belief confidence and certainty. For instance, anger and enthusiasm facilitate biased information processing, as these emotions covary with perceptions of personal control and certainty (Bodenhausen et al., 1993; Lerner and Tiedens, 2006; Valentino et al., 2008). Fear and sadness, on the other hand, tend to promote analytic processing and reduce confidence in preexisting beliefs (Small and Lerner, 2008). Thus, an additional hypothesis I tested in chapter 5 was whether the emotions affect belief confidence, as evident in the degree of polarization between liberals and conservatives in the explored issue domains. Evidence was found to support the *Polarization Hypothesis*, where anger and enthusiasm led to polarization. The effects were most pronounced for attitudes towards the environment and poverty, where liberals and conservatives diverged most in their beliefs when experiencing anger or enthusiasm. On the other hand, sadness - and to a lesser extent, fear- mitigated polarization. Liberals and conservatives expressed remarkably similar beliefs when sad or fearful. The mixed findings in this chapter suggest that while emotions may not have direct consequences for how political issues are considered, particular emotions may affect the degree of confidence in one's preexisting beliefs.

In the final empirical chapter, I addressed several unanswered questions from previous chapters. Perhaps most serious was that the advertisements in previous

chapters did not make explicit the ideological or party affiliations of the ad-targeted candidates. This was intentional, for I wanted to prevent participants from evaluating the messages with preexisting biases. However, in failing to make these cues available, the ads lacked an real-world element. A vast majority- if not all-of political advertisements make reference to cues, such as ideology, PID, and these cues should be intimately linked to emotional reactions and the persuasiveness of the ad (Zaller, 1992; Cohen, 2003). Thus, with a sample of 1,460 adults exposed to an emotionally evocative web-advertisement, I tested whether emotional reactions vary as a function of the message source- namely, whether the source is a Democrat or Republican. The first hypothesis of this chapter concerned whether partisan congruence- a Democrat responding to a Democratic message; a Republican responding to a Republican message- would influence emotional reactions. Secondly, I tested whether the mobilization effect documented in chapter 4 also varied as a function of PID congruence, suspecting that mobilization would only occur when the ad originates from a congenial source.

The empirical evidence was largely inconclusive for these hypotheses. The PID of the ad-sponsoring candidate did not interact with the PID of the participant in affecting emotional reactions, nor was this interaction significant in predicting voter mobilization. There are several potential reasons for these inconclusive results. First, the sample was quite sophisticated, as most of the participants linked to the survey from political weblogs and were perhaps skeptical of the political ads. Related to this, the manipulation did not elicit high degrees of the targeted emotion. The observed means for fear, sadness, and enthusiasm were well below the midpoint of the scale, suggesting that the messages were not very effective in eliciting an emotional response. A third possible reason for the mixed findings was that I was unable to effectively gauge the reasons for the participant's emotions. In debriefing, many of the participants revealed negative emotions over the fact that the advertisements were negative. This principled aversion may have muted the differences between

experimental conditions thereby making it difficult to draw precise conclusions about the experimental conditions.

While little evidence was found for the *Matching Hypothesis* described above, since the source of the message was salient in the advertisements, the final hypothesis I tested was that anger and enthusiasm should increase a reliance on dispositional factors in predicting vote choice. Sadness and fear were expected to decrease a reliance on habit and increase the importance of issue considerations and contemporary information in vote choice. In short, anger and enthusiasm were expected to promote efficient information processing, whereas sadness and fear should lead to accurate information processing. Congruent with both affective intelligence theory and appraisal theory, evidence was found in support of this. Angry and enthusiastic participants were slightly more likely to rely on their PID in forming vote intentions. Sadness and fear reduced the importance of dispositional factors and effectively increased the importance of issue considerations in predicting vote choice.

7.1 Limitations and Future Directions

Following the tradition in social psychology, there was a heavy reliance on students, especially in the participation chapter. My primary interest was in documenting the causal effects of emotional ads, but this occurred at the expense of external validity. As such, these studies should be thought of as a first step rather than a final answer to the question of whether emotional ads affect behavior. On a similar note, I created the ads myself, and all the ads made reference to a fictitious campaign. Again, my key concern was internal validity, meaning that I placed heavy value on controlling the information provided in the studies (Ansolabahere and Iyengar, 1997), and using ads for known political candidates would have introduced a great deal of error- both random and systemic- into my manipulations. This would have likely rendered cross-ad comparisons more problematic. Given the importance

I placed on internal validity, this came at the expense of external validity, and it remains to be determined how actual advertisements released during a campaign affect attitudes and behavior.

Similarly, it is unclear how long the emotional effects of political ads persist, and whether the same effects would occur in an actual political setting. The context in which participants viewed the ad was vastly different from how voters tend to view political messages. Generally, attention to campaign ads is minimal - voters are exposed to the ads during commercial breaks, often tuning out and not remembering the content of the ad. For example, West (2006) notes that most voters are unable to name a general theme of one or two campaign ads during any given presidential campaign. Campaign ads are also released in a competitive environment, with the candidates engaging one another in political discourse via thirty-second spots (Geer, 2006). It is an open-empirical question as to the persistence of emotional reactions in a competitive setting. For instance, does the mobilizing effects of an anger ad last a minute, a week, or throughout the course of the the whole campaign?

Given these limitations, I intend to build upon this work by examining the implications of emotions in an actual campaign by using a representative sample of adults. Several areas which I will examine are: do emotional campaign ads resonate differently with certain types of individuals, do specific emotions have consequences for political learning during the campaign, and what is the best way to measure emotions about the candidates, parties, and issues. To assess this, I will use advertisements that make reference to the candidates in an on-going campaign. This will afford greater leverage in gauging the effects of ads that are of greater relevance to voters. In this study, I will also be able to explore the types of individuals that respond to emotional appeals. An important question in studying emotions in politics has been whether sophisticated and politically engaged voters respond to emotional appeals (Brader, 2006). Because I was unable to adequately gauge this in my dissertation- due to insufficient variation on the sophistication measure

and samples that were more homogeneous than the general population- in future research I will more effectively explore whether specific emotions have mobilizing effects for political sophisticates. Moreover, in this dissertation I only examined four emotions commonly appealed to in campaign ads - anger, fear, sadness, and enthusiasm - though other emotions are relevant in political campaigns, such as amusement, pride, compassion, and sympathy. Scholars have found that these emotions often entail pro-social, approach behavior (Weiner, 2006; Haidt, 2003), and can strengthen in-group attachments by affecting levels of patriotism and nationalism (Roccas, Klar, and Liviatan, 2006). For this reason, I will explore additional emotions in political campaigns.

Another issue is whether particular emotions affect political learning. In these chapters, Ive shown that anger leads to a greater professed likelihood of contacting the campaigns mentioned in the ad, though it remains uncertain whether anger actually affects information seeking and learning. The dominant paradigm in political science, affective intelligence theory, has only explored the effects of general levels of anxiety, finding that anxiety facilitates political learning; notwithstanding, other literature in psychology suggests the opposite, finding for example, that anxiety inhibits learning (Eysenck and Calvo, 1992). To fully explore how specific emotions influence learning about the candidates, emotionally evocative political ads will be followed with specific questions regarding the desire to learn more about the candidates, recall of information in the ad, and interest in the campaign.

Finally, I am in the process of preparing to content-code political messages using the Wisconsin Advertising Project's CMAG data, which includes exhaustive information on advertisements released in the top 50 media markets. This data will then be merged with existing survey data, such as the Annenberg National Election Studies and the American National Election Studies to provide further information as to how long emotionally evocative ads resonate with voters [33]. Exploring

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[33]All footnotes can be found at the end of this chapter

these questions afford greater insight into normative concerns such as whether anger leads to thoughtful participation, or whether these emotions simply activate partisan heuristics and arouse extant loyalties.

7.2   Tying it all Together

The findings in this dissertation have normative implications in the study of political communications and campaign effects. Following the work of Kahn and Kenney (1999a/1999b) and Brader (2005/2006), it is essential to move beyond valence approaches in the study of campaign strategy. Valence models have had an enormous influence in how political scientists study campaigns, and this literature has raised a series of important questions, such as whether negative campaign tactics are normatively desirable (Ansolabahere and Iyengar, 1997 Lau and Pomper, 2004).

On one hand, some have suggested that negative campaigns result in apathy, distrust, and demobilization. Scholars and pundits alike have attributed Americas rate of political apathy to an increase in negative campaign tactics, for example. On the other hand, others have found the exact opposite, whereby negative campaigns facilitate turnout by energizing voters. Psychological research has also suggested that negative information is more memorable and leads to more durable attitudes, which provides an incentive for candidates to *Go Negative* rather than *Stay Positive* (Lau, 1985). And Geer (2007) contends that negative campaigns have the positive consequence of stimulating campaign dialogue and providing a richer portrait of the candidates issue positions and leadership potential. Aptly noted by Geer, "Negative advertising is not usually thought of as a process that shapes and molds democracy. Instead, we think of it as simply misleading, frivolous, and counterproductive.....It is important to realize that negativity, whether in the form of ads, speeches, or debates, can inform the public." (Geer, 2006, p.161).

From a practical standpoint, it is a common occurrence for political candidates,

elites, and strategists to emphasize the use of clean campaign tactics, pledging to abstain from negative campaigns and waging a positive, advocacy-oriented campaign. Despite this, political campaigns are no less negative than they were 30 years ago, and according to West (2006) the use of negative advertising has increased substantially. In short, though political candidates have opposed negative campaigns in principle, in practice, attack politics still persists. Institutional reform has attempted to reduce prevalence of negative campaigning. Most notably, the 2002 Bipartisan Campaign Finance Reform Act (BCRA) banned the use of soft-money contributions, as well as requiring full disclosure of the individual or group sponsoring an aired political message. This provision was intended to reduce the negativity and baseless character attacks common in American political campaigns. For a number of reasons, this effect was not realized . The question remains: should candidates abstain from negative campaigning and should advertisements be regulated?

Congruent with Lau and Pomper (2004) the answer is a resounding "it depends". Yet unlike previous work, the answer I provide is grounded in the fact that conclusions pertaining to the efficacy and electoral consequences of political ads depend on the emotional content of the advertisement. Only attending to the valence of an advertisement misses a key ingredient - the type of emotion an advertisement is tailored to evoke. In this work, I demonstrated that attack advertisements can have desirable effects, but only sometimes. For instance, ads that evoke anger facilitate political mobilization, but these ads also lead to rigidity in beliefs and reduced openness to contemporary information. Anger may increase participation, but not necessarily thoughtful participation. Sadness and fear were found to have the opposite effect. These emotions reduced participatory intentions, but had the normatively desirable effect of reducing the tendency to rely on predisposition and habit and led to a greater reliance on contemporary information.

This is an important tradeoff: should campaigns be tailored to stimulate participation, perhaps at the expense of rationally motivated voters who effectively

weigh issue positions and maximize personal utility; or should the rational vote be exchanged for a less-deliberative one, but one that occurs at higher frequencies. This trade-off is not new, as Downs suggested years ago that apathy and abstention are inversely related to rationality (Downs, 1957). What is novel is the role that emotions may have on the relationship between rationality and participation. Sadness and fear increase effortful information processing but can have the adverse consequence of demobilization; enthusiasm and anger, on the other hand, decrease effortful information processing but mobilize voters (see also, Valentino et al., 2008; Valentino et al., 2006). By accounting for the emotional content of political ads and how that emotions affect political behavior and decision-making, this will provide a more detailed depiction of the intended and unintended consequences of particular advertising strategies. Only with greater empirical scrutiny to specific emotions will we more fully understand why particular campaigns are successful in persuading voters, while others miserably fail.

Notes

1. The ad opens with Virginian Stanley Rosenbluth recounting in vivid detail the murder of his son and daughter-in-law. The camera then zooms on picture of the victims, with Rosenbluth stating, "No matter how heinous the crime, he [Tim Kaine] doesn't believe that death is a punishment. I don't trust Tim Kaine when it comes to the death penalty. And I say that as a father whos had a son murdered." At the ad's conclusion, Tim Kaine is compared to Hitler.

2. This distinction was also made in early work in affective neuroscience. Consider Paul MacLean's *triune brain*, where the brain can be separated into three sections: a primitive reptilian brain (basal ganglia) implicated in movement and motor function, a mammalian brain (limbic system) important in emotional response, and a higher order neommalian brain (neocortex) implicated in higher order cognitive function and thought. Subsequent work has demonstrated that the latter two systems are intimately linked, and older species possess elements of a neocortex.

3. Many seem to equate semantic processing with conscious processing. This is incorrect! Many semantic processes occur outside of conscious awareness, and as cognitive appraisal theorists have frequently noted, it is conceivable that all or most appraisals of an attitude object occur subconsciously (Lazarus, 2001).

4. Forgas doesn't refer to the process as direct and indirect, rather he uses the terms "high infusion" and "low infusion", which effectively mean the same thing (see Forgas, 1995).

5. Additional evidence has suggested that emotion laden experiences are more memorable and referred to as "flashbulb memories". This suggests that emotions are also important in the encoding of information.

6. Special thanks to Bryce Corrigan and Ted Brader for providing a list of anger, sadness, and fear evoking ads in 2000 and 2004.

7. The exact number of basic emotions has been controversial. In some studies, six are found; whereas much of the neuroscience and physiology evidence has only been able to isolate four- anger, sadness, fear, and happiness.

8. A simulation study was conducted where population values of four latent emotion factors varied in their degree of covariance. When emotions of the same valence were correlated at values above r=0.75, but emotions of the opposing valence were virtually uncorrelated, exploratory factor analysis only retrieved two dimensions.

9. In the analyses, I exclude two items that were shown to have undesirable properties in preliminary analyses: "happy", because the cross-loadings on the negative emotions factors were greater then the loading on the positive emotions factor, and "not relaxed", because it failed to load on any factor

10. According to the argument set forth by Don Green and colleagues, this result is expected. Only after accounting for measurement error do emotions collapse onto a single dimension. Since the question wordings and scales were identical in this data, it is not possible to control for the type of measurement error Green and colleagues discuss.

11. Substantial correlations between indicators will lead to retrieving two dimensions, even if there exists specific emotion constructs that demonstrate divergent validity (Watson and Clark, 1998)

12. Samples 4 and 6 are not analyzed in subsequent chapters.

13. All the reverse coded items were recoded, so high scores always indicate a greater likelihood to participate.

14. I also ran a series of t-tests assessing whether the cell mean for the targeted emotion differed from individual cell means. This is inherently less parsimonious than contrast analysis, but yields the same conclusions. For reported sadness, these tests demonstrated a significant difference between the sadness and the enthusiasm condition ($M_{sad} = 0.63, M_{enthusiasm} = 0.24, t[138] = 8.18, p < 0.01$), sadness and anger conditions ($M_{sad} = 0.63, M_{anger} = 0.54; t[145] = 2.52, p < 0.01$), though

the fear manipulation only marginally differed from the sadness manipulation ($M_{fear} = 0.54$), $t[145] = 1.42, p < 0.10, one-tailed$). As for feelings of anger, the anger ad elicited significantly more anger than the enthusiasm ad ($M_{anger} = 0.52, M_{enthusiasm} = 0.18; t[138] = 7.43, p < 0.01$). The anger ad also elicited more anger than the fear ad ($M_{anger} = 0.52, M_{fear} = 0.43; t[145] = 2.71, p < 0.01$), and the sadness ad ($M_{anger} = 0.52, M_{sad} = 0.42; t[146] = 3.11, p < 0.01$). In reference to feelings of fear, fear was substantially higher following exposure to the fear ad ($M_{fear} = 0.39$) than the enthusiasm ad ($M_{enthusiasm} = 0.12$), $t[137] = 7.07, p < 0.01$) or the sadness ad ($M_{sad} = 0.33, t[145] = 1.96, p < 0.05$); nonetheless, fear was marginally higher following the anger ad ($M_{anger} = 0.43$) than the fear ad ($M_{fear} = 0.42$), though the differences were non-significant, suggesting that anger and fear were elicited following exposure to the anger ad, but only fear was elicited after being exposed to the fear ad. Finally, enthusiasm was comparably greater following exposure to the enthusiasm ad ($M_{enthusiasm} = 0.49$) than all the negative ads ($M_{fear=0.24}; M_{anger} = 0.25 p < 0.10; M_{sadness} = 0.24, ps < 0.001$).

15. To test whether these differences were significant, standardized means for the emotion scales were compared within each ad condition. To do this, data were converted to long format, a dummy variable corresponding to the emotion scale was created, and four planned contrast coded variables were created. Ordinary least squares with standard errors clustered by respondent was then run separately for each experimental condition. For all ads, this analysis indicated that the experiment evoked the intended emotion.

16. Using CLARIFY (King, Tomz, and Wittenberg, 2000), confidence intervals were then estimated for each first difference

17. No significant effects of the experimental manipulation emerged for feelings of anger or sadness following exposure to the advertisement. However, the means go in the right directions - namely, exposure to the anger ad in its original form evoked more anger ($M = 0.49, SD = 0.07$) than the same ad lacking emotional audiovisual content ($M = 0.44, SD = 0.06, t = 0.37, ns$); similarly, the sadness

ad in its original form evoked more sadness ($M = 0.42, SD = 0.06$) than the less emotional baseline version ($M = 0.37, SD = 0.05; t = 0.65, ns$).

18. The discrepancy in some of the controls between study 1 and 2 was because some of the controls in study 2 were asked after the manipulation and used as dependent variables. Predicted probabilities are from the equation without covariates due to a small sample size (n=82).

19. Why model emotion as directed at both party candidates? The construction I use better measures general levels of "political anger" and "political fear"since it represents anger and anxiety at the two-major party candidates. Since answers to the emotions questions are inextricably linked to general evaluations, people that score high on this scale are likely to be those that are genuinely angry about the two-parties. The same models were run where the negative emotions were only directed toward the outgroup (e.g., Democrats in reference to Bush and Republicans in reference to Gore), and positive emotions toward the ingroup. Constructing the variables in this way leads to results that are comparable.

20. Given widespread uncertainty and controversy in the measurement of internal and external efficacy, my approach was more data driven than trying to conceptualize what items measure what type of efficacy. Results from a Mokken scaling procedure yielded one reliable scale, indicative of internal efficacy, and one remaining item, "Public officials dont care much about what people like me think", which I analyze as a measure of external political efficacy

21. This item didn't scale well with the internal efficacy scale or the external efficacy item.

22. I standardized both media consumption and religiosity because the questions making up these scales werent presented on a common metric. Political knowledge was created from twelve items measuring factual knowledge (kr20=0.82)

23. Two additional contrasts were tested to see if the negative emotion ads differed from another with respect to enthusiasm ($\psi = 0, 1, 1, -2; F[1, 315] = 10.73, p <$

$0.01; \psi = 0, -1, 1, 0; F[1, 315] = 4.49, p < 0.05$). There was also a significant difference in enthusiasm comparing anger and sadness, with anger inducing more enthusiasm ($t = 2.23, p < 0.01$)

24. Again, the negative emotion ads differed from another with respect to enthusiasm ($\psi = 0, 1, 1, -2; F[1, 349] = 0.36, ns; \psi = 0, -1, 1, 0; F[1, 349] = 7.4, p < 0.01$). Contrary to the crime ads, enthusiasm was now greater for the sadness ad relative to the anger ad ($t = 1.97, p < 0.05$).

25. It is conceivable that the qualitative type of anxiety measured by Marcus and colleagues is different from the feelings of personal threat and anxiety commonly studied in psychological research. Ladd and Lenz (2008) go so far as to suggest that what Marcus and colleagues deem "anxiety" is not anxiety, but a general dissatisfaction with one's political party (cf., Brader, 2005/2006). Yet with the exception of Brader (2006) and Valentino et al. (2008), much of the empirical work supporting affective intelligence theory has been non-experimental and has failed to explore how qualitatively different manifestations of anxiety facilitate or inhibit learning.

26. Sadness has been linked to reduced cognitive functioning. Mainly stemming from the neuroscience and clinical psychology literature, pervasive sad moods and clinical depression reduce attention and inhibit recall (Bornstein, Baker, and Douglass, 1991; Panskepp, 1999). Yet because this form of deep sadness and depression are largely irrelevant to the political campaign, it is unlikely that "campaign induced sadness" will impair learning and information seeking.

27. It is important to also note that it was not possible to gauge which blog the participant linked from. One of the limitations of the survey software was that if the respondent clicked the "back" button on the browser, the program would freeze and all responses would be deleted. For this reason, I didnt ask which blog the participant came from so as to prevent such an occurrence. Demographic questions were asked to gauge whether that the sample was relatively diverse. The survey was programmed to drop a cookie on the user's machine in order

to prevent multiple submissions. This was the only option available given the study design. Since participants werent preselected, it was impossible to provide a unique username and password for each individual. SNAP surveys, the program used to write the survey, also does not allow an "IP lockout:" The only option is to drop a cookie on the participants machine, meaning that it is conceivable for a participant to delete his/her cookies and take the survey multiple times. In addition, there was no way to ensure that participants did not take the survey from multiple computers.

28. The results are substantively the same if I run the main effects contrasts on the full model including all other covariates and higher order interactions.

29. A scale of political awareness was created from four questions (alpha=0.66) and standardized. The questions are: how much do you follow politics, how interested are you in politics, how likely is it that you'll participate in the upcoming election, and how likely is it that you'll volunteer in the next election. These questions were all asked in the pre-test. I also control for race, gender, whether one is registered to vote, and attitude strength. Attitude strength was created by collapsing ideological self placement ideology. The scale ranges from 0=moderate to 1=strong conservative/strong liberal. Ideology was used, rather than PID, because of the collinearity of this measure and the PID of the participant, which was used in this analysis.

30. Following the ad, participants were asked, "Who would you vote for: John Wilkins or Dave Reade?". After this question, participants were then asked, "How confident are you in this decision?" These two items were combined to create a graded scale of vote intention ranging from 0 (very confident would vote for Wilkins) to 1 (very confident would vote for Dave Reade).

31. Since the enthusiasm ad is positive, I was forced to choose whether the sponsoring candidate was Wilkins or Reade. The decision was made to keep the target of the ad the same (Wilkins), although unlike the other conditions, the target is now portrayed in a positive light.

32. In the political science literature anxiety and fear have been used interchangeably. This is not without problems, as these are unique and differentiable constructs (LeDoux, 1996). Psychologists have extensively documented how anxiety and fear are different. Fear is generally seen as something externally caused. Something in the surrounding environment may be threatening, leading the individual to escape the situation. Anxiety is generally seen as internally caused, generated by the subjective belief of impending failure or that something bad is imminent. While anxiety may originate from an external source, the emotion is sustained even in the absence of an environmental trigger. Since fear is fleeting and influenced by something external to the individual, this is why I rely on this term throughout the dissertation, rather than anxiety. A political advertisement does not cause anxiety, it causes fear, which may be sustained by the individual as anxiety.

33. Special thanks to Ted Brader for providing a codebook and suggestions as to how this should be done

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Appendix A

A1: Measurement

A.1 Chapter 3

Study 1: 1996 General Social Surveys Emotions Module

Now I'm going to read a list of different feelings that people sometimes have. After each one, I would like you to tell me on how many days you have felt this way during the past 7 days: *Blue, Calm, Outraged, Sad, Ashamed, Excited, Lonely, Fear, Joyful, Worried, Contented, Anxious, Mad.*

Study 2: Pooled Data

Table A.1: Samples that were Pooled.

	Population	N
Sample 1	Adults from online blogs	1400
Sample 2	Stony Brook Students	287
Sample 3	Stony Brook Students	170
Sample 4	Stony Brook Students	82
Sample 5	New York State adults	673
Sample 6	Stony Brook Students	430

A.1.1 Samples 1 and 2 and 5

Emotions

ANG1: How angry did the ad make you feel?

ANG2: How disgusted did the ad make you feel?

ANG3: How irritated did the ad make you feel?

FEAR1: How afraid did the ad make you feel?

FEAR2: How fearful did the ad make you feel?

SAD1: How sad did the ad make you feel?

SAD2: How depressed did the ad make you feel?

ENTH1: How hopeful did the ad make you feel?

ENTH2: How happy did the ad make you feel?

ENTH3: How optimistic did the ad make you feel?

A.1.2 Sample 3

:

Same questions as above, excluding how irritated did the ad make you feel? These values were declared as missing for this sample.

A.1.3 Sample 4

:

Same questions as above, excluding How optimistic did the ad make you feel? How happy did the ad make you feel?, and How irritated did the ad make you feel? Answers to these questions were declared as missing.

A.1.4 Sample 6:

ANG1: How angry do you feel?

ENTH1: How hopeful do you feel?

FEAR1: How fearful do you feel?

FEAR2: How afraid do you feel?

SAD1: How sad do you feel?

SAD2: How depressed do you feel?

ENTH2: How optimistic do you feel?

How irritated, happy, and disgusted were declared missing for sample 6.

A.2   Chapter 4

A.2.1   Study 1

Emotions The same emotion items as described above (Chapter 3) were used to construct manipulation checks in chapter 4.

Participation (pre-test)

Some people constantly follow what goes on in politics, while others aren't very interested. How often do you follow politics?

How interested are you in election campaigns?

These days the television news covers a wide variety of issues and people watch the news for many reasons. How about you? How interested are you in the news?

We will soon be in another campaign season. Do you expect to vote?

How likely is it that you'll volunteer in the next election?

Post Test Items

Knowledge

What job or office does Dick Cheney hold?

What job or office does Tony Blair hold?

What are the first ten amendments to the US Constitution called?

Whose responsibility is it to determine if a law is constitutional or not is it the President, the Congress, or the Supreme Court?

How long is the term of a United States Senator?

Contact

How likely is it that you would contact either campaign for more information?

Persuasion

How convincing was the advertisement?

How persuaded were you by the advertisement?

Tone

How negative or positive in tone was this ad?

Efficacy

Please indicate how much you agree or disagree with the following:

People like me don't have a say in what the government does?

I don't think public officials care much what people like me think?

Vote Importance

People should vote whenever there is an election.

Trust

People have different ideas about the government. These ideas don't refer to

Democrats or Republicans in particular, but just to the government in general.

How much of the time do you trust the government to do what's right?

Demographics and Control Variables

Do you consider yourself White, Black/African-American, Hispanic/Latino, Asian,

Pacific-Islander, Native-American, Other?

Are you male or female?

Are you registered to vote?

Generally speaking, do you think of yourself as a Republican, Democrat,

Independent, or what?

Generally speaking, do you think of yourself as a Liberal, Conservative, Moderate,

or what?

A.2.2 Study 2

Emotions

The same emotion items as described above (Chapter 3) were used to construct manipulation checks in chapter 4.

Participation

Post Test:

Some people constantly follow what goes on in politics, while others aren't very interested. How often do you follow politics?

How interested are you in election campaigns?

These days the television news covers a wide variety of issues and people watch the news for many reasons. How about you? How interested are you in the news?;

We will soon be in another campaign season. Do you expect to vote?

How likely is it that you'll volunteer in the next election?

Internal Efficacy

I feel that I have a pretty good understanding of the important political issues facing our country.

I consider myself well-qualified to participate in politics.

I feel that I could do as a good a job in public office as most other people.

I think I am better informed about politics and government than most people.

Sometimes politics and government seem so complicated that a person like me can't really understand what's going on.

External Efficacy

Public officials don't care much what people like me think.

Tone

How negative or positive in tone was this ad?

Demographics and Control Variables

Do you consider yourself White, Black/African-American, Hispanic/Latino, Asian, Pacific-Islander, Native-American, Other?

Are you male or female?

Are you registered to vote?

Generally speaking, do you think of yourself as a Republican, Democrat, Independent, or what?

Generally speaking, do you think of yourself as a Liberal, Conservative, Moderate, or what?

A.2.3   Study 3: 2000 ANES

Emotions

Anger towards Gore (v407 v408), anger towards Bush (v415, v416); fear towards Gore (v411, 412), fear towards Bush (v419, v420); Enthusiasm towards Gore (Hope: v409, v410; Pride: v413, v414); Enthusiasm towards Bush (Hope: v417, v418; Pride: v421, v422).

Internal Efficacy

I feel that I have a pretty good understanding of the important political issues facing our country (v1516); I consider myself well-qualified to participate in politics (v1517); I feel that I could do as a good a job in public office as most other people (v1518); I think I am better informed about politics and government than most people (v1519); Sometimes politics and government seem so complicated that a person like me can't really understand what's going on (v1529)

External Efficacy

Public officials don't care much what people like me think. (v1527)

Vote Importance

So many other people vote in the national election that it doesn't matter much to me whether I vote or not (v1520).

Trust

How much of the time do you think you can trust the government in Washington to do what is right? (v1534); Do you think that people in government waste a lot

of the money we pay in taxes, waste some of it, or don't waste very much of it? (v1535); Would you say that government is pretty much run by a few big interest looking out for themselves or that it is run for the benefit of the people? (v1536); Do you think that quite a few of the people running the government are crooked, not many are, or do you think hardly any of them are crooked? (v1537)

Interest

Some people don't pay much attention to political campaigns. How about you? (v1201); Did you watch any programs about the campaign on television? (v1202 v1203); Do you ever discuss politics with your family or friends (v1204, v1205).

Media Consumption

How many days in the past week did you watch the national network news on TV? (v329); Some people follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say that you follow what's going on in government and public affairs most of the time, some of the time, only now and then, or hardly at all? (v1367); How much attention do you pay to news on national news shows about the campaign for president? (v330); How much attention do you pay to news on local news about the campaign for president? (v333); How many days in the past week did you read a daily newspaper (v335).

Awareness

What job or office does Trent Lott hold? (v1447); What job or office does William Rehnquist hold (v1450);

What job or office does Tony Blair hold? (v1453); What job or office does Janet Reno hold? (v1456);

In what state does George W. Bush now live (v1458); What state is Al Gore from originally? (v1462);

What U.S. state does Dick Cheney live now? (v1466); What state does Joseph Lieberman live in now? (v1470);

Respondent's general level of information about political affairs as rated by the interviewer (v1745)

Political Contact

As you know, the political parties try to talk to as many people as they can to get them to vote for their candidate. Did anyone from one of the political parties call you up or come around and talk to you about the campaign this year? (v1219); Other than someone from the two major parties, did anyone (else) call you up or come around and talk to you about supporting specific candidates in the last election?(v1221); Did anyone from one of the political parties send you mail about the campaign this year? (v1222); Other than someone from the two major parties, did anyone (else) send you mail about supporting specific candidates in this last election (v1224).

Demographics

Income (v997); marital status (v909); south (v79); age (v908); union-worker (v990); length in community (v1020c); race (v1006a); gender (v1029); PID (v523); church attendance (v877, v879); denomination (v882); home-owner status (v1022); registered to vote (v1241, v1242).

Instruments

Social Conformity

Please tell me which one you think is more important for a child to have:

Independence or respect for one's elders (v1586) Obedience or self-reliance (v1587); Curiosity or good manners (v1588) ;Considerate or well behaved (v1589)

Trait Evaluations

Bush: moral (v1531), cares (v1532), knowledgeable (v1533), strong leader (v1534), dishonest (v1535), intelligent (v1536), out of touch (v1537). Gore: moral (v1524), cares (v1525), knowledgeable (v1526), strong leader (v1527), dishonest (v1528), intelligent (v1529), out of touch (v1530).

Open ended likes/dislikes

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Gore likes: v0306-v0310; Gore dislikes: v0312-v0316 Bush likes: v0318-v0322; Bush dislikes: v0324-v0328

Security

Would you say the nation's crime rate since 1992 has gotten better, worse, or stayed the same? (v01616a); Has the Clinton administration made the nation's crime rate better, worse, or hasn't it made a difference either way? (v1620a).

Voted in 1996 (v0303)

Issue Distance

Issue distance was calculated by taking the average of issue distances for self placement relative to each respective candidate on abortion, aid to blacks, government provision of jobs, environmental protection, and the appropriate role of women.

Abortion: Self placement (v0694), Bush (v0698), Gore (v0696)

Aid to blacks: Self placement (v0645), Bush (v0660), Gore (v0655)

Providing Jobs: Self placement (v0620), Bush (v0630), Gore (v0625)

Environmental protection: Self-placement (v0713), Bush (v0718), Gore (v0723)

Women's role: Self-placement (v0760), Bush (v0761), Gore (v0765)

A.3 Chapter 5

Emotions

The same emotion items as described above (Chapter 3) were used to construct manipulation checks in chapter 5.

Environmental attitudes

Prevention:

Some people think that many environmental problems, such as global warming and natural disasters

are caused mainly by humans; others think that environmental problems are not

due to humans. What do you think?

Some people think that many of are environmental problems can be prevented; others think that

environmental problems cannot be prevented and will happen no matter what. What do you think?

Some people think that environmental problems, like global warming and natural disasters, are inevitable and there's very little that can be done to prevent them; others feel that environmental problems can be prevented. What do you think?

Certainty/Risk:

Related to other political issues, do you think that environmental protection should be treated as a very serious, a somewhat serious, or not a serious issue?

How important to you personally is the issue of protecting the environment?

In general, would you say that environmental issues, like global warming and the depletion of the ozone

layer are extremely dangerous, somewhat dangerous, or not at all dangerous to you and your family?

Internal Attributions:

To what degree should the average American be blamed for environmental problems?

How many of our environmental problems are caused by average Americans consuming too many of our natural resources, such as coal, natural gas, and oil?

Do you agree or disagree: If the average American cared more about the environment, there would be much less environmental damage?

In general, how much influence do you feel your actions have on the quality of the environment?

External Attributions:

Some people feel that many of our environmental problems are caused by ineffective government programs; others think that environmental problems have

nothing to do with the government. Where do you stand?

And finally, some people think that most of our environmental problems are caused by the growth of large, private corporations; whereas others think that the increase in large corporations has nothing to do with environmental issues. What do you think?

To what degree should the government be blamed for environmental problems?

To what degree should private businesses be blamed for environmental problems?

Crime Attitudes External Attributions: Which of the following statements is closest to your views regarding crime and poverty? Crime in this country is mainly caused by poverty. Poverty has nothing to do with the crime rate.

Which of the following statements comes closest to your views on crime and family income? Family income has nothing to do with crime. Crime rates are what they are because many families do not have adequate incomes to care for their children.

Internal Attributions:

Which of the following comes closest to your views regarding crime and moral values? People commit crimes because they lack strong moral values. Moral values have nothing to do with crime.

People break the law because deep down they're evil.

Do you agree or disagree with the following: People that break the law do so because they don't want to make an honest living.

Some people feel that just because someone commits a crime doesn't mean they're a bad person; others feel that only bad people commit crimes. Which of the following comes closest to your view? Just because someone commits a crime doesn't mean they're a bad person. Only bad people commit crimes.

Community Attributions:

Do you agree or disagree with the following: A bad family upbringing makes it more likely that people will break the law?

Some feel that building strong communities are the best way to prevent people

from turning to crime; others feel that the strength of a community has nothing to do with whether an individual turns to crime. What do you think?

How much influence do you think good teachers and schools have on preventing people from turning to crime?

How much influence do you think parenting has to do with whether someone commits a crime?

How much influence do you think abuse and neglect have whether someone commits a crime?

Attitudes Towards Poverty

External Attributions: Please select the statement that comes closest to your own view on poverty. Most people that are poor are because they lack self-discipline and money management skills, some people are poor because they lack self-discipline and money-management skills, money management and self-discipline have nothing to do with whether one is poor.

Which of the following is closest to your views on private industry and poverty? Poverty is caused by private industry not providing enough jobs. Private industry has nothing to do with poverty.

How much is the government doing to deal with poverty? The government is doing all that it can. The government is doing a lot, but it should be doing more. The government is doing little and should be doing much more.

How serious do you think the issue of poverty is in this country- Very serious, somewhat serious, or not at all serious?

How much do you agree or disagree with the statement: For the most part, anyone can live well in America?

How much do you worry about poverty in this country- I don't worry at all, I don't worry much, I worry some, I worry often?

Ideology:

Generally speaking, do you think of yourself as a liberal, conservative, moderate or

what?

Party Identification:

Generally speaking, do you think of yourself as a Republican, Democrat,

Independent, or what?

Trait Emotions

Sadness:

I often feel:

Sad, happy, depressed, secure

Anger:

I often feel:

Angry, Short-Tempered

Anxiety:

I often feel:

Calm, Tense, Nervous, Anxious

Motivational Factors

Need for Cognition:

I would prefer simple to complex problems.

Thinking is not my idea of fun.

I try to anticipate and avoid situations where there is a likely chance that I will

have to think in depth about something.

Need to Evaluate:

I form opinions about everything.

I prefer to avoid taking extreme positions.

It is important for me to hold strong opinions.

Social Conformity:

It's best for everyone if people try to fit in instead of acting in unusual ways.

People should be encouraged to express themselves in unique and possibly unusual

ways.

Obeying the rules and fitting in are signs of a strong and healthy society.

We should admire people who get their own way without worrying about what others think.

People need to learn to fit in and get along with others.

Political Knowledge:

What job or political office does Dick Cheney currently hold? Secretary of state, President, Attorney General, Vice President, Don't Know.

What job or political office does Tony Blair hold? British Prime Minister, Israeli Prime Minister, Supreme Court Justice, Attorney General, Don't Know.

What are the first 10 amendments to the U.S. Constitution called? Bill of Rights, Articles of Confederation, States Rights, Declaration of Independence, Don't Know.

Whose responsibility is it to determine if a law is constitutional or notis it the President, the Congress, or the Supreme Court?

How long is the term of a United States Senator? 2, 4, 6, or 8 years, or Don't Know.

Demographics

Are you Male or Female?

What year were you born?

Do you consider yourself..White, Black/African-American, Hispanic/Latino, Asian, Pacific-Islander, Native American, or Other?

What is the highest grade of school, year of college, or highest degree that you have completed?

Which of the following income categories best describes the total 2005 household income of all members of your family living there before taxes: (1) less than 10,000- (1) 130,000 and up.

Spending Prefences

Making decisions about government programs almost always requires giving up one

thing in order to get something else. If more money is given to one program less money is given to another.

Considering this tradeoff, would you say that the federal government should increase or decrease spending to reduce crime?

Considering this tradeoff, would you say that the federal government should increase or decrease the level of assistance given to welfare recipients?

Considering this tradeoff, would you say that the federal government should increase or decrease spending on the environment?

A.4 Chapter 6

Participation

Some people constantly follow what goes on in politics, while others aren't very interested. How often do you follow politics?

How interested are you in election campaigns?

These days the television news covers a wide variety of issues and people watch the news for many reasons. How about you? How interested are you in the news?;

We will soon be in another campaign season. Do you expect to vote?

How likely is it that you'll volunteer in the next election?;

Emotions

The same emotion items as described above (chapter 3) were used to construct manipulation checks in chapter 6.

Efficacy

Please indicate how much you agree or disagree with the following:

People like me don't have a say in what the government does?

I don't think public officials care much what people like me think?

Vote Importance

People should vote whenever there is an election.

Trust

People have different ideas about the government. These ideas don't refer to Democrats or Republicans in particular, but just to the government in general. How much of the time do you trust the government to do what's right?

Responses to the Advertisement

How positive or negative in tone was this ad?

If you were to vote in this election, would you vote for John Wilkins or Dave Reade?

How confident are you in this decision?

How likely is that that you would contact either campaign for more information?

How convincing was the advertisement?

How persuaded were you by the advertisement?

Internal Attributions

Some people feel that people commit crimes because they lack strong moral values; others feel that, generally speaking, moral values have nothing to do with whether one commits a crime. What do you think? Which statement is closest to your view?

How much influence do you think poverty has on the crime rate in this country?

People break the law because deep down they're evil.

Please indicate how much you agree or disagree with the following: people break the law because they don't' want to make an honest living.

External Attributions

How much influence do you think abuse and neglect have on whether someone commits a crime?

How much influence do you think parenting has on whether someone commits a crime?

Spending Preferences

Making decisions about government programs almost always requires giving up one

thing in order to get something else. If more money is given to one program, less money is given to another. Considering this tradeoff, would you say that the Federal Government should increase or decrease spending to reduce crime? Drastically increase spending- Drastically decrease spending.

Appendix B

A2: Additional Analysis

B.1 Chapter 3

B.1.1 Study 1

Table B.1: Descriptive Statistics for 1996 GSS Emotions Module

	Mean	Median	SD	Min	Max
Anger	1.55	1	1.64	0	7
Fear	2.22	2	1.60	0	7
Sadness	1.45	1	1.65	0	7
Enthusiasm	2.79	2.67	1.77	0	7
Guilt	1.00	0	1.00	0	7

Note: Descriptive Statistics

Table B.2: Correlation Matrix for 1996 Emotions Module

	Anger	Fear	Sadness	Enthusiasm	Guilt
Anger	1				
Fear	0.46	1			
Sadness	0.39	0.54	1		
Enthusiasm	0.12	-0.06	-0.02	1	
Guilt	0.28	0.28	0.30	0.14	1

B.1.2 Study 2

Table B.3: Descriptive Statistics for Study 2

	Mean	Median	SD	Min	Max
Anger	2.39	2.33	0.90	1	4
Enthusiasm	1.82	1.67	0.79	1	4
Sadness	2.00	2	0.84	1	4
Fear	1.75	1.5	0.83	1	4

Note: Descriptive Statistics

Table B.4: Correlation Matrix for Pooled Data

	Anger	Enthusiasm	Sadness	Fear
Anger	1			
Enthusiasm	-0.38	1		
Sadness	0.46	-0.09	1	
Fear	0.32	0.04	0.59	1

Note: Zero-Order Correlations

B.2 Chapter 4

B.2.1 Study 1

Table B.5: Descriptive Statistics. Study 1

	N	Mean	SD	Min	Max
Participation	287	-0.01	1	-2.28	2.12
Non-White	287	0.53	0.50	0	1
Registered to Vote	287	0.66	0.48	0	1
Female	287	0.56	0.50	0	1
Partisan Strength	287	0.41	0.33	0	1
Knowledge	287	0.75	0.24	0	1
Internal Efficacy	287	0.52	0.30	0	1
Vote Importance	285	0.83	0.23	0	1
External Efficacy	287	0.43	0.26	0	1
Trust	287	0.44	0.20	0	1

Note: Descriptive Statistics

Table B.6: Two Stage Ordered Probit. Study 1

Variables	Contact	Vote Importance	Internal Efficacy
Anger	1.16 (0.42)***	1.12 (0.48)**	0.87 (0.41)*
Participation	0.35 (0.11)***	0.30 (0.13)**	-0.07 (0.11)
Knowledge	-0.37 (0.45)	0.22 (0.49)	1.24 (0.46)***
Non-White	-0.13 (0.20)	-0.01 (0.24)	0.12 (0.20)
Registered to Vote	-0.04 (0.22)	0.03 (0.24)	0.30 (0.22)
Female	-0.10 (0.20)	0.43 (0.22)*	-0.04 (0.19)
Partisan Strength	-0.17 (0.10)#	0.003 (0.11)	0.08 (0.19)
Threshold 1	1.20	0.93	2.22
Threshold 2	2.27	1.55	3.53
Threshold 3	3.32	2.93	4.58
N	148	148	148
Log-Likelihood	-178.10	-122.67	-177.21

Note: Participation models using two-stage ordered probit. Anger versus Sad ad. Maximum

Likelihood Estimates from two-stage conditional ordered probit least squares equation predicting

the probability of contacting either campaign, the importance of voting, and internal efficacy for the anger versus sadness ad. Anger is predicted from the first stage equation. The anger versus sad condition variable is excluded from the second stage equation. Anger error is the residual from the first stage model, included in the second stage model to correct for biased standard errors. Knowledge is coded from 0 to 1, Participation is standardized. Partisan Strength is based on the extremity of party attachment, coded 0(not strong) to 1 (strong). The remaining variables are dummy variables. Tests are two tailed #p<0.10, *p<0.05, **p<0.01, ***p<0.001

B.2.2 Study 2

Table B.7: Descriptive Statistics for Study 2

	N	Mean	SD	Min	Max
Non-White	82	0.73	0.45	0	1
Registered to Vote	82	0.51	0.51	0	1
Female	82	0.62	0.49	0	1
Partisan Strength	82	0.38	0.33	0	1
Internal Efficacy	82	0.48	0.22	0	0.93
Campaign Contact	81	0.54	0.31	0	1
External Efficacy	82	0.48	0.26	0	1
Trust	82	0.58	0.20	0	1
Vote	82	0.59	0.36	0	1
Volunteer	81	0.27	0.26	0	1
News Interest	82	0.72	0.25	0	1

Note: Descriptive Statistics

B.2.3 Study 3

Table B.8: Descriptive Statistics. Study 3: 2000 ANES.

	N	Mean	SD	Min	Max
Anger	1800	0.16	0.20	0	1
Fear	1799	0.13	0.19	0	1
Enthusiasm	1799	0.25	0.20	0	1
Registered to Vote	1807	0.74	0.43	0	1
Media Consumption	1807	0	1	-2.23	2.32
Income	1595	4.94	3.14	1	22
Married	1793	0.55	0.50	0	1
South	1806	0.30	0.45	0	1
Age	1798	47.21	16.96	18	97
Campaign contact	1807	1.20	1.16	0	4
Union Member	1795	0.14	0.35	0	1
Nonwhite	1807	.23	0.42	0	1
Male	1795	0.44	0.50	0	1
Homeowner	1792	0.67	0.47	0	1
Religiosity	1807	0	1	-2.03	2.31
Catholic	1807	0.20	0.40	0	1
Other Religion	1807	0.17	0.37	0	1
Jewish	1807	0.02	0.12	0	1
Knowledge	1807	0.30	0.22	0	0.92
Partisan Strength	1807	0.60	0.35	0	1
Education (1=College)	1807	0.31	0.46	0	1
Community(Logged)	1610	2.51	1.11	0	4.49
Unemployed	1807	0.29	0.45	0	1

Table B.8: Descriptive Statistics. Study 3: 2000 ANES.

Internal Efficacy	1554	0.47	0.24	0	1
External Efficacy	1547	0.42	0.31	0	1
Trust	1551	0.25	0.13	0	0.67
Vote Importance	1442	4.35	1.14	1	5
Global Participation 1807	1.44	1.42	0	9	
Passive Participation	1807	1.44	1.42	0	3
Active Participation	1807	1.04	0.86	0	7

B.3 Chapter 5

Table B.9: Descriptive Statistics. New York State Study

	N	Mean	SD	Min	Max
Community Attributions (CR)	672	-1.14e-08	1	-4.430881	1.286019
Risk/Certainty (ENV)	672	-1.18e-08	1	-3.467113	1.433813
Prevent (ENV)	673	.6787188	.1673861	0	1
Internal (ENV)	673	-1.19e-08	1	-3.794605	2.575341
External (ENV)	669	-9.67e-09	1	-3.635972	2.218337
Internal (CR)	672	-3.57e-09	1	-1.6047	3.322124
External (CR)	658	1.99e-09	1	-1.459043	.9350971
Internal (PV)	673	4.21e-09	1	-2.186461	4.385251
External (PV)	673	-1.10e-08	1	-3.04786	2.30079
Ideology	635	.4446194	.2658314	0	1
Trait Anger	669	.3300947	.2498126	0	1
Trait Anxiety	672	.3871114	.2188597	0	1
Trait Sadness	668	.2865519	.1829412	0	.8888889
PID	627	.4346093 .	2795766	0	1
Nonwhite	673	.3090639	.4624513	0	1
Income	638	6.829154	2.421897	1	10
# Children	667	1.211394	1.382643	0	5
Male	673	.46	.50	0	1
Age	662	41	15.78	18	83
Knowledge	673	3.925706	1.12882	0	5
Social Conformity	672	.4720982	.1768832	0	1
Need to Evaluate	672	.5801918	.1657652	0	1
Need for Cognition	671	.6012585	.2149719	0	1

Note: Descriptive Statistics. ENV=Environmental Attitudes, CR=Crime Attitudes, PV=Poverty

Attitudes

Table B.10: Environmental Attitudes.

Variables	Prevent	Risk	Internal	External	Spending
Enthusiasm	0.0690	0.0483	0.600*	0.0592	-0.0115
	(0.0517)	(0.316)	(0.307)	(0.308)	(0.0601)
Fear	0.0191	-0.349	0.481	0.721**	0.00819
	(0.0540)	(0.330)	(0.321)	(0.321)	(0.0627)
Anger	0.0242	0.0631	0.412	0.0599	0.0301
	(0.0506)	(0.309)	(0.301)	(0.302)	(0.0588)
Ideology	-0.0657	-0.823*	0.863*	-0.571	0.235**
	(0.0806)	(0.492)	(0.479)	(0.481)	(0.0937)
PID	-0.0697**	-0.422**	-0.491***	-0.688***	0.130***
	(0.0293)	(0.179)	(0.174)	(0.175)	(0.0340)
ID x Enth	-0.156	0.141	-1.906***	0.240	-0.101
	(0.108)	(0.659)	(0.641)	(0.644)	(0.125)
ID x Fear	-0.000293	0.440	-1.061	-0.885	-0.118
	(0.111)	(0.676)	(0.657)	(0.660)	(0.129)
ID x Anger	-0.114	-0.425	-1.289**	-0.0252	-0.0800
	(0.106)	(0.649)	(0.632)	(0.634)	(0.124)
Trait Anger	0.00805	-0.287	-0.353*	-0.0681	0.0435
	(0.0315)	(0.193)	(0.187)	(0.188)	(0.0367)
Trait Anxiety	0.0154	-0.158	0.278	0.191	0.0121
	(0.0411)	(0.251)	(0.244)	(0.246)	(0.0478)
Trait Sadness	-0.0397	0.0551	0.270	0.251	0.0162
	(0.0480)	(0.293)	(0.285)	(0.287)	(0.0561)
Nonwhite	-0.005	0.0614	0.229**	0.0328	0.0133
	(0.0155)	(0.0946)	(0.0919)	(0.0923)	(0.0180)

Table B.10: Environmental Attitudes.

Income	-0.00122	0.0127	-0.0307*	-0.0162	-0.000714
	(0.00304)	(0.0186)	(0.0180)	(0.0182)	(0.00355)
# Children	-0.00942	-0.107***	-0.0550	0.0274	0.0160**
	(0.00642)	(0.0392)	(0.0381)	(0.0387)	(0.00747)
Male	-0.0170	-0.150*	-0.190**	0.0431	0.0124
	(0.0139)	(0.0852)	(0.0828)	(0.0833)	(0.0162)
Age	0.000755	0.00883**	0.00610*	0.0101***	-0.00103
	(0.000592)	(0.00362)	(0.00352)	(0.00355)	(0.000690)
Knowledge	0.0126*	0.0215	0.00301	0.0636	-0.00754
	(0.00659)	(0.0403)	(0.0392)	(0.0394)	(0.00767)
Social Conformity	-0.112***	-0.280	-0.628**	-0.343	0.0819*
	(0.0421)	(0.257)	(0.250)	(0.251)	(0.0489)
Need to Evaluate	-0.0316	0.350	0.298	-0.149	-0.0715
	(0.0420)	(0.257)	(0.249)	(0.250)	(0.0494)
Need for Cognition	0.0730**	0.0120	0.239	0.252	0.0267
	(0.0362)	(0.221)	(0.215)	(0.216)	(0.0421)
ENVxAnger	0.126*	0.274	-0.311	0.0234	-0.106
	(0.0712)	(0.436)	(0.423)	(0.424)	(0.0828)
ENVxFear	-0.0498	0.275	-0.642	-1.104**	0.0288
	(0.0778)	(0.477)	(0.462)	(0.464)	(0.0905)
ENVxEnth	0.000989	-0.119	-0.516	-0.202	0.0155
	(0.0731)	(0.447)	(0.434)	(0.436)	(0.0849)
ID x Anger x ENV	-0.159	-0.540	0.559	-0.214	0.310*
	(0.146)	(0.899)	(0.870)	(0.873)	(0.170)

Table B.10: Environmental Attitudes.

ID x Fear x ENV	0.0958	-0.381	1.186	1.703*	0.0248
	(0.155)	(0.952)	(0.921)	(0.924)	(0.180)
ID x Enth x ENV	-0.0256	-0.166	1.185	-0.381	0.141
	(0.146)	(0.897)	(0.866)	(0.873)	(0.169)
ENV x ID	0.109	0.869	-0.362	0.172	-0.238*
	(0.110)	(0.681)	(0.655)	(0.658)	(0.128)
Env Ad	-0.0441	-0.306	0.179	0.207	0.0567
	(0.0511)	(0.313)	(0.304)	(0.304)	(0.0594)
Constant	0.708***	0.241	-0.112	-0.290	0.195**
	(0.0657)	(0.401)	(0.390)	(0.392)	(0.0766)
Observations	580	579	580	577	577
R-squared	0.173	0.117	0.141	0.158	0.152

Table B.11: Beliefs about Poverty.

Variables	Internal	External	Spending
Enthusiasm	0.0135	-0.217	0.156**
	(0.298)	(0.295)	(0.0694)
Fear	-0.0589	-0.151	-0.00292
	(0.311)	(0.308)	(0.0725)
Anger	-0.00459	-0.188	0.0833
	(0.292)	(0.289)	(0.0680)
Ideology	-0.173	-0.171	0.190*
	(0.465)	(0.461)	(0.108)

Table B.11: Beliefs about Poverty.

PID	0.649***	-0.807***	0.115***
	(0.169)	(0.167)	(0.0394)
ID x Enth	0.611	0.0560	-0.193
	(0.622)	(0.616)	(0.145)
ID x Fear	0.732	-0.113	0.0158
	(0.638)	(0.632)	(0.149)
ID x Anger	0.307	0.0662	-0.152
	(0.613)	(0.608)	(0.143)
Trait Anger	0.320*	-0.224	0.0585
	(0.182)	(0.180)	(0.0424)
Trait Anxiety	-0.675***	0.327	-0.113**
	(0.237)	(0.235)	(0.0552)
Trait Sadness	-0.158	0.0615	0.0213
	(0.277)	(0.274)	(0.0646)
Nonwhite	-0.0142	-0.0584	0.000376
	(0.0893)	(0.0884)	(0.0208)
Income	0.0410**	-0.0263	0.0104**
	(0.0175)	(0.0174)	(0.00410)
# Children	0.00170	0.0391	-0.00413
	(0.0370)	(0.0367)	(0.00867)
Male	0.0383	-0.238***	-0.0161
	(0.0804)	(0.0797)	(0.0187)
Age	-0.00292	0.00547	0.000398
	(0.00342)	(0.00338)	(0.000806)
Knowledge	-0.00994	-0.0302	0.0123

Table B.11: Beliefs about Poverty.

	(0.0380)	(0.0377)	(0.00886)
Social Conformity	0.905***	-0.653***	0.229***
	(0.243)	(0.240)	(0.0566)
Need to Evaluate	-0.539**	0.804***	-0.0409
	(0.242)	(0.240)	(0.0564)
Need for Cognition	-0.216	0.143	-0.00105
	(0.209)	(0.207)	(0.0488)
ENV x Anger	-0.194	0.817**	-0.240**
	(0.411)	(0.407)	(0.0960)
ENV x Fear	0.991**	-0.151	0.0488
	(0.449)	(0.445)	(0.105)
ENV x Enth	0.286	0.142	-0.154
	(0.422)	(0.418)	(0.0985)
ID x Anger x ENV	0.300	-1.387*	0.478**
	(0.845)	(0.836)	(0.197)
ID x Fear x ENV	-2.150**	0.857	-0.128
	(0.894)	(0.886)	(0.209)
ID x Enth x ENV	-0.975	0.0797	0.194
	(0.841)	(0.833)	(0.196)
ENV x ID	0.813	-0.157	-0.131
	(0.636)	(0.630)	(0.149)
ENV (1=Env Ad)	-0.286	-0.102	0.0879
	(0.295)	(0.292)	(0.0691)
Constant	-0.303	0.395	0.181**
	(0.379)	(0.375)	(0.0884)

Table B.11: Beliefs about Poverty.

Observations	580	580	578
R-squared	0.204	0.210	0.176
Cut 2		0.34	

Table B.12: Beliefs about Crime.

Variables	Internal	External	Community	Spending
Enthusiasm	0.497	-0.865	0.111	-0.0263
	(0.302)	(0.634)	(0.319)	(0.0623)
Fear	0.471	-0.398	0.199	-0.0628
	(0.316)	(0.657)	(0.333)	(0.0650)
Anger	-0.0888	-0.695	-0.279	-0.00404
	(0.296)	(0.613)	(0.313)	(0.0610)
Ideology	0.575	-1.120	0.432	0.0399
	(0.471)	(0.968)	(0.498)	(0.0970)
PID	0.134	-0.833**	0.0409	0.0247
	(0.171)	(0.362)	(0.181)	(0.0350)
ID x Enthusiasm	-0.565	2.222*	-0.316	-0.0384
	(0.631)	(1.270)	(0.666)	(0.130)
ID x Fear	-0.565	1.266	-0.853	0.0828
	(0.647)	(1.325)	(0.684)	(0.133)
ID x Anger	0.121	1.868	0.275	-0.0616
	(0.622)	(1.292)	(0.657)	(0.128)
Trait Anger	-0.0593	0.177	-0.567***	-0.00440

Table B.12: Beliefs about Crime.

	(0.185)	(0.387)	(0.195)	(0.0377)
Trait Anxiety	-0.192	0.354	0.453*	-0.0729
	(0.240)	(0.506)	(0.254)	(0.0491)
Trait Sadness	0.557**	-0.0549	-0.0764	0.0984*
	(0.281)	(0.579)	(0.297)	(0.0574)
Nonwhite	-0.0319	-0.206	0.0558	-0.0341*
	(0.0906)	(0.186)	(0.0957)	(0.0186)
Income	0.0154	0.0159	0.0295	-0.00100
	(0.0178)	(0.0371)	(0.0188)	(0.00365)
# Children	-0.0140	0.0366	-0.0288	0.00343
	(0.0375)	(0.0793)	(0.0397)	(0.00768)
Male	0.157*	0.164	0.106	0.0386**
	(0.0816)	(0.169)	(0.0862)	(0.0167)
Age	0.00619*	-0.00301	0.00367	-0.00104
	(0.00346)	(0.00720)	(0.00366)	(0.000709)
Knowledge	-0.0213	0.0824	0.0348	-0.00324
	(0.0386)	(0.0780)	(0.0407)	(0.00789)
Social Conformity	1.073***	0.108	0.626**	-0.0909*
	(0.246)	(0.516)	(0.260)	(0.0504)
Need to Evaluate	-0.459*	1.565***	0.553**	-0.0823
	(0.246)	(0.512)	(0.259)	(0.0503)
Need for Cognition	-0.474**	-0.0622	0.541**	-0.0294
	(0.213)	(0.448)	(0.225)	(0.0433)
ENV x Anger	-0.102	-0.0283	-0.344	0.0955
	(0.416)	(0.863)	(0.440)	(0.0855)

Table B.12: Beliefs about Crime.

ENV x Fear	-0.0247	-0.261	-0.690	0.184**
	(0.455)	(0.966)	(0.481)	(0.0934)
ENV x Enthusiasm	-0.0904	0.609	-0.383	0.135
	(0.427)	(0.907)	(0.451)	(0.0878)
ID x Anger x ENV	0.0191	-1.154	0.575	0.00285
	(0.856)	(1.767)	(0.905)	(0.175)
ID x Fear x ENV	-0.588	0.790	1.450	-0.282
	(0.906)	(1.919)	(0.958)	(0.186)
ID x Enth x ENV	-0.539	-2.014	1.203	-0.0931
	(0.853)	(1.751)	(0.901)	(0.175)
ENV x Ideology	0.501	0.900	-1.073	-0.0387
	(0.645)	(1.332)	(0.681)	(0.132)
ENV (1=Env Ad)	-0.0731	-0.0992	0.511	-0.0535
	(0.299)	(0.634)	(0.316)	(0.0616)
Constant	-0.742*	–	-1.553***	0.496***
	(0.384)	–	(0.406)	(0.0788)
Observations	579	568	579	579
R-squared	0.163	–	0.093	0.067
Cut 1		-0.87		
Cut 2		0.34		

Table B.13: Standardized Differences between Liberals and Conservatives. (i) Crime ads, (ii) Environment Ads

	(i)	(i)	(i)	(i)	(ii)	(ii)	(ii)	(ii)
	Anger	**Sad**	**Fear**	**Enth**	**Anger**	**Sad**	**Fear**	**Enth**
Environment Attitudes								
Prevention	0.75	0.35	0.35	0.99	1.4	0.02	0.03	0.68
Certainty	0.91	0.69	0.30	0.50	1.08	0.04	0.08	0.06
Internal	0.52	0.35	0.80	0.27	0.98	0.36	0.28	0.33
External	0.30	0.16	0.18	0.76	0.73	0.80	0.13	0.21
Poverty Attitudes								
Internal	0.52	0.49	0.59	0.72	1.39	0.54	0.05	0.34
External	0.40	0.29	0.25	0.39	1.62	0.37	0.21	0.28
Crime Attitudes								
Community	0.82	0.11	0.22	0.10	0.00	0.3	0.40	0.09
Internal	0.27	0.50	0.26	0.37	1.05	0.62	0.30	0.22
External	0.08	0.27	0.10	0.05	0.08	0.09	0.02	0.30
Spending Preferences								
Crime Spending	0.50	0.30	0.06	0.10	0.02	0.17	0.43	0.12
Environment Spending	0.50	0.61	0.51	0.47	1.23	0.41	0.02	0.45
Welfare Spending	0.67	0.31	0.63	0.23	1.39	0.63	0.19	0.43
average d	0.48	0.37	0.35	0.41	0.91	0.36	0.16	0.30

Note: Standardized effects comparing conservatives to liberals.

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Table B.14: Descriptive Statistics. Web Survey

	N	Mean	SD	Min	Max
Female	1390	0.51	0.49	0	1
Age	1390	0.39	12.87	18	77
Nonwhite	1389	0.09	0.29	0	1
Registered to Vote	1380	0.98	0.15	0	1
Number of Children	1380	1.91	1.24	1	6
Income/10000	1317	6.51	2.91	1	10
Ideology (1=Conservative)	1317	0.36	0.31	0	1
PID (1=Republican)	1280	0.34	0.33	0	1

Table B.15: Regression predicting probability of voting for Dave Reade. Enthusiasm and Sadness Ads

	Enth Ad		Sad Ad	
	Reade=Rep	Reade=Dem	Reade=Rep	Reade=Dem
Party ID	-2.640*	1.370	0.408	1.149
	(1.378)	(0.998)	(1.478)	(0.959)
Ideology	-2.685*	1.431	3.462**	-1.507
	(1.435)	(1.014)	(1.672)	(1.073)
Internal Att	2.208	0.737	1.705	0.260
	(1.794)	(1.238)	(1.515)	(1.074)
External Att	0.286	0.175	-0.655	-0.235
	(1.866)	(1.228)	(1.748)	(1.080)
Spending	-0.110	-0.773	-2.863	-3.458**
	(1.933)	(1.501)	(1.906)	(1.425)
Anger	2.584**	3.071***	0.306	-0.712
	(1.242)	(0.997)	(1.122)	(0.755)
Sadness	3.059*	-1.327	0.0395	-0.121
	(1.579)	(0.998)	(1.181)	(0.824)
Enthusiasm	-2.024*	-0.603	0.0154	3.879***
	(1.209)	(0.926)	(1.900)	(1.399)
Fear	2.216	1.854*	3.805***	-0.295
	(2.183)	(1.065)	(1.455)	(1.067)
Constant	0.574	-2.633**	-2.755	0.938
	(1.782)	(1.335)	(1.769)	(1.061)
Observations	157	171	160	164

Note: Entries are logit coefficients. Standard errors are in parentheses. Tests are two tailed.

#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table B.16: Regression predicting probability of voting for Dave Reade. Fear and Anger Ads

| | *Fear Ad* | | *Anger Ad* | |
	Reade=Rep	*Reade=Dem*	*Reade=Rep*	*Reade=Dem*
Party ID	1.710	-1.238	1.609	-1.209
	(1.132)	(0.909)	(1.816)	(0.913)
Ideology	1.506	-0.646	6.815***	0.431
	(1.315)	(0.986)	(2.479)	(0.950)
Internal Att	0.322	0.723	-1.568	0.446
	(1.537)	(1.137)	(2.162)	(1.163)
External Att	-2.280	0.118	1.295	-1.060
	(1.595)	(1.137)	(2.129)	(1.209)
Spending	-1.333	1.698	-4.672*	-0.910
	(1.899)	(1.383)	(2.586)	(1.205)
Anger	-1.942*	-2.609***	-2.550*	-0.225
	(1.038)	(0.835)	(1.469)	(0.749)
Sadness	0.314	0.252	4.292**	0.874
	(1.227)	(0.876)	(1.898)	(0.806)
Enthusiasm	4.184***	1.005	2.014	-0.549
	(1.556)	(1.292)	(2.214)	(1.289)
Fear	0.176	0.665	4.790**	1.145
	(1.123)	(0.823)	(1.947)	(0.918)
Constant	0.724	0.731	-5.233**	0.925
	(1.658)	(1.226)	(2.525)	(1.360)
Observations	158	137	143	154

Note: Entries are logit coefficients. Standard errors are in parentheses. Tests are two tailed.
#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table B.17: Regression predicting probability of voting for Dave Reade. Enthusiasm and Sadness Ads

	Enth Ad		*Sad Ad*	
	Reade=Rep	*Reade=Dem*	*Reade=Rep*	*Reade=Dem*
Party ID	-0.218**	0.281***	0.0514	0.167
	(0.0951)	(0.101)	(0.113)	(0.137)
Ideology	-0.202*	0.186*	0.401***	-0.283*
	(0.108)	(0.104)	(0.125)	(0.151)
Internal Att	-0.0436	0.0646	0.223*	0.0684
	(0.122)	(0.126)	(0.118)	(0.150)
External Att	-0.0286	-0.0305	-0.178	-0.0751
	(0.126)	(0.126)	(0.125)	(0.152)
Spending	0.175	-0.180	-0.245*	-0.393**
	(0.134)	(0.151)	(0.137)	(0.190)
Anger	0.293***	0.367***	0.0229	-0.222**
	(0.0879)	(0.0960)	(0.0751)	(0.109)
Sadness	0.0880	-0.230**	-0.0148	0.154
	(0.0885)	(0.101)	(0.0851)	(0.117)
Enthusiasm	-0.135	-0.0971	-0.0318	0.445**
	(0.0895)	(0.0925)	(0.147)	(0.190)
Fear	0.0575	0.165	0.331***	-0.148
	(0.108)	(0.108)	(0.119)	(0.147)
Constant	0.625***	0.279**	0.312**	0.685***
	(0.124)	(0.134)	(0.135)	(0.150)
Observations	154	164	153	161
R-squared	0.575	0.384	0.502	0.143

Note: Entries are OLS coefficients. Standard errors are in parentheses. Tests are two tailed.
#$p<0.10$, *$p<0.05$, **$p<0.01$, ***$p<0.001$

Table B.18: Regression predicting probability of voting for Dave Reade. Fear and Anger Ads

| | Fear Ad | | AngerAd | |
	Reade=Rep	Reade=Dem	Reade=Rep	Reade=Dem
Party ID	0.228*	-0.227	0.234*	-0.322**
	(0.121)	(0.140)	(0.119)	(0.144)
Ideology	0.327**	-0.150	0.363***	-0.00833
	(0.147)	(0.153)	(0.127)	(0.154)
Internal Att	0.0877	0.180	0.0495	0.295
	(0.162)	(0.176)	(0.130)	(0.181)
External Att	-0.267	0.0330	0.213*	-0.0490
	(0.168)	(0.175)	(0.129)	(0.185)
Spending	-0.0166	0.248	-0.186	-0.184
	(0.184)	(0.207)	(0.155)	(0.183)
Anger	-0.199*	-0.458***	-0.252***	0.0787
	(0.104)	(0.120)	(0.0858)	(0.114)
Sadness	0.0456	0.0138	0.215**	0.0885
	(0.120)	(0.135)	(0.0904)	(0.124)
Enthusiasm	0.430***	0.0632	0.200	-0.0111
	(0.159)	(0.194)	(0.142)	(0.196)
Fear	0.0572	0.123	0.269**	0.162
	(0.113)	(0.127)	(0.118)	(0.140)
Constant	0.438**	0.666***	0.0167	0.524**
	(0.176)	(0.188)	(0.129)	(0.208)
Observations	157	135	140	150
R-squared	0.496	0.168	0.556	0.116

Note: Entries are OLS coefficients. Standard errors are in parentheses. Tests are two tailed.
#p<0.10, *p<0.05, **p<0.01, ***p<0.001

Table B.19: Ordered Logit. Internal Efficacy

	Fear Ad		AngerAd	
Ad Attacks:	*Rep*	*Dem*	*Rep*	*Dem*
Anger	-0.399	0.143	0.105	-0.242
	(0.375)	(0.410)	(0.268)	(0.262)
Enthusiasm	0.118	-0.377	-0.169	-0.0774
	(0.368)	(0.412)	(0.263)	(0.255)
Fear	-0.0106	-0.0809	0.270	-0.117
	(0.398)	(0.366)	(0.277)	(0.277)
Awareness	0.324*	0.173	0.235*	0.111
	(0.189)	(0.165)	(0.125)	(0.123)
Nonwhite	0.185	0.238	-0.135	-0.291
	(0.530)	(0.540)	(0.359)	(0.362)
Registered to Vote	-0.424	0.0250	-1.476	-1.632*
	(0.844)	(1.225)	(1.083)	(0.973)
Female	0.00164	-0.0365	0.695***	0.245
	(0.306)	(0.301)	(0.216)	(0.203)
Attitude Strength	-0.195	-0.0685	0.124	-0.254
	(0.463)	(0.471)	(0.361)	(0.372)
Threshold 1	-2.09	-1.20	-2.42	-3.23
Threshold 2	-0.78	-0.14	-0.83	-1.74
Threshold 3	0.70	1.15	0.56	-0.42
Observations	187	178	350	372

Note: Entries are ordered logit coefficients. Estimates used to estimate probabilities at the end of chapter 6. Standard errors are in parentheses. Note that running these models separately for the PID of candidate and respondent yields the exact same predicted probabilities as running a single model with all higher order interactions. Baseline is the sadness ad.*$p<0.10$, **$p<0.5$, ***$p<0.01$

Table B.20: Ordered Logit. External Efficacy

Ad Attacks:	Fear Ad		AngerAd	
	Rep	Dem	Rep	Dem
Anger	-0.0997	1.117	-0.697	0.354
	(0.506)	(0.744)	(0.583)	(0.464)
Enthusiasm	-0.507	-0.109	-0.612	0.322
	(0.469)	(0.565)	(0.569)	(0.459)
Fear	0.0715	0.0301	-1.194**	0.847
	(0.543)	(0.517)	(0.550)	(0.559)
Awareness	0.341	0.331*	0.790***	0.388**
	(0.223)	(0.197)	(0.187)	(0.181)
Nonwhite	-0.853	-0.0502	-0.302	0.0759
	(0.617)	(0.693)	(0.659)	(0.675)
Registered to Vote	-0.568	-0.527	-1.793	0.616
	(1.070)	(1.467)	(1.703)	(1.243)
Female	0.192	-0.140	0.520	0.694*
	(0.409)	(0.421)	(0.385)	(0.359)
Attitude Strength	-0.568	0.0816	0.669	1.047*
	(0.618)	(0.697)	(0.630)	(0.619)
Threshold 1	-4.80	-3.99	-6.30	-2.70
Threshold 2	-3.80	-3.23	-5.31	-1.85
Threshold 3	-2.32	-1.89	-3.82	0.02
Observations	187	177	350	372

Note: Entries are ordered logit coefficients. Estimates used to estimate probabilities at the end of

chapter 6. Standard errors are in parentheses. Note that running these models separately for the PID of candidate and respondent yields the exact same predicted probabilities as running a single model with all higher order interactions. Baseline is the sadness ad.*p<0.10, **p<0.5, ***p<0.01

Table B.21: Ordered Logit. Vote Importance

Ad Attacks:	Fear Ad		AngerAd	
	Rep	Dem	Rep	Dem
Anger	-0.629	0.0573	0.288	0.0872
	(0.390)	(0.417)	(0.272)	(0.265)
Enthusiasm	0.373	-0.504	-0.0580	0.0523
	(0.383)	(0.421)	(0.267)	(0.264)
Fear	0.177	-0.343	0.382	0.0300
	(0.404)	(0.378)	(0.289)	(0.279)
Awareness	1.020***	0.123	0.291**	0.182
	(0.254)	(0.161)	(0.130)	(0.130)
Nonwhite	-0.212	-0.259	-0.0915	-0.216
	(0.577)	(0.489)	(0.363)	(0.364)
Registered to Vote	-1.238	0.560	1.123	-0.513
	(0.889)	(1.202)	(0.952)	(0.838)
Female	-0.0175	-0.0452	0.200	0.247
	(0.335)	(0.310)	(0.216)	(0.206)
Attitude Strength	-1.861***	-0.775	-0.478	-0.509
	(0.492)	(0.492)	(0.378)	(0.380)
Threshold 1	-2.09	-1.20	-2.42	-3.23
Threshold 2	-0.78	-0.14	-0.83	-1.74
Threshold 3	0.70	1.15	0.56	-0.42
Observations	187	178	350	372

Note: Entries are ordered logit coefficients. Estimates used to estimate probabilities at the end of

chapter 6. Standard errors are in parentheses. Note that running these models separately for the PID of candidate and respondent yields the exact same predicted probabilities as running a single model with all higher order interactions. Baseline is the sadness ad.*p<0.10, **p<0.5, ***p<0.01

Table B.22: Ordered Logit. Campaign Contact

Ad Attacks:	Fear Ad		AngerAd	
	Rep	Dem	Rep	Dem
Anger	0.467	0.316	0.0816	0.252
	(0.355)	(0.389)	(0.269)	(0.265)
Enthusiasm	0.344	0.389	0.130	-0.501*
	(0.347)	(0.381)	(0.261)	(0.261)
Fear	0.744**	-0.215	-0.446	-0.456*
	(0.376)	(0.342)	(0.280)	(0.271)
Awareness	0.337**	0.250*	0.231*	0.331**
	(0.167)	(0.129)	(0.132)	(0.130)
Nonwhite	-0.406	1.250***	-0.120	0.841**
	(0.529)	(0.483)	(0.368)	(0.403)
Registered to Vote	0.0625	1.424	-0.822	0.994
	(0.718)	(0.975)	(0.994)	(1.008)
Female	0.743**	-0.0560	0.898***	0.441**
	(0.299)	(0.285)	(0.210)	(0.199)
Threshold 1	-4.80	-3.99	-6.30	-2.70
Threshold 2	-3.80	-3.23	-5.31	-1.85
Threshold 3	-2.32	-1.89	-3.82	0.02
Observations	187	177	350	372

Note: Entries are ordered logit coefficients. Estimates used to estimate probabilities at the end of

chapter 6. Standard errors are in parentheses. Note that running these models separately for the PID of candidate and respondent yields the exact same predicted probabilities as running a single model with all higher order interactions. Baseline is the sadness ad.*p<0.10, **p<0.5, ***p<0.01

Appendix C

A3: Technical Appendix

C.1 The Poor Performance of Maximum Likelihood Estimation with Monte-Carlo Integration

A challenge in confirmatory factor analysis when items are categorical and multiple factors are estimated is that integration is computationally inefficient (for technical details, see Wirth and Edwards, 2007; Skrondal and Rabe-Hesketh, 2004). One method in the context of categorical indicators is to use weighted least squares. When the data are continuous, the fit function is:

$$F_{WLS} = (s - \sigma)'W^{-1}(s - \sigma)$$

where $\mathbf{s}$ is a $p \times p$ sample covariance matrix and σ is the estimated covariance matrix. The weight matrix, W^{-1} is the inverse of a positive definite weight matrix (Skrondal and Rabe-Hesketh, 2004). Because the weight matrix is a function of the number of items, the number of elements in the weight matrix will expand dramatically as the number of indicators increases- W is a $u \times u$ matrix where $u = p(p + 1)/2$. In an instance when there are 10 items serving as indicators of a latent construct, there

would be 3,025 unique elements! At the vary minimum, then, the sample size must be larger than u in this example 55 in order for the matrix to be inverted. The same model can be rewritten for categorical variables, where the items are defined in terms of correlations, either polychoric or tetrachoric, and defined by:

$$F_{WLS} = (r - \rho)'W^{-1}(r - \rho)$$

where ρ is a $p \times p$ estimated correlation matrix and r is a $p \times p$ matrix containing the tetrachoric or polychoric correlations from the data. Thus, for WLS to be used, a sufficiently large sample is necessary, and in small samples with even a few indicators, the weight matrix may not be positive definite.

$$F_{WLSR} = (r - \rho)'W_D^{-1}(r - \rho)$$

Muthen and colleagues have designed a modified version of weighted least squares, which is robust to sample size. Unlike standard weighted least squares, the weight matrix only contains the diagonal elements of the full weight matrix. A 10 item scale now only would have 400 unique elements (u=20). Because this method reduces the information available- effectively ignoring off diagonal elements in the weight matrix- it is no longer efficient. This means that standard errors and test statistics will be biased. The standard errors can be scaled appropriately to adjust for this bias. Mplus corrects for this by using robust standard errors and corrected fit-statistics.

Multilevel Confirmatory Factor Analysis

The problem of numerical integration grows even more problematic in the context of multilevel factor analysis. Now, not only are there many categorical items, but those items vary both within and between clusters, requiring integration over p items and n dimensions at two levels. Using numerical integration methods documented in the multilevel modeling literature in the case of multiple factors is computationally intractable. One known solution to this problem is using Monte Carlo integration

where a given number of integration points are randomly sampled, the expected value of the parameter taken, and the program iterates until the log-likelihood changes by a pre-specified trivial amount (Mehta, 2005; Rabe-Hesketh, Skrondal, and Pickles, 2004). Another, approach, which I use, is robust weighted least squares. Yet, to date, nothing I know of has been published on the properties of this estimator in the context of multilevel models, and for this reason, I conduct a simulation study comparing the WLSMV estimator to the ML estimator with Monte Carlo integration. For WLSMV, the estimation of the multilevel model occurs in two stages: In the first stage, two univariate models are estimated, one at the between level and one at the within level. Fixing the univariate parameters, the bivariate model is then estimated. If there are two variables $p - 1$ and p_2 then we only estimate two parameters the correlation of p_1 and p_2 within and then between clusters. The univariate and bivariate estimation uses numerical integration for all variables non-normally distributed. The univariate stage uses one dimension of numerical integration; the bivariate integration uses two- dimensional numerical integration (Asparaouhov and Muthen, 2007).

The simulation study was run separately for the WLSMV and the ML estimators. Population values were set and samples of 2000 were drawn and replicated 100 times for each estimator. To best replicate the conditions confronted in emotions research- namely, highly correlated emotions factors- at the population level, I specified four factors, the first defined by three indicators, the second and third by two, and the fourth by three indicators. Note that this exactly mirrors the number of indicators in the study used in this chapter, and closely resembles the pattern of correlations between factors. To maintain consistency, I will thus refer to each factor as if they were emotion factors- so there is a sadness (2 indicators), enthusiasm (3 indicators), anger (3 indicators), and a fear (2 indicators) factor. Each indicator consists of four categories, and all positively load on their respective constructs with no cross-loadings. At the individual level: the correlations between latent variables were

specified at 0.5 for anger and fear, 0.4 for anger with sadness, and 0.6 for fear with sadness; all the negative emotions were correlated with enthusiasm at -0.20. The variances of the latent variables were then specified to be 1. At the between level, the number of indicators remains the same, though the variances are reduced to all be 0.5. The correlations between latent factors were specified as follows: anger with fear at 0.30, anger with sadness at 0.20, sadness with fear at 0.4, and all the negative emotions with enthusiasm at -0.10. Item thresholds were specified as $\tau_1 = -0.3$, $\tau_2 = 0.4$, and $\tau_3 = 1.2$. The residual variances for the items at the between level were specified to be 0. I generated samples consisting of the following cluster sizes: 10 clusters of size 20, 6 clusters of size 50 and 5 clusters of size 100. 200 samples were generated, half of which I subject to ML, the other half to WLSMV estimation. For the WLSMV model, I use standard integration with 7 integration points and adaptive quadrature; for ML, I used Monte Carlo integration with 500 integration points. Tables A5 and A6 present the results from these studies.

Table C.1: Multi-Level Monte Carlo Simulation WLSMV.

WITHIN					
Anger1 ($\lambda_1 1$)	1	1	0	0	1
Anger2 ($\lambda_1 2$)	1	1.03	0.19	0.21	0.96
Anger3($\lambda_1 3$)	1	1.05	0.22	0.21	0.97
Fear1 ($\lambda_2 1$)	1	1	0	0	1
Fear2 ($\lambda_2 2$)	1	1.04	0.22	0.24	0.96
Sad1 ($\lambda_3 2$)	1	1	0	0	1
Sad2 ($\lambda_3 2$)	1	1.07	0.27	0.29	0.95
Enth1 ($\lambda_4 1$)	1	1	0	0	1
Enth2 ($\lambda_4 2$)	1	1.03	0.19	0.26	0.98
Enth3 ($\lambda_4 3$)	1	1.04	0.26	0.28	0.96
Var(ANG) ($\varphi_1 1$)	1	1.03	0.24	0.28	0.94
Var(FEAR) ($\varphi_2 2$)	1	1.00	0.23	0.33	0.94
Var(SAD) ($\varphi_3 3$)	1	1.01	0.29	0.36	0.90
Var(ENTH)($\varphi_4 4$)	1	1.01	0.25	0.33	0.98
($\varphi_1 2$)	0.5	0.5	0.09	0.11	0.96
($\varphi_1 3$)	0.4	0.39	0.09	0.10	0.92
($\varphi_1 4$)	-0.2	-0.20	0.07	0.07	0.91
($\varphi_2 3$)	0.6	0.59	0.12	0.13	0.98
($\varphi_2 4$)	-0.2	-0.21	0.07	0.07	0.95
($\varphi_3 4$)	-0.2	-0.20	0.07	0.07	0.97
BETWEEN					
Anger1 ($\lambda_1 1$)	1	1	0	0	1
Anger2 ($\lambda_1 2$)	1	1.02	0.16	0.24	0.99
Anger3 ($\lambda_1 3$)	1	1.02	0.15	0.26	0.99

Table C.1: Multi-Level Monte Carlo Simulation WLSMV.

Fear1 ($\lambda_2 1$)	1	1	0	0	1
Fear2 ($\lambda_2 2$)	1	1.02	0.16	0.26	0.99
Sad1 ($\lambda_3 2$)	1	1	0	0	1
Sad2 ($\lambda_3 2$)	1	1.03	0.17	0.28	0.99
Enth1 ($\lambda_4 1$)	1	1	0	0	1
Enth2 ($\lambda_4 2$)	1	1.02	0.17	0.25	0.98
Enth3 ($\lambda_4 3$)	1	1.01	0.28	0.27	0.99
Var(ANG) ($\varphi_1 1$)	0.5	0.48	0.18	0.23	0.95
Var(FEAR) ($\varphi_2 2$)	0.5	0.46	0.20	0.24	0.90
Var(SAD) ($\varphi_3 3$)	0.5	0.48	0.20	0.25	0.94
Var(ENTH)($\varphi_4 4$)	0.5	0.49	0.19	0.25	0.91
($\varphi_1 2$)	0.3	0.27	0.13	0.15	0.89
($\varphi_1 3$)	0.2	0.19	0.13	0.14	0.91
($\varphi_1 4$)	-0.1	-0.08	0.11	0.11	0.88
($\varphi_2 3$)	0.4	0.37	0.15	0.19	0.91
($\varphi_2 4$)	-0.1	-0.09	0.13	0.12	0.88
($\varphi_3 4$)	-0.1	-0.09	0.13	0.12	0.82

Note: Threshold estimates excluded for parsimony

Table C.2: Simulation Monte Carlo Integration.

WITHIN					
Anger1 ($\lambda_1 1$)	1	1	0	0	1
Anger2 ($\lambda_1 2$)	1	1.02	0.24	0.22	0.90
Anger3 ($\lambda_1 3$)	1	1.02	0.24	0.22	0.92
Fear1 ($\lambda_2 1$)	1	1	0	0	1
Fear2 ($\lambda_2 2$)	1	1.02	0.22	0.24	0.92
Sad1 ($\lambda_3 2$)	1	1	0	0	1
Sad2 ($\lambda_3 2$)	1	1.04	0.27	0.27	0.92
Enth1 ($\lambda_4 1$)	1	1	0	0	1
Enth2 ($\lambda_4 2$)	1	1.03	0.29	0.26	0.89
Enth3 ($\lambda_4 3$)	1	1.04	0.26	0.25	0.91
Var(ANG) ($\varphi_1 1$)	1	0.98	0.30	0.31	0.91
Var(FEAR) ($\varphi_2 2$)	1	0.89	0.32	0.31	0.80
Var(SAD) ($\varphi_3 3$)	1	0.86	0.36	0.32	0.79
Var(ENTH) ($\varphi_4 4$)	1	1.03	0.41	0.34	0.91
($\varphi_1 2$)	0.5	0.43	0.14	0.13	0.81
($\varphi_1 3$)	0.4	0.39	0.16	0.13	0.81
(?14)	-0.2	-0.21	0.13	0.11	0.84
($\varphi_2 3$)	0.6	0.55	0.16	0.15	0.97
($\varphi_2 4$)	-0.2	-0.20	0.13	0.11	0.84
($\varphi_3 4$)	-0.2	-0.19	0.12	0.11	0.89
BETWEEN					
Anger1 ($\lambda_1 1$)	1	1	0	0	1
Anger2 ($\lambda_1 2$)	1	1.03	0.18	0.17	0.93
Anger3 ($\lambda_1 3$)	1	0.99	0.18	0.18	0.93

Table C.2: Simulation Monte Carlo Integration.

Fear1 ($\lambda_2 1$)	1	1	0	0	1
Fear2 ($\lambda_2 2$)	1	1.07	0.49	0.63	0.92
Sad1 ($\lambda_3 2$)	1	1	0	0	1
Sad2 ($\lambda_3 2$)	1	1.04	0.24	0.20	0.92
Enth1 ($\lambda_4 1$)	1	1	0	0	1
Enth2 ($\lambda_4 2$)	1	1.00	0.22	0.20	0.91
Enth3 ($\lambda_4 3$)	1	0.99	0.19	0.18	0.84
Var(ANG) ($\varphi_1 1$)	0.5	0.46	0.29	0.16	0.84
Var(FEAR) ($\varphi_2 2$)	0.5	0.54	0.43	0.21	0.85
Var(SAD) ($\varphi_3 3$)	0.5	0.65	0.53	0.23	0.82
Var(ENTH)($\varphi_4 4$)	0.5	0.78	0.49	0.25	0.89
($\varphi_1 2$)	0.3	0.31	0.21	0.40	0.61
($\varphi_1 3$)	0.2	0.25	0.22	0.09	0.56
($\varphi_1 4$)	-0.1	-0.16	0.22	0.09	0.55
($\varphi_2 3$)	0.4	0.25	0.22	0.09	0.56
($\varphi_2 4$)	-0.1	-0.25	0.32	0.12	0.64
($\varphi_3 4$)	-0.1	-0.26	0.32	0.12	0.64

Note: Threshold estimates excluded for parsimony

The population column represents the true value specified in the population. The average estimate column is the average parameter estimate over the 100 trials. The SD column represents the standard deviation of the parameter estimate over the 100 trials. The Average Standard error column is the average standard error for the estimate across all trials. And finally, the Coverage column is the percentage of the time that the 95% confidence interval contained the true population value. In theory, ML should be the most efficient, What is striking is how well the WLSMV

performs relative to the ML estimator with monte-carlo integration. Not only are the parameter estimates less biased, but they are also more efficient, as indicated by the considerably reduced standard deviations. The results from this simulation indicate that WLSMV is far superior.