Emotional Framing Effects

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Abstract

The primary purpose of this study is to determine whether emotion plays a critical role in framing effects. The research uses data from an experiment in which subjects were exposed to a policy frame using components intended to evoke emotional responses (e.g., High Emotion policy frame) or a policy frame using components not intended to evoke emotional responses (e.g., Low Emotion policy frame). After reading the message, subjects answered both open-ended and close-ended questions. An analysis of their responses demonstrates that High Emotion policy frames generate significantly more emotional responses among individuals than Low Emotion policy frames. Second, it demonstrates that there is a significantly stronger relationship between emotional issue interpretations and policy attitudes in response to a High Emotion policy frame than a Low Emotion policy frame. Third, it reveals that the emotional and cognitive responses evoked by emotional policy frames are not redundant predictors of attitudes. Fourth, using three models of emotional framing effects that differ based on the dimensions used to measure emotional responses, it shows that that individuals exposed to unfamiliar emotional policy frames use relatively more active processing when transforming their emotions into emotional issue interpretations than individuals exposed to a familiar frames. In sum, emotions play a critical role in framing effects.

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CHAPTER 1

Introduction

"President Bush is trying to make the case for an attack on Iraq. In making the case, it cannot rely on Post-9/11 fear and fervor to win the day. Facts and reasons are necessitated."
                    Aaron Brown, News Night with Aaron Brown, CNN, September 3, 2002

Aaron Brown's remarks made six months prior to the 2003 invasion of Iraq foreshadowed a debate that ensued around the world in reaction to a major shift in the United States' national security policy. What began as an independent foreign policy decision by the Bush Administration to turn its attention toward Iraq in the *War on Terror*, evolved into a global debate featuring the voices and perspectives of multiple players with some expressing opposition to the impending invasion. This opposition eventually influenced members of the Bush administration to make their rounds on the Sunday Talk Show circuit to explain their position while other political elites added their own *spin* on why the United States should or should not invade Iraq.

The Iraq debate provides a poignant illustration of the central role that communication plays in American policymaking. As issues arise, political elites propose solutions that, if passed, can solve problems and perhaps increase their political clout (Jacoby 2000). According to Hallahan (1999), "[a]dvocates for issues engage in a process of agenda-building that involves mobilizing support, building coalitions, manipulating symbols, and actively seeking publicity in public media" (p. 218). However, this communication does not occur in a vacuum. Political elites, including presidents, often face communication barriers such as cluttered information environments and disinterested audience members many who lack the knowledge to understand more complex and unfamiliar issues. Consequently, political elites must compete to control not only which issues emerge onto the policy agenda but also the way in which these issues are

interpreted (Entman 2003; Kurtz 1998). For the Bush Administration, this meant explaining why they believed that Iraq was part of the broader *War on Terror*.

Indeed, throughout the last half of the 20th Century, the United States followed a "Cold War" doctrine involving containment, diplomacy and deterrence with military actions only occurring in response to an aggressor (President George W. Bush, West Point, New York, June 1, 2002). The 1991 Gulf War and subsequent military engagements with Iraq fell under this Cold War doctrine. However, the September 11th terrorist attacks changed the global climate. On June 1, 2002, in a graduation speech to West Point cadets, President Bush stated "[c]ontainment is not possible when unbalanced dictators with weapons of mass destruction can deliver those weapons on missiles or secretly provide them to terrorist allies" (President George W. Bush, West Point, New York, June 1, 2002). American foreign policy shifted from engaging in war in response to an attack against the United States to engaging in war in response to the *threat* of a potential attack (Fukuyama 2006; Balz & Allen 2003). According to U.S. intelligence, Iraq presented such a threat.

Although the Bush Administration initially faced very little opposition to its Iraq policy within the United States, the global community represented a larger hurdle (Balz & Allen 2003). On the one hand, most countries acknowledged that Saddam Hussein had presented a persistent source of trouble for the region since invading Kuwait in the early 1990s (Singer & Bullmiller 2002). Although the United Nations imposed economic and military sanctions on Iraq, Hussein continued to violate those sanctions including prohibiting U.N. inspectors from determining whether he possessed Weapons of Mass Destruction (WMDs) (Chafets 2003). Nevertheless, some refused to support a U.S.-led invasion of Iraq maintaining that since Iraq had been successfully contained over the past decade it did not represent an imminent threat to United States' security (Chafets 2003; "Emperor, shedding clothes?" 2003). Therefore, any attack by the United States and its allies would be considered pre-emptive rather than a defensive military

response. Eventually, critics within the United States began to join this opposition maintaining that an invasion of Iraq would only detract from the broader *War on Terror* (Balz & Allen 2003).

As the debate surrounding the Iraq War illustrates, not only did political elites disagree over the policy but they also disagreed over the way in which the problem or issue was interpreted or **framed**. Indeed, framing represents an effective communication tool used by political elites to gain support for their proposed policies. A policy frame conveys a problem definition that, through its association with a policy, positions the policy in the mind of an audience as the best or worst solution to a problem (c.f., Entman 2003). As a characteristic of a message, frames are found in many types of political communications including speeches, political advertisements and news reports. They often originate with policymakers and are passed either directly to the general public or mediated through the news media.

According to framing effect models, frames make certain considerations more accessible when individuals are interpreting an issue and forming/expressing a policy attitude (Druckman 2001).   Although progress has been made in framing effect research, framing theory has come under some criticism with scholars maintaining that past research has led to a fractured paradigm (Entman 1993). Another critical problem is the fact that many framing effect models fail to measure emotion suggesting that message frames evoke a purely cognitive response. This is surprising given the fact that the world of politics is emotional.

Political symbols such as the American Flag have the capability of evoking intense emotional responses among many Americans (Sears 1993). Controversial issues such as racial profiling and abortion have led to emotionally-charged debates. Events such as the Vietnam War and Civil Rights Movement and more recently, the 2000 Presidential Election and the 9/11 terrorist attacks evoked intense emotions when they occurred and are still capable of generating emotional responses when they are mentioned during speeches or news stories. A general

assumption among many scholars and pundits is that while politics should attain a level of reason and rationality, it often erupts into emotional, passionate arguments (Marcus 2000).

Political communication professionals know that emotion "sells." When communicators need to convey information about more mundane and complex issues, they will often include emotional symbols and events to capture audience members' attention and perhaps aid in comprehension and persuasion. For example, political advertisements such as former President Ronald Reagan's *Morning in America* are excellent examples of emotional appeals in which the sponsors attempted to evoke positive feelings that they hoped audience members would associate with the candidate. Additionally, public service announcements (PSAs) typically use emotional appeals to influence both opinions and intended behavior regarding particular social or political issues (Dillard and Peck 2000). For example, the infamous PSA featuring a Native American Indian looking down at a polluted highway was designed to stop people from littering on the freeways. These examples suggest that communicators design message frames that have the potential to evoke **both** emotional and cognitive responses.

Returning to the Iraq War debate, an examination of the language President Bush used in his 2002 State of the Union Address provides a poignant example of a policy frame that could potentially evoke emotional responses among audience members:

> Iraq continues to flaunt its hostility toward America and to support terror.
> The Iraqi regime has plotted to develop anthrax, and nerve gas, and
> nuclear weapons for over a decade. This is a regime that has already used
> poison gas to murder thousands of its own citizens -- leaving the bodies of
> mothers huddled over their dead children. This is a regime that agreed to
> international inspections -- then kicked out the inspectors. This is a regime
> that has something to hide from the civilized world.

> States like these, and their terrorist allies, constitute an axis of evil, arming
> to threaten the peace of the world. By seeking weapons of mass
> destruction, these regimes pose a grave and growing danger. They could
> provide these arms to terrorists, giving them the means to match their
> hatred. They could attack our allies or attempt to blackmail the United
> States. In any of these cases, the price of indifference would be
> catastrophic.

We will work closely with our coalition to deny terrorists and their state
sponsors the materials, technology, and expertise to make and deliver
weapons of mass destruction. We will develop and deploy effective missile
defenses to protect America and our allies from sudden attack. (Applause.)
And all nations should know: America will do what is necessary to ensure
our nation's security.

We'll be deliberate, yet time is not on our side. I will not wait on events,
while dangers gather. I will not stand by, as peril draws closer and closer.
The United States of America will not permit the world's most dangerous
regimes to threaten us with the world's most destructive weapons.
(Applause.)

Our war on terror is well begun, but it is only begun. This campaign may not
be finished on our watch -- yet it must be and it will be waged on our watch.

We can't stop short. If we stop now -- leaving terror camps intact and terror
states unchecked -- our sense of security would be false and temporary.
History has called America and our allies to action, and it is both our
responsibility and our privilege to fight freedom's fight. (President George
W. Bush, State of the Union Address, Washington DC, January 29, 2002).

While this message could evoke cognitive responses among some audience members, it also

has the potential to evoke emotion as well. For example, references to Hussein's possession of

Weapons of Mass Destruction could evoke concern as well as anxiety or even fear among some

audience members. Additionally, President Bush's reference to the regime using gas to kill its

citizens and " leaving the bodies of mothers huddled over their dead children" is certainly capable

of evoking sympathy and sadness. If audience members feel *anxious* when considering the

death and destruction that could occur if Hussein used WMDs to attack the United States, this, in

turn, could influence them to agree that removing Hussein from power will not only solve the

problem but also alleviate any anxiety they might have regarding the possibility of such an event

occurring.

The idea that message frames can evoke emotional responses among audience members is

not new. According to Entman (2003), frames "use words and images highly salient in culture …

[that are] … *noticeable, understandable, memorable,* and *emotionally charged*" (p. 417, italics in

original text). More importantly, research is now emerging which demonstrates that frames do

evoke emotional responses (Gross and D'Ambrosio 2004; Kinder and Sanders 1990). Although these studies have provided preliminary evidence supporting emotion's role in framing effects, many critical questions remain. For example, how do individuals use the emotions evoked by message frames to interpret issues? Do these emotional issue interpretations affect individuals' subsequent policy attitudes?

The primary purpose of this study is to determine whether emotion plays a critical role in framing effects. The research uses data from an experiment in which subjects were exposed to a policy frame using components intended to evoke emotional responses (e.g., High Emotion policy frame) or a policy frame using components not intended to evoke emotional responses (e.g., Low Emotion policy frame). After reading the message, subjects answered both open-ended and close-ended questions. An analysis of their responses provides evidence that emotions do play an important role in framing effects.

This study adds to our understanding of framing effects in four important ways. First and foremost, it demonstrates that subjects do use their frame-generated emotional responses to form/express issue interpretations and policy attitudes. Second, it presents three models that differ according to the criteria used to measure emotional framing effects. Additionally, the criteria reflect how much effort individuals use to transform their frame-generated emotional responses into emotional issue interpretations and policy attitudes. Third, the study provides insight into how individuals use their frame-generated emotions to process familiar and unfamiliar policy frames. Finally, drawing on existing conceptual definitions and empirical findings, this study uses the components of an associative network of memory to develop a broader framing model that links the features of a message frame with psychological responses.

This dissertation is organized into eight chapters. Chapter 2 reviews literature that provides a foundation for the study's main models and hypotheses presented in Chapter 3. Chapter 4 describes the methods and findings from three pilot tests conducted to help design the

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experimental messages and Chapter 5 describes the methods used for the main experiment. The study's findings are presented in Chapters 6 and 7 and the main discussion is presented in Chapter 8.

CHAPTER 2

Literature Review

Since many scholars assume that frames are a characteristic of the message and the response (c.f., Scheufele & Tewksbury 2007; Scheufele 1999; Entman 1993, 1991; Kinder & Sanders 1990), this chapter is divided into four parts. Part I presents a structural model of message frames and Part II reviews studies that adopt a cognitive perspective of framing effects. Part III presents a model describing how emotion can be used as an appeal in message frames and Part IV reviews the few studies examining emotional framing effects as well as extant research on emotional persuasive messages. The study's main model and hypotheses are then presented in Chapter 3.

I. Policy Frames -- Structural Model

Although this study focuses on emotional framing effects, a structural model of message frames is developed to facilitate the discussion on how individuals process message frames. Chapter 1 describes a policy frame as *a message conveying a problem definition that, through its association with a policy, positions the policy in the mind of an audience as the best or worst solution to a problem.* However, this description provides very little insight into how a message frame is actually constructed. According to Entman (2003), the process of framing "entails *selecting* and *highlighting* some facets of events or issues and *making connections* among them so as to promote a particular interpretation, evaluation and/or solution" (p. 417, italics added for emphasis).

According to this definition, then, frames are constructed by following three critical steps: *selection, association and highlighting. Selection* refers to choosing the ideas or constructs that

characterize the policy frame's components as well as the specific language that conveys the policy frame. *Association* refers to the rhetorical devices that link or connect the different components of the message frame and add meaning to the overall policy frame. *Highlighting* refers to strategies used to make the critical components of the policy frame salient in the text of the message.

Entman (2003) states that the two most important functions of a message frame are the "**problem definition**, since defining the problem often virtually predetermines the rest of the frame, and the **remedy**, because it promotes support of (or opposition to) actual government action" (p. 417-418, bold font added for emphasis). Additionally, these two components are connected to each other using an evaluative association that explicitly states or implies how audience members should evaluate the policy (cf. Brewer, Graf & Willnat 2003; Brewer 2001). Most policy frames imply that a proposed policy is positive because it will solve the problem. However, a policy frame also could use a problem definition that frames a policy as the worst solution to a problem such as framing a company's employee recruitment policies as "quotas" connoting a negative policy evaluation.

As this definition suggests, the problem definition is a critical component of a policy frame because it positions the message's policy position as the best solution. Any given problem has multiple definitions or specific ways of looking at an issue (Entman 1993; Gamson & Modigliani 1989). While a communicator could create a message that presents all of these definitions, what distinguishes a message frame from other message types is that communicators *select* and *highlight* a single problem definition while excluding others that, although they support the message frame's policy position, are less relevant or effective given the current political climate or context.[1]

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[1] It is important to point out that a problem definition is actually equivalent to an "issue frame." However, in this conceptual discussion, it is called a problem definition to avoid any confusion with policy frames.

A communicator creates a problem definition by connecting an issue with a belief or idea or what will be called in this model, a *construct* (c.f., Scheufele & Tewksbury 2007, p.15; Price & Tewksbury 1997). In addition to beliefs (e.g., partisan, ideological), constructs can include broader ideas (e.g., values, morals, principles). They also can include attitude objects that have been previously evaluated such as individuals (e.g., political candidates, policymakers), groups of individuals (e.g., beneficiaries of social problems or victims of social problems), events (e.g., natural disasters) or other issues and policies. For example, when an issue is linked to a value it creates a value problem definition (Shah, Domke & Wackman 1996). Similarly, when an issue is linked to a group of people (e.g., beneficiaries of a policy or victims of a problem), it creates a group frame (Grant & Rudolph 2003; Nelson & Kinder 1996).

Constructs are connected to issues using different rhetorical devices including the evaluative associations described earlier as well as associations grounded in cultural norms and mores (Entman 2003). In a study examining the effect of group versus non-group frames on policy attitudes, Nelson and Kinder (1996) provide an excellent description of how frames or more specifically problem definitions are constructed:

> *There are, of course, many ways for frames to draw respondents' attention to a group. Had we merely wanted to emphasize the group per se, we could have constructed questions that simply repeated the group label over and over. But because we wished to remain as faithful as possible to the actual rhetorical battle surrounding these issues, our group-focused frames draw attention to the group in a particular way: by insinuating that group members are morally deficient and in some way responsible for their own predicament …" (p. 1060).*

One of the experimental frames that Nelson and Kinder (1996) constructed describes welfare recipients as "people who don't really need the help" (p. 1062). If this is applied to the present model, the issue (e.g., government assistance to the poor) is defined by associating it with two constructs, a group construct (e.g., the poor) and a moral construct (e.g., they don't really need the help).

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Constructs help audience members understand the issue by activating a particular belief that they can use to interpret it. As stated earlier, when creating a policy frame, communicators select the problem definition that is the most relevant and effective given the current political climate or context. Since most people pay very little attention to politics and possess very little political knowledge, communicators must select problem definitions that are not only compelling but also familiar to most audience members. The specific construct that is associated with the issue plays a critical role in this effort. According to Sears (1993), "… both politicians and journalists try to frame issues and candidates in terms that can be readily linked to widespread, consensually understood predispositions. That is, the information environment in mass politics is heavily biased toward widely understood and shared categories" (p. 144).

Based on the preceding discussion, then, a communicator creates a policy frame by linking a problem definition to a policy (Entman 2003) using an evaluative association (Brewer, Graf & Willnat 2003; Brewer 2001). In turn, the problem definition is created by linking an issue or another policy proposal with a construct (e.g., value, ideology, previously evaluated attitude object) whose association is reinforced by cultural norms and understandings (Entman 2003). However, policy frames also might possess propositions that explain the underlying premise of the relationship between the problem definition and the policy (see Pan & Kosicki 1993 for a similar definition of propositions used in news frames).

In this present model, a problem definition is comprised of one or more propositions. These propositions represent a communicator's beliefs regarding why a particular issue is a problem and why a particular policy will solve that problem. When they are included in the text of a policy frame, they are conveyed using declarative statements that make assertions regarding what the communicator believes is true about the problem and the solution. They describe this relationship by addressing questions related to "who or what caused the problem to arise," "who

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or what is affected by the problem," or "what could occur if the problem is allowed to persist" (c.f., Entman 1993 for a similar argument regarding issue frames).

Propositions also can resemble what Gamson and Modiligiani (1989) identify as "reasoning devices" that "justify what should be done about" a particular problem or issue. They include "(1) roots (i.e., causal analysis), (2) consequences (i.e., a particular type of effect), and (3) appeals to principle (i.e., a set of moral claims) (p. 3-4 footnotes. Also see Gamson & Lasch 1983). For example, the *War on Terror* frame often relies on a "consequence" reasoning device which indicates that if a particular policy is adopted (e.g., "invasion of Iraq), then a particular problem will not arise (e.g., future terrorist attacks).

A California measure from the 2008 election helps to illustrate what is meant by propositions. The measure proposed giving farm animals, including egg-laying hens, the legal right "to fully extend their limbs or wings, lie down, stand up and turn around" in their cages (California Voter Guide, p. 6). Proponents of the measure developed a *humane treatment* problem definition that associates the issue (e.g., confinement of farm animals) with a morality construct (e.g., cruelty toward animals). They argued that voters should vote in favor of the measure because "[a]nimals deserve humane treatment. Denying them space to turn around or stretch their limbs is cruel and wrong" (California Voter Guide, p. 6). Following are examples of the arguments, or propositions, that supported their frame:

> *(1) It's simply wrong to confine veal calves, breeding pigs, and egg-laying hens in tiny cages barely larger than their bodies … (2) We wouldn't force our pets to live in filthy, cramped cages for their whole lives, and we shouldn't force farm animals to endure such misery … (3) All animals, including those raised for food, deserve humane treatment"* (California Voter Guide, p. 18, numbers added for emphasis).

As this example illustrates, the underlying premise of this policy frame is proponents' belief that the current law is morally wrong. The three propositions describe why the current law is morally wrong and how the initiative (e.g., policy) will solve the problem by stating, generally, that if you believe that it's morally wrong to confine your pet in this manner, then you should also

believe that it is morally wrong to allow farmers to confine farm animals in this manner, therefore you should support the initiative.

As illustrated in the above example, propositions are associated with each other and with the policy using rhetorical devices that express a logical relationship. Pan and Kosicki (1993), in their description of news frames, state that issue stories "may be viewed as a set of propositions that form a system of causal or logico-empirical relations" (p. 61). Additionally, these logical relationships can sometimes resemble a syllogism. For example, some messages using the *War on Terror* to frame the Iraq War stated that if you oppose terrorism and Hussein is a terrorist, then you should support invading Iraq. Interestingly, the converse of this frame implied that if you opposed the invasion of Iraq, then you supported terrorism.

As stated earlier, communicators do not always present the specific propositions to audience members when conveying a policy frame. The decision regarding whether to include the propositions is influenced by a number of factors including time constraints and the audience's familiarity with the problem definition. It stands to reason that when a particular problem definition initially emerges onto the media and public agendas, communicators must find opportunities to explain their policy frame. However, as audience members become more familiar with a particular problem definition, there is less need to describe the propositions. Under these circumstances, communicators leave it up to audience members to retrieve knowledge related to the propositions in order to understand the underlying premise of the policy frame.

Returning to the above example, since most people are familiar with the "humane treatment of animal" frame, communicators can simply state that the initiative "protects farm animals from cruelty" and most audience members will understand what it means without being exposed to the propositions. However, it is possible that fewer people have been exposed to the proponents' policy frame. On the one hand, a communicator could create a frame that simply states "oppose this initiative because it presents a threat to public health. On the other hand, a

communicator could create a frame that includes the underlying premise or rationale for why voters should oppose this initiative by stating: (1) California farmers produce healthy eggs. (2) Allowing chickens excess movement decreases egg production (3) Decreased egg production will force Californians to import eggs from Mexico. (4) Recent agricultural imports from Mexico have been tainted with Salmonella. Therefore, proponents of the initiative might have needed to find more opportunities, such as through paid advertising, to educate voters.

Indeed, when the *War on Terror* frame first emerged onto the agenda, policymakers took the time to explain how a particular problem or issue was related to terrorism. For example, at the beginning of the Iraq debate, very few people understood the connection between invading Iraq and the *War on Terror*. To overcome this communication barrier, GEORGE BUSH'S STATE OF THE UNION ADDRESS presented arguments (e.g., propositions) that linked Hussein with WMDS and terrorists thereby supporting the relationship between the *War on Terror* (e.g., issue definition) and the invasion of Iraq (e.g., policy). As audience members became more familiar with the *War on Terror* frame, policymakers began applying it to other policies including border and airport security.

As discussed earlier, the third step in creating a policy frame involves highlighting the frame when it is presented within a broader text such as an advertisement or speech (Entman 1991). While repetition and placement are important (Entman 1991), different appeals and specific words can also make the content of the frame more salient in audience members' minds. For example, Gamson and Modligliani's (1989) identify a number of "framing devices" including "(1) metaphors, (2) exemplars (i.e., historical examples from which lessons are drawn), (3) catchphrases, (4) depictions and (5) visual images (e.g., icons)" (p. 3-4, footnotes). Additionally, as the section on emotion will describe, certain concepts referring to previously evaluated objects that have been the subject of controversy will stand out.

In sum, a policy frame is created by linking a problem definition to a policy using an evaluative association that explicitly states or implies whether people should support or oppose a particular policy. The problem definition is created through the association of an issue with a construct such as a broader belief (e.g., value, ideology), attitude objects (individuals, groups of people) or an event (9-11 terrorist attacks, Vietnam War). Frames possess an underlying premise that might be tacitly understood by some audience members but that needs to be explicitly stated to other audience members to facilitate comprehension. Communicators convey the underlying premise using propositions that describe the problem (e.g., why it is a problem, why it needs to be solved) as well as why and how the proposed policy will solve the problem. One of the decisions communicators must make is whether to include the propositions. If audience members are unfamiliar with the problem definition and if there is time or space to go into more detail, then communicators will include the propositions.

Before describing framing effects, it is important to point out that this structural model of policy frames is based on a communicators' "intended effect." Although communicators construct policy frames using different components that they believe will evoke specific cognitive responses, there is no guarantee. It is almost impossible for frame-generated cognitive responses to match the different components of the policy frame. This is because, as the next section will describe, individuals process messages using their own pre-existing knowledge.

II. Framing Effect -- Cognitive Perspective

Scholars have made considerable progress expanding our understanding of framing effects. Although differences in study designs make it difficult to develop a single model, this section attempts to synthesize the existing research into a broader framework that will facilitate testing whether emotion plays a critical role in framing effects. It begins by identifying some of the criteria researchers use to determine whether a framing effect has occurred. It then describes the different ways scholars suggest that individuals process message frames.

Cognitive Framing Effects

Druckman (2001) distinguishes between two general approaches toward studying framing effects, one that focuses on the *direct* effect of message frames on policy attitudes and one that focuses on the effect of message frames on the considerations underlying policy attitudes. Most of the studies using the second approach have focused exclusively on the cognitive responses evoked by the message frame (Brewer 2002; Nelson & Oxley 1999; Nelson, Oxley and Clawson 1997; Nelson, Clawson and Oxley 1997). In these models, the locus of a framing effect is the cognitive response(s) evoked by the policy frame that individuals use to form an issue interpretation and a policy attitude. Accordingly, researchers use a number of criteria to determine whether a framing effect has occurred.

To begin, most studies indicate that a framing effect has occurred when an individual uses the considerations generated by a message frame (e.g., message-generated considerations) rather than other considerations not generated by the message frame to interpret an issue and form/express a policy attitude. According to Druckman (2001) a framing effect occurs when a "speaker's emphasis on a subset of potentially relevant considerations causes

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individuals to focus on these considerations when constructing their opinions" (p. 1042). If this definition is applied to the policy frame model presented in the previous section, then, a policy frame will achieve its intended effect if audience members interpret the issue using the same unique problem definition conveyed in the policy frame.

Recall that a unique problem definition is created through the integration of a *construct* with an issue. *Constructs* can include beliefs (e.g., partisan, ideological), broader ideas (e.g., values, morals, principles) as well as attitude objects that have been previously evaluated (e.g., groups of people, other policies). Many studies determine that a framing effect has occurred when subjects interpret the issue using the same construct used to create the unique problem definition in the policy frame. For example, Shah, Domke and Wackman (1996) found that subjects exposed to an ethical frame of healthcare formed an ethical issue interpretation while subjects exposed to a material frame of healthcare formed a material issue interpretation.

Nelson and Kinder (1996) examine the influence that *group-focused* frames compared to *non-group* frames had on subjects' attitudes toward four polices including government assistance toward the poor, government spending on AIDS, preferential hiring and promotion of blacks and affirmative action policies in the workplace and college admissions. They found that attitudes toward specific groups were better predictors of policy attitudes of subjects exposed to a group-frame than subjects exposed to a non-group frame. In essence, a framing effect occurred when subjects used the same construct (e.g., group) as the message frame.

Another criterion used to determine whether a framing effect has occurred is the *direction* of subjects' cognitive responses or, more specifically, whether the advocated policy position of subjects' issue interpretations matches the advocated policy position of the problem definition. It is possible that audience members exposed to the same policy frame could use the same construct to interpret the issue but while some individuals' issue interpretation support the policy frame's advocated position others oppose its advocated position. For example, Brewer (2002)

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exposed subjects to an equality frame that supported gay rights or a morality frame that opposed gay rights. An examination of their open-ended responses revealed that while subjects in the equality frame condition used "equality language" to describe why they supported gay rights they also used "equality language" to express their opposition toward gay rights. Similarly, while subjects in the morality frame condition used "morality language" to oppose gay rights, they also used "morality language" to describe why they supported gay rights.

Although Brewer (2002) suggests these results might exhibit two types of framing effects, from a communicator's perspective, it would stand to reason that if audience members do not adopt a policy frame's advocated position, then the intended framing effect has not occurred. Therefore, this present study adopts the position that if the direction of subjects' issue interpretations does not support the advocated position of the policy frame, a framing effect has not occurred.

One final criterion used to determine whether a framing effect has occurred is the topical focus of subjects' cognitive responses. In a study examining the content of subjects' thoughts in response to message frames, Price, Tewksbury and Powers (1997) exposed subjects to one of four news frames describing decreases in state funding of higher education that used a *conflict*, *human interest* or *consequence* frame or no frame at all (e.g., a control). They found that subjects' open-ended responses to a thought-listing exercise focused more on the topic of the frame (e.g., conflict, human interest, consequence) than the core story elements (p. 494). For example, although subjects' thoughts in all four conditions focused on conflict, these types of thoughts were significantly greater in response to the conflict message frame than in response to the other three messages.

In sum, a framing effect is demonstrated when individuals' issue interpretations resemble the policy frame's problem definition. At the very least, individuals should use the same construct (e.g., group, value) used to create the unique problem definition to form an issue interpretation.

Additionally, some a framing effect also occurs when the direction (e.g., advocated position) and topical focus of the policy frame's problem definition and individuals' issue interpretations match.

As described earlier, communicators construct policy frames with certain "intended effects" in mind, as the next section describes, since individuals use their own pre-existing knowledge and past experiences to process messages, interpret issues and form policy attitudes, there is never a one-on-one correspondence between their issue interpretations and policy definitions. Nevertheless, the intended effect is that individuals' issue interpretations will resemble the problem definition enough to lead to systematic support for the policy frame's advocated policy position.

Processing Frames - Cognitive Models

Although most of the framing effect studies share the cognitive perspective described above, their assumptions differ regarding the amount of effort individuals use to transform message-generated beliefs into issue interpretations and policy attitudes (Brewer 2002, 2001; Jacoby 2000; Nelson, Oxley and Clawson 1997; Nelson, Clawson and Oxley 1997; Nelson and Kinder 1996; Zaller 1992; Zaller and Feldman 1992). Rather than view these models as mutually exclusive, however, this present study adopts the perspective that individuals process message frames using different levels of issue-relevant thinking. This expanded perspective creates a broader framework that facilitates the examination of how individuals use the emotions evoked by policy frames to form/express emotional issue interpretations and policy attitudes. Since many studies use memory-based models to explain framing processes, this discussion begins with a description of an associative network of memory.

Associative Network of Memory

According to an associative network of memory model, individuals store knowledge corresponding to the external environment in nodes (Sedikides & Skowronski 1991; Collins & Loftus 1973; Anderson & Bowers 1973). There are separate nodes corresponding to tangible objects such as attitude objects (e.g., chairs, policies, political candidates, interest groups) and specific events (e.g., 9/11 terrorist attacks, 2000 presidential election) (Eagly & Chaiken 1993). Nodes also can correspond to intangible ideas such as beliefs (e.g., partisan, ideological, values), attitudes (favorable, unfavorable) and, as the second half of this chapter will describe, emotions (hopeful, anger) (Eagly & Chaiken 1993).

People use these nodes to understand, interact with and evaluate the external environment. When an individual encounters an object in the external environment, the node corresponding to the object is activated from a dormant stage thereby increasing its excitation level (Higgins 1989). After a period of time, the node's excitation level gradually decreases as the individual switches his/her attention to focus on another object (Higgins 1989).

Each node is connected to other nodes by associative links. On their own, nodes possess very little meaning. However, when two or more nodes are connected together, they reflect more meaningful *units of knowledge.* For example, there is a separate node for the concepts "bush," "president" and "republican." When these nodes are connected by associative links, they create a broader unit of knowledge (e.g., "President Bush is a Republican). Additionally, the associative links connecting nodes vary in strength. For example, when an individual is exposed to information regarding "President Bush" in the external environment, the nodes with the stronger connections (e.g., "Republican" "Conservative") are activated quicker than nodes with weaker connections (e.g., "Texan," "Yale graduate").

In the context of a message, each word or concept is represented as a single node in memory (e.g., *conceptual node*). For example, the concepts in the proposition "Hussein

possesses WMDs," are represented as three separate conceptual nodes in memory. When the

conceptual nodes are activated simultaneously, such as when an individual hears or reads the

entire proposition, they are automatically linked together into a *unit of knowledge* in activated

memory (Eagly & Chaiken 1993). This *knowledge unit* becomes a belief when a node

corresponding to, for example, "believability" is attached (e.g., I believe that Hussein possesses

WMDs or It is not true that Hussein possesses WMDs).

Certain nodes have a greater chance for use during information processing because they

are more accessible in activated memory than other nodes (Shah 1997; Higgins 1989). Nodes

that possess high excitation levels due to *recent* or *frequent* activation are more accessible in

memory than nodes with lower excitation levels (Higgins 1989). Additionally, a distinction can be

made between *primary nodes* (i.e., nodes that have been directly activated by an object in the

external environment) and *secondary nodes* (i.e., nodes that are activated through their

associative link to a single primary node rather than the external object) (Collins & Loftus 1973).

Through a process called *spreading activation*, secondary nodes with stronger associative links to

a primary node have a better chance of activation than secondary nodes with weaker

associations (Shah, Domke & Wackman 1998a; Collins & Loftus 1973). As the next section

describes, the accessibility of nodes and their associative links is central to understanding how

some scholars assume individuals process message frames.

Cognitive Processing Models

A review of the literature suggests that many framing effect studies use some version of

an *accessibility* model to describe how individuals process message frames (cf. Shen 2004; Price

et al. 1997; Shah, Domke & Wackman 1998a; Nelson & Kinder 1996; Zaller 1992; Iyengar &

Kinder 1987). It begins with the assumption that individuals are cognitive misers with limited

capacities to process political information (Lang 2000; Fiske & Taylor 1991; Iyengar & Kinder

1987). Not only is it impossible for people to learn everything there is to know about issues and policies, but they also lack the time and motivation (Fiske & Taylor 1991). Consequently, when they are exposed to a message, rather than recalling everything they know about the topic, they take cognitive shortcuts by using only those beliefs that are most accessible in memory to comprehend the message (Iyengar and Kinder 1987).

Individuals possess opposing beliefs on many different issues (Zaller 1992; Zaller & Feldman 1992). While one set of beliefs influence them to support a particular policy proposal (e.g., favorable beliefs), another set of beliefs can influence them to oppose that particular policy proposal (e.g., unfavorable beliefs) (c.f., Jacoby 2000). When constructing a policy frame, a communicator creates a problem definition using the set of beliefs (e.g., favorable beliefs) that position the policy as the best solution to the problem. When individuals are exposed to the policy frame, the problem definition will activate these favorable beliefs. Since individuals are cognitive misers, they will rely predominantly more on these favorable beliefs to form an issue interpretation because this requires less cognitive effort than retrieving additional information from memory (Jacoby 2000; Zaller 1992; Zaller & Feldman 1992). In turn, since their issue interpretation consists of favorable beliefs, they are likely to adopt the message's advocated policy position.

Empirical support for this model comes in part from framing effect studies using experiments embedded in surveys. For example, Jacoby (2000) found that respondents opposed government funding of programs when the question focused on government's management of the budget. However, these same individuals supported government funding of programs when the question focused on the beneficiaries (e.g. poor people) of the programs. Jacoby (2000) concludes that "framing effects can be generated by simply varying the presentation of an issue …" (p. 763).

Researchers have found that, in addition to message-generated beliefs, individuals process message frames using pre-existing knowledge that, although not directly activated by the policy frame, is relevant to the message content and aids in comprehension. According to Shah, Domke and Wackman (1996) "[m]edia texts … do not automatically foster specific interpretations; instead, frames interact with individuals' political predispositions to guide individual issue interpretations" (p. 516). For example, Haider-Markel and Josyln (2001) found that in a national survey, respondents used partisan beliefs to guide their policy evaluations regarding gun control. Specifically, the authors exposed respondents to a message that framed gun control as either a public safety concern or a matter of individual rights. They found that while Republicans generally agreed with both considerations, Democrats agreed with the public safety frame more than the individual rights frame. In other words, individuals' agreement with a policy frame is based, in part, on how applicable it is to their general political beliefs such as partisanship and ideology.

In addition to general political beliefs, scholars have found that individuals process message frames using chronically accessible constructs (Shen 2004; Domke, Shah and Wackman 1998; Lau, Smith and Fiske 1991). They can include values (Domke, Shah and Wackman 1998; Shah 1997), stereotypes (Domke 2001) as well as processing orientations such as issues or character (Shen 2004). According to Higgins (1989), chronic accessibility occurs from long-term frequent priming or activation (p. 88). When individuals are in situations where the constructs are relevant, they are activated more quickly than other nodes due to their residual excitation.

Shah, Domke and Wackman (1996) demonstrate that for some individuals, values can function as a heuristic cue. However, for other individuals, values can become chronically accessible constructs that help them to express their self-identifies. They conducted a study using subjects drawn from two populations, Evangelical Christians, who are more likely to possess values that are chronically accessible and college students. In general, they found that,

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for example, subjects exposed to an ethical frame of healthcare formed an ethical issue interpretation while subjects exposed to a material frame of healthcare formed a material issue interpretation. However, they also found that among subjects exposed to the ethical frame, a larger proportion of evangelical Christians formed ethical issue interpretations than college students.

Lau, Smith and Fiske (1991) maintain that chronically accessible constructs are non-evaluative broad schemas or nodes that simplify information processing by enabling individuals to categorize specific information into broader categories (Lau, Smith and Fiske 1991, p. 658). For example, Lau, Smith and Fiske (1991) identified two chronically accessible constructs, *efficiency* and *protection*, that individuals assign to private business and government. According to the authors, these chronically accessible constructs "simply reflect the tendency to think about public policy issues in terms of efficiency … without saying anything about whether respondents actually believe that government is often inefficient while private enterprise usually is much more efficient, or visa versa" (p. 658).

According to the *accessibility model*, then, individuals evaluate a policy based on the beliefs that are most accessible in memory. These beliefs include issue-relevant cognitive-beliefs activated by the message (Jacoby 2000; Zaller 1992; Zaller & Feldman 1992), general political beliefs (Haider-Market & Joslyn 2001) and/or chronically accessible constructs all of which possess a higher excitation level due to chronic or recent activation (Shah 1997; Shah et al. 1996, Lau et al. 1991). More importantly, many researchers adhering to the belief accessibility model also assume that the subsequent policy interpretation and evaluation involves very little cognitive effort. According to Zaller (1992), [i]n some cases, only a single consideration may be readily accessible, in which case individuals answer on the basis of that consideration; in other cases, two or more considerations may come quickly to mind, in which case people answer by averaging across accessible considerations" (p. 49).

According to this description, then, individuals simply transfer the direction and content of the most accessible beliefs to their policy evaluations. For example, a message that associates a policy promoting stem-cell research with abortion will activate and make individuals' beliefs regarding abortion (e.g., issue-relevant cognitive beliefs) more accessible than other beliefs. Individuals use their beliefs about abortion to interpret the policy (e.g., Stem-cell research is a type of abortion) and to evaluate the policy by associating or transferring the direction of their beliefs about abortion (e.g., "I oppose abortion."), to the policy (e.g., " Therefore, I oppose stem cell research.").

Nelson and colleagues (Nelson & Oxley 1999; Nelson, Oxley & Clawson 1997; Nelson, Clawson & Oxley 1997; Nelson & Kinder 1996), maintain that the *belief accessibility model* is too simplistic because it characterizes individuals as "mindless … automatically incorporating into the final attitude whatever ideas happen to pop into mind" (Nelson et al. 1997, p. 237). Proposing a *belief importance* model, they argue that a message frame activates many beliefs. Frames help individuals to identify which of those beliefs are relevant or important. According to Nelson & Kinder (1996), "[w]hile frames could act like primes, we suspect there is more to the effects described here than frame-induced changes in … accessibility. We suggest that frames alter the weight or importance attributed to certain considerations (such as group attitudes) while making other, equally accessible ideas seem less consequential" (p. 1073).

Nelson and colleagues provide empirical evidence for their model in a series of studies (Nelson & Oxley 1999; Nelson, Clawson & Oxley 1997, Nelson, Oxley & Clawson 1997). For example, in a study examining tolerance of KKK rallies, they demonstrate that subjects' rank-ordering and ratings of beliefs based on importance are better predictors of tolerance than response latency scores measuring belief accessibility (Nelson, Clawson & Oxley 1997).

Nelson and colleagues' perspective seems to make two assumptions. First, it suggests that individuals are *motivated* enough to engage in rank-ordering since this type of processing is

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a cognitively demanding task. Second, it suggests that individuals are *able* to rank-order their beliefs based on importance because assessing importance necessarily involves retrieving other issue-relevant beliefs from memory to use as a basis for comparison. Although it is possible that individuals rated the beliefs activated by the messages as important simply because they were more accessible than other beliefs, Nelson and colleagues' findings are supported by other studies which demonstrate that under some circumstances individuals do engage in more active deliberation when processing message frames.

Brewer (2001) compared a "passive receiver model" which resembles the *belief accessibility model* with a "thoughtful receiver model" which resembles the *belief importance model*. Subjects were exposed to a compassion frame that either supported or opposed welfare reform. According to Brewer (2001), the "passive receiver model" was supported if there was a direct effect of the value frames on policy attitudes because individuals would simply associate the direction of their beliefs to their policy attitudes (p. 49). Alternatively, the "thoughtful receiver model" was supported if the effect of the value frames on policy attitudes was mediated by variables reflecting more effortful processing such as a pre-message compassion value index score, anger toward the message and message strength.

As Brewer (2001) predicted, the results provide support for the "thoughtful receiver model." Specifically, in the anti-welfare reform condition, there was a positive relationship between anger toward the message and opposition to welfare reform. In the pro-welfare condition, there was a positive three-way interaction between compassion, strength of message and support for welfare reform. The influence of these variables on policy attitudes demonstrates that subjects engaged in some level of issue-relevant thinking when processing the message and interpreting/evaluating the policy. According to Brewer (2001), "citizens reason about value frames, rejecting some while accepting others … the effects of value frames may depend on how favorably or unfavorably citizens respond to them" (p. 49).

Brewer's (2002) study described earlier provides additional evidence that individuals expend effort processing policy frames. Recall, the findings reveal that some subjects used the values activated by the frames (e.g., morality or equality) to express their opposition toward the messages' advocated positions. Brewer's (2002) findings provide two important insights. First, rather than subjects simply accepting the information presented in the message frame because it is accessible, his findings reveal that part of the interpretive process involves determining whether one agrees with the statements made in the message frame. Second, subjects must have retrieved pre-existing knowledge in order to develop their counterarguments.

In sum, although framing effect models differ regarding the amount of effort individuals expend when transforming message-generated beliefs into issue interpretations and policy attitudes (Brewer 2002, 2001; Jacoby 2000; Nelson, Oxley & Clawson 1997, Nelson, Clawson & Oxley 1997; Zaller 1997; Nelson & Kinder 1996), this present study adopts the perspective that individuals process policy frames using both low and high levels of issue-relevant thinking. Under some circumstances, individuals might engage in relatively less effortful processing by simply forming an issue interpretation using the message-generated considerations that are most accessible in memory. Under other circumstances, individuals could engage in higher levels of issue-relevant thinking by determining whether they agree with the policy frame's advocated position and even going as far as retrieving knowledge from memory to develop counterarguments. Although it is not the intent of this present study to determine which factors lead to more or less active processing, scholars differ regarding whether individuals process emotional messages using low or high elaboration. Therefore, creating this expanded framework makes it possible to test emotional framing effects.

III. Policy Frames - Emotional Perspective

The discussion thus far suggests that message frames evoke a purely cognitive response. However, as Chapter 1 describes, the political world is not always cold and indifferent but frequently filled with emotion and passion (Lodge & Taber 2005; Marcus 2000). Additionally, political communicators often construct messages that evoke emotion in order to overcome communication barriers created by cluttered information environments and disinterested audience members. Since information that evokes emotional responses is compelling and salient when juxtaposed with information that is more mundane (Lang 2000), communicators use emotional appeals in messages including political advertisements and public service announcements not only to capture audience members' attention and aid in comprehension, but more importantly, to gain support for their policy proposals.

According to Entman (2003), "words or images for which culture's common schemas evoke strong emotional responses have a greater probability of influencing more people than other words or images, if only because emotional stimuli typically receive more attention from otherwise distracted, apolitical citizens" (p. 429). Therefore, it is not surprising that communicators could create policy frames that use different strategies to evoke an intended emotional response among audience members.

The notion that message frames can evoke emotional responses is not new (cf. Gross & D'Ambrosio 2004; Kinder & Sanders 1990). Scholars often refer to the "emotionality" of frames even though they do not specifically include emotion in their models. For example, Nelson & Kinder's (1996), in their study examining the effect of group-frames on policy preferences, conclude that "[s]upport for affirmative action among whites reflects *sympathy* for the plight of blacks … opposition to welfare programs derives in part from *hostility* to the poor … *group sentiment* is not the only thing going on in these cases, but it is always present and of all the

various ingredients that go into opinion, it is often the most *powerful*" (p. 1056, bold font added for emphasis).

The initial research on emotional framing effects suggests that frames, in general, can evoke emotional responses. As the section on emotional framing effects describes, Gross & D'Ambrosio's (2004) study revealed that both dispositional frames (e.g., frames that focus on the individuals involved in a problem) and situational frames (e.g., frames that focus on the institutions that create the problem) evoked discrete emotional responses among their subjects. However, they did not identify components in the messages that potentially influence whether an emotional response occurs.

A few studies have identified some frames that could potentially vary in emotionality (c.f, Park & Kosicki 1995). For example, Entman (1991) compared the news media's account of the United States shooting down a civilian Iranian plane with the Soviet Union shooting down a civilian Korean jet liner (KAL) during the Cold War era. He found that while the American media framed the Iranian incident as a "technological glitch," they "humanized" the Korean incident by focusing on the victims of the crisis (p. 15). In other words, it is possible that the news media's account of the Korean crisis could have evoked more emotion such as empathy toward the Korean victims and anger toward the Soviet Union than the account of the Iranian crisis which focused on the "technological" problems leading to the crisis.

Although research on emotional framing effects is relatively new, it is possible that frames in general can evoke emotional response with some frames evoking more emotion than others. How do some frames become more "emotional" than others? When constructing a policy frame, a communicator can attempt to evoke emotion among audience members by selecting an affectively-charged construct to define the problem and by conveying the problem definition using strategies or appeals that are designed to evoke emotional responses. To fully understand how

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this could occur necessitates revisiting the structural model proposed at the beginning of this chapter.

Referring to the structural model presented in the beginning of this chapter, a policy frame is constructed by linking a problem definition to a policy using an evaluative association that states whether people should support or oppose the policy (Brewer, Graf & Willnat 2003). This problem definition is constructed by linking an issue to a *construct*. Constructs can include broader beliefs (e.g., value, ideology) and attitude objects including people (political candidates, policymakers), groups of people (e.g., victims of problems or beneficiaries of policies), or even other issues and policies that have been previously evaluated. It is possible that some of these constructs are "affectively-charged" (Lodge & Taber 2005).

According to Lodge and Taber's (2005) *hot cognition hypothesis* "[a]ll political leaders, groups, issues, symbols, and ideas thought about and evaluated in the past become affectively-charged – positively or negatively – and this affect is linked directly to the concept in long-term memory. This evaluative tally, moreover, comes automatically and inescapably to mind upon presentation of the associated object, thereby signaling its affective coloration" (p. 456). For example, when a speaker makes a reference to the '9/11" while some individuals might recall their cognitive-beliefs associated with the event, others have an immediate emotional and perhaps physiological response recalling how they felt when they witnessed the event on the news. Additionally, affectively-charged concepts such as "quotas" or "gay marriage" can turn a relatively mundane issue into a highly emotional issue.

In addition to affectively-charge concepts, scholars suggest that over time, certain symbols (e.g., American flag, Statue of Liberty) and events (e.g., 2000 Presidential Election; 9/11 terrorist attacks) can become associated with specific emotions. According to Sears (1993), individuals are socialized from childhood to react emotionally to many concepts that serve as political symbols. This socialization actually occurs through the process of classical conditioning

with the strongest and more persistent symbols evoking into what Sears (1993) calls "symbolic predispositions" (p. 120). Therefore, when individuals encounter the symbolic concepts or themes in speeches or texts, they respond by engaging in what Sears (1993) calls emotional processing that can lead to "learned" and intense emotional responses.

Returning to the structural model of policy frames, a problem definition that is constructed by linking an affectively-charged construct with an issue can influence individuals to form emotional issue interpretations that influence them to focus relatively more on how the issue makes them *feel* than what it makes them *think*. Additionally, recall that a communicator can convey the underlying premise of a policy frame by including propositions that describe how the policy will solve the problem. Communicators can construct propositions which makes assertions that evoke emotional responses.

Communicators also can use different message strategies that have the potential to evoke emotional responses. For example, a communicator could construct a problem definition using a personal story. This is especially helpful with issues that might not directly affect audience members. Describing the emotional experiences of someone who has been affected by a social or political issue could influence audience members to empathize and even feel that person's emotions vicariously. This emotional connection is enhanced if the person and audience members share common characteristics such as religion, ethnicity or if they come from the same socioeconomic background.

Indeed, although Bennett (2001) describes personalization as a type of news bias, his definition is applicable to this present conceptual discussion:

> *"personalized news can be defined as the journalistic bias that gives preference to individual actors and human-interest angles in events over larger institutional, social, and political contexts. Surrounding this human-interest core, the news is further personalized by emphasizing the emotional impact of events on the audience and by personalizing the relationship between the consumer and the news product" (p. 47).*

Finally, the language that communicators use to convey the policy frame can prime audience members to focus more on how the issue makes them feel. For example, using affectively-charged concepts (Lodge & Taber 2005) such as adjectives, nouns and verbs not only captures individuals' attention (Lang 2000) but may also draw attention to the critical components of the frame including the problem definition.

In sum, an emotional policy frame is constructed through the association of an emotional problem definition with a policy. Emotional problem definitions are created through the association of an issue with a construct that has the potential to evoke emotional responses among individuals. Emotional policy frames also can include propositions which make assertions that evoke emotional responses. In addition to using constructs that influence individuals to focus more on *how* an issue makes them *feel,* communicators can personalize problem definitions that influence audience members to empathize with an individual or the group of people affected by an issue. Finally, a communicator can convey the policy frame using affectively-charged concepts that prime individuals to focus on their emotions. As the next section will describe, individuals could use the emotion evoked by the emotional message frame to interpret and evaluate the policy.

Before describing emotional framing effects, two points need to be made. First, it is somewhat misleading to describe a policy frame or its components as "emotional." O'Keefe (2003) makes a valid point maintaining that "effect-based message variable definitions impede progress in understanding persuasion processes and effects and hence should be avoided in favor of definitions expressed in terms of intrinsic message features" (p. 251). However, in order to present a model that is not complicated with lengthy conceptual terms, it is helpful to use concepts such as "emotional policy frame," "emotional problem definition" and "emotional propositions." Second, it is important to reiterate that the preceding discussion is based on an "intended" effect. As the next section describes, similar to cognitive framing effect, individuals

also use pre-existing knowledge to process emotional policy frames making it rare if not

impossible for the message to evoke matching responses.

IV. Framing Effect – Emotional Perspective

Only a few known studies have been conducted on emotional framing effects (Gross &

D'Ambrosio 2004; Nabi 2003). Although they provide important insights, critical questions still

remain. Therefore, this section also reviews a study examining emotional persuasive effects

(Rosselli, Skelly & Mackie 1995) that provides some additional insight into how individuals could

use their frame-generated emotional responses to form/express emotional issue interpretations

and policy attitudes. Together, these studies serve as a foundation for the hypotheses and

models presented in Chapter 3. However, before they are described, this section begins by

defining emotion.

Emotion Theory

There is very little consensus regarding a formal definition of emotion (Kleinginna &

Kleinginna 1981). Over the past century, researchers from different disciplines and perspectives

have proposed conceptual definitions that focus on different characteristics of emotion including

its origin, specificity and function. Kleinginna and Kleinginna (1981) reviewed the definitions of

emotion from 12 disciplines and developed the following working conceptualization:

> *Emotion is a complex set of interactions among subjective and objective factors, mediated by neural/hormonal systems, which can (a) give rise to affective experiences such as feelings of arousal, pleasure/displeasure; (b) generate cognitive processes such as emotionally relevant perceptual effects, appraisals, labeling processes; (c) activate widespread physiological adjustments to the arousing conditions; and (d) lead to behavior that is often, but not always, expressive, goal-directed, and adaptive (p. 355).*

This definition identifies a number of characteristics of emotion some of which have been the subject of debate among emotion scholars over the past few decades. There are two areas of disagreement that pose some theoretical significance to this present study including the independence of emotion and cognition and the functionality of emotion.

The Relationship between Emotion and Cognition

The first area of disagreement among emotion scholars addresses the relationship between emotion and cognition during processing. On the one hand, according to Lazarus (1984), "[c]ognitive activity is a necessary precondition of emotion because to experience emotion, people must comprehend – whether in the form of a primitive evaluative perception or a highly differentiated symbolic process – that their well-being is implicated in a transaction, for better or worse" (p. 124). On the other hand, Zajonc (1984) maintains that "affect and cognition are separate and partially independent systems and … although they ordinarily function conjointly, affect could be generated without a prior cognitive process" (p. 117). Although it is not the scope of this study to determine whether emotion precedes or follows cognition, recent technological advancements such as brain imaging and an increase in studies examining patients with brain disorders have shed some light on the relationship between affect and cognition.

According to Way and Masters (1996), "[I]f communication between the cognitive and emotional systems occurred sequentially, damage in one system would lead to impaired function in the other system" (p. 51). Further, they explain that neurologists have found that patients with damage to the area of the brain involved in cognitive processing still respond emotionally to the external environment and patients with damage to the area of the brain involved in emotional processing still respond cognitively thereby demonstrating that the two systems are independent (p. 50). However, brain-imaging studies on patients without brain damage reveal that both areas of the brain are engaged when individuals interact with the external environment demonstrating

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that the two systems function at the same time (p. 51). Therefore, they characterize the two systems as *independent* but *interdependent* with the environmental context influencing which one will be more dominant in processing (p. 52).

Since communication often involves some level of cognitive processing, it is not surprising that many scholars examining message effects use a cognitive appraisal theory of emotion as a model (c.f., Dillard & Peck 2000; Lerner & Keltner 2000) including the few studies examining emotional framing effects (Gross & D'Ambrosio 2004; Nabi 2003). When individuals are exposed to messages, especially print newspaper articles, it is possible that initial cognitive perceptual processes lead to emotional responses. However, it also is possible that some concepts can evoke emotional responses with very little initial cognitive appraisal. Indeed, as the previous section on emotional message frames describes, certain words or concepts that are affectively-charged can evoke intense emotional responses (Lodge & Taber 2005). Further, this initial emotional response could influence the individual's subsequent cognitive processing by directing his or her attention toward information that could clarify his/her emotional response or diminish it.

Research examining the independent relationship between emotion and cognition has emerged among scholars adopting a tri-partite model of attitudes. According to this model, attitudes possess three components including *cognition* related to the beliefs that people possess about an attitude object, *affect* related to the feelings that the attitude object evokes and *behavior* related to the intention to behave with regard to the attitude object (Eagly and Chaiken 1993, p. 10). Research in this area has demonstrated that the cognitive and affective components of attitudes toward certain objects including policies and political candidates are independent (Crites, Fabrigar & Petty 1994; Lavine, Thompsen, Zanna and Borgida 1998). This can lead to attitudes that are more affective or based on emotion as well as attitudes that are more cognitive or based on beliefs. Researchers also have demonstrated that certain messages, such as those

using an emotional appeal, can lead to attitudes in which the affective component is an independent and stronger predictor of policy attitudes than the cognitive component (Rosselli, Skelly & Mackie 1995; Crites, Fabrigar & Petty 1994).

Eagly, Mladinic & Otto (1994) maintain that while attitude objects in the external environment could activate the affective component of the attitude toward an object, this doesn't last for long. Instead, it is quickly linked to other cognitive components. According to the authors, "[e]ven if an attitude were formed by purely affective mechanisms or purely cognitive ones, it is unlikely that it would remain purely affective or purely cognitive for long because of the synergistic relation that exists between these classes of attitudinal responses (see Eagly & Chaiken, 1993). Thus people's affectively based attitudes would no doubt influence their subsequent cognitions, as they reflected on their feeling states" (p. 134).

Trafimow and Sheeran (1998) address Eagly et al.'s (1994) concerns by demonstrating that while cognition and affect are related, a distinction can still be made between cognitive beliefs and affective beliefs. According to the authors, "given the synergy between affect and cognition, it seems clear that all beliefs must have some degree of affect and some degree of cognition. Nevertheless, it seems reasonable to assume that some beliefs are 'more affective' and some are 'more cognitive" (p. 379). The authors' provide empirical support for their "associative hypothesis" which predicts that "stronger associations are formed between affective and affective beliefs and between cognitive and cognitive beliefs, than between affective and cognitive beliefs" (p. 380). Focusing on a behavior (e.g., smoking) rather than an attitude toward a particular object (see p. 380), the authors performed five experiments. In general, their results demonstrate discriminate validity between cognition and affective beliefs (p. 389) and provided support for their associative hypothesis (p. 391).

As this discussion suggests, it is possible that messages could evoke emotional responses that are dependent on initial cognitive appraisals (Gross & D'Ambrosio 2004; Dillard &

Peck 2000; Lerner & Keltner 2000) or they could evoke emotional responses that are partially independent of cognition (Rosselli, Skelly & Mackie 1995; Crites, Fabrigar & Petty 1994). Accordingly, the debate surrounding the relationship between emotion and cognition in political communication is slowly changing from whether they are independent to identifying the circumstances when this might and might not occur (Way & Masters 1996).

In the context of message frames, on the one hand, most researchers suggest that processing frames is highly interpretative (Price & Tewksbury 1997). On the other hand, strategic placement of affectively-charged concepts could influence audience members to rely predominantly more on their emotions to interpret an issue and form a policy attitude (c.f., Lodge & Taber 2005). Therefore, this study adopts Trafimow and Sheeran's (1998) *associative hypothesis* which distinguishes between affective-beliefs and cognitive-beliefs. Specifically, frames activate beliefs associated with the problem definition that individuals use to interpret the issue. Additionally, the inclusion/exclusion of emotional components in a policy frame can lead to either "affective-beliefs" or "cognitive-beliefs" that are qualitatively different.

Functionality of Emotion

A second area of disagreement among scholars addresses emotion's function or its diagnostic capabilities. Kleinginna and Kleinginna (1981) make a distinction between "disruptive definitions, which emphasize emotion's great potential for causing disruptive and/or maladaptive effects, and adaptive definitions, which emphasize that emotion usually increases the likelihood of organism's meeting its needs" (p. 349). This disagreement has emerged in communication studies with some scholars maintaining that emotion disrupts cognitive processing and others maintaining that emotions serve an informational function.

Most of the research emphasizing emotion's disruptive influence on information processing has been conducted on mood. Research examining the effect of moods manipulated

prior to message exposure has demonstrated that positive moods can bias evaluations where individuals in a positive mood make more favorable judgments of an attitude object than individuals in a negative mood (Schwarz & Clore 1996). This type of effect is a popular assumption among political advertisers who hope that individuals will feel more favorable toward a political candidate featured in a positive political advertisement, but will feel negative toward a political candidate who is the subject of an attack advertisement.

Although most of this research has been conducted on mood, there are critical differences between mood and emotional responses. First and foremost, while emotions usually arise in reaction to a specific target (e.g., message frame), moods are predispositions that affect how individuals react to the external environment in general (Holbrook and O'Shaughnessy 1984). In other words, moods typically do not have a specific target. Second, researchers typically manipulate mood prior to exposing subjects to a message whereas emotional responses are measured after subjects have been exposed to the message. Third, individuals are relatively more conscious of their emotional responses than of their mood states. In other words, individuals find it easier to attach a semantic label to their emotional response (e.g., happy, sad) than their moods (Ottati and Wyer 1993). Finally, moods last much longer than emotions.

Similar to the research conducted on mood, scholars examining the effect of emotional message appeals also have identified emotion's maladaptive characteristics. Specifically, although emotional information can attract and sustain people's attention compared to other more mundane appeals (Lang 2000), the emotional stimuli included in the content of the message, such as dramatic stories, can distract individuals from attending to and encoding other critical information in the message (Lang 2000; Valkenburg, Semetko and De Vreese 1999). This is often identified by demonstrating that while individuals can recall the emotional information in a story, they are unable to identify the other facts presented in the message (Valkenburg, Semetko & DeVreese 1999).

Pham (2004) argues that this might actually reflect emotion's informational function because it focuses individuals' attention solely on the relevant and necessary information needed to form a judgment. Specifically, he identifies a number of ways that individuals can use their emotions to form judgments. One way that is applicable to this study is that individuals can use the direction of their emotions to evaluate an attitude object such as a policy. According to Pham (2004), individuals "may construct mental representations or 'pictures' of alternatives and assess how they anticipatorily feel toward those pictures" (p. 362). In the context of frames, individuals might use their anxiety over a future terrorist attack to determine that they support invading Iraq.

In sum, there might be circumstances when emotional appeals such as emotional message frames are maladaptive because the emotional appeal could disrupt an individual's ability to attend to the specific arguments in the message frame. However, it is possible that individuals could use their emotional responses to the appeal as a source of information to assist them in interpreting and evaluating the policy.

Framing Effect: Emotional Perspective

As the cognitive section describes, most framing effect studies assume that message frames only evoke cognitive responses. However, two known studies have demonstrated that message frames can evoke emotional responses as well (Gross and D'Ambrosio 2004; Kinder and Sanders 1990). For example, Kinder and Sanders (1990) examined the effect that framing affirmative action as either *unfair advantage* or *reverse discrimination* had on a number of dependent variables including emotional responses. They found that although both frames evoked discrete emotional responses among respondents, there was a stronger correlation between negative emotions and attitudes toward affirmative action in the unfair advantage frame condition than in the reverse discrimination frame condition. The authors suggest that the unfair

advantage frame evoked more racial sentiments "calling up the sympathies and resentments whites feel toward affirmative action's intended beneficiaries" (p. 96).

Gross & D'Ambrosio (2004) provide preliminary evidence that emotions are a critical component of framing effects. They use cognitive appraisal theories of emotion as a foundation for understanding how frames can evoke emotional responses. According to the authors, "[i]f frames alter the context in which individuals experience emotion by altering the information and considerations they have at hand, cognitive appraisal models would predict that emotional outputs would differ. In some cases, the emotions themselves may be different. In other cases, the differences may lie in the explanations that people generate to understand or explain their emotional response" (p. 3).

To test their predictions, the authors exposed subjects to one of three print news stories describing the 1992 Los Angeles riots including one that blamed the riots on individuals (e.g., dispositional frame), one that blamed the riots on poverty and social conditions (e.g., situational frame) and a description frame. Using the assumptions of cognitive appraisal models of emotion, they predicted that the dispositional frame would evoke anger and disgust among subjects because it blames individuals for the riots. Conversely, they predicted that the situational frame would evoke sympathy and pity among subjects because it blames social conditions for the riots.

Although all three frames generated emotional responses among a majority of subjects, their predictions were not supported. Specifically, the dispositional frame, which blamed individuals for the riots, did not lead to significantly more expressions of anger and disgust compared to the other two frames and the situational frame did not lead to significantly more expressions of sympathy and pity compared to the other two frames. Additionally, ANOVAs did not reveal a main effect of the frames on emotional responses or the strength of the emotional response. In other words, none of the conditions led to significantly more or less emotional responses.

Although the message frames did not affect emotional responses directly, Gross and D'Ambrosio (2004) did find that predispositions including ideology and racial sentiment mediated the effect. For example, among subjects exposed to the description and dispositional frames, conservatives were more likely than liberals to express anger. However, this effect disappeared among subjects exposed to the situational frame (p. 14). The authors conclude that although the results are not completely consistent with their expectations, they do suggest that individuals' "emotional reactions are conditioned by both predispositions and the information available in a given frame" (p. 20). In other words, the results indicate that individuals' emotional responses are not based solely on the information activated by the message but are rather an integration of the information in the message and pre-existing knowledge.

While the above results are interesting, Gross & D'Ambrosio's findings regarding the content of subjects' emotional responses provide an important component of one of the models used in this present study (See Chapter 3, Model 3). Specifically, they found that although frames might not lead to a specific discrete emotional response, they do alter the *target* of subjects' responses. For example, although subjects in both conditions indicated that they felt anger, subjects in the dispositional condition expressed anger toward the "violence and violation of norms" while subjects in the situational condition expressed anger toward the "persistence of racism, the injustices minorities face, and the verdict" (p. 19).

Gross and D'Ambrosio's study demonstrates that message frames can evoke emotional responses and that frames operate by changing the target of these emotional responses. However, they did not measure the effect that these emotional responses had on attitudes toward the riot. According to the authors, "we suspect that there may be indirect effects of frame on opinion through the influence of frames on emotional content … it is not hard to imagine that those who feel disgust at the persistence of racism and those who feel disgust at the violence and

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destruction would support very different urban, race, and crime policies in the aftermath of the event" (p. 21). Therefore, this present study addresses this.

Processing Message Frames: Emotional Perspective

The cognitive framing effect section proposes a broader conceptual framework which suggests that individuals process message frames using different levels of issue-relevant thinking. Individuals could process emotional message frames using different levels of processing as well. Petty, Cacioppo, Sedikides and Strathman (1988) suggest that individuals can use emotion as a peripheral cue or as an argument central to the merits of a policy. Further, relevant and extant research provides some initial evidence that individuals could process emotional message frames using either more or less active issue-relevant processing. However, before describing this research, it is important to describe how emotion is incorporated into the associative network of memory model presented in the cognitive section.

Associative Network of Memory and Emotion

To review, the cognitive framing effect section indicated that individuals store knowledge in nodes and there are separate nodes representing attitude objects, beliefs, ideas, and evaluations (Collins & Luftus 1973; Eagly & Chaiken 1993). According to Bower's (1981) model, basic emotions also are represented in memory as nodes. There is a separate node for each emotion (e.g., anger, sad, joy, etc.). Connected to the emotional nodes are other nodes representing associated "automatic reactions, standard role and expressive behaviors (that is, the way we display sadness), and descriptions of standard evocative situations which when appraised lead to sadness" (p. 135). Additionally, there are nodes for the "verbal" or semantic

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labels used to describe the emotion (p. 135). According to Bower (1981) these linkages can be "innate" or "learned."

Using this description, it is possible to identify the types of beliefs that could be activated by or formed in response to an emotional message frame. Recall that emotional message frames are constructed using affectively-charged concepts. According to the above model, then, affectively-charged concepts will activate a node corresponding to the concept that is linked to a node corresponding to an emotional response. For example, a message framing the Iraq War as part of the broader *War on Terror* could activate nodes corresponding to "terrorism" along with nodes corresponding to emotions (e.g., anger, anxiety) leading to an intense emotional response among some individuals.

An emotional policy frame also includes broader ideas such as the emotional problem definition or emotional proposition(s). As discussed in the beginning of this chapter, each word or concept is represented as a single node in memory (e.g., conceptual node). For example, the concepts in the proposition "Hussein will give WMDs to terrorists" are represented as six separate nodes in memory that when activated simultaneously are automatically linked together into a unit of knowledge (Eagly & Chaiken 1993). This knowledge unit becomes a belief when it is evaluated (e.g., I believe that Hussein will give WMDs to terrorists).

This belief can be more cognitive or affective based on the strength of its associations. It is affective if the belief is attached to a node(s) representing an emotional response and cognitive if it is attached to a node(s) representing a cognitive response. For example, "I am anxious that Hussein will give WMDs to terrorists" is an example of an affective-belief while "I believe that Hussein will give WMDs to terrorists" is an example of a cognitive-belief. Adopting the terminology used by Trafimow and Sheeran (1998), then, a belief that includes at least one node representing an emotional response is identified as an affective-belief while a belief that is not connected to a emotional response is a cognitive-belief.

Emotional Processing

Since no known research has examined how individuals use their emotional responses generated by the policy frame to interpret an issue and form/express a policy attitude, it is unclear whether their emotional responses will be independent or dependent on their cognitive responses or whether their emotional responses will disrupt or facilitate their processing. However, research studies examining framing effects and persuasive emotional messages provide some insight into what could occur.

Evidence suggesting that emotion could disrupt individuals' abilities to interpret an issue and form a policy attitude is demonstrated by a study conducted by Valkenburg, Semetko and De Vreese (1999). Specifically, the authors measured the content of readers' thoughts and recall in response to two news stories, crime and the introduction of the "euro" that used a conflict, human interest, responsibility or economy frame. Of particular interest are the human-interest frames, one of which conveyed the personal story of a crime victim and the other which conveyed a personal story of an individual who could lose his job due to the introduction of the euro (p. 557). The authors found that subjects in these conditions were unable to recall other factual information in the messages with subjects in the human interest crime story frame scoring the lowest on recall questions than other participants exposed to other message frames (p. 565).

Valkenburg et al. (1999) concluded that the "emotional human interest framed crime story disrupted readers' information-processing capacities so that they could no longer pay attention to and process the factual information in the core story" (p. 566). In essence, they adopt a perspective of emotion that is similar to functional theorists who maintain that emotion is maladaptive and that emotion can disrupt individuals' ability to engage in high elaboration.

Lang (2000), providing insight into why this type of response could occur maintains that emotional information is more compelling and commands more attention. Consequently, when

CHAPTER 3

Model & Hypotheses

To determine whether emotions are a critical component of framing effects, this study examines how individuals use the emotions evoked by policy frames to interpret issues and form/express policy attitudes. Using the literature review as a foundation, this chapter presents the study's main hypotheses and models. It begins, however, by distinguishing between Low and High Emotion policy frames that serve as the main independent variables of this study.

I. High versus Low Emotion Policy Frames

According to the literature review in Chapter 2, a policy frame is constructed through the association of a problem definition with a policy. A distinction is made between High and Low Emotion Policy Frames. A High Emotion Policy Frame is constructed by associating an emotional problem definition (e.g., War on Terror) with a policy (e.g., Iraq War). The emotional problem definition influences individuals to focus relatively more on how an issue makes them *feel* than what it makes them think. The emotional problem definition is constructed when an issue is linked or integrated with a specific idea or construct that evokes the retrieval of emotional experiences and/or object-related emotional responses. Additionally, in some policy frames, the emotional problem definition is comprised of more specific emotional propositions that represent the underlying premise of why a particular issue is a problem and why a particular policy will solve that problem. Emotional propositions make assertions that are intended to evoke emotional responses. They also include affectively-charged concepts that are intended to prime individuals to focus more on their feelings than on their thoughts. Ultimately, the communicator intends for

audience members to use the emotions evoked by the emotional propositions and affectively-charged concepts to interpret the issue and evaluate the policy.

A Low Emotion Policy Frame is constructed through the association of a policy with a problem definition that is not intended to evoke an emotional response (e.g., low emotion policy definition). It influences individuals to focus relatively more on *what* the issue makes them *think* than how the issue makes them *feel*. Low Emotional problem definitions are comprised of propositions which make assertions that are not intended to evoke emotional responses. They also can contain facts and in some cases numbers or statistics that could prime individuals to focus more on their thoughts. However, it is important to recognize that although Low Emotion policy frames are not constructed to evoke emotional responses, some individuals could respond emotionally, especially if they have been exposed to the issue in the past.

Figures 1 and 2 provide visual representations of fictitious messages about the Iraq War to help illustrate the difference between a Low and High Emotion Policy Frame. Figure 1 displays a Low Emotion Policy Frame that is intended to evoke individuals' thoughts rather than their emotions regarding the Iraq War. Specifically, a communicator could frame the invasion of Iraq using the following propositions to convey a non-emotional interpretation of the *War on Terror*:

> *(1) Iraq has not complied with the disarmament obligations specified by U.N. Security Council resolutions.*
>
> *(2) Iraq continues to support militant groups who oppose democracies.*
>
> *(3) Iraq could give these militant groups weaponry.*
>
> *(4) These militant groups could use the weaponry against democratic countries.*

Figure 1: Iraq War Low Emotion Policy Frame

Iraq has not complied with the disarmament obligations specified by the U.N. Security Council resolutions.

Iraq continues to support militant groups who oppose democracies.

Iraq could give these militant groups weapons.

The militant groups could use the weapons against democratic countries.

Figure 2: Iraq War High Emotion Policy Frame

Saddam Hussein possesses Weapons of Mass Destruction.

Hussein has ties with terrorists.

Hussein could give these WMDs to terrorists.

The terrorists could use the WMDs to launch another terrorist attack against the United States.
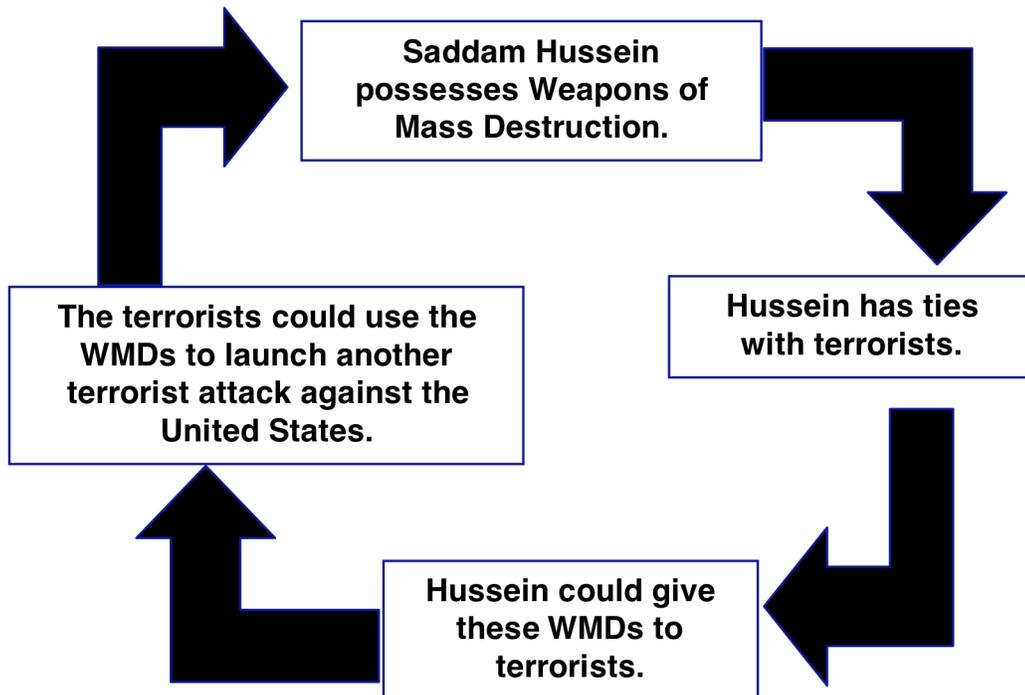
Although each of the propositions in Figure 1 has the potential to evoke emotional responses among some individuals, that is not the communicator's intent. Rather, the propositions are constructed to activate individuals' cognitive-beliefs regarding, for example, whether Iraq has complied with U.N. resolutions (agree/disagree, true/false) and whether the country has ties with militant groups (agree/disagree, true/false). Together, these three propositions comprise the Low Emotion *War on Terror* problem definition that frames the War in Iraq (e.g., the policy).

Figure 2 illustrates a High Emotion Policy Frame that is intended to evoke individuals' emotions regarding the Iraq War. Specifically, a communicator could frame the invasion of Iraq using the following propositions to convey an emotional problem definition of the *War on Terror*:

(1) Saddam Hussein possesses Weapons of Mass Destruction.

(2) Hussein has ties with terrorists.

(3) Hussein could give the Weapons of Mass Destruction to terrorists.

(4) The terrorists could use these Weapons of Mass Destruction to launch another terrorist attack against the United States.

Although it is possible that the emotional propositions might not evoke an emotional response among some individuals, again, that is not the communicator's intent. Instead, the propositions are designed to activate individuals' emotions regarding, for example, Hussein (e.g., anger) and his ties with terrorists (e.g., concern). Together, these four emotional propositions comprise the emotional *War on Terror* problem definition that is associated with and therefore frames the War in Iraq (e.g., the policy).

Each of the strategies used to create the emotional propositions in the High Emotion Policy Frame has the potential to evoke relatively more emotional responses among audience members than the propositions used in the Low Emotion Policy Frame. For example, the

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emotional propositions personalize the individual(s) who are causing the problem by substituting "Iraq" with "Hussein" and "groups" with "terrorists." Second, the emotional propositions substitute the word "weapons" with the affectively-charged concept "Weapons of Mass Destruction" which is more descriptive. Third, the emotional proposition asserting that terrorists might launch another attack against the United States is intended to activate the emotions audience members experienced in response to the September 11th terrorist attacks. The communicator's intent is that audience members will use these emotions to form an emotional issue interpretation that is based on anticipating how they would feel if Hussein actually did transfer WMDs to terrorists and the terrorists launched another attack against the United States (c.f., Pham 2004).

II. Emotional Framing Effects

The primary purpose of this study is to examine emotional framing effects. The primary expectation of this study is that ***individuals exposed to a High Emotion Policy Frame will be more likely to use emotions evoked by the problem definition to form/express a policy attitude than individuals exposed to a Low Emotion Policy Frame.*** This is tested using two hypotheses. The first hypothesis focuses on the effects of emotional policy frames on individuals' emotional responses while the second hypothesis makes predictions regarding the relationship between individuals' emotional response and their attitudes toward the policy frame's advocated position.

Hypothesis 1: Effect of Emotional Policy Frames on Emotional Responses

Some framing effect models maintain that message frames have an indirect effect on policy attitudes (Brewer 2002, 2001; Druckman 2001, Shen 2004a, b; Price, Tewksbury & Powers 1997). Individuals exposed to a message will use the cognitive responses evoked by the frame to form a cognitive issue interpretation (Brewer 2002; Domke, Shah & Wackman 1996). In turn, individuals use this cognitive issue interpretation to determine whether they support or oppose the message frame's advocated policy position (Brewer & Gross 2005; Shen 2004a, b). According to this model, then, the locus of the framing effect is the issue interpretation and a framing effect occurs when individuals use the cognitive responses evoked by the policy frame to form a cognitive issue interpretation.

Previous research suggests that emotional policy frames could produce this same type of effect. The initial research on emotional framing effects indicates that all frames have the

potential to evoke emotional responses among some individuals (c.f., Gross & D'Ambrosio 2004; Kinder & Sanders 1990). While this is certainly possible, the study conducted by Rosselli et al. (1995) which manipulated the emotionality of persuasive messages demonstrates that emotional persuasive appeals evoke more emotional responses than rational persuasive appeals.

Recall that the first part of this chapter distinguishes between High and Low Emotion Policy Frames. On the one hand, since communicators construct a High Emotion Policy Frame using emotional components (e.g., affectively-charged concepts, emotional propositions and emotional problem definition), it is likely to evoke emotional responses among audience members and audience members are more likely to use the emotional responses to form emotional issue interpretations. Therefore, an emotional framing effect is more likely to occur in response to a High Emotion policy frame. On the other hand, since communicators construct a Low Emotion Policy Frame using components not intended to evoke emotional responses, it is likely to evoke fewer emotional responses among audience members. Therefore, an emotional framing effect is less likely to occur in response to a Low Emotion policy frame. Using this distinction, then, the first prediction of this study is:

H1: *A High Emotion Policy Frame will evoke significantly more emotional responses leading to the formation of an emotional issue interpretation among individuals than a Low Emotion Policy Frame.*

Hypothesis 2: The Effect of Emotional Issue Interpretations on Policy Attitudes

Previous framing effect studies have demonstrated that there is a strong relationship between the cognitive-beliefs and policy attitudes generated by the message frame (Nelson & Kinder 1996). Recall that Nelson and Kinder (1996) examine the influence that group-focused

frames had on attitudes toward four polices including government assistance toward the poor,

government spending on AIDS, preferential hiring and promotion of blacks and affirmative action

policies in the workplace and college admissions. They found that attitudes toward specific

groups were better predictors of policy attitudes in the group-frame condition than in the non-

group-frame condition.

Using this model, it is likely that there will be a stronger relationship between subjects'

emotional issue interpretations and policy attitudes in response to the High Emotion policy frame

than in response to the Low Emotion policy frame. The reason this relationship could be stronger

is due, in part, to the structure of the emotional frame. Recall that policy frames are constructed

by using rhetorical devices that explicitly link an emotional problem definition to a policy.

Additionally, these associations are evaluative, telling individuals whether they should support or

oppose a particular policy (Brewer 2002). In other words, while emotional propositions explain

WHY an emotional problem definition should be used to evaluate the policy, the rhetorical devices

describe HOW the emotional problem definition should be used to evaluate the policy.

The difference between a Low and High Emotion Policy Frame is that while both contain

components that have the potential to evoke emotional responses (see Hypothesis 1), only the

High Emotion message frame uses rhetorical devices that explicitly link the emotional problem

definition to the policy. Therefore, the relationship between individuals' emotional issue

interpretations and policy attitudes will be relatively stronger in response to a High Emotion Policy

Frame because it uses rhetorical devices to explain to audience members how their emotional

issue interpretations are related to the policy. Alternatively, the relationship between individuals'

emotional issue interpretations and policy attitudes will be weaker in response to a Low Emotion

Policy Frame due to the absence of rhetorical devices linking the emotional issue interpretation

with the policy. Therefore, the next prediction is:

H2: *The relationship between emotional issue interpretations and the message's advocated policy position will be stronger in response to a High Emotion policy frame than in response to a Low Emotion policy frame.*

III. Processing Emotional Policy Frames

Although the previous discussion predicts that High Emotion message frames will lead to emotional issue interpretations, it does not describe *how* this occurs. The literature review in Chapter 2 reveals that cognitive models differ regarding the criteria they use to determine whether a framing effect has occurred. Additionally, their assumptions differ regarding the amount of effort individuals expend when processing message frames. Rather than viewing these models as mutually exclusive, this study adopts the perspective that under certain circumstances individuals will process message frames using different levels of issue-relevant thinking or elaboration. Additionally, the criteria used to determine whether a framing effect has occurred changes based on the amount of effort an individual expends during processing. Using this broader theoretical framework and the findings from extent research on emotion as a foundation (see Chapter 2), this part of the study identifies different ways in which individuals could process emotional policy frames. However, since no known study has examined this in the context of emotional message frames, this inquiry is posed as a research question. **What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when processing emotional policy frames?**

This section describes five potential responses produced by an emotional policy frame. First, it is possible that the policy frame will not evoke an emotional response. Second, the policy frame could evoke an emotional response(s) that has no relationship with the subsequent policy

attitude. The remaining responses are presented as three models of emotional framing effects. Each model uses a different indicator of emotional framing effects that differs based on the dimensions comprising the emotional responses including the magnitude, the direction and the target of the emotional response. As each dimension is added to the emotional indicator, the measurement of emotional framing effects becomes more precise and reflects more effortful processing.

No Emotional Response -- No Emotional Framing Effect

It is possible that a High Emotion policy frame will not evoke any emotional response among some individuals. When this occurs, individuals will not form emotional issue interpretations and they will not use their emotions to determine whether they support or oppose the message's advocated policy position. Therefore, the relationship between emotional responses and policy attitudes will be negligible.

There are a number of reasons why this might occur. Using the Iraq War message as an example, it is possible that some individuals just don't feel any emotions such as "anger" or "concern" when encountering concepts such as "Hussein," "WMDs," or "terrorism." Under these circumstances, even though they might support the frame's advocated position, since they are not using emotions to interpret the issue and form a policy attitude, by definition, an emotional framing effect has not occurred. This also might occur when individuals disagree with the policy frame's advocated position. For example, an individual might not believe that Hussein possesses WMDs and therefore not feel the intended emotional response (e.g., concern or anxiety).

Emotional Response -- No Emotional Framing Effect

The second possibility is that although the High Emotion policy frame evokes an emotional response(s), individuals do not use them to form/express an attitude toward the

message's policy position. Therefore there will be a weak or no relationship between emotional responses and policy attitudes.

One reason why there could be a weak relationship between emotional responses and policy attitudes is that emotions are dysfunctional and disrupt individuals' ability to engage in issue-relevant thinking (Valkenburg, Semetko & DeVreese; also see discussion by Lang 2000). Recall that Valkenburg, Semetko & DeVreese (1999) found that subjects exposed to a personal story "humanity" frame were unable to recall the facts of the broader message. They concluded that the personal story distracted individuals from paying attention to the other details. Lang (2000) also suggests that when individuals' encode the emotional stimuli their limited processing capacities make it impossible for them to encode or store other parts of the message. For example, individuals exposed to the Iraq War frame might become so overwhelmed thinking about what occurred during the 9/11 terrorist attacks that they do not pay attention to the specific reasons the communicator uses to explain why Iraq is associated with the *War on Terror*. If this occurs, there might not be any consistent relationship between, for example, individuals' level of anxiety and their attitude toward the Iraq War. As the next three sections will describe, it also is possible that an emotional policy frame could lead to an emotional framing effect.

Model 1: Emotional Framing Effects -- General Emotional Responses

To begin, it is possible that when an emotional policy frame evokes emotion, Model 1 tests whether individuals use the ***magnitude*** of their emotional responses or what will be called here, ***general emotional responses***, to interpret the issue and form/express an attitude toward the emotional policy frame's advocated position. Recall that the belief accessibility model assumes that since individuals are cognitive misers, they use message-generated beliefs that support the policy frame's advocated position to form an issue interpretation because this requires less cognitive effort than retrieving other beliefs from memory to determine whether they

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agree]/disagree policy frame's advocated position (Zaller 1992; Zaller & Feldman 1992). This same type of processing could occur in response to an emotional policy frame.

When individuals are exposed to an emotional policy frame, they will **attend to** and **encode** the content of the message by transforming the information into mental representations in activated memory (Lang 2000). Research has demonstrated that people pay close attention to emotionally arousing information within a message (Lang 2000). Recall that emotional policy frames possess two types of information that could evoke emotion: the affectively-charged concepts and the emotional propositions that comprise the global emotional problem definition. Since individuals might expect political messages to contain more complex information, this emotional information could stand out from the more mundane information influencing individuals to attend to and encode the emotional portions of the message. For example, using the Iraq War Emotional policy frame (see Figure 2), when individuals are exposed to the emotional proposition, "Hussein possesses WMDs," they will focus more on the affectively-charged concepts, "Hussein" and "WMDs."

As individuals attend to and encode the policy frame, the emotional problem definition evokes emotional responses (e.g., message-generated emotions) making them accessible in activated memory. The affectively-charged concepts will evoke emotional responses priming individuals to focus on how the emotional problem definition/emotional proposition(s) makes them feel. Additionally, research demonstrates that individuals use pre-existing knowledge and beliefs to process the message frame (Shen 2004a, b; Shah, Domke & Wackman 1998; Domke, Shah & Wackman 1996). Through spreading activation (c.f., Shah, Domke & Wackman 1998), the presence of emotions in active memory activates the emotions attached to other chronically and/or recently activated constructs. For example, the emotional proposition which asserts that terrorists might launch another attack against the United States could activate emotions audience members chronically or recently felt in response to the September 11th terrorist attacks.

Individuals will integrate the message-generated and chronically-accessible emotions into a global emotional issue interpretation that helps them to understand the issue or, more specifically, the emotional problem definition conveyed by the policy frame. For example, individuals could use their emotional responses to the September 11th terrorist attack (e.g, chronically/recently activated emotions) to anticipate how they would feel if Hussein actually did transfer WMDs to terrorists and the terrorists launched another attack against the United States (e.g., emotional information in the message) (c.f., Pham 2004).

Finally, individuals will transform their emotional issue interpretations into attitudes toward the policy frame's advocated position. Similar to the assumptions of Dual Process Models, individuals will treat the general emotional responses comprising their emotional issue interpretations as cues (Petty, Cacioppo, Sedikides & Strathman 1988) using the magnitude of the emotional responses to determine whether they support or oppose the policy frame's advocated position (c.f., Pham 2004). For example, they could engage in inference-based processing assuming that since the Iraq War Emotional Policy Frame made them feel extremely emotional, they must support going to war with Iraq.

At the aggregate level, if this model provides a good explanation for how individuals process emotional policy frames, the magnitude or number of general emotional responses will serve as strong predictors of policy attitudes. The more emotion individuals feel, the more they will support the policy frame's advocated position. This will be tested using the study's two hypotheses.

Since High Emotion policy frames are designed to evoke emotional responses and Low Emotion policy frames are not, it is likely that a High Emotion policy frame will evoke significantly more general emotional responses among individuals than a Low Emotion policy frame (Hypothesis 1). Since High Emotion policy frames include rhetorical devices that explicitly link the emotional problem definition/emotional propositions with the policy and Low Emotion policy

frames do not, there will be a stronger relationship between general emotional responses and

attitudes toward the policy frame's advocated position in response to a High Emotion policy frame

than in response to a Low Emotion policy frame (Hypothesis 2).

Model 2: Emotional Framing Effects -- Affective-Beliefs

Model 2 tests whether individuals use the ***magnitude*** and ***direction*** of their emotional

responses, or what this study calls ***affective-beliefs*** (see Chapter 2), to interpret the issue and

form/express an attitude toward the policy frame's advocated position. As the literature review

describes (see Chapter 2), some framing effect models maintain that individuals do not rely solely

on the message-generated beliefs activated by a policy frame to form/express a policy attitude.

Instead, they will determine which of the activated beliefs are more important/relevant to the

problem or solution (Nelson et al. 1997a, b) or expend even more effort by determining whether

the message-generated beliefs are consistent with their pre-existing beliefs (Brewer 2002). This

same type of processing could occur in response to an emotional policy frame (c.f., Rosselli et al.

1995).

Similar to the assumptions of Model 1, when individuals are exposed to an emotional

policy frame, they will attend to and encode the emotional content of the emotional policy frame

(e.g., affectively-charged concepts, emotional propositions and/or emotional problem definition).

In turn, the emotional problem definition evokes emotional responses. Specifically, while the

affectively-charged concepts prime individuals to focus on how the issue make them feel, the

emphatic tone of the emotional problem definition/propositions also will prime them to assess

whether they agree with the arguments.[1] This type of assessment necessitates more effortful

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[1] It should be noted that this model is not making any predictions regarding whether an individual will evaluate the belief
before he/she responds emotionally or visa versa. On the one hand, it is possible that individuals will only respond
emotionally if they determine that they agree with the proposition. On the other hand, it is possible that the proposition
could influence individuals o respond emotionally which, in turn, influences them to decide that they agree with the

processing because it entails comparing the problem definition/propositions' arguments with pre-existing issue-relevant information stored in memory (e.g., knowledge, beliefs, emotions).

This type of processing will lead to the formation of affective-beliefs. Using an associative network of memory recall that an affective-belief is formed when a unit of knowledge is connected to a node corresponding to an evaluation (e.g., I agree that Hussein possesses WMDs) and a node corresponding to an emotion (e.g., I am concerned that Hussein possesses WMDs) (see Chapter 2). Whether or not individuals' pre-existing knowledge matches the emotional policy frame's advocated position can lead to the formation or activation of four different types of affective-beliefs that vary based on whether they support or oppose the arguments made in the policy frame and based on whether they are generated by the message or retrieved from memory.

First, if individuals' pre-existing knowledge is congruent with the emotional problem definition/ propositions, then they will form favorable message-generated affective-beliefs that support the policy frame's advocated position. For example, in response to the Iraq War High Emotion policy frame (see Figure 2), they might form the following affective-beliefs: I am concerned that Hussein possesses WMDs and has ties with terrorists. I am worried that he will give these WMDs to the terrorists who will use them against the U.S. These affective-beliefs reflect the intended emotional framing effect because they are generated by the message and they support the arguments in the emotional policy frame. When this occurs, individuals will use these favorable affective-beliefs to interpret the issue. Since their emotional issue interpretations are congruent with the policy frame's advocated position, it is predicted that they will form/express an attitude supporting the policy frame's advocated position.

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proposition. In either case, the model is simply stating that the presence of an affective-belief corresponding directly to the proposition is an indication that individuals both agreed and responded emotionally to the proposition.

If individuals' pre-existing knowledge is not congruent with the emotional problem definition/ propositions, then they could engage in more effortful processing by determining which source of information they believe is more relevant or truthful. Additionally, they could expend even more effort if they retrieve additional information from memory to aid in this process. If they determine that the policy frame is more relevant/truthful, then they will form favorable message-generated affective-beliefs (see above). However, if they determine that their pre-existing knowledge is more relevant/truthful then it is possible that they will not feel emotional and not form an affective-belief. However, it also is possible that the inclusion of affectively-charged concepts could still succeed in priming them to feel emotional, but their affective-beliefs could oppose the policy frame's advocated position. This could lead to the formation of one of two unfavorable affective-beliefs.

It is possible that individuals could form unfavorable message-generated affective-beliefs that oppose the policy frame's advocated position. For example, an individual could express anger at the message (e.g., The Iraq War message angers me because it is biased.). Individuals also could form unfavorable memory-generated affective-beliefs that counter-argue the policy frame's advocated position. This type of processing involves more effort because to develop counterarguments, individuals will retrieve pre-existing knowledge/beliefs from memory that is not contained the message. For example, instead of feeling "worried" about Hussein possessing WMDs, individuals could feel "worried" about invading Iraq because it will endanger soldiers' lives. Since this proposition was not presented in the policy frame, it is more memory-based and clearly undermines the policy frame's advocated position of invading Iraq. When this occurs, individuals will use these unfavorable affective-beliefs to interpret the issue. Since their issue interpretations do not match policy frame's advocated position, it is likely that they will form/express an attitude opposing the policy frame's advocated position.

At the aggregate level, if this model provides a good explanation for how individuals process emotional policy frames, the magnitude and direction of their affective-beliefs will serve as strong predictors of attitudes toward the policy frame's advocated position. Emotional issue interpretations that consist of affective-beliefs matching the policy frame's emotional problem definition/propositions will lead to more support for the policy frame's advocated position. Emotional issue interpretations that consist of affective-beliefs counter-arguing the policy frame's emotional problem definition/propositions will lead to less support for the policy frame's advocated position. This model will be tested using the study's two hypotheses (see above).

Model 3: Emotional Framing Effects -- Affective-Belief Targets

The previous model indicates that an emotional framing effect occurs when individuals use *favorable message-generated affective-beliefs* to interpret the issue and form/express an attitude supporting the policy frame's advocated position. However, it is possible that while some individuals express these affective-beliefs in response to the emotional frame, others could express them in response to other features of the message that aren't directly related to the frame. Gross & D'Ambrosio (2004) provide preliminary evidence indicating that an emotional framing effect occurs when the target of individuals' emotional responses match the topical focus of the message frame. Therefore, a more precise measurement of emotional framing effects includes the target of individuals' affective-beliefs. It is possible that individuals use the magnitude, direction and target of their emotional responses, or what this study calls affective-belief targets, to interpret the issue and form/express an attitude toward the policy frame's advocated position.

Recall that the "target" of an emotional response is the topical focus of an individual's emotional response (Gross & D'Ambrosio 2004). For example, in response to the Iraq War policy frame (see Figure 2), if an individual states, "I am concerned that Hussein possesses WMDs,"

then the target of his/her affective-belief is the emotional proposition "Hussein possess WMDs." Emotional policy frames can activate or lead to the formation of affective beliefs with different targets.

The target of individuals' affective-beliefs can include the specific emotional components of the policy frame including the emotional problem definition and/or emotional proposition(s). For example, the emotional propositions in the Iraq War Emotion policy frame (see Figure 2) could activate the following affective-beliefs: "I feel worried that Saddam Hussein possesses WMDs," "I am concerned that Hussein has ties with terrorists," "I am anxious that Hussein will give WMDs to terrorists," and "I am fearful that the terrorists could use WMDs to attack the U.S." These affective-beliefs match the direction and topical focus of the emotional propositions in the policy frame.

The target of individuals' affective-beliefs also can include more global constructs such as the message, policy and/or global issue. For example, if an individual expresses satisfaction that the policy frame presents a strong argument, then the target of his/her emotional response is the "message." If an individual expresses concern about the increase in terrorist attacks around the world, then the target of his/her "concern" is the global issue of terrorism. Finally, if an individual expresses hope that invading Iraq will stop terrorist attacks against the U.S., then the target of his/her "hope" is the policy.

Although all three of these global affective-beliefs support the frame's advocated position, they are relevant to the broader topic of the frame but they are not directly related to or activated by the specific components of the frame (e.g., emotional problem definition and/or emotional propositions). In other words, although affective-beliefs that target the "message," "policy" and/or "global issue," support the policy frame's advocated position, they do not specify whether the individual was actually influenced by the frame and/or whether the individual actually adopted the problem definition. It's possible that some individuals could accept a policy frame's advocated

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position simply because the message seems strong in which case the frame did not generate any effect.

Based on this discussion, then, an emotional framing effect occurs when there is a strong relationship between the affective-beliefs targeting the specific emotional problem definition and/or emotional propositions (e.g., specific affective-belief targets) and policy attitudes.

At the aggregate level, if this model provides a good explanation for how individuals process emotional policy frames, the number, direction and specific affective-belief target will serve as strong predictors of attitudes toward the policy frame's advocated position. Since High Emotion policy frames contain emotional problem definitions and emotional propositions and Low Emotion message frames do not, it is likely that a High Emotion policy frame will evoke significantly more specific affective-belief targets among individuals than a Low Emotion policy frame. Additionally there will be a stronger relationship between specific affective-beliefs targets and attitudes toward the frame's advocated position in response to a High Emotion policy frame than in response to a Low Emotion policy frame. This model will be tested using the study's two hypotheses (see above).

IV. Unfamiliar versus Familiar Policy Frames

The final inquiry of this study addresses whether there are differences in how individuals process emotional policy frames when they are exposed to a less or more familiar issue/policy. One of the key distinctions between individuals who are familiar and unfamiliar with a particular issue or policy is the amount and type of pre-existing knowledge they possess that is directly related to the content of the emotional policy frame. This could have a direct impact on their processing goals or, more specifically, whether they are motivated to engage in more effortful processing.

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Individuals who are unfamiliar with the issue/policy are less likely to possess a pre-existing policy attitude, an emotional issue interpretation and or pre-existing affective-beliefs corresponding to the policy frame's emotional propositions. Therefore, if they are motivated to engage in more effortful processing, it is likely that they will follow the steps described in the Model 3. For example, individuals who were unfamiliar with the president's plans to invade Iraq might have been motivated to watch his news conference in order to form an attitude toward invading Iraq. Since they lack pre-existing knowledge, it is likely that they will be more dependent on the content of the message (e.g., form more message-generated affective-beliefs). However, it also is possible that although they do not possess affective-beliefs directly corresponding to the emotional propositions, they could use other relevant pre-existing knowledge (e.g., general political beliefs) to determine whether they agree/disagree with the policy frame's advocated position.

Individuals who are familiar with the issue/policy are more likely to possess pre-existing knowledge directly related to the emotional policy frame including a pre-existing policy attitude, an emotional issue interpretation and affective-beliefs directly corresponding to the emotional propositions. Therefore, they will be less motivated to engage more effortful processing. However, this is dependent upon whether they possess a pre-existing policy attitude that matches the advocated position of the policy frame.   Specifically, if individuals' pre-existing policy attitude matches the policy frame's advocated position, then they will be less motivated to engage in more effortful processing. Therefore, it is likely that they will focus more on the global considerations (e.g., message quality) rather than attending to/encoding each emotional proposition.

If individuals' pre-existing policy attitudes do not match the policy frame's advocated position, then one of two outcomes could occur based on their motivation to engage in more effortful processing. On the one hand, individuals who are unmotivated could simply reject the policy frame without retrieving any additional information by forming message-generated

affective-beliefs directly related to the policy and/or the message. On the other hand, individuals

who are motivated to engage in more effortful processing could retrieve unfavorable memory-

based affective-beliefs that are specific and/or global to counter-argue the policy frame. As the

next two method chapters will describe, this inquiry was addressed by exposing subjects to an

unfamiliar and familiar issue and comparing the results.

individuals are exposed to emotional messages, they allocate more resources encoding and storing the emotional information in the message. Additionally, since individuals have a limited capacity to process information, they do not pay attention to or encode other information that could be relevant to understanding the message.

In the context of framing then, it is possible that policy frames using emotional appeals such as a personal story could distract individuals from the other information in the message frame. For example, individuals might focus on the emotional proposition conveying a personal story that they ignore or overlook the rhetorical devices that describe how the emotional problem definition is associated with the policy (or how the policy will solve the emotional problem definition). This could weaken the relationship between the emotional issue interpretation and the subsequent policy evaluation. However, other research suggests that emotions might not be maladaptive or disrupt individuals' ability to form issue interpretations and policy attitudes.

Rosselli, Skelly and Mackie's (1995) study examining the persuasive impact of emotional messages provides direct evidence showing that emotion does not always disrupt individuals' ability to process messages and form subsequent issue interpretations and policy attitudes. According to the authors, a typical persuasive model assumes that when individuals are exposed to a persuasive message, strong arguments will generate more favorable cognitive responses influencing them to adopt the message's advocated position while weak arguments will generate more unfavorable cognitive responses influencing them to reject the message's advocated position (p. 164). Since studies usually expose subjects to "informational" or "rational" messages and ask them to only list the "thoughts" generated by the message, little is known about how individuals process emotional messages.

Rosselli et al. (1995) maintain that, on the one hand, individuals' emotional responses could disrupt their processing abilities or, more specifically, their ability to distinguish between strong and weak arguments. In other words, although individuals are persuaded more by strong

than weak arguments in response to a rational or informational message, these differences do not emerge in response to emotional messages. Therefore, emotion is often treated as a peripheral cue that elicits heuristic processing. On the other hand, they suggest that individuals could process emotional appeals using a different kind of processing. According to the authors, "[t]his possibility suggests that there exists an alternative *content-based* route to persuasion through affective responding" (p. 166, italics in original).

To determine whether emotional messages disrupt cognitive elaborations or whether they are processed differently, Rosselli et al (1995) conducted an experiment using a 2 (emotional versus rational message) x 2 (positive versus neutral mood) x 2 (strong versus weak) design. The topic of the message addressed the use of animals for medical research. Subjects' pre-existing attitudes toward animal research were measured prior to their exposure to the message. They were then assigned to a counter-attitudinal message. The authors reasoned that if individuals processed emotional messages using cognition, then the responses of subjects in the positive mood x rational message condition would match those of subjects in the neutral x emotional message condition. Specifically, both groups would be equally persuaded by both strong and weak arguments. However, if subjects processed emotional messages different from cognition, then subjects in the neutral x emotional message condition would be persuaded more by strong arguments compared to weak arguments. According to the authors, if "emotional appeals, like positive moods, simply disrupt the cognitive elaboration of message content, the pattern of results might be identical to that obtained for subjects experiencing a positive mood and exposed to a rational message" (p. 169).

Rosselli et al. (1995) findings demonstrate that emotional messages do not disrupt cognitive processing but rather resemble the same types of processing that occurs in response to rational messages. Specifically the findings demonstrated that neutral mood subjects who were exposed to a strong emotional argument demonstrated more attitude change than neutral mood

subjects who were exposed to a weak emotional argument. In fact, the neutral mood subjects who were exposed to a weak emotional argument responded similarly to positive mood subjects exposed to both weak and strong rational arguments. According to the authors, in response to emotional appeals, "analysis of attitude change revealed patterns similar to those found in the rational argument conditions, in that subjects in a neutral mood showed attitude change dependent upon the quality of presented arguments, whereas subjects in a positive mood did not," (p. 183).

In addition to finding support for their hypotheses, the authors also found that subjects in the emotional message conditions generated more emotional statements in open-ended responses than subjects in the rational message conditions. Additionally, according to the authors, "the two types of evaluative responses were uncorrelated, suggesting that cognitive and affective elaborations represent independent sources of possible influence on post-message attitudes" (p. 184). In sum, while rational or informational messages generate more cognitive elaborations that focus on what individuals think, emotional messages generate more emotional elaborations that focus on how individuals feel.

Although Rosselli et al.'s (1995) study focuses on the effect of emotional persuasive messages, it is likely that their findings could provide insight into how individuals process emotional policy frames. Of particular interest are their results demonstrating that individuals exposed to emotional messages use their emotional responses in subsequent evaluations. Therefore, their research serves as a foundation for this study's hypotheses and models presented in the next chapter.

CHAPTER 4

Pilot Studies

Experimental Messages

The research supporting this dissertation consisted of three (3) pilot tests and a main experiment. A different pool of subjects was recruited and used for each test. The primary purpose of the pilot tests was to determine whether the stimuli (e.g., policy frames) effectively manipulated the independent variable (e.g., low and high emotion message frame). This was an intensive process that involved making decisions regarding different considerations including policy selection, policy position, one-sided versus two-sided messages, refutational versus non-refutational messages, and manipulating emotion. Therefore, Chapter 4 begins by describing each consideration that went into developing the messages. Next, it presents the results of the three pilot tests. Chapter 5 describes the methods used in the main experiment.

I. Constructing the Experimental Messages

<u>Selecting the Experimental Policies</u>

The first consideration in designing the messages was the specific policies that served as the topics of the treatment messages. As Chapter 3 describes, it is possible that individuals process emotional message frames differently based on whether or not they possess pre-existing issue knowledge and policy attitudes. If the policy has dominated the media agenda and has been the subject of highly partisan and polarized debates, this could lead to higher levels of emotional responses when the issue is simply mentioned in a speech or other message (Lodge & Taber 2005). For example, it is likely that some individuals will respond more emotionally toward

messages about abortion than messages describing Medicare because they are more familiar with the debates surrounding abortion rights. Therefore, a decision was made to create a set of treatment messages whose topic focused on an unfamiliar issue/policy and a set of treatment messages whose topic focused on a familiar issue/policy.

Since the subject pool for the main experiment would consist of college students, Medical Malpractice Caps was selected as the less familiar policy. These messages focused on a congressional bill that would place a $250,000 limit on the amount of money patients can receive when suing a doctor for malpractice. Since it was less likely that many students had been exposed to the debates surrounding this issue, it was less likely that they possessed a pre-existing policy attitude. Alternatively, the Military Draft was selected as the more familiar policy. These messages focused on a congressional bill that would institute mandatory military service for individuals between the ages of 18 and 29. Since it was more likely that many students had been exposed to the debates surrounding this issue or were at least familiar with its content, it was more likely that they possessed a pre-existing policy attitude. Unfortunately, as the Pilot Test 2 section describes, student subjects were so opposed to the draft that that it was necessary to replace it with another familiar but somewhat less polarizing issue in order to develop effective Pro-Policy messages. Consequently, the Military Draft was replaced with Drilling for oil in Alaska's Artic National Wildlife Refuge for Pilot Test 3 and the Main Experiment.

Policy Position: Pro- versus Con-Policy

The second consideration related to the issue/policy selection was whether to create experimental messages that supported a particular policy position (Pro-Policy), that opposed a particular policy position (Con-Policy) or both. Recall that policy frames are defined as *a message conveying a problem definition that, through its association with a policy, positions the*

*policy in the mind of an audience as the best or **worst** solution to a problem.* As Chapter 3

describes, it is possible that individuals process and respond to emotional message frames that

support a particular policy position (Pro-Policy) differently than emotional message frames that

oppose a particular policy position (Con-Policy). Some framing studies have used messages that

support a particular study (Price, Tewksbury and Powers 1997; Nelson, Oxley and Clawson

1997). Others, however, have tested two messages, one that supports the policy and one that

opposes the policy (Brewer & Gross 2005; Nelson and Oxley 1999; Nelson, Clawson and Oxley

1997; Rosselli, Skelly and Mackie 1995). The predictions of this present study necessitated the

development of both Pro- and Con-Policy messages. For example, in order to test whether

subjects exposed to arguments supporting the policy will have qualitatively different emotional

responses (e.g., positive emotions) than subjects exposed to arguments opposing the policy

(e.g., negative emotions), it was necessary to develop both types of messages.

One-Sided versus Two-Sided Messages

The decision to create both Pro- and Con-Policy messages led to a related consideration

regarding whether to use one-sided or two-sided messages. A one-sided message presents

arguments that support the policy-position of the message while omitting opposing views

(O'Keefe 2002, p. 219). A two-sided message presents arguments that support the message's

policy-position and, at the very least, identifies the opposing arguments (O'Keefe, p. 219). Since

the main attitude object of the present experiment is the policy (e.g., Limiting Medical Malpractice

Awards, Drilling in ANWR), one-sided messages are not feasible for the Con-Policy messages.

In other words, subjects exposed to a Con-Policy message would need to be aware of the

arguments supporting the policy in order to form a policy attitude. Although this could lead to

other potential effects such as affecting the ability of the messages to persuade audience

members to adopt a particular policy attitude, in a meta-analysis of one-sided versus two-sided message arguments, O'Keefe (1999) finds that there is no advantage to using either strategy even when moderating variables such as pre-existing attitudes and education are taken into account. Consequently, two messages were created for each policy (e.g., Pro-Malpractice Caps, Con-Malpractice Caps, Pro-Military Draft and Con-Military Draft).

Refutational versus Non-Refutational Messages

Related to the decision of whether to use a two-sided message is how the opposing view is presented. O'Keefe (2002) makes a distinction between "refutational" two-sided messages which critique the opposing viewpoints and "non-refutational" two-sided messages which state the opposing viewpoint but do not critique it (O'Keefe, 2002, p. 220). According to O'Keefe (2002), "Refutational two-sided messages are dependably more persuasive than one-sided messages; non-refutational two-sided messages, on the other hand, are significantly less persuasive than their one-sided counterparts. That is, acknowledging opposing arguments without refuting them generally makes messages less persuasive (compared with ignoring opposing arguments), whereas refuting opposing arguments enhances persuasiveness" (p. 220).

Refutational messages are at the heart of framing or more specifically counter-framing. In political communication, messages will not only frame a policy as the most effective solution but will sometimes frame the opposition as the least effective solution. In other words, communicators refute the oppositions' criticism by associating their position with other less desirable outcomes. For example, one strategy used in the policy debate surrounding the Patriot Act has been to associate the opposition with terrorism. More to the point, if you oppose the Patriot Act than you support terrorism. Following this strategic practice, this study used a two-sided refutational message design.

Using two-sided messages, however, meant that in the case of the Con-Policy, the messages would need to refute the arguments supporting the policy in order to evoke negative policy attitudes among subjects. A necessary component of this strategy is proposing an alternative viewpoint or policy that could potentially solve the problem. Consequently, the Con-Policy messages identified the problem, identified the policy, critiqued the policy and offered another solution. Alternatively, the Pro-Policy messages identified the problem, described the policy, and in an effort to achieve some balance between the two messages, it also critiqued the alternative solution proposed in the Con-Policy Message. The next section provides a description of the specific arguments in the debates surrounding Medical Malpractice Caps and the Military Draft. Although Drilling in ANWR isn't included in the study until Pilot Test 3, the background information regarding this policy is presented below.

Manipulating Emotion

As Chapter 3 describes, this study examines emotional framing effects by comparing individuals' responses to Low and High Emotion message frames. Two messages varying in emotionality were created for each policy position (e.g., Pro-Caps, Con-Caps, Pro-Draft, Con-Draft, Pro-Drill, Con-Drill). The intent was to create one message that was more likely to evoke emotion (e.g., High Emotion Frame) and one message that was less likely to evoke emotion (e.g., Low Emotion Frame). Before describing how this was done, it is important to reiterate that the distinction between Low and High Emotion message frames is based on an "intended" effect. In other words, it cannot be guaranteed that a High Emotion message frame will evoke emotional responses among all audience members and a Low Emotion message frame will not evoke emotional responses. However, different strategies were used to increase the likelihood that intended effect would occur.

At this juncture it is helpful to revisit the way in which emotional message frames are constructed. Recall that an emotional message frame is constructed by associating an emotional problem definition with a policy. The emotional problem definition is constructed by integrating an issue with an idea or construct that has the potential to evoke the retrieval of emotional experiences and object-related emotional responses. Additionally, in this present study, the emotional problem definition is comprised of more specific emotional propositions that describe why a particular issue is a problem and why the policy can solve that problem. Chapter 2 indicates that personalizing one of more of these propositions has the potential to influence individuals to interpret the issue based on how they feel more than what they think. Therefore, personalization was the main strategy used to create the High Emotion message frames for this current study. Specifically, the Low and High Emotion messages conveyed the same propositions but used personal stories in the High Emotion message frame juxtaposed with numbers/statistics in the Low Emotion message frame.

The emotional propositions in each of the High Emotion policy conditions also differed based on the discrete emotional response and the target of that response they attempted to evoke. For example, the Con-Cap High Emotion message was constructed to evoke empathy for injured patients, anger toward doctors and concern for patient safety. Alternatively, the Pro-Cap High Emotion message was constructed to evoke anger toward lawyers and their clients as well as empathy toward doctors and their patients. The Pro-Drilling High Emotion message attempted to evoke feelings of empathy toward American soldiers and oil workers working in foreign countries, anger toward environmentalist and frustration over high gas prices. The Con-Drill High Emotion message attempted to evoke sympathy toward wildlife, anger toward oil companies and frustration over oil spills.

In addition to constructing emotional propositions, the High Emotion message frames used affectively-charged concepts to convey the same information presented in the Low Emotion

message frame. The following statements from the final draft of the Pro-Medical Malpractice Cap messages provide an example of this strategy:

> *Pro-Medical Malpractice Caps - Low Emotion Frame*
> *America's Healthcare Industry **is experiencing a problem**. Patients are finding it difficult to locate affordable, specialized healthcare.*
>
> *Pro-Medical Malpractice Caps - High Emotion Frame*
> *America's Healthcare Industry **is facing an escalating crisis**. Patients are finding it difficult to locate affordable, specialized healthcare.*

It was hoped that the inclusion of the words "escalating crisis" would prime subjects to become more **concerned** about the problem and ultimately the policy as opposed to describing the situation as simply a "problem."

The language used in the messages was taken from actual speeches, editorials and interest group websites. One potential problem is that the differences between the Low and High Emotion messages can be contributed to differences in the content rather than the strategy. Although this is somewhat inevitable since the Low Emotion message uses statistics and the High Emotion message uses personal stories, throughout the drafting/editing stages, every effort was made to achieve as much balance as possible between the content of the Pro- and Con-Policy messages for each policy condition. The next section presents the methods and results of the pilot tests. However, before this is presented, a brief summary of the conditions is presented below.

Summary of Conditions

In sum, Medical Malpractice Award Limits (Caps) and Military Draft (Draft) were used as the two policies for Pilot Tests 1 and 2 and the Military Draft was replaced with Drilling in ANWR (Drilling) in Pilot Test 3 and the main experiment. For each issue, subjects were exposed to either a message supporting the policy (e.g., Pro-Caps) or a message opposing the policy (e.g.,

Con-Caps). Within each message, subjects were exposed to either a Low Emotion message frame (Low) or a High Emotion message frame (High).

Medical Malpractice Caps

Proponents of placing limits on malpractice awards (Pro-Caps) maintain that millions of dollars awarded to patients who sue their doctors for malpractice have increased the cost of healthcare and decreased the number of doctors practicing in specialized medical fields. They argue that unlimited awards for non-economic damages (e.g., pain and suffering) have influenced lawyers, who work on contingency rather than charging a flat rate, to encourage patients to sue for large sums of money. Sometimes these lawsuits are frivolous and even fraudulent. These large awards have forced insurance companies to raise doctors' premiums for malpractice insurance. This is especially true for doctors practicing in specialized medical fields where procedures are riskier leading to a larger number of lawsuits. Higher premiums have forced doctors to increase their medical fees, stop performing risky procedures and/or retire early. Proponents of Caps argue that placing a $250,000 limit on non-economic damages will discourage lawyers and their clients from suing. This will enable insurance companies to lower doctors' premiums and doctors can go back to charging their patients reasonable medical fees.

Opponents of placing limits on malpractice awards (Con-Caps) maintain that placing a $250,000 limit on malpractice awards is misguided because it victimizes patients while rewarding negligent doctors and their malpractice insurance companies. They argue that the problem with our healthcare systems is not caused by the lawsuits but rather with the rising number of preventable medical errors some of which result in permanent disabilities and even death. To assume that $250,000 is sufficient compensation for injured patients victimizes the patient. By citing the large number of lawsuits filed against doctors as the problem, policymakers are blaming the patient for getting injured by the doctor and putting doctors' interests above patient safety.

Additionally, limiting malpractice awards to $250,000 means that malpractice insurance companies can continue to insure negligent doctors.   If awards are unlimited, insurance companies will be forced to stop insuring negligent doctors. If these doctors can't find insurance, they won't be able to practice medicine. Removing these few negligent doctors from the healthcare system will decrease medical errors and ultimately the number of malpractice lawsuits.

University Military Draft

Proponents of a universal military draft (Pro-Draft) maintain that the current volunteer military is over-extended. Troop deployments in Iraq and Afghanistan in addition to other peacekeeping missions have stretched our military thin. Military personnel have been forced to work overtime and engage in longer tours of duty. This, in turn, has created battle-weary soldiers leading to increased injuries and casualties. Additionally, proponents of the Draft argue that the current volunteer military violates the value of equality because a disproportionate number of recruits are from lower and middle-class income families where the only way many of them can afford to attend college is by joining the military. A Universal Military Draft would require all able-bodied individuals between the ages of 18 and 29 to serve in the military. This would not only increase our troop numbers but it would make military service more equitable because even the children of the rich and powerful would be required to serve.

Opponents of a universal military draft (Con-Draft) argue that simply increasing the current number of troops through a draft is unfair and even un-American because it violates the value of individual freedom. Forcing individuals to serve against their will is something you would expect to find in a totalitarian regime, not America. Additionally, our current volunteer military is one of the most professional in the world today. A draft would be disastrous because forcing individuals to serve in the military against their will would lead to increased injuries and casualties. If people are forced to serve in the military, they will be less motivated to train and

more apt to be angry which could lead to disciplinary problems. Integrating draftees into the present volunteer military would harm, not help, our military because our volunteer military personnel would be on the battlefield with untrained, angry draftees. This would put our soldiers' lives at risk resulting in even more injuries and deaths. If we want to continue to win the War on Terror, policymakers need to increase benefits for military personnel to make them more attractive to potential recruits.

Drilling in Alaska's Arctic National Wildlife Refuge (ANWR)

Proponents of drilling in ANWR (Pro-Drill) argue that America's dependence on oil imported from foreign countries is one of its leading national and economic security problems. It affects our economic security because foreign countries and OPEC set the price of crude oil. The more dependent we are on foreign oil, the more vulnerable we are to OPEC's prices which affects how much Americans pay for gas. It also affects our national security including where we send our military troops. One of the military's priorities is to secure countries in the Middle East so our oil supplies won't be disrupted. However, as recent events have demonstrated, this can lead to increased casualties among our soldiers and oil workers in foreign countries. Consequently, the most effective way to decrease our dependence on foreign oil is to drill for oil in Alaska's National Wildlife Refuge. Opening ANWR could significantly reduce the amount of foreign oil imported into the U.S.

Opponents of drilling in ANWR (Con-Drill) argue that the national and economic security problems posed by our dependency on foreign oil are not new. As long as our dependency on oil continues, America's economic and national security will be vulnerable to the fluctuations of the international oil market and the politics of unstable regimes around the world. They maintain that there is not enough oil located in ANWR to decrease our dependency or affect world prices. Additionally, it would take many years before the oil is ready for consumption. More importantly,

although the oil companies maintain that they will practice environmentally responsible energy development by extracting oil from ANWR in an environmentally sensitive manner, over the past 30 years, they have demonstrated that they care more about making a profit than the environment as evidenced by the 1989 Exxon Valdez oil spill and the fact that 300-400 oil spills ranging from a few gallons to thousands of gallons occur each year in Alaska. An effective solution begins by reducing our demand for oil by improving the fuel economy of cars and expanding the use of alternative fuels such as ethanol..

II. Pilot Tests Methods & Findings

After the initial messages were drafted, the next step was to test their effectiveness in manipulating the independent variable. The testing was an iterative process in which the results of one pilot test led to the refinement of the messages which led to the administration of another pilot test. Consequently, each pilot test followed the same general procedure.

In general, for each pilot test, subjects were recruited from communication classes at a large Midwestern university and received course extra credit for their participation. Since the pilot tests focused on message construction, a decision was made to recruit student subjects in advanced communication classes who have more experience judging the emotionality of messages and could therefore provide more insight into message design.

The pilot tests utilized a computerized experimental design with subjects accessing the study on the Internet. During recruitment, subjects received instructions on how and when to participate in the study. If they agreed to participate, they read and signed the necessary documentation and were instructed to e-mail the principal investigator during a specified time period – usually about 10 days.

Each experimental condition was assigned its own URL address. When subjects e-mailed the principal investigator, they were randomly assigned to one of eight (8) conditions. Upon accessing the study's website, subjects read a brief introduction to the study informing them that they were participating in a political communication study. They were then instructed to log onto the study's website using a unique identification number instead of their name or any other number that could reveal their identity to the principal investigator. Although an attempt was made to randomly assign an equal number of subjects to each condition, some subjects e-mailed

the principal investigator but did not participate in the study. Consequently, some conditions have more subjects than others.

Prior to reading the messages, subjects answered a set of questions measuring their attitudes toward 5 policies including the two experimental policies (e.g., Universal Healthcare, School Vouchers, Drilling in ANWR, Privatization of Social Security and Malpractice Caps). The specific question stated, "*Using your mouse, please select the number that best reflects your attitude toward each of the following policies/issues with one (1) meaning 'extremely unfavorable' up to ten (10) meaning 'extremely favorable.' If you don't know anything about the policy/issue, then select 'D/K' for 'don't know.'*" Additionally, in Pilot Test 1, subjects were asked to rate their familiarity with the debates surrounding the same 5 policies used in the attitudinal question using a 10-point scale with one (1) meaning "not at all familiar" up to ten (10) meaning "extremely familiar."

The procedures for the three Pilot Tests differ at this point. During each pilot test, subjects were exposed to 2 messages, one for each policy. For one of the messages, subjects read the entire message and then answered a set of related questions (see below). For the other message, subjects participated in a Statement Evaluation Exercise. Specifically, for Pilot Test 1, subjects read the first message, answered a set of questions, completed the Statement Evaluation Exercise and answered a final set of questions. For Pilot Test 2, subjects participated in a Statement Evaluation Exercise, answered a set of questions, read the second message and answered a final set of questions. For Pilot Test 3, subjects read the first message, answered a set of questions, read the second message and answered a final set of questions. As should be noted, the Statement Evaluation Exercise was used in Pilot Tests 1 and 2 but due to some problems related to the question, it was dropped in Pilot Test 3. Therefore, the results are not reported in this study. Therefore, the remainder of this description focuses on what occurred after subjects read an entire message.

Specifically, subjects were instructed to read the message. For subjects reading one of the four Military Draft messages, the instructions stated, *"The following is a speech given by Alex Johnston, a member of the Freedom and Democracy Initiative. Please read the message and then press 'submit' to move to the next page of the study."* For subjects reading one of the four Medical Malpractice messages, the instructions stated, *"The following is a speech given by Pat Simmons, a member of Healthcare Initiatives. Please read the message and then press 'submit' to move to the next page of the study."* In Pilot Test 3 when the Military Draft policy was changed to Drilling in ANWR, the instructions stated, "The following is a speech given by Alex Johnston, a member of the

After reading the messages, subjects answered a set of questions measuring post-message policy attitudes, message emotionality, message information, and message strength. Specifically, the post-message attitudes stated, "Using your mouse, please select the number that best reflects your attitude toward the military draft with one (1) meaning "extremely unfavorable," up to ten (10) meaning extremely favorable. The message emotionality question stated, "Please select the number that best reflects the extent to which the message as a whole appeals to emotions with one (1) meaning "not at all emotional" up to seven (7) meaning "extremely emotional."

The message information question stated, "Please select the number that best reflects the extent to which the message as a whole provides information about the policy with one (1) meaning "not at all informational," up to seven (7) meaning "extremely informational." Finally, the message strength question stated, "Please select the number that best reflects the extent to which the message as a whole provides strong arguments with one (1) meaning "not at all strong," up to seven (7) meaning "extremely strong." Subjects concluded the study by answering a set of demographic and partisanship questions. Finally, subjects were debriefed and instructed to log out of the study's website.

The main dependent variables measured for each pilot test included message emotionality, information and strength. Comparisons were made between the Low and High Emotion conditions for each policy (e.g., Pro-Cap Low Emotion versus Pro-Cap High Emotion). The primary objective in testing the messages was to have the Low and High Emotion messages as equal as possible on the strength and informational dimensions but differ in the degree of emotionality. Three criteria were used to assess whether the messages successfully manipulated emotionality:

1. Expected Direction: The Low Emotion message frames evoke lower mean ratings than the High Emotion message frames.

2. Mean Difference: The mean differences between the Low and High Emotion message frames are at least 1.00.

3. Midpoint of Scale: The mean ratings of the Low Emotion message frames are below the midpoint of the scale and the mean ratings of the High Emotion message frames are above the midpoint of the scale.

Following is a description of the specific methods and findings for each pilot test.

Pilot Test 1

Pilot Test 1 took place between September 24 and October 4, 2004. A total of ninety-seven (97) undergraduate students enrolled in advanced communication courses participated in the first pilot study. Seventy-two percent (72%) were female. The average age was 21 years old.

After contacting the principal investigator, subjects were randomly assigned to one of the

following eight conditions (See Figure 3 below).

Figure 3: Pilot Test 1 Conditions

Condition	Message 1 (Message Evaluation Exercise)	Message 2 (Statement Evaluation Exercise)	Number of Subjects
1	Pro – Draft Low Emotion	Con – Cap High Emotion	n=13
2	Pro – Draft High	Con – Cap Low	n=11
3	Con – Draft Low	Pro – Cap High	n=16
4	Con – Draft High	Pro – Cap Low	n=12
		TOTAL	n=52
5	Pro – Cap Low	Con – Draft High	n=10
6	Pro – Cap High	Con – Draft Low	n=10
7	Con – Cap Low	Pro – Draft High	n=11
8	Con – Cap High	Pro – Draft Low	n=14
		TOTAL	n=45

Pilot Test 1: Military Draft Findings

A question measuring familiarity with policy debates was included in Pilot Test 1. As Pilot

Test Table 1a illustrates (see page XX), the data reveals that although subjects' familiarity with

the debates surrounding the military draft were moderate, they possessed extremely negative

pre-existing policy attitudes. Additionally, their post-message attitudes, including those in the Pro-

Draft Low and High Emotion message conditions remained extremely negative.

Looking specifically at the Pro-Draft conditions, there is very little difference between the

Pro-Draft Low and High Emotion conditions on the information and strength dimensions.

However, the emotionality ratings are not in the expected direction (Low: 5.54; High: 5.09). More

importantly, although the Pro-Draft High Emotion condition is 1.00 above the mid-point of the 7-

point scale, the Pro-Draft Low Emotion condition is also 1.00 above the midpoint of the scale. In

sum, the Pro-Draft Low Emotion message is generating more emotion than the Pro-Cap High Emotion message.

Turning next to the Con-Draft conditions, again, there is very little difference between the Con-Draft Low and High Emotion conditions on the information and strength dimensions. Additionally, the emotionality ratings of the Con-Draft Low Emotion condition (4.38) and the Con-Draft High Emotion condition (5.58) are in the expected direction even though the Low Emotion message generated slightly higher emotionality ratings than desired. Finally, the mean difference between the two conditions is larger than 1.00.

Pilot Test 1: Malpractice Caps Findings

As Pilot Test Table 1b reveals very few subjects were familiar with the Malpractice Caps policy. Additionally, most of the pre-message attitudes were near the midpoint of the 10-point scale, however, the Pro-Cap Low Emotion mean was slightly higher (6.50). Additionally, the post-message attitude scores for the Pro-Cap High and Con-Cap conditions were in the expected direction. On the one hand, subjects in the Pro-Cap High Emotion condition formed slightly higher policy attitudes after reading the message. On the other hand, subjects in the Con-Cap Low and High Emotion condition formed slightly lower policy attitudes.

In the Pro-Cap conditions, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions. However, the emotionality ratings for the Pro-Cap Low Emotion (4.00) and High Emotion (4.30) conditions are at the midpoint of the 7-point scale. Additionally, although the means are in the expected direction, the mean difference is less than 1.00.

In the Con-Cap conditions, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions. More importantly, the emotionality rating for the Con-Cap Low Emotion (3.91) is below the midpoint of the scale while

the emotionality rating for the Con-Cap High Emotion condition is above the midpoint of the scale (5.50). Additionally, the means are in the expected direction and the difference is more than 1.00.

Pilot Test 1 Discussion

Based on the criteria used to determine whether the messages effectively manipulated the independent variable, the results were mixed. The mean ratings for the messages are in the expected direction with one exception (e.g., Pro-Draft Low and High Emotion). It wasn't clear whether this finding was reflecting a true difference in emotionality or whether it was a backlash effect. Indeed, subjects' extremely negative post-message policy attitudes suggest that it might be attributed to a backlash effect because subjects in the Pro-Draft High Emotion condition had the lowest pre-message policy attitude mean rating than any of the other conditions.

A more pressing problem was that many of the mean emotionality ratings were located near the midpoint of the scale. The Con-Cap Low and High Emotion condition was one of the few that met all three criteria established for judging whether the message effectively manipulated the independent variable. However, the results clearly indicated that the High Emotion messages for all four policy conditions needed to become more emotional. Consequently, a decision was made to incorporate at least two personal stories into each High Emotion message. Since every attempt was being made to keep the content of the Low and High Emotion messages relatively the same, this meant that the information conveyed in the personal stories needed to be balanced with the same information in the Low Emotion messages. Consequently, the personal stories in the High Emotion messages were juxtaposed with descriptions in the Low Emotion messages. Finally, all of the messages were fairly equivalent in strength and informational content.

Pilot Test 2

Pilot Test 2 took place between November 1 and November 7, 2004. Ninety-four (94) undergraduate students enrolled in advanced communication courses participated in the second pilot study. The number of subjects participating in each condition ranged from 9 to 15. Sixty-three percent (63%) were female and thirty-seven percent (37%) were male. The average age was 21 years old.

The tasks for Pilot Test 2 were similar to the tasks in Pilot Test 1 with two exceptions. First, the Statement Evaluation exercise, which was eventually eliminated in Pilot Test 3, was placed before the Message Evaluation exercise (See Figure 8 below). Second, the 7-point scales were changed to 9-point scales for the message emotionality, message information and message strength close-ended questions.

Figure 4: Pilot Test 2 Conditions

Condition	Message 1 (Statement Evaluation Exercise)	Message 2 (Message Evaluation Exercise)
1	Pro – Draft Low	Con – Cap High
2	Pro – Draft High	Con – Cap Low
3	Con – Draft Low	Pro – Cap High
4	Con – Draft High	Pro – Cap Low
5	Pro – Cap Low	Con – Draft High
6	Pro – Cap High	Con – Draft Low
7	Con – Cap Low	Pro – Draft High
8	Con – Cap High	Pro – Draft Low

Pilot Test 2 Military Draft Findings

Pilot Test 2 used the same three criteria used in Pilot Test 1 (e.g., expected direction, mean difference and midpoint of scale) to assess whether the messages effectively manipulated the independent variable. Turning to Table 2a, the emotionality ratings are in the expected direction. However, the mean difference is less than 1.00 for the Pro-Draft Low Emotion (5.73)

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and the Pro-Draft High Emotion (6.40) conditions and they are both above the midpoint of the scale. Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Looking next at the Con-Draft conditions, the emotionality ratings are in the expected direction. However, similar to the Pro-Draft conditions, the mean difference is less than 1.00 for the Con-Draft Low Emotion (5.93) and the Con-Draft High Emotion (6.08) conditions and they are both above the midpoint of the scale. Finally, once again there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Pilot Test 2: Malpractice Caps Findings

Looking first at the Pro-Cap conditions (see Table 2b), the emotionality ratings are in the expected direction and there is almost a 1.00 mean difference between the Pro-Cap Low Emotion (5.56) and the Pro-Cap High Emotion (6.55) conditions. However, they are both above the midpoint of the scale indicating that the Pro-Cap Low Emotion message is too emotional. Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Similar to the Pro-Cap conditions, the emotionality ratings are in the expected direction and there is at least a 1.00 mean difference between the Con-Cap Low Emotion (5.45) and the Con-Cap High Emotion (6.60) condition. Additionally, the Con-Cap Low Emotion message is also too emotional. Finally, in the Con-Cap conditions, there is little difference between the Low and High Emotion message conditions on the information dimension. However, there is a 1.94 mean difference between the Con-Cap Low Emotion (4.73) and the Con-Cap High Emotion (6.67) condition on the strength dimension. In other words, subjects in the Con-Cap High Emotion condition rated their message stronger than subjects in the Con-Cap Low Emotion condition.

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Pilot Test 2 Discussion

The positive outcome of the second set of messages is that, in general, the mean ratings for emotionality for the Low and High Emotion messages were in the expected direction for all four policy conditions. Additionally, the mean differences between the Low and High Emotion Malpractice Cap messages are at least .99. However, the mean differences between the Low and High Emotion Draft messages were less than 1.00.

Another finding that created some concern is that, in general, all of the messages seemed to have become more emotional including the Low Emotion messages. However, this might not be a fair   comparison because the scales were changed from 7-points to 9-points in Pilot Test 2. Consequently, to determine whether the messages actually increased in emotionality, the differences between the mean ratings and the midpoints of the scales for Pilot Tests 1 and 2 were compared. Following is a summary of the results:

- For the Pro-Draft Low Emotion message, the difference between the mean rating and the midpoint of the scale for Pilot Test 1 was 1.54. For Pilot Test 2, this difference was .73. So, the Pro-Draft Low Emotion message actually became less emotional in Pilot Test 2.

- For the Pro-Draft High Emotion message, the difference between the mean rating and the midpoint of the scale for Pilot Test 1 was 1.09. For Pilot Test 2, the mean difference was 1.40. So, the Pro-Draft High Emotion message became more emotional.

- For the Con-Draft Low Emotion message, the difference for Pilot Test 1 was .38 and the mean difference for Pilot Test 2 was .93. So the Con-Draft Low Emotion message became more emotional.

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- For the Con-Draft High Emotion message, the difference for Pilot Test 1 was 1.58 and the mean difference for Pilot Test 2 was 1.08. So, the Con-Draft High Emotion message became less emotional.

- For the Pro-Cap Low Emotion message, the difference between the mean rating and the midpoint of the scale for Pilot Test 1 was .00. For Pilot Test 2, the mean difference was .56. So the Pro-Cap Low Emotion message became more emotional.

- For the Pro-Cap High Emotion message, the difference between the mean rating and the midpoint of the scale for Pilot Test 1 was .30 and for Pilot Test 2 it was 1.55. So, the Pro-Cap High Emotion message became significantly more emotional.

- For the Con-Cap Low Emotion message, the difference for Pilot Test 1 was .09 and for Pilot Test 2 it was .45. So, the Con-Cap Low Emotion message became slightly more emotional.

- For the Con-Cap High Emotion message, the difference for Pilot Test 1 was 1.50 and for Pilot Test 2 it was 1.60. So the Con-Cap High Emotion message became slightly more emotional.

In general, the Cap messages seemed to be headed in the right direction. There was still some concern regarding the increase in emotionality. While this is certainly a desirable outcome for the High Emotion messages, it indicated that the emotionality of the messages in the Low Emotion conditions needed to be lowered in order to effectively manipulate the independent variable. Consequently, a number of steps were taken in order to construct less emotional messages in the Low Emotion conditions.

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First, an examination of the language used in the Cap Low Emotion messages revealed that perhaps certain words such as "victimized" could be evoking emotional responses. Consequently, these words were removed or replaced with less emotional words. Second, recall that the personal stories incorporated into the High Emotion messages were juxtaposed with simple descriptions of the same information in the Low Emotion messages. A decision was made to replace these "descriptions" with actual statistics in an attempt to diminish emotional processing even more. Since every effort was being made to keep the content of the messages the same across the Low and High Emotion conditions, this meant that the same information was added to the High Emotion messages. Unfortunately, this created longer, more complex messages which could lead to more cognitive processing in both Low and High Message Conditions. In the end, however, it meant that the messages would create more conservative tests of the hypotheses.

The Military Draft presented a different issue. Although the second set of messages seemed to improve, there were two specific concerns. First, the Draft is a hot-button issue for student subjects because it is personally relevant and highly controversial making it difficult to diminish emotional responses in the Low Emotion conditions. Second, the pre-message and post-message policy attitudes for the Draft were once again extremely low. For example, for subjects in the Pro-Draft Low Emotion condition (n=11), pre-message attitudes were 1.73 and post-message attitudes were 3.27. For subjects in the Pro-Draft High Emotion condition (n=10), pre-message attitudes were 1.44 and post-message attitudes were 2.70. These low policy attitudes meant that the Pro-Draft messages could generate high levels of backlash. Although it is important to examine the effect that emotional message frames have on subjects with pre-existing attitudes that oppose the advocated position, it is possible that the draft generated such negative attitudes that subjects completely ignored the message.

After much deliberation, a decision was made to replace the Military Draft with a less polarizing issue – Drilling in ANWR (Please see p. XX for the policy descriptions). It was decided that drilling in ANWR would be less polarizing because it is not as personally relevant to student subjects. Indeed, referring back to the question in Pilot Test 1 which measured subjects' familiarity with the debates surrounding the list of issues, the mean ratings indicated that student subjects were less familiar and less polarized toward Drilling for oil in ANWR compared to the Military Draft. Consequently, new messages focusing on Drilling in ANWR were constructed. Then, a third pilot test was conducted to measure the message effectiveness.

Pilot Test 3

Pilot Test 3 took place between March 30 and April 6, 2005. A total of one-hundred and five (105) undergraduate students enrolled in advanced communication courses participated in this final pilot study. Seventy-two percent (72%) were female and twenty-seven percent (27%) were male. The average age was 21 years old.

The tasks for Pilot Test 3 were similar to the tasks in Pilot Test 2 with three exceptions. First, as described earlier, the Military Draft was replaced with Drilling in ANWR. Second, the Statement Evaluation exercise was eliminated. So, subjects read two messages in their entirety and responded to questions after each message (Please refer to Figure 9 below).

Finally, a semantic differential question was added to measure message emotionality. The question stated: *Thinking back to the message that you read, would you say that it appealed more to your THOUGHTS or appealed more to your EMOTIONS? Using the scale below, please select the number that best reflects your judgment with one (1) meaning "appealed more to my thoughts" up to nine (9) meaning "appealed more to my emotions."*

Figure 5: Pilot Test 3 Conditions

Condition	Message 1 (Entire)	Message 2 (Entire)
1	Pro – Drill Low	Con – Cap High
2	Pro – Drill High	Con – Cap Low
3	Con – Drill Low	Pro – Cap High
4	Con – Drill High	Pro – Cap Low
5	Pro – Cap Low	Con – Drill High
6	Pro – Cap High	Con – Drill Low
7	Con – Cap Low	Pro – Drill High
8	Con – Cap High	Pro – Drill Low

An Independent Sample t-Test was conducted to determine whether the data generated by the first message (e.g., Condition 1 Pro-Drill Low Emotion) could be combined with the data generated by the second message (e.g., Condition 8 Pro-Drill Low Emotion). The two emotionality questions served as the dependent variables. Since there was no significant difference between the two conditions, the data was combined.

Pilot Test 3: Drill Findings

Unlike the Military Draft, subjects had less polarized attitudes toward drilling. Most of the pre-message policy attitudes, although still somewhat negative, were near the midpoint of the scale. More importantly, the post-message policy attitudes moved in the expected directions. Specifically, the Pro-Drill post-message attitudes increased slightly while the Con-Drill post-message attitudes decreased slightly. These results suggest that although student subjects still possess negative pre-existing attitudes toward drilling, they are somewhat more malleable than their pre-existing attitudes toward the draft.

Turning to Pilot Test Table 3a, although the Pro-Drill High Emotion message is not as emotional as one would like, the emotionality rating for the Pro-Drill Low Emotion (3.68) is below the midpoint of the scale while the emotional rating for the Pro-Drill High Emotion (5.59) is above

the scale's midpoint. Additionally, the mean emotionality ratings are in the expected direction and the mean difference is at least 1.00. Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Looking at the Con-Drill conditions, the emotionality rating for the Con-Drill Low Emotion message (4.00) is below the midpoint of the scale while the emotionality rating for the Con-Drill High Emotion message (5.89) is above the midpoint. Additionally, the mean emotionality ratings are in the expected direction and the mean difference is at least 1.00. Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Pilot Test 3 - Malpractice Caps Findings

In the Pro-Cap conditions (See Pilot Test Table 3b), the emotionality rating for the Pro-Cap Low Emotion message (4.42) is below the midpoint of the scale while the emotionality rating for the Pro-Cap High Emotion message (5.62) is above the scale's midpoint. Additionally, the mean emotionality ratings are in the expected direction and the mean difference is at least 1.00. Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Turning next to the Con-Cap conditions, the emotionality rating for the Low Emotion message (4.92) is below the midpoint of the scale while the emotionality rating for the High Emotion message (7.00) is above the scale's midpoint. Additionally, the mean ratings are in the expected direction and the mean difference is 2.02! Finally, there is little difference between the Low and High Emotion message conditions on the information and strength dimensions

Pilot Test 3 Discussion

The final messages for Medical Malpractice and Drilling in ANWR are presented in Appendix XX. The left-hand columns display the Pro-Policy messages and the right-hand columns display the Con-Policy messages. For each row in the message tables, the information presented under the Pro-Policy column conveys the same ideas as the information presented in the corresponding cell under the Con-Policy column.

These last versions of the messages were longer than desired due to the need to balance the information conveyed in the Low and High Emotion message conditions. Since the length and the detailed descriptions could encourage more cognitive processing, this meant that the messages would provide an extremely conservative test of the study's hypotheses. However, the results of Pilot Test 3 were extremely promising indicating that the messages were effectively manipulating the independent variable. Of course, one of the problems with conducting these types of tests is that it is hard to distinguish between problems with stimuli and actual psychological effects. Nevertheless, a decision was made to use these drafts in the main experiment (Please see Appendix A for a final draft of the experimental messages). The next chapter describes the methods used in the main experiment.

CHAPTER 5

Main Experiment Method

This chapter describes the methods used to test the hypotheses presented in Chapter 3. Similar to the pilot tests, the main study utilized an experimental design. The experiment was computerized with subjects accessing the study's website on the Internet. Subjects were recruited from introductory communication classes in a Midwestern university and received course extra credit for their participation.

I. Main Experiment Procedures

A total of one hundred and ninety-five (195) subjects participated in the main experiment. However, due to non-response to the open-ended questions, eight (8) subjects were eliminated in the Cap conditions leaving a total of 187 completed questionnaires and seven (7) subjects were eliminated in the Drill conditions leaving a total of 188 completed questionnaires. Seventy-one percent (71%) are female. Subjects range in age from 16 to 27 years old. Subjects' party affiliation include 54% Democrat, 30% Republican, 6% Independents, 3% Libertarian and 7% other. When asked which of the major parties represented their beliefs the most, with one (1) representing Democrats up to ten (10) representing Republicans, the mean rating is 4.28 (SD=2.52) leaning closer to the Democratic side of the scale but still near the midpoint of the scale.

There are two potential problems regarding the subjects used in this study. First, some scholars have raised concerns regarding the use of students in experiments and the generalizability of the results. These concerns are addressed more thoroughly in Chapter 8. Second, somewhat more problematic is the fact that a majority of the subjects in each of the pilot

tests and the main experiment are female. The concern is that females might respond differently

than males to the emotional stimuli. In this present study, there were no significant differences

between males and females on the primary dependent variables. However, the large number of

females participating in the study should be kept in mind when reading the results.

After completing the documentation required to participate in the study, subjects were

instructed to e-mail the principal investigator between April 20 and April 27, 2005. As each e-mail

was received, the principal investigator randomly assigned each subject to one of the following

eight conditions (See Figure 10 below). Each experimental condition was assigned its own URL

address.

Subjects were exposed to a message for each issue. They read the first message,

answered questions then read a second message and answered questions. Subjects were

randomly assigned to the first message. However, in order to control for two potential problems,

their assignment to the second message was predetermined by their random assignment to the

first message. Specifically, as Chapter 4 describes, a decision was made to create pro- and con-

policy experimental conditions for two policies. Since both policies were proposed by

Republicans and challenged by Democrats, it was important to have subjects exposed to one

message they were likely to agree with and one message they were likely to disagree with.

Therefore, subjects who were randomly assigned to the pro-policy position first were assigned to

a con-policy second and visa versa. Second, there was a concern that a ceiling effect could

occur if a subject was exposed to two high emotion messages. Consequently, each subject was

exposed to one Low Emotion message and one High Emotion message or visa versa. These two

concerns led to the creation of eight combinations of conditions (see Figure 10 below).

Figure 6: Main Experiment Conditions

Condition	Message 1 (Entire)	Message 2 (Entire)	Number of Subjects
1	Pro – Drill Low	Con – Cap High	25
2	Pro – Drill High	Con – Cap Low	21
3	Con – Drill Low	Pro – Cap High	22
4	Con – Drill High	Pro – Cap Low	24
5	Pro – Cap Low	Con – Drill High	25
6	Pro – Cap High	Con – Drill Low	24
7	Con – Cap Low	Pro – Drill High	23
8	Con – Cap High	Pro – Drill Low	24

Prior to reading the messages, subjects answered a set of questions measuring their attitudes toward 5 policies including the two experimental policies (e.g., Universal Healthcare, School Vouchers, Drilling in ANWR, Privatization of Social Security and Malpractice Caps). The specific question stated, "*Using your mouse, please select the number that best reflects your attitude toward each of the following policies/issues with one (1) meaning 'extremely unfavorable' up to ten (10) meaning 'extremely favorable.' If you don't know anything about the policy/issue, then select 'D/K' for 'don't know.*"

Subjects were then instructed to read the message. For subjects reading one of the four Drilling messages, the instructions stated, "*The following is a speech given by Alex Johnston, a member of Citizens for ANWR. Please read the message and then press 'submit' to move to the next page of the study.*" For subjects reading one of the four Malpractice messages, the instructions stated, *"The following is a speech given by Pat Simmons, a member of Healthcare Initiatives. Please read the message and then press 'submit' to move to the next page of the study."*

Since one of the primary purposes of this study is to examine how individuals interpret the emotions evoked by an emotional policy frame, it is important to use questions that do not constrain they responses or, more specifically force them to select a specific item (e.g., emotion

or cognition) that may not accurately represent their reaction. Open-ended questions give subjects the opportunity to describe exactly what is (was) going on in their minds during and after their exposure to the message. Therefore, immediately after reading the message, subjects answered 3 open-ended questions.

The first open-ended question attempted to capture subjects' immediate reaction to the message. It stated:

> *Please type at least three things that came to mind while you read the previous message. If possible, try to separate your different reactions using numbers or paragraph spaces. Don't worry about grammar or spelling. Remember that there is NO right or wrong answer. This is your chance to describe what you were thinking and/or feeling while you read the message.*

This question measures the "top-of-mind" considerations that were most accessible in subjects' activated (or working) memory immediately following their exposure to the message. Additionally, this question, unlike the others, asked for both thoughts and feelings providing a less biased measurement of the types of considerations (cognition or affect) subjects initially used to interpret the issue and/or form a policy attitude. Since these initial considerations possess a higher excitation level than other considerations, it is likely that they influenced subjects' subsequent responses to the second and third open-ended questions. In the High Emotion conditions, the responses to the first open-ended question measure whether subjects were **primed** to consider their emotions when interpreting the issue and forming their policy attitudes.

It is possible that subjects had a difficult time articulating their feelings in response to the first open-ended question. Therefore, the second open-ended question probed subjects' emotional responses in more depth. It stated:

> *Please write a little more about the EMOTIONS you felt while you read this message. Please describe how you felt and why you believe you felt this way. If possible, also describe what made you feel this way. If you didn't feel any emotions, please indicate this.*

First and foremost, this question provided subjects with another opportunity to describe any emotions they felt while reading the message. This was especially important for subjects who may have reacted emotionally but did not articulate these emotions in their responses to the first open-ended question. Additionally, this question is similar to what Lang (2000) calls "cued recall" which provides an "index of how thoroughly a specific piece of information was stored" (p. 56). The information that subjects retrieve to answer this question reflects the type of information they encoded from the message and how they stored that information. As the section on "coding" in the last half of this chapter describes, the target of subjects' responses to the first and second open-ended questions (see discussion on Affective-Belief Targets in Chapter 3; Gross & D'Ambrosio 2004) will provide insight into whether subjects relied relatively more on the message or previously stored information in memory to interpret the issue and form a policy attitude.

The third open-ended question asked subjects to describe their thoughts in more detail. Since the primary purpose of this study is to examine subjects' emotional responses and processes, the two "probe" questions were not randomized. This question was included to serve as a counterpart to the second open-ended question, especially for subjects who might not have experienced any emotion.

> *Please write a little more about the THOUGHTS you had while you read the message. Describe the BELIEFS that came to mind. If you didn't have any thoughts, please indicate this.*

Next, subjects answered a question measuring their policy attitudes. For Drilling, the question stated, "Using your mouse, please select the number that best reflects your attitude toward Drilling in ANWR with one (1) meaning 'Extremely Unfavorable,' up to ten (10) meaning 'Extremely Favorable." For Malpractice Caps, the question stated, "Using your mouse, please select the number that best reflects your attitude toward placing a $250,000 limit on Medical Malpractice Awards with one (1) meaning 'Extremely Unfavorable' up to ten (10) meaning 'Extremely Favorable." Placing the attitudinal question after rather than before the open-ended

questions provided an opportunity to examine information processing in more depth. If subjects

had reported their policy attitudes immediately after reading the message, their responses to the

open-ended questions might have focused more on justifying their policy attitudes rather than

describing what was going through their minds while they read the message. And in fact, many

subjects used the open-ended responses to form their policy attitudes by comparing their pre-

existing beliefs with the information they had just read in the message.

Next, subjects answered a series of close-ended questions not used for this present

study. Subjects then rated the emotionality of the first message they read by responding to the

question, "*Would you say that the message you just read appealed more to your THOUGHTS or*

appealed more to your EMOTIONS? Using the scale below, please select the number that best

reflects your judgment with one (1) meaning 'appealed more to my thoughts' up to nine (9)

meaning 'appealed more to my emotions." Finally, subjects answered questions regarding their

party affiliation, attention to politics, gender, age, class standing and citizenship. They were then

debriefed and instructed to log out of the study's website.

II. Coding Open-Ended Responses

As the previous discussion describes, the main dependent variables in this study are derived from subjects' responses to the three open-ended questions. Their responses to all three open-ended questions ranged from 3 to 14 reactions or statements. Each statement ranged from one word to three sentences. With respect to the Cap messages there are a total of 1,334 statements in response to all four Cap messages. A comparison across conditions indicates that there were no significant differences between the number of statements in the Low and High Emotion conditions. Additionally, the First Open-Ended Question generated 1 to 6 statements (M= 3.10). The Second Open-Ended Question generated 1 to 7 statements (M= 2.23). The Third Open-Ended Question generated 1 to 5 statements (M= 1.92).

With respect to the Drill messages, there are a total of 1,330 statements in response to all four Drilling messages. A comparison across conditions indicates that there were no significant differences between the number of statements in the Low and High Emotion conditions. Additionally, the First Open-Ended Question generated 1 to 7 statements (M= 4.42). The Second Open-Ended Question generated 1 to 5 statements (M= 2.12). The responses to the Third Open-Ended Question ranged from 1 to 5 statements (M=1.98).

The principal investigator coded all of the open-ended responses. Then, an independent coder examined a random sample of 25 percent of the responses. The independent coder followed five steps. For the first two steps, the independent coder did not read the messages and was unaware of the specific purpose of the study. During these two passes, the coder divided the responses into statements and categorized each statement as either cognitive or affective. Before conducting the third step, the independent coder was debriefed on the main purpose of the study and read the experimental messages. The coder then identified the

direction and target of each cognitive and affective statement. Following is a more detailed description of the coding protocol.

Step 1: Dividing Answers into Statements

For clarification, subjects' responses to each open-ended question are identified as "answers." So each subject has a total of three (3) answers (e.g., answer to the first open-ended question; answer to the second open-ended question and answer to the third open-ended question).

The first open-ended question instructed subjects to write at least three reactions they had while reading the message and to separate these "reactions" using numbers, paragraph returns, etc (Please see specific wording above). The second and third open-ended questions, which probed their emotional and cognitive responses in more depth, did not ask for a specific number of reactions nor did they instruct subjects to separate their reactions (Please see specific wording above). Consequently, the first order of business was to separate, when necessary, subjects' answers into separate units of analysis so they could be coded according to the variables described below. This entailed dividing the answers into individual units or what will be called "statements" based on the subtopics of the responses. For example, although a subject's entire answer focused on drilling, subtopics could include "dependency on foreign oil," "use of alternative fuels" and/or "soldiers stationed in the Middle East." The "statements" were then categorized according to the variables described below.

Step 2: Categorizing Statements into Affective or Cognitive Statements

The second step involved categorizing each statement as either an affective or cognitive. An *affective statement* refers to statements that describe the feelings or emotions a subject felt while reading the message (Rosselli, Skelly and Mackie 1995). One indicator of an affective statement is the use of an affective descriptor such as "angry" or "proud." An affective statement can range from a single word (e.g., Mad) to a sentence or multiple sentences. For example, a subject in the Con-Drill High Emotion condition expressed the following affective statement:

> I was **frustrated** that they would even consider destroying this beautiful nature. We have already destroyed so much with little to gain (Subject 112).

In this example, the subject describes feeling "frustrated" about the policy. Consequently, it is categorized as an affective statement. The tone of a statement could also reflect affect. In other words, instead of stating a specific discrete emotion, subjects' affective statements could be conveyed through the use of rhetorical devices such as exclamation points, capitalization and words (e.g., swearing, name-calling). For example, a subject in the Pro-Cap Low Emotion message responded as follows:

> LIES…LIES…LIES!!! Members of the University of Texas which included a doctor studied the percentage based cost of lawsuits in relation of the general cost of healthcare. This figure did not change form the beginning of the 90s to now. (Subject #75)

The tone of this statement is emotional due to the use, repetition and capitalization of the word "lies."

A ***cognitive statement*** refers to statements that describe thoughts about an attitude object

(Rosselli, Skelly and Mackie 1995) and do not reference any feelings or emotions. For example,

a subject in the Con-Cap Low Emotion condition expressed the following cognitive statement:

> *I believe people should be awarded much more than $250,000 because in many cases*
> *when a patient receives malpractice, the problems will be around for the rest of their life*
> *(Subject #152).*

This is coded as a cognitive statement because it describes what the subject thinks and it does

not contain any emotional descriptors (e.g., angry, frustrated).

Step 3: Direction of the Affective- and Cognitive-Belief Statements

The third step involved coding the direction of each affective and cognitive statement. As the

literature review describes (See Chapter 2), one of the criteria of a framing effect is whether the

direction of subjects' responses is consistent with the advocated position of the message frame.

Specifically, the direction of subjects' statements was categorized as favorable (e.g., supporting

the advocated position of the message frame), unfavorable (e.g., opposing the message frame's

advocated position) or neutral (e.g., neither supporting or opposing the message frame's

advocated position). For example, a subject in the Con-Cap High Emotion condition expressed

the following affective statement:

> *I felt so sad when reading about the patients of malpractice and how their lives had*
> *changed because a mistake by the doctors (whom they trusted with their lives) (Subject*
> *#182).*

The intent of the problem definition in the Con-Cap High Emotion message is to influence

audience member's to feel sorry for patients who have been injured by doctors' negligence.

Since this subject's emotional statement is congruent with the problem definition's intent, it is

coded as favorable or supporting the message frame's advocated position. Alternatively, another subject in the Pro-Drill High Emotion condition expressed the following cognitive statement:

> *I feel frustrated that supporters of this are so short-sighted. This is a temporary solution to a permanent problem, so let's find alternative energy sources (Subject 149).*

The intent of the Pro-Drill High Emotion message frame is to influence audience members to support drilling in ANWR. However, this subject calls drilling proponents "short-sighted" and the policy of drilling a "temporary solution." Since this emotional statement is not congruent with the problem definition, it is coded as unfavorable or opposing the message frame's advocated position. Additionally, it is interesting to note that this subject proposes finding "alternative energy sources." As the findings section discusses, since this topic was not raised in the Pro-Drill High Emotion message, the subject undoubtedly possessed a pre-existing node corresponding to alternative energy sources with a pre-existing node corresponding to drilling in ANWR that were already linked together in memory prior to her exposure to the message. When she was exposed to the message frame, the problem definition either activated these nodes or she retrieved them while counter-arguing the message in her open-ended response. In either case, the direction of her statement is unfavorable to the message's policy position (e.g., drilling in ANWR).

Finally, a subject in the Pro-Drill Low Emotion condition expressed the following neutral cognitive statement:

> *"I did not know how dependent the U.S. was on oil." (Subject #8).*

Since the subject's statement does not reflect support or opposition toward the message frame's advocated position, it is coded as neutral. Additionally, when subjects responded to the open-ended questions using only one word, they also were coded as neutral because the direction as it

related to the message frame's advocated position was not evident. For example, a subject in the Pro-Cap Low Emotion condition responded to the open-ended questions as follows:

"concern, anger, skepticism."

Since it is unclear whether his emotional statements support or oppose the message's policy position, each concept was counted as a separate affective neutral statement.

Step 4: Target of Affective Statements

The fourth step involved coding the targets of subjects' affective statements. It also involved coding the target's specificity (specific versus general). The "target" is the topical focus or subject of an individual's statement (c.f., Gross & D'Ambrosio 2004). Specifically, if a subject indicated that he felt "angry toward lawyers," "lawyers" was recorded as the target of his affective statement.   Although the target of subjects' emotional statements are listed and described in more detail in the Findings Section (Please see Chapters 6 and 7), examples are presented here to help clarify how the dependent variables for the analysis are constructed. To begin, as intended, most subjects directed their emotional responses toward the global problem statement and the individual propositions. For example, a subject in the Con-Drill High Emotion condition expressed the following affective statement:

> *I was really **angry** at the big companies who want to take over the Alaska Wildlife Refuge for their own monetary benefit. They don't realize what harm and permanent damage they will do to the area and the life that is inhabited there, just for a temporary supply of oil (Subject #82).*

In this example, "oil companies" is identified as the target of this affective statement because the subject's emotional response is directed specifically at the "big companies." Subjects also

directed their emotional statements toward the policy. For example, the Pro-Drill Low Emotion condition advocated drilling in ANWR. However, a subject in that condition stated:

> I am **frustrated** that people would rather drill for oil and destroy the environment. Don't they realize how important the environment and nature is for the future of human beings, animals and earth. I am **sad** to think of what would happen if they did decide to drill.

This example presents two emotional statements both directed at the policy. Specifically, the first emotional statement, the target of the subjects' frustration is the policy and the second statement, the target of the subjects' sadness is the outcome of the policy or more generally the policy.

Subjects also directed their emotional statements to broader issues related to the two policy frames. For example, a subject in the Pro-Cap Low Emotion condition stated:

> **Discouraged** because I keep reading and hearing again and again how our country is so jaded and corrupt. It's so economically driven it's sickening (Subject #109).

Although this subject's emotional statement is addressing the topic of the policy frame, it is directed at the broader issue of corruption and financial gain rather than the specific propositions or problem definition in the message.

Subjects' emotional statements also addressed the speaker and the message, most of which were negative evaluations. For example, a subject in the Pro-Drill Low Emotion conditions stated:

> I felt **offended** by him because he did not address more liberal opinions, which I happen to hold. He seemed arrogant and small-minded and very conservative (Subject #11).

The target of this subject's emotion (e.g., offended) is the speaker. Another subject in the Pro-Drill Low Emotion condition directed her statement toward the message:

> I felt that this piece left a lot of unanswered questions, which irritated me (Subject # 172).

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The target of individuals' affective statements are listed and discussed in more detail in the findings sections. The targets of subjects' cognitive statements were not coded because cognitive beliefs are not the focus of this study.   When subjects used the same affective statement to respond to the first open-ended question and the second open-ended question, the affective statement was only counted once. If the target was the same (e.g., doctors), but the emotional descriptors were different (e.g., response to 1st question: I feel angry at doctors; response to 2nd question: I feel sorry for some doctors), then the responses were counted as two separate affective statements.

III. Analytic Stages and Variable Descriptions

The findings for each policy condition (e.g., Pro-Cap, Con-Cap, Pro-Drill, and Con-Drill) are presented separately. Chapter 6 presents the findings for Con-Cap and Pro-Cap and Chapter 7 presents the findings for Con-Drill and Pro-Drill. Since the finding section for each policy condition follows the same analytic procedure, this section describes each stage. In general, the analysis begins by presenting descriptive data measuring the amount of attitude change that occurred in response to the experimental messages. Next, it turns to the main part of the analysis in which the study's two hypotheses are tested for each model described in Chapter 3. Unless indicated, the analysis always compares the results from the High Emotion message frame condition with the results from the Low Emotion message frame condition. Following is a more detailed description of the variables used and the procedures followed in each analytic stage.

Analytic Stage 1: Descriptive Data -- Attitude Change

The first stage of the analysis examines attitude change. Although it is possible that the High Emotion message frames could lead to greater attitude change than the Low Emotion message frames, no formal predictions are made. Instead, the descriptive data is presented to provide a context for the subsequent analysis. Recall that subjects' attitudes toward the specific policy were measured before their exposure to the message (pre-message policy attitudes) and after they read the message and responded to the open-ended questions (post-message policy attitudes). Attitude change scores were calculated for each subject by subtracting their pre-message policy attitude from their post-message policy attitude.

Attitude change is examined using two tests. The first test uses an independent t-Test to compare whether there is a statistically significant difference between the mean attitude change scores for the High Emotion message condition and the Low Emotion message condition. Next, attitude change scores are divided into four categories: Large Change (3 or more points), Small Change (1.00 to 2.50 points), No Change (-.50 to .50) and Backlash (-1.00 or less). The distributions for the High and Low Emotion message conditions are compared using a Chi-Square statistical test.

Pre-Message and Post-Message Attitude Variables

Although attitude change provides insight into whether emotional message frames have a persuasive effect, the primary focus of this study is on how individuals use the emotion evoked by the High Emotion policy frame to form/express an emotional issue interpretation and policy attitude. Pre-message attitudes have a strong impact on individuals' post-message attitudes. So, including pre-message attitudes as one of the independent variables provides insight into how much subjects relied on pre-existing knowledge in memory and/or message-generated affective and cognitive responses to form post-message policy attitudes. Therefore, a decision was made to test Hypothesis 2 using post-message policy attitudes as the main dependent variable and pre-message policy attitudes as one of the independent variables.

As stated above, subjects' pre- and post-message attitudes toward the specific policies were measured. The Pro-Cap and Pro-Drill messages advocated supporting the policy while the Con-Cap and Con-Drill messages advocated opposing the policy. To keep attitude direction consistent across all four conditions, subjects' policy attitudes in the Con-Cap and Con-Drill conditions were reversed coded. This created pre-message and post-message attitude variables in all four conditions in which lower numbers on the 10-point scale (e.g., < 5.00) reflect opposition

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to the message's advocated policy condition and higher points on the 10-point scale (e.g., > 6.00) reflect support for the message's advocated policy condition.

Analytic Stage 2: Initial General Emotional Responses

The second step in the analysis serves as a validation of the manipulation check by testing the study's two hypotheses using the variable labeled ***initial general emotional responses***. The *initial emotional response* variable is a measurement of the *number* of emotional statements each subject used to respond to the first open-ended question. Recall that the first open-ended question asked subjects to describe what they were "thinking or feeling" as they read the message. This question measures the considerations that were most accessible in subjects' activated (or working) memory immediately following their exposure to the message. Additionally, since the question asked for both thoughts and feelings, it provides a less biased measurement of the types of considerations (cognition or affect) subjects initially used to interpret the issue and/or form a policy attitude (c.f., Rosselli et al. 1995). Finally since these considerations possess a higher excitation level than other considerations, they likely influenced subjects' subsequent responses to the second and third open-ended questions.

Analytic Stages 3 - 5: Testing the Study's Main Hypotheses

Chapter 3 presents three models that differ based on the criteria they use to measure emotional framing effects. Specifically, Model 1 uses ***general emotional responses*** which measure the magnitude of subjects' emotional responses. Model 2 uses ***affective-belief indices*** which measure the magnitude and direction of subjects' emotional responses. Model 3 uses ***affective-belief index targets*** which measure the magnitude, direction and target of subjects' emotional responses. The main part of the analysis uses the study's hypotheses to test which of the three

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models (see Chapter 3) provides a more precise measurement of emotional framing effects given the different contexts presented by each policy condition.

Hypothesis 1 predicts that *a High Emotion policy frame will evoke significantly more emotional responses leading to the formation of an emotional issue interpretation among individuals than a Low Emotion policy frame.* The means are compared using an Independent Sample t-Test. **Hypothesis 1 is supported if the mean emotional variable (e.g., Model 1: General Emotion Response; Model 2: Affective-Belief Index; Model 3: Affective-Belief Target Index) is significantly larger in the High Emotion condition than in the Low Emotion condition.**

Hypothesis 2 predicts that *the relationship between emotional issue interpretations and attitudes toward the message's advocated policy position will be stronger in response to a High Emotion message frame than in response to a Low Emotion message frame* is tested by conducting a separate linear regression for the High Emotion condition and the Low Emotion condition. The main dependent variable is post-message attitudes. The independent variables are the mean initial affective response variable, the mean initial cognitive response variable and the pre-message attitude variable. As stated above, the cognitive response variable and pre-message attitude variable are included in the model to provide insight into how much variance is explained by the affective response variable when they are controlled. **Hypothesis 2 is supported if the emotional variable's standardized beta coefficient is positive and larger in the High Emotion condition than in the Low Emotion condition.**

Analytic Stage 3: Emotional Framing Effect Model 1 -- General Emotional Responses

As Chapter 3 describes, similar to the assumptions of the *belief accessibility model* of framing effects, it is possible that individuals process emotional message frames using the **magnitude** of their emotional responses to determine whether they support or oppose the

message's advocated position. Therefore, the third analytic stage tests the study's hypotheses using the variable labeled general emotional response. The **general emotional response variable** is a measurement of the number of emotional statements each subject used to respond to all three open-ended questions. Additionally, a similar variable was created using subjects' cognitive statements.

Analytic Stage 4: Emotional Framing Effect Model 2 -- Affective-Belief Index

As Chapter 3 describes, it is possible that individuals process emotional message frames using more effortful processing. If so, individuals might use both the **magnitude** and the **direction** of their emotional responses to determine whether they support or oppose the message's advocated position. To determine whether this is the case, the fourth step in the analysis tests the study's hypotheses using the affective-belief index variable which is a measurement of the magnitude and direction of subjects' emotional statements.

As described above, the direction of subjects' emotional statements was categorized as favorable (e.g., supporting the advocated position of the message frame), unfavorable (e.g., opposing the message frame's advocated position) or neutral (e.g., neither supporting or opposing the message frame's advocated position). The neutral emotional statements were dropped from the analysis and an index was created for each subject by subtracting the number of emotional statements opposing the message's advocated position from the number of emotional statements supporting the message's advocated policy position. A similar variable was created using subjects' cognitive statements.

Analytic Stage 5: Emotional Framing Effect Model 3 -- Affective-Belief Target Index

Model 3 determines whether an emotional framing effect has occurred by examining the magnitude, direction and target of individuals' affective-beliefs. As Chapter 3 describes, attending

to and encoding the specific propositions in the message requires more effortful processing compared to attending to and encoding more global information. Additionally, retrieving affective-beliefs corresponding to the specific propositions in the message frame also requires more effortful processing than retrieving affective-beliefs corresponding to the broader issue or policy. It is possible that individuals whose affective-belief statements are directed at more specific targets such as those directly related to the propositions engage in higher levels of elaboration than individuals whose affective-belief statements are directed at more global targets including the broader issue, policy, message and/or story. Therefore, the expectation is that the affective-beliefs of subjects in the High Emotion conditions will be directed at more specific targets than the affective-beliefs of subjects in the Low Emotion conditions.

Research Question 1: Comparing the Three Models of Emotional Framing Effects

The results from the three models will be compared in order to answer the first research question which inquires: ***What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when process emotional policy frames?*** In other words, do individuals use the magnitude, direction and/or target of their emotional responses to process emotional policy frames and express/form an attitude toward the policy frame's advocated position?

The research question is answered by comparing the regression coefficients measuring the relationship between the emotional variables and post-message attitudes for each of the three emotion variables (e.g., general emotional response, affective-belief index and affective-belief target).

If the general affective response variable's beta coefficient is larger than the beta coefficients for the affective-belief index and the affective-belief target variables, then this reflects

somewhat less effortful processing with subjects relying only on the magnitude of their emotional responses to form/express an attitude toward the emotional policy frame's advocated position.

If the affective-belief index variable's beta coefficient is larger than the beta coefficients in the other two models, then this reflects more effortful processing with subjects relying on both the magnitude and direction of their emotional responses to form/express an attitude.

Finally, if the affective-belief target index variable's beta coefficient is larger than the beta coefficients in the other two models, then this reflects even more effortful processing with subjects relying on the magnitude, direction and target of their emotional responses to form/express an attitude.

Research Question 2: Comparing the Findings from the Unfamiliar and Familiar Policy Conditions

The results from the four policy conditions will be compared in order to answer the second research question which inquires whether there are differences in the way individuals process emotional policy frames when they are exposed to a less or more familiar issue/policies. The answer to this question is addressed in Chapter 8.

IV. Initial Findings and Analysis

Before turning to the findings, this last section presents an initial analysis of the results. It begins by presenting the results from the manipulation check. It then presents the data measuring subjects' pre-message policy attitudes. The outcome of this analysis explains how and why the results are presented in two separate chapters.

<u>Manipulation Check</u>

A manipulation check was conducted to determine whether the High Emotion message frames effectively manipulated the independent variables. Using a 9-point scale, subjects were asked to select the number that reflects their judgment of the overall emotionality of the message with one (1) meaning "not at all emotional" up to nine (9) meaning "extremely emotional." Independent sample t-Tests were conducted to determine whether the mean emotionality ratings for the High Emotion message frames are significantly different from the Low Emotion message frames for each policy condition.

The results indicate that both of the Malpractice Cap (e.g., Pro-Cap and Con-Cap) messages effectively manipulated the independent variable. For the Pro-Cap conditions, the mean rating for the Low Emotion message is located below the midpoint of the 9-point scale (M= 3.92, SD= 2.18) while the mean rating for the High Emotion message is located above the scale's midpoint (M= 6.38, SD= 1.77). Additionally, the two mean ratings are significant different, t(47)=-4.33, p< .001.

For the Con-Cap conditions, the mean ratings for the Low and High Emotion messages are also located at the expected ends of the scale (Low Emotion: M= 3.68, SD= 2.32; High Emotion: M= 5.75, SD= 2.29) and they are significantly different, t(44)=-3.04, p < .01.

For Pro-Drill condition, the mean rating for the Low Emotion is located below the midpoint of the 9-point scale (M= 4.00, SD= 2.11) while the mean rating for the High Emotion message is located above the scale's midpoint (M= 5.48, SD= 2.24). Additionally, the two mean ratings are significantly different, $t(43)= -2.23$, $p < .05$.

Finally, although the mean ratings for the Con-Drill messages are in the expected direction (Low Emotion: M=4.83, SD= 2.55; High Emotion: M= 5.46, SD= 2.24), they are not significantly different, $t(45)= -.90$, ns. As the results will show, this last finding does not raise any real concerns because it reflects an empirical finding rather than the message's failure to effectively manipulate the independent variable.

Pre-Message Policy Attitude Distributions

The table below displays pre-message attitude distributions. The first column provides the distributions for all four of the Malpractice Cap conditions combined (e.g., Pro-Cap Low Emotion, Pro-Cap High Emotion, Con-Cap Low Emotion and Con-Cap High Emotion). The second column provides the distribution for all four of the Drill conditions combined.

Figure 7: Pre-Message Policy Attitude Distributions

	Caps	Drill
1.00	7%	31%
2.00	6	13
3.00	10	14
4.00	6	10
5.00	21	6
5.50	27	10
6.00	5	5
7.00	5	5
8.00	4	4
9.00	5	1
10.00	3	1
Total	n=187	n=188

Looking first at the Cap column, the data reveals that a majority of subjects (53%) possessed neutral or no pre-message policy attitudes (ratings = 5.00 to 6.00). This means that over half of the subjects in the Cap conditions were in the process of forming policy attitudes as they read the experimental messages.

Turning next to the Drill column, the results indicate that a majority of subjects (68%) possessed negative pre-existing policy attitudes prior to reading the message. In other words, in the Pro-Drill condition a majority of subjects possessed pre-existing attitudes that opposed the message's policy position while in the Con-Drill condition a majority of subjects possessed pre-existing attitudes that supported the message's policy position.

As these results indicate, the two policy conditions provide very different contexts in which to examine framing effects. The Cap conditions provide insight into how emotional message frames influence processing when individuals form policy attitudes. The Drill conditions provide insight into how emotional message frames influence processing when individuals already possess pre-existing attitudes. In the case of the Pro-Drill conditions, the results will reveal whether emotional frames lead to persuasive effects (e.g., a majority of subjects change their attitudes to support the message effects) or backlash (e.g., a majority of subjects either maintain their negative pre-existing attitudes or become more opposed to the message's policy position). In the case of the Con-Drill conditions, the results will reveal whether emotional frames reinforce and/or bolster individuals pre-existing attitudes. Since each policy provides a different context in which to examine framing effects, the analysis will examine each policy separately. Therefore, the Malpractice Cap findings are presented in Chapter 6 and the Drilling findings are presented in Chapter 7.

CHAPTER 6

Malpractice Caps Findings

The pre-message attitudes data presented in Chapter 5 reveals that a majority of subjects were unfamiliar with the Malpractice Cap issue and policy prior to reading the message. Therefore, they were in the process of forming their policy attitude as they read the message. Since the processing that occurs when individuals are forming a policy attitude could differ from what occurs when individuals already possess a pre-existing policy attitude, the results for the Malpractice Cap conditions are presented in this chapter and the results for the Drilling conditions are presented in Chapter 7. The findings for Con-Caps are presented first followed by the Pro-Cap conditions.

Each section is divided into five analytic stages (See Chapter 5 for a more detailed discussion). The first analytic stage presents descriptive data measuring attitude change. The second analytic stage, which examines subjects' emotional responses to the first open-ended question, serves as a validation of the manipulation check. The analysis then turns to testing the study's hypotheses using each of the three emotional framing models presented in Chapter 3. Analytic Stage 3 tests the three hypotheses using general emotional responses, Analytic Stage 4 uses affective-beliefs indices and Analytic Stage 5 uses affective-belief target indices.

The results from the analysis of the three models are compared to answer Research Question 1 which addresses how individuals process emotional message frames. Research Question 2, which addresses whether individuals process emotional message frames for familiar/unfamiliar issues/policies differently, is addressed at the end of this chapter and again in study's discussion presented in Chapter 8.

I. Con-Malpractice Caps

The Con-Malpractice Cap message opposes limits on malpractice awards by framing $250,000 malpractice caps as benefiting doctors and their malpractice insurance companies while undermining patient safety. Since a majority of subjects did not possess a pre-existing policy attitude it was expected that they would rely relatively more on the information presented in the message than information retrieved from memory. Specifically, subjects were expected to use the emotions generated by the Con-Cap High Emotion message to form an emotional issue interpretation that, in turn, would influence them to oppose $250,000 limits on malpractice awards (e.g., the Con-Cap frame's advocated position).

Alternatively, although it was possible that subjects in the Con-Cap Low Emotion condition could form attitudes supporting the frame's advocated position, it was expected that their emotional responses would not play a large role in their attitude formation. Overall, the results reveal that not only did the Con-Cap High Emotion message produce an emotional framing effect but it also was one of the most effective messages in the experiment based on its ability to influence a large proportion of subjects to form emotional issue interpretations and adopt its advocated position.

Analytic Stage 1: Attitude Change - Descriptive Data (Tables 1a - 1b)

Recall that attitude change scores were calculated for each subject by subtracting post-message policy attitudes from pre-message policy attitude scores. Larger scores reflect greater attitude change. The mean attitude change scores for subjects in the Con-Cap conditions are presented in Table 1a. Although the high emotion message led to slightly more attitude change,

the difference between the Con-Cap High Emotion condition (M=2.36) and the Con-Cap Low Emotion condition (M=1.67) is not significant. However, the large t-score suggests that the difference is approaching significance. Nevertheless, compared to the other three conditions, the Con-Cap condition led to the largest amount of attitude change among subjects suggesting that the message may have been more effective.

Another way to examine attitude change in more depth is to divide subjects based on the amount and direction of attitude change that occurred. Attitude change scores were divided into four categories: large change, small change, no change and backlash. Table 1b shows the proportion of subjects whose attitude change scores fell into each category for each Con-Cap policy condition. The results reveal that large attitude change (3.00 or more) occurred among a larger proportion of subjects in the Con-Cap High Emotion condition (51%) than in the Low Emotion condition (27%) with over half of the subjects changing their attitudes 3.00 or more points on the 10-point scale in the direction of the message! Additionally, the backlash category indicates that very few subjects in the Low and High Emotion condition formed attitudes opposing the message's policy position.

In sum, although a Chi-Square test indicates that there is no significant difference between the two message attitude change distributions in the Con-Cap Low and High Emotion conditions (X^2 = 5.92, 3df, ns), the Con-Cap High Emotion message influenced over half of the subjects to form attitudes in the direction of the message's advocated policy position. As the remainder of the analysis will show, the emotions generated by the Con-Cap High Emotion condition played a significant role in this change.

Analytic Stage 2: Manipulation Check -- Initial Emotional Responses (Tables 2a - 2c)

The next stage of the analysis uses subjects' emotional responses to the first open-ended question as a validation of the manipulation check described in Chapter 5. This variable, labeled *initial emotional responses*, provides insight into the responses that were more accessible in subjects' activated (e.g., working) memory immediately following their exposure to the message.

Referring to Table 2a, although the Con-Cap High Emotion policy frame influenced a significantly larger proportion of subjects to respond using emotional statements (66%) than the Low Emotion policy frame (24%), both messages influenced almost the same proportion of subjects (High: 89%; Low: 91%) to respond using cognitive statements (See Table 2b). Additionally, referring to Table 2c, although subjects' mean emotional response is significantly larger in the Con-Cap High Emotion condition (M=1.06) than in the Low Emotion (M=.38), the mean cognitive responses are not significantly different (Con-Cap High Emotion Mean: 1.77; Con-Cap Low Emotion Mean: 1.96). Therefore, the manipulation check is validated for the Con-Cap messages.

Analytic Stages 3 - 5: Main Hypotheses & Models

The next three stages of the analysis test the study's two hypotheses using the three models described in Chapter 3. The results from the three models are compared to answer the first research question which inquires: ***What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when process emotional policy frames?***

Emotional Framing Effect Model 1 -- General Emotional Responses (Table 3a - 3c)

Similar to the assumptions of the *belief accessibility model* of framing effects, it is possible that individuals use the **magnitude** of their emotional responses. Therefore, this stage in the analysis tests the study's two hypotheses using the **general emotional response variable** which measures the number of emotional statements each subject used to respond to all three open-ended questions.

Table 3a displays the mean general emotional and cognitive responses to all three open-ended questions in the Con-Cap conditions. The results show that the mean general emotional response is significantly larger in the Con-Cap High Emotion condition (M=2.98) than in the Con-Cap Low Emotion condition (M=1.53), t(90df)= 4.95, p < .000. Although the mean cognitive response is smaller in the Con-Cap High Emotion condition (M=4.24) than in the Con-Cap Low Emotion condition (M=3.85), as expected, the difference is not significantly different, t(88df)=.1.30, ns. In sum, **in the Con-Cap condition**, **Hypothesis 1 is supported using the general emotional response variable**.. Individuals are significantly more likely to use the emotion to interpret the issue in response to a High Emotion policy frame than in response to a Low Emotion policy frame.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the general emotional response variable, the general cognitive response variable and the pre-message attitude variable. Referring to Table 3b, there is a stronger relationship between the general emotional response variable and post-message attitudes in the Con-Cap High Emotion condition (standardized beta: .29) than in the Con-Cap Low Emotion condition (standardized beta: .20). Additionally, the general emotional response variable is a significant predictor of post-message attitudes in the Con-Cap High Emotion

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condition but not in the Con-Cap Low Emotion condition. Therefore, ***in the Con-Cap condition, Hypothesis 2 is supported using the general emotional response variable.***

Looking specifically at the Con-Cap High Emotion condition, although the relationship between the general emotional response variable and post-message attitudes is significant (standardized beta: .29), the relationship between pre-message attitudes and post-message attitudes (standardized beta: .38) is also significant and stronger suggesting that individuals' relied relatively more on their pre-message attitudes to form their post-message attitude. In other words, pre-message attitudes have a stronger relationship to subjects' post-message attitudes than the magnitude (or number) of emotional responses evoked by the Con-Cap High Emotion message.

Nevertheless, it is also important to note that there is a negative relationship between the general cognitive response variable and post-message attitudes (standardized beta: -.27) in the Con-Cap High Emotion condition. In other words, as the mean general cognitive response score increases, post-message attitudes toward the Con-Cap High Emotion advocated policy position decreases suggesting that subjects may have used their cognitive responses to counter-argue the message. This was not the case in the Con-Cap Low Emotion condition in which cognitive responses had a positive relationship with post-message attitudes (standardized beta: .19).

Hierarchical regression analyses were conducted to determine how much variance the general emotional response variable contributes to the model above and beyond the pre-message attitude and general cognitive response variables when they are entered into the same model. Referring to Table 3c In the Con-Cap High Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .43 and the R^2 is .18. When the general cognitive response variable is entered into the second block, the R^2 increases by 7% ($F_{1, 44}$ Change = 3.95, ns). When the general emotional response variable is entered into the third

block, the R^2 increases by 11% and the change is statistically significant ($F_{1, 43}$ Change = 7.77, p < .01).

Alternatively in the Con-Cap Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .53 and the R^2 is .28. When the general cognitive response variable is entered into the second block, the R^2 increases by 1% and the change is not significant ($F_{1, 42}$ Change = .82, ns). When the general emotional response variable is entered into the second block, the R^2 increases by 1% and the change is not significant ($F_{1, 41}$ Change = .00, ns).

In sum, the results for the Con-Cap conditions support Hypotheses 1 and 2 when the magnitude of emotional responses to all three open-ended questions is used as a measurement of emotional issue interpretations. Therefore, an emotional framing effect did occur in response to the Con-Cap High Emotion condition but not in response to the Con-Cap Low Emotion condition. The Con-Cap High Emotion message generated significantly more general emotional responses among subjects than the Low Emotion message. Additionally, although the results reveal a stronger relationship between the general emotional response variable and post-message attitudes in the Con-Cap High Emotion condition than in the Con-Cap Low Emotion condition, it is important to note that pre-message attitudes were somewhat more influential than the general emotional response variable.

Descriptive Data: Target of Subjects' Emotional Statements (Table 4a)

It is possible that individuals use the magnitude and direction of their emotional responses or, more specifically, affective-beliefs, to interpret the issue and form/express an attitude toward the message's policy position. Although the target of subjects' affective-beliefs is

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the focus of Model 3, the descriptive data is presented here to show the distinction between

subjects' affective-beliefs that support and oppose the advocated policy position.

As discussed in Chapter 5, the target(s) of subjects' affective-beliefs to the three open-

ended questions were coded (Please see Chapter 5). Since a subject could respond to the open-

ended questions using more than one emotional statement and since his/her emotional

statements could have different targets (e.g., one directed at injured patients, another directed at

negligent doctors), separate cross-tabulations were conducted for each affective-belief target.

For example, referring to Table 4a, the first cross-tabulation indicates that 4% (n=2) of subjects in

the Con-Cap Low Emotion condition directed their affective-beliefs at injured patients. In other

words, the target of these subjects' affective-beliefs is injured patients. Further, the affective-

belief targets are categorized based on whether they support or oppose the message's policy

position.

Before describing the data in Table 4a, it is helpful to review the content and intent of the

experimental policy frame. The Con-Cap High Emotion message opposes limits on malpractice

awards by framing the caps as benefiting doctors and their malpractice insurance companies

while undermining patient safety. If an emotional framing effect occurred, then the results should

show a larger proportion of subjects with affective-beliefs directed at one or more of the targets

(e.g., injured patients -- victims of negligent doctors; doctors -- negative; medical error/malpractice

rates, etc.) supporting the message's policy position in the Con-Cap High Emotion condition than

in the Con-Cap Low Emotion condition.

Turning to Table 4a, the results demonstrate that the policy frame achieved its intended

effect. A larger proportion of subjects used their sympathy toward injured patients and/or their

anger toward negligent doctors to understand the negative consequences of placing limits on

malpractice awards. Specifically, the proportion of subjects who felt sympathy toward patients

injured by negligent doctors (e.g., injured patients - victims of negligent doctors) is higher in the

Con-Cap High Emotion condition (54%) than in the Low Emotion condition (7%). Additionally, the proportion of subjects who felt anger or frustration (e.g., negative emotions) toward doctors is higher in the Con-Cap High Emotion condition (51%) than in the Low Emotion condition (13%).

It is important to note that these results also indicate that a small proportion of subjects in the Con-Cap Low Emotion message frame interpreted the used their sympathy toward injured patients and their anger toward negligent doctors to interpret the issue as well. Since the Con-Cap Low Emotion message was constructed to diminish rather than evoke emotional responses, this finding suggests that the emotions subjects felt toward the targets was not message-generated. Instead, it is possible that when the problem definition and/or propositions primed the corresponding beliefs in memory, the link between the belief and emotional responses was strong enough to activate any relevant emotions. In other words, when the subjects began thinking about the patients, their considerations included emotions as well as cognitions.

Additionally, one of the strategies used in the Con-Cap Low Emotion message was the inclusion of statistics related to the number of medical errors occurring in healthcare. These numbers not only influenced subjects' cognitive-beliefs but it seems that among some subjects they influenced their emotions as well. For example, a larger proportion of subjects expressed frustration and anger toward medical error and malpractice rates in the Con-Cap Low Emotion condition (13%) than in the Con-Cap High Emotion condition (6%).

The results also indicate that a larger proportion of subjects expressed affective-beliefs targeting the general issue and policy in the Con-Cap Low Emotion condition (24%, 22%) than in the Con-Cap High Emotion condition (6%, 9%). As the next section will describe, the reason for this results is due in part to the absence of specific emotional propositions found in the Con-Cap High Emotion message.

Finally, one additional observation is the large proportion of subjects in the Con-Cap High Emotion condition who expressed emotions toward the general story (40%). Although a large

proportion of subjects directed their emotions toward the broader story (e.g., This story made me sad.) rather than what or who in the story made them feel emotional. Therefore, they were coded as references to the global story (Please see Chapter 5 Methods).

The lower half of Table 4a illustrates the affective-belief targets that oppose the Con-Cap messages' policy position. Since none of these targets were included in the Con-Cap messages, subjects would have had to retrieve this information from memory (e.g., pre-existing knowledge). For example, 4% of the subjects in both the Low and High Emotion conditions expressed sympathy toward doctors because they are the victims of frivolous lawsuits.   Since the Con-Cap messages portrayed doctors as negligent and unfeeling, the only way these subjects could have received this information is by retrieving it from memory.   In other words, they rejected the frame and retrieved pre-existing knowledge regarding doctors that influenced them to think more favorably toward doctors. Interesting enough, this was the argument made in the Pro-Cap messages. However, since these subjects were not exposed to that frame, they retrieved it from memory.

The data reveals that very few subjects in the Con-Cap conditions responded to the open-ended questions using affective-belief statements that opposed the messages. The only real opposition that occurred is directed at the message where some subjects indicated that the message angered them because it was biased.   As reflected in Table 4, 4% of subjects in the Con-Cap Low Emotion condition and 11% of subjects in the Con-Cap High Emotion condition responded to the open-ended questions using general affective-belief statements that expressed negative emotions regarding the message strategy.

Before turning to the next part of the analysis, it is helpful to collapse the data presented in Table 4a to determine just how many subjects used their affective-beliefs to support and oppose the message's advocated position. Referring to Table 4b, the results indicate that a slightly larger proportion of subjects expressed affective-beliefs supporting the message's

advocated policy position in the Con-Cap High Emotion condition (75%) than in the Low Emotion condition (53%). Alternatively, a smaller proportion of subjects expressed affective-beliefs opposing the message's advocated policy position in the Con-Cap High Emotion condition (2%) than in the Con-Cap Low Emotion condition (16%). Additionally, a larger proportion of subjects expressed affective-beliefs both supporting and opposing the message's policy position in the Con-Cap High Emotion condition (15%) than in the Con-Cap Low Emotion condition (0%).

Emotional Framing Effect Model 2 -- Affective-Belief Index (Tables 5a - 5c)

The next part of the analysis tests the study's hypotheses using the affective-belief index. While the general emotional response variable is a measurement of the magnitude of subjects' emotional statements, the affective-belief index is a measurement of the magnitude and direction of subjects' emotional statements. As described in Chapter 5, the direction of subjects' emotional statements was categorized as favorable (e.g., supporting the advocated position of the message frame), unfavorable (e.g., opposing the message frame's advocated position) or neutral (e.g., neither supporting or opposing the message frame's advocated position). The neutral emotional statements were dropped from the analysis and an index was created for each subject by subtracting the number of emotional statements opposing the message's advocated position from the number of emotional statements supporting the message's advocated policy position. A similar variable was created using subjects' cognitive statements.

Table 5a displays the mean affective-belief and cognitive-belief target indices. The results indicate that the mean affective-belief index is significantly higher in the Con-Cap High Emotion condition (M=2.13) than in the Con-Cap Low Emotion condition (M=.87), t(90df)= 3.63, p < .000. These results indicate that there was less opposition to the Con-Cap High Emotion condition than Con-Cap Low Emotion condition. In other words, subjects were significantly more

likely to interpret the issue using affective-beliefs that support the message's policy position in response to the Con-Cap High Emotion message than in response to the Con-Cap Low Emotion message. ***Therefore, in the Con-Cap condition, Hypothesis 1 is supported using the affective-belief index.***

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the affective-belief index, the cognitive-belief index and the pre-message attitude variable. Referring to Table 5b, there is a stronger relationship between the affective-belief index and post-message attitudes in the Con-Cap High Emotion condition (standardized beta: 47) than in the Con-Cap Low Emotion condition (standardized beta: .18). Additionally, the affective-belief index variable is a significant predictor of post-message attitudes in the Con-Cap High Emotion condition but not in the Con-Cap Low Emotion condition. ***Therefore, in the Con-Cap condition, Hypothesis 2 is supported using the affective-belief index.***

A closer look at the results also reveals that on the one hand, in the Con-Cap High Emotion condition, the relationship between the affective-belief index and post-message attitudes is stronger (standardized beta: .47) than the relationship between the cognitive-belief index and post-message attitudes (standardized beta: .24) and the relationship between pre-message attitudes and post-message attitudes (standardized beta: .23). Recall that in the previous model, pre-message attitudes were stronger predictors of post-message attitudes than the general emotional response variable. Therefore, this last finding represents an important change.

On the other hand, in the Con-Cap Low Emotion condition, the relationship between the cognitive-belief index and post-message attitudes stronger (standardized beta: .53) than the relationship between the affective-belief index and post-message attitudes (standardized beta: .18) and pre-message attitudes and post-message attitudes (standardized beta: .16).

In sum, these results reveal that the affective-belief index provides a more precise measurement of emotional framing effects than the general emotional response variable. Additionally, in the Con-Cap High Emotion condition while the affective-belief index variable is a strong predictor of post-message attitudes, in the Con-Cap Low Emotion condition, the cognitive-belief index variable is a strong predictor of post-message attitudes.

Turning to the results of the Hierarchical regression in Table 5c, in the Con-Cap High Emotion condition, when the cognitive-belief index is entered into the second block, the R^2 increases by 19% and the change is significant ($F_{1, 44}$ Change = 13.40, $p < .001$). When the affective-belief index is entered into the third block, the R^2 increases by 17% and the change is statistically significant ($F_{1, 43}$ Change = 15.74, $p < .000$). Alternatively, in the Con-Cap Low Emotion condition, when the cognitive-belief index is entered into the second block, the R^2 increases by 23% and the change is significant ($F_{1, 42}$ Change = 20.01, $p < .000$). When the affective-belief index is entered into the third block, the R^2 increases by only 3% and the change is not significant ($F_{1, 41}$ Change = 2.35, ns). This increase is substantially less than the R2 increase in the Con-Cap High Emotion condition.

In sum, the results for the Con-Cap conditions support Hypothesis 1 and Hypothesis 2 when the magnitude and direction of affective-beliefs are used as a measurement of emotional issue interpretations. Therefore, an emotional framing effect did occur in response to the Con-Cap High Emotion condition but not in response to the Con-Cap Low Emotion condition. The affective-belief index is significantly larger in the Con-Cap High Emotion condition than in the Con-Cap Low Emotion condition. In other words, subjects expressed significantly more affective-beliefs that support the message's advocated policy position in the Con-Cap High Emotion condition than in the Low Emotion condition. Additionally, the results reveal a stronger relationship between the affective-belief index and post-message attitudes in the Con-Cap High Emotion condition than in the Con-Cap Low Emotion condition. More importantly, the results

indicate that when cognitive-beliefs are taken into account, message-generated affective-beliefs explain more variance in post-message attitudes in the Con-Cap High Emotion condition than in the Con-Cap Low Emotion condition and this change is significant.

Emotional Framing Effect Model 3: Affective-Belief Targets (Tables 4, 6a - 6c)

The final stage of the analysis examines the target of subjects' affective-beliefs. As discussed in the methods chapter, the targets of subjects' affective-beliefs are categorized based on whether they refer to the specific emotional problem definition or emotional propositions in the Con-Cap High Emotion message or whether they refer to broader, more global constructs. Returning to Table 4, the first five affective-belief targets (e.g., injured patients -- victims of negligent doctors, doctors -- negative, medical error/malpractice rates, insurance companies-- negative, and supporters) are identified as specific affective-belief targets because the emotional responses are directed at the emotional problem definition and emotional propositions in the High Emotion Con-Cap message.

As discussed in the methods chapter, the targets of subjects' affective-beliefs are identified as "specific targets" if they refer to the specific emotional problem definition or emotional propositions. Returning to Table 4, the first five affective-belief targets (e.g., injured patients -- victims of negligent doctors, doctors -- unfavorable emotions, medical error/malpractice rates - unfavorable emotions, insurance companies-unfavorable emotions, and supporters-unfavorable emotions) are identified as specific affective-belief targets because they represent the emotional problem definition and emotional propositions in the High Emotion Con-Cap message.

The targets of subjects' affective-beliefs are identified as "global targets" if they refer to broader constructs associated with the message. For example, subjects' affective-beliefs that are directed at the general issue, policy and message/speaker are identified as global affective-belief

targets. Finally, it is important to note that in the Con-Cap High Emotion message, although stories were used to convey the propositions, a large proportion of subjects responded using affective-beliefs that described the broader story (e.g., This story made me sad.) rather than what or who in the story made them feel emotional. Therefore, they were coded as references to the global story.

This coding created four categories (Please refer to Table 6). Target Category 1 includes specific targets that support the message's policy position. Target Category 2 includes global targets that support the message's policy position. Target Category 3 includes specific targets that oppose the message's policy position. Target Category 4 includes global targets that oppose the message's policy position. Each subject received four scores corresponding to the total number of affective-beliefs in Target Category 1, the total number of affective-beliefs in Target Category 2, etc.

Next, these four scores were used to create two indices for each subject. The first index, *Specific Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 3 (e.g., Specific Targets that oppose the message's policy position) from Target Category 1 (e.g., Specific Targets that support the message's policy position). The second index, *Global Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 4 (e.g., General Targets that oppose the message's policy position) from Target Category 2 (e.g., General Targets that support the message's policy position).

Table 6a displays the mean index for the specific and global affective-belief indices. The results indicate that the mean specific affective-belief target index is significantly higher in the Con-Cap High Emotion condition (M=1.70) than in the Con-Cap Low Emotion condition (M=.31), t(90df)= 5.07, p < .000. Turning next to the global affective-belief index, although the mean is slightly larger in the Con-Cap Low Emotion condition (M=.56) than in the Con-Cap High Emotion condition (M=.28), the difference is not significant, t(90df)=.1.51, ns. Therefore, ***in the Con-Cap***

condition, Hypothesis 1 is supported for specific affective-belief target index but not for the global affective-belief target index.

Referring to Table 6b, there is a stronger relationship between the specific affective-belief target index variable and post-message attitudes in the Con-Cap High Emotion condition (standardized beta: .55) than in the Con-Cap Low Emotion condition (standardized beta: .22). Additionally, the specific affective-belief index variable is a significant predictor of post-message attitudes in the Con-Cap High Emotion condition but not in the Con-Cap Low Emotion condition. There also is a slightly larger relationship between the global affective-belief target index variable and post-message attitudes in the Con-Cap High Emotion condition (standardized beta: .24) than in the Con-Cap Low Emotion condition (standardized beta: .20).

Turning next to a hierarchical regression analyses (see Table 6c), in the Con-Cap High Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by only 4% and the change not significant ($F_{1, 44}$ Change = 2.29, ns). However, when the specific affective-belief index is entered into the third block, the R^2 increases by 29% and the change is significant ($F_{1, 43}$ Change = 25.42, p < .000). In the Con-Cap Low Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by 4% and the change is not significant ($F_{1, 42}$ Change = 2.33, ns). When the specific affective-belief index is entered into the third block, the R^2 increases by 5% and the change is not significant ($F_{1, 41}$ Change = 3.01, ns).

In sum, these findings show a stronger relationship between the specific affective-belief index and post-message attitudes in the Con-Cap High Emotion condition than in the Con-Cap Low Emotion condition. ***Therefore, in the Con-Cap condition, Hypothesis 2 is supported for the specific affective-belief target index.***

Con-Malpractice Cap Discussion

In sum, the results for the Con-Cap conditions support Hypothesis 1 and Hypothesis 2. Subjects exposed to the Con-Cap High Emotion policy frame were more likely to use the emotions evoked by the problem definition and emotional propositions to form an attitude that opposed malpractice caps than individuals exposed to the Con-Cap Low Emotion policy frame. Specifically, using all three models, subjects in the Con-Cap High Emotion condition were significantly more likely to use the emotions evoked by the emotional problem definition and/or emotional proposition(s) to form an emotional issue interpretation. Additionally, the results showed that in the Con-Cap High Emotion condition, in Models 2 and 3, the emotions generated by the message were stronger predictors of post-message attitudes than any of the other independent variables including pre-message attitudes. Consequently, an emotional framing effect did occur in response to the Con-Cap High Emotion policy frame and it had an important impact on subjects' policy attitudes.

The results from the hierarchical regression analyses reveal that the emotions generated by the Con-Cap High Emotion message explained variance in post-message attitudes after pre-message attitudes and cognitive responses were entered in to the blocks and the change was significant. This provides additional evidence that in the Con-Cap condition, the emotions generated by the High Emotion policy frame are critical and significant components in framing effect models.

Finally, before turning to the Pro-Cap condition, it is important to use the data to answer the first research question which asks: ***What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when process emotional policy frames?*** The research question is answered by comparing the regression coefficients measuring the

relationship between the emotional variables and post-message attitudes for each of the three emotion variables (e.g., general emotional response, affective-belief index and affective-belief target).

The results in the Con-Cap High Emotion condition indicate that the relationship between the specific affective-belief target index and post-message attitudes (standardized beta: .55) is stronger than the relationship between the affective-belief index and post-message attitudes (standardized beta: .47) and the relationship between the general affective response variable and post-message attitudes (standardized beta: .29). In sum, individuals in the Con-Cap High Emotion condition used the magnitude, direction and target of their emotional responses to interpret the issue and form a policy attitude.

II. Pro-Malpractice Caps

Similar to the Con-Cap finding section, this section is divided into five analytic stages (See Chapter 5 for a more detailed discussion). The first analytic stage presents descriptive data measuring attitude change. The second analytic stage, which examines subjects' emotional responses to the first open-ended question, serves as a validation of the manipulation check. The analysis then turns to testing the study's hypotheses using each of the three emotional framing models presented in Chapter 3. Analytic Stage 3 tests the three hypotheses using general emotional responses, Analytic Stage 4 uses affective-beliefs indices and Analytic Stage 5 uses affective-belief targets.

Analytic Stage 1: Attitude Change -- Descriptive Data (Tables 7a - 7b)

The mean attitude change scores for subjects in the Pro-Cap conditions are presented in Table 7a. Although the Pro-Cap High Emotion message led to slightly more attitude change than the Low Emotion message, the difference between the Pro-Cap High Emotion condition (M=.68) and the Pro-Cap Low Emotion condition (M=.62) is not significant. Additionally, the small mean attitude change scores suggest that only a small amount of attitude change occurred among subjects in both the Pro-Cap Low and High Emotion condition. However, an examination of the attitude distribution data indicates that this is not the case for all subjects.

Referring to the attitude change distribution categories presented in Table 7b, only a small proportion of subjects in both the Pro-Cap High Emotion (15%) and Low Emotion (19%) conditions changed their attitude in the direction of the message's advocated position 3 or more points. Additionally, there was small attitude change (1.00 - 2.50 points) among a slightly larger proportion of subjects in the Pro-Cap High Emotion condition (36%) than in the Pro-Cap Low

Emotion condition (29%). Although these two distributions are not significantly different, they do show that almost half of the subjects in the Pro-Cap High Emotion condition (51%) and in the Pro-Cap Low Emotion condition (48%) changed their attitude 1 or more points in the direction of the message's advocated position after reading the message.

Unlike the Con-Cap conditions, the attitude distribution data reveals that although attitude change occurred among half of the subjects in both Pro-Cap conditions, about ¼ of the subjects did not change their attitudes and, more importantly, another ¼ changed their attitudes in the opposite direction. This helps to explain why the mean attitude change scores are so low. The proportion of subjects who formed attitudes in the direction of the message's advocated position was offset by the proportion of subjects whose attitudes did not change or who formed attitudes in the opposite direction of the message's advocated position. In other words, while half of the subjects were affected by the Pro-Cap messages the other half were not. This finding may produce mixed results for the remainder of the analysis.

Analytic Stage 2: Manipulation Check -- Initial Emotional Response (Tables 8a - 8c)

The next stage of the analysis uses subjects' emotional responses to the first open-ended question as a validation of the manipulation check (see Chapter 5). Turning to Table 8a, although a larger proportion of subjects responded to the first open-ended question using one or more initial emotional responses in the Pro-Cap High Emotion condition (49%) than in the Low Emotion condition (31%) the difference between the two distributions is not statistically significant, $X2$ (3df)= 4.74, ns. However, referring to Table 8c, the results indicate that the mean initial emotional response is significantly larger in the Pro-Cap High Emotion condition (M=.70) than in the Pro-Cap Low Emotion condition (M=.38), t(91df)= 2.14, p < .05. Therefore, the manipulation check is

partially validated when the mean number of emotional statements to the first open-ended question is tested.

Analytic Stage 3 - 5: Main Hypotheses & Models

The next three stages in the analyses tests the study's main hypotheses using the three models of emotional framing effects. The results from the three models will be compared in order to answer the first research question (Please see the Con-Cap section for a more detailed description).

Emotional Framing Effect Model 1 -- General Emotional Responses -- (Tables 9a - 9c)

This stage in the analysis tests the study's two hypotheses using the *general emotional response variable* which measures the number of emotional statements each subject used to respond to all three open-ended questions.

To begin, Table 9a displays the mean general emotional and cognitive responses to all three open-ended questions in the Con-Cap conditions. The results show that the mean general emotional response is larger in the Pro-Cap High Emotion condition (M=2.00) than in the Pro-Cap Low Emotion condition (M=1.65). However, the difference is not significant, t(93df)= 1.32, ns. In other words, subjects were not significantly more likely to interpret the issue using emotion in response to the Pro-Cap High Emotion message than in response to the Pro-Cap Low Emotion message. Therefore, *in the Pro Cap condition, Hypothesis 1 is not supported using the mean general emotional response variable.*

It is interesting to note that not only is the mean cognitive response smaller in the Pro-Cap High Emotion condition (M=3.89) than in the Pro-Cap Low Emotion condition (M=4.44), but

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also this difference is statistically significant, t(93df)=.1.91, p < .05. In other words, subjects in the Pro-Cap Low Emotion condition responded to the message using significantly more cognitive responses than subjects in the Pro-Cap High Emotion condition.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the general emotional response variable, the general cognitive response variable and the pre-message attitude variable. Referring to Table 9b, although there is a stronger relationship between the general emotional response variable and post-message attitudes in the Pro-Cap High Emotion condition (standardized beta: .25) than in the Pro-Cap Low Emotion condition (standardized beta: .07), this relationship is only approaching significance. Therefore, **in the Pro-Cap condition, Hypothesis 2 is not supported for the general emotional response variable**.

Looking specifically at the Pro-Cap High Emotion condition, it is interesting to note that the relationship between the general emotional response variable and post-message attitudes is stronger (standardized beta: .25) than the relationship between the general cognitive response variable and post-message attitudes (standardized beta: -.03). In fact, this relationship is negligible indicating that subjects in the Pro-Cap High Emotion condition did not use their cognitive responses to form attitudes toward the message's advocated policy position. Instead, the data reveals that the relationship between pre-message attitudes and post-message attitudes is significant and large (standardized beta: 54). In sum, subjects relied more on their pre-message attitudes than the emotional and cognitive responses to form their attitudes toward the message's advocated position.

Turning to the Pro-Cap Low Emotion condition, the relationship between the general emotional response variable and post-message attitudes is positive but non-significant and weak (standardized beta: .07) while the relationship between the general cognitive response variable and post-message attitudes is slightly stronger but non-significant and negative (standardized

beta: - .11). In other words, an increase in cognitive responses is associated with a decrease in post-message attitudes indicating that it is quite possible that subjects used their cognitive responses to oppose the message's advocated policy position. Finally, similar to the Pro-Cap High Emotion condition, the relationship between pre-message and post-message attitudes is strong and significant (standardized beta: 66).

Hierarchical regression analyses were conducted to determine how much variance the general emotional response variable contributes to the model above and beyond the pre-message attitude and general cognitive response variables when they are entered into the same model (see Table 9c). In the Pro-Cap High Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .58 and the R^2 is .34. When the general cognitive response variable is entered into the second block, the R^2 increases by only 1% ($F_{1, 44}$ Change = .77, ns). When the general emotional response variable is entered into the third block, the R^2 increases by 5% and the change is approaching statistical significance ($F_{1, 43}$ Change = 3.76, p = .06).

In the Pro-Cap Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .64 and the R^2 is .41. When the general cognitive response variable is entered into the second block, the R^2 increases by only 1% ($F_{1, 45}$ Change = .80, ns). When the general emotional response variable is entered into the third block, the R^2 does not increase ($F_{1, 44}$ Change = .34, ns).

In sum, the results for the Pro-Cap conditions do not support Hypothesis 1 or Hypothesis 2 when general emotional responses is used as the measurement of emotional framing effects. In other words, subjects did not use the number of emotional responses to determine whether they supported or opposed the message's advocated position. It is possible that the backlash revealed by the attitude change distribution data (see Table 7b) might have diminished these

results. The next section examining the target of subjects' emotional statements might provide more insight into what occurred.

The only other finding that is somewhat perplexing is the strong relationship between pre-message and post-message attitudes in the Pro-Cap High Emotion (standardized beta: .54) and Low Emotion (standardized beta: .66). Although a majority of subjects did not possess a pre-existing attitude toward malpractice caps and were only in the processing of forming their attitude when they read the message, about 1/4th of the subjects possessed a pre-existing attitude. Therefore this could help to explain why pre-message attitudes are playing such a significant role in the model In other words, these subjects were relying more on their pre-existing attitudes than the emotional and cognitive responses generated by the message frames.

Target of Subjects' Emotional Statements (Table 10a - 10b)

As Chapter 3 discusses, researchers use a number of criteria to determine whether a framing effect has occurred or, more specifically, whether the issue interpretation an individual forms in response to a policy frame is congruent (or matches) the policy frame's problem definition. There are two criteria used in this present model. First, in order for the intended emotional framing effect to occur, the direction (or advocated policy position) of subjects' affective-beliefs should match the direction (or advocated policy position) of the emotional policy frame. Second, the target of subjects' affective-beliefs should address the topical focus of the emotional problem definition and/or the emotional propositions.

Before describing the data in Table 10a, it is helpful to review the content and intent of the Pro-Cap High Emotion message. The Pro-Cap High Emotion message supports limits or caps on malpractice awards by framing unlimited awards as benefiting lawyers and their clients while negatively impacting innocent doctors and patients. Its intended effect is to evoke

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sympathy toward doctors who have been sued for malpractice. Additionally, it attempted to evoke anger toward lawyers and their clients. Alternatively, the Pro-Cap Low Emotion message attempted to diminish emotional responses by substituting the emotional stories presented in the High Emotion message with facts and numbers/statistics related to the number of frivolous lawsuits and the monetary value of malpractice awards.

Turning to Table 10a, the results demonstrate that the messages achieved their intended effect. The proportion of subjects who felt sympathy toward doctors is significantly larger in the Pro-Cap High Emotion condition (34%) than in the Low Emotion condition (10%), $X2(1df)=7.70$, $p < .01$. Additionally, the proportion of subjects who felt anger or frustration (e.g., negative emotions) toward lawyers is significantly larger in the Pro-Cap High Emotion condition (32%) than in the Low Emotion condition (17%), $X2(1df)= 3.80$, $p <.05$. Finally, it is interesting to note that 6% of the subjects in the Pro-Cap Low Emotion condition and 13% of the subjects in the High Emotion condition expressed concern that the large number of frivolous and fraudulent lawsuits could make it more difficult for patients who have been "legitimately" injured to collect the money they deserve.

Some of the emotional propositions, however, did not resonate as strongly with subjects in the Pro-Cap High Emotion condition. For example, although the proportion of subjects who felt negative emotions such as anger over malpractice awards is slightly larger in the Pro-Cap High Emotion condition (19%) than in the Low Emotion condition (15%), the proportion is somewhat small. Similarly, an equal but small proportion of subjects in the Pro-Cap High (6%) and Low (6%) condition expressed negative emotions regarding the large number of frivolous lawsuits. Finally, only two subjects (4%) in the Pro-Cap High Emotion condition expressed concern regarding access to specialized medicine. Although this was the topic of one of the emotional stories, the story also could have evoked positive emotions toward doctors and sympathy for "legitimately" injured patients. One additional observation in the Target Category 2 is the small

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proportion of subjects in the Pro-Cap High Emotion condition who expressed emotions toward the general story (6%).

The results in Table 10a also reveal that a larger proportion of subjects directed their emotions at the broader issue in the Pro-Cap Low Emotion condition (25%) than in the Pro-Cap High Emotion condition (15%). Although this same pattern of results are found with the policy (Low: 4%, High: 2%), the proportion is not large. This finding is not surprising given the fact that subjects in the Pro-Cap Low Emotion condition were not exposed to the emotional propositions in the Pro-Cap High Emotion message. Therefore, they would be more likely to express emotions toward more global considerations rather than the specific propositions.

Unlike the Con-Cap condition, the attitude change data did indicate that the Pro-Cap messages generated some backlash against the advocated policy position. This backlash is reflected in the target of subjects' emotional responses. The bottom of Table 10a lists targets that oppose the message's advocated policy position. The data reveals that subjects in both conditions expressed negative emotions toward the policy and the message and subjects in the Pro-Cap Low Emotion condition also expressed negative emotions toward the broader issue. However, the more interesting finding is the emotions directed at injured patients, insurance companies, doctors (negative), and medical error/malpractice rates. Although these propositions were used in the Con-Cap messages, they were not included in the Pro-Cap messages. For example, the Pro-Cap High Emotion message attempted to generate sympathy for doctors and their insurance companies and it did not discuss medical errors or malpractice rates. Therefore, subjects would have had to retrieve this information from memory (e.g., pre-existing knowledge).

Unlike the Con-Cap condition, the attitude change data did indicate that the Pro-Cap messages generated some backlash against the advocated policy position. This backlash is reflected in the target of subjects' emotional responses. The lower half of Table 10a displays the affective-belief targets that oppose the Con-Cap messages' policy position. Since none of these

targets were included in the Pro-Cap messages, subjects would have had to retrieve this information from memory (e.g., pre-existing knowledge). For example, in the Pro-Cap Low Emotion condition, 4% of the subjects in the Pro-Cap Low Emotion condition expressed negative emotions toward insurance companies.

Another interesting finding occurred in relation to the emotions expressed toward injured patients. On the one hand, subjects whose emotional response supported the message's policy position expressed concern for injured patients because they perceived them as victims of fraudulent lawsuits. For example, one subject in the Pro-Cap High Emotion condition stated:

> I also feel bad for the patient who truly are victims of malpractice, their credibility is being shaken with the amount of frivolous lawsuits (Subject 71).

On the other hand, subjects opposing the message's policy position expressed concern for injured patients because they perceived them as victims of negligent doctors. For example, one subject in the Pro-Cap Low Emotion condition stated:

> I feel bad for people whose procedures go wrong and are forced to live in an unfavorable condition due to complications resulting from medical attention (Subject 92).

In sum, the results displayed in Table 10a reveal that subjects in the Pro-Cap High Emotion condition did express affective-beliefs with targets that support the message's advocated policy position and, more importantly, that match the specific emotional problem definition and emotional propositions in the message. However, they also expressed affective-beliefs whose targets opposed the message's policy position. This could help to explain why the results up to this point have not been very strong.

Before turning to the next part of the analysis, it is helpful to collapse the data presented in Table 10a to determine just how many subjects used their affective-beliefs to support and oppose the message's advocated position. Referring to Table 10b, the results indicate that a slightly larger proportion of subjects expressed affective-beliefs supporting the message's advocated policy position in the Pro-Cap High Emotion condition (51%) than in the Low Emotion

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condition (48%). Alternatively, a smaller proportion of subjects expressed affective-beliefs

opposing the message's advocated policy position in the Pro-Cap High Emotion condition (15%)

than in the Low Emotion condition (21%). Additionally, an almost equal proportion of subjects

expressed affective-beliefs both supporting and opposing the message's policy position in the

Pro-Cap High Emotion condition (11%) and in the Low Emotion condition (10%).

Emotional Framing Effect Model 2 -- Affective-Belief Index (Tables 11a - 11c)

The next part of the analysis tests the study's hypotheses using the affective-belief index.

While the general emotional response variable is a measurement of the magnitude of subjects'

emotional statements, the affective-belief index is a measurement of the *magnitude* and *direction*

of subjects' emotional statements. The direction of subjects' emotional statements was

categorized as favorable (e.g., supporting the advocated position of the message frame),

unfavorable (e.g., opposing the message frame's advocated position) or neutral (e.g., neither

supporting or opposing the message frame's advocated position). The neutral emotional

statements were dropped from the analysis and an index was created for each subject by

subtracting the number of emotional statements opposing the message's advocated position from

the number of emotional statements supporting the message's advocated policy position. A

similar variable was created using subjects' cognitive statements.

Table 11a presents the mean affective-belief and cognitive-belief target indices. The

results indicate that the mean affective-belief index is slightly larger in the Pro-Cap High Emotion

condition (M=.79) than in the Pro-Cap Low Emotion condition (M=.38) but the difference is not

significant, t(93df)= 1.59, ns.   Therefore, ***in the Pro-Cap condition Hypothesis 1 is not***

supported when using affective-belief target index.

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Turning to cognitive responses, although the mean cognitive-belief index is slightly larger in the Pro-Cap High Emotion condition (M=1.11) than in the Pro-Cap Low Emotion condition (M=.90), the difference is not significant, t(93df)= .47, ns.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the affective-belief index, the cognitive-belief index and the pre-message attitude variable. Referring to Table 11b, although the relationship between the affective-belief index and post-message attitudes is significant in both conditions, it is actually weaker in the Pro-Cap High Emotion condition (standardized beta: .24) than in the Pro-Cap Low Emotion condition (standardized beta: .37). Alternatively, the relationship between the cognitive-belief index and post-message attitudes in the Pro-Cap High Emotion condition (standardized beta: .49) is larger than the relationship between the affective-belief index and post-message attitudes. In other words, the results sugges that subjects' cognitive-beliefs had a stronger impact on post-message attitudes than their affective-beliefs. Therefore, *in the Pro-Cap condition, Hypothesis 2 is not supported using the affective-belief index.*

Referring to the Hierarchical regression analyses in Table 11c, in the Pro-Cap High Emotion condition, when the cognitive-belief index is entered into the second block, the R^2 increases by 37% and the change is significant ($F_{1, 44}$ Change = 54.92, p < .001). When the affective-belief index is entered into the third block, the R^2 increases by only 3%, and this change is also significant ($F_{1, 43}$ Change = 5.09, p < .05).

In the Pro-Cap Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .64 and the R^2 is .41. When the cognitive-belief index is entered into the second block, the R^2 increases by 24% ($F_{1, 45}$ Change = 30.67, p < .000). When the affective-belief index is entered into the third block, the R^2 increases by 8% and the change is significant ($F_{1, 44}$ Change = 13.81, p < .000).

In sum, the results for the Pro-Cap conditions do not support Hypothesis 1. The affective-belief index is not significantly larger in the Pro-Cap High Emotion condition than in the Pro-Cap Low Emotion condition. The results also do not support Hypothesis 2. Instead, the findings reveal that in the Pro-Cap High Emotion condition, subjects' cognitive responses had a stronger relationship with post-message attitudes than their affective-responses.

Emotional Framing Effect Model 3: Affective-Belief Targets (Tables 10a, 12a - 12c)

The final stage of the analysis examines the target of subjects' affective-beliefs in more depth. As discussed in the methods chapter, the targets of subjects' affective-beliefs are categorized based on whether they refer to the specific emotional problem definition or emotional propositions in the Pro-Cap High Emotion message or whether they refer to broader more global constructs. Returning to Table 10a, the first six affective-belief targets (e.g., doctors-favorable emotions, lawyers/clients-unfavorable emotions, injured patients--victims of frivolous lawsuits, specialized medicine access, malpractice awards-unfavorable emotions, and lawsuits-unfavorable emotions) are identified as specific affective-belief targets because they refer to the emotional problem definition and emotional propositions in the High Emotion Pro-Cap message. The next four affective-belief targets (e.g., issue, policy-favorable emotions, story--global favorable emotions, and message-favorable emotions) are identified as global affective-belief targets.

This coding created four categories. Target Category 1 includes specific targets that support the message's policy position. Target Category 2 includes global targets that support the message's policy position. Target Category 3 includes specific targets that oppose the message's policy position. Target Category 4 includes global targets that oppose the message's

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policy position. Each subject received four scores corresponding to the total number of affective-beliefs in Target Category 1, the total number of affective-beliefs in Target Category 2, etc.

Next, these four scores were used to create two indices for each subject. The first index, *Specific Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 3 (e.g., Specific Targets that oppose the message's policy position) from Target Category 1 (e.g., Specific Targets that support the message's policy position). The second index, *Global Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 4 (e.g., General Targets that oppose the message's policy position) from Target Category 2 (e.g., General Targets that support the message's policy position).

Table 12a presents the mean index for the specific and global affective-belief indices. The results show that the mean specific affective-belief index is significantly higher in the Pro-Cap High Emotion condition (M=1.09) than in the Pro-Cap Low Emotion condition (M=..44), t(81df)= 2.74, p < .01. Turning next to the global affective-belief index, the mean in the Pro-Cap Low Emotion and High Emotion conditions is equal (M=.06). In sum, the results for the specific affective-belief index support Hypothesis 1 but the results for the global affective-belief index do not. These results are critical because it is the first time that an emotional variable has reflected significant differences in the Pro-Cap High Emotion condition. Therefore, ***in the Pro-Cap condition, Hypothesis 1 is supported using the specific affective-belief index variable***. As expected, the global affective-belief index variable is not significantly different across conditions.

Referring to Table 12b, there is a stronger relationship between the specific affective-belief index variable and post-message attitudes in the Pro-Cap High Emotion condition (standardized beta: .46) than in the Pro-Cap Low Emotion condition (standardized beta: .17). Additionally, the affective-belief index variable is a significant predictor of post-message attitudes in the Pro-Cap High Emotion condition but not in the Pro-Cap Low Emotion condition. Therefore,

in the Pro-Cap condition Hypothesis 2 is supported using the specific affective-belief

index variable.

Interestingly enough the results for the global affective-belief index are in the opposite direction! Specifically, there is a stronger relationship between the global affective-belief index and post-message attitudes in the Pro-Cap Low Emotion condition (standardized beta: .42) than in the Pro-Cap High Emotion condition (standardized beta: .20).

Turning next to the results from the hierarchical regression analyses presented in Table 12c, in the Pro-Cap High Emotion condition, when the global affective-belief index is entered into the second block, although the change is significant, the R^2 increases by only 8% ($F_{1, 44}$ Change = 5.96, p < .05). However, when the specific affective-belief index is entered into the third block, the R^2 increases by 17% and the change is significant ($F_{1, 43}$ Change = 17,48 p < .000).

In the Pro-Cap Low Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by 20% and the change is significant ($F_{1, 45}$ Change = 23.44, p < .000). When the specific affective-belief index is entered into the third block, the R^2 increases by 2% and the change is not significant ($F_{1, 44}$ Change = 2.91, ns).

In sum, these results help to explain why the emotional variables used in Models 1 and 2 have failed to support the study's hypotheses. Recall that in Analytic Stage 4, the relationship between the affective-belief index and post-message attitudes was weaker in the Pro-Cap Low Emotion condition (standardized beta: .24) than in the Pro-Cap High Emotion condition (standardized beta: .37) (See Table 11d). However, the results presented above indicate that on the one hand, the relationship between the specific affective-belief index and post-message attitudes is stronger in the Pro-Cap High Emotion condition (standardized beta: .46) than in the Pro-Cap Low Emotion condition (standardized beta: .17). On the other hand, the relationship between the global affective-belief index and post-message attitudes is stronger in the Pro-Cap

Low Emotion condition (standardized beta: .42) than in the Pro-Cap High Emotion condition (standardized beta: 20).

In other words, while subjects in the Pro-Cap High Emotion were using the specific affective-beliefs directly related to the message's emotional problem definition to form their attitudes, subjects in the Pro-Cap Low Emotion condition were using the global affective-beliefs which refer to broader constructs such as the issue, policy and message. This finding makes sense due to the fact that while subjects in the Pro-Cap High Emotion condition were exposed to the emotional problem definition, subjects in the Low Emotion condition were not. Since a majority of them were unfamiliar with the issue, their emotions were tied to broader constructs not directly related to the emotional frame. Consequently, these findings indicate that an emotional framing effect did occur in response to the Pro-Cap High Emotion message.

Finally, the above discussion answers the first research question. The findings show that the relationship between the specific affective-belief target and post-message attitudes (standardized beta: .46) is stronger than the relationship between the general emotional response variable and post-message attitudes (standardized beta: .25) and the affective-belief index and post-message attitudes (standardized beta: .24). Consequently, the affective-belief target variable which measures the magnitude, direction and target of individuals' emotional responses provides a more precise measurement of subjects' emotional issue interpretations in the Pro-Cap High Emotion condition than the other two emotional variables.

CHAPTER 7

Oil Drilling in the ANWR

Findings

The preliminary analysis of pre-message attitudes presented in Chapter 5 reveals that a majority of subjects were familiar with drilling in ANWR prior to reading the message. Since the processing that occurs when individuals already possess a pre-existing policy attitude could be very different than the processing that occurs when individuals are forming a policy attitude, the results for the Pro- and Con-Drilling conditions are presented separately in this chapter (See Chapter 6 for the results for the Pro- and Con-Drill policy conditions). Additionally, the pre-message attitude data revealed that a large proportion of subjects opposed drilling in ANWR prior to their exposure to the message. This means that in the Con-Drill condition, a majority of subjects possessed pre-message attitudes that matched the message's advocated policy position while in the Pro-Drill condition a majority of subjects possessed pre-message attitudes that contradicted the message's policy position. Therefore, the findings for the Con-Drill condition are presented first, followed by the Pro-Drill condition.

I. Con-Drill Findings

The findings section begins with an examination of attitude change. This section is divided into five analytic stages (See Chapter 5 for a more detailed discussion). The first analytic stage presents descriptive data measuring attitude change. The second analytic stage, which examines subjects' emotional responses to the first open-ended question, serves as a validation of the manipulation check. The analysis then turns to testing the study's hypotheses using each of the three emotional framing models presented in Chapter 3. Analytic Stage 3 tests the three

hypotheses using general emotional responses, Analytic Stage 4 uses affective-beliefs indices and Analytic Stage 5 uses affective-belief targets.

Analytic Stage 1: Attitude Change - Descriptive Data (Tables 13a - 13b)

Con-Drill is the only policy condition where the High Emotion message frame had a direct effect on attitude change. Referring to Table 13a, the mean attitude change scores is significantly larger in the Con-Drill High Emotion condition (M=1.05) than in the Con-Drill Low Emotion condition (M=.40).

An examination of the attitude change distributions in Table 13b reveals that in the Con-Drill High Emotion condition, half of the subjects changed their attitude in the direction of the message with small change occurring for 31% of the subjects and large change occurring for 18% of the subjects. Additionally, no change occurred among almost half of the subjects in the High Emotion condition (40%). Recall that the pre-message attitude distributions revealed that a large proportion of subjects opposed drilling in ANWR prior their exposure to the message. This helps to explain why nearly 71% of the subjects in the High Emotion condition either didn't change their attitudes or only changed them 1.00 to 2.50 points on the 10-points scale. Specifically, a ceiling (or in this case a basement) effect occurred in which subjects policy attitudes were so low prior to reading the message that they had very little room left to move on the 10-point scale. In light of these results, however, large attitude change did occur among almost 1/5th of the subjects in the High Emotion condition (18%).

The results for the Con-Drill Low Emotion condition are similar to the High Emotion condition with over 77% of the subjects either not changing their attitudes (33%) or only changing their attitudes a small amount (44%). Once again, a ceiling (or basement) effect occurred in which subjects could not express any greater degree of opposition to the policy. However, unlike

the Con-Drill High Emotion condition which had very little backlash, a small proportion of subjects

in the Con-Drill Low Emotion condition expressed opposition toward the message's policy position

(20%). In other words, they supported drilling in ANWR even after their exposure to the

message.

Analytic Stage 2: Manipulation Check -- Initial Emotional Responses (Tables 14a - 14c)

The next stage of the analysis uses subjects' emotional responses to the first open-ended

question as a validation of the manipulation check (see Chapter 5). The cross-tabulation in Table

14a shows that a larger proportion of subjects responded to the first open-ended question using

at least one or more emotional responses in the Con-Drill High Emotion condition (47%) than in

the Con-Drill Low Emotion condition (30%). However, the difference between the two

distributions is not statistically significant, X^2 (3df) = 3.98, ns. Referring to Table 14c, the results

show that the mean initial emotional response variable is significantly larger in the Con-Drill High

Emotion condition (M=.76) than in the Con-Drill Low Emotion condition (M=.41), t(89df)= 1.99, p <

.05. Therefore, the manipulation check is partially validated when the mean number of emotional

statements to the first open-ended question is tested.

Analytic Stage 3 - 5: Main Hypotheses & Models

The next three stages in the analyses tests the study's main hypotheses using the three

models of emotional framing effects. The results from the three models will be compared in order

to answer the first research question (Please see the Con-Cap section in Chapter 6 for a more

detailed description).

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Emotional Framing Effect Model 1 -- General Emotional Responses (Tables 15a - 15c)

Similar to the assumptions of the *belief accessibility model* of framing effects, it is

possible that individuals use the **magnitude** of their emotional responses. Therefore, this stage

in the analysis tests the study's two hypotheses using the **general affective response variable**

which measures the number of emotional statements each subject used to respond to all three

open-ended questions.

Hypothesis 1 is tested by examining the mean general emotional responses to all three

open-ended questions. The results show that the mean emotional response is significantly larger

in the Con-Drill High Emotion condition (M=2.25) than in the Con-Drill Low Emotion condition

(M=1.50), t(93df)= 2.85, p < .01. In other words, subjects were significantly more likely to

interpret the issue using emotion in response to the Con-Drill High Emotion message than in

response to the Con-Drill Low Emotion message. **Therefore, in the Con-Drill condition,**

Hypothesis 1 is supported using general emotional responses.

It is important to note that although the mean cognitive response is smaller in the Con-

Drill High Emotion condition (M=3.67) than in the Con-Drill Low Emotion condition (M=4.00), the

difference is not significantly different, t(93df)= .98, ns.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with

post-message attitudes regressed on the general emotional response variable, the general

cognitive response variable and the pre-message attitude variable. Referring to Table 15b, there

is a significant and stronger relationship between the general emotional response variable and

post-message attitudes in the Con-Drill High Emotion condition (standardized beta: .42) than in

the Con-Drill Low Emotion condition (standardized beta: -10). In fact, in the Con-Drill Low

Emotion condition, there is a negative, but non-significant relationship between the general

emotional response variable and post-message attitudes (standardized beta: -.10) indicating that

increases in emotional statements led to decreases in attitudes toward the message's advocated position. Therefore, *in the Con-Drill condition, Hypothesis 2 is supported using the general emotional response variable.*

Looking specifically at the Con-Drill High Emotion condition, although the relationship between the general emotional response variable and post-message attitudes is significant (standardized beta: .42), the relationship between pre-message attitudes and post-message attitudes is significant and stronger (standardized beta: .63). Once again, pre-message attitudes have a much stronger influence on post-message attitudes than message-generated emotional responses. Finally, there is no real relationship between the general cognitive response variable and post-message attitudes (standardized beta: .07).

In the Con-Drill Low Emotion condition, pre-message attitudes had a significant and much stronger effect on post-message attitudes (standardized beta: .71) than general emotional responses (standardized beta: -.10) and general cognitive responses (standardized beta: -.08). In fact, as the standardized betas indicates, while pre-message attitudes have a positive relationship with post-message attitudes, the other two variables have a negative or negligible relationship with post-message attitudes.

A hierarchical regression analyses also was conducted to determine how much variance the general emotional response variable contributes to the model above and beyond the pre-message attitude and general cognitive response variables (See Table 15c). In the Con-Drill High Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .69 and the R^2 is .47. When the general cognitive response variable is entered into the second block, the R^2 does not increase ($F_{1, 46}$ Change = .00, ns). When the general emotional response variable is entered into the third block, the R^2 increases by 17% and the change is significant ($F_{1, 45}$ Change = 20.88, p < .000). These finding suggest that even though pre-message attitudes have a strong relationship with post-message attitudes, subjects' general

emotional responses explain variance in post-message attitudes independently of the general cognitive responses!

In the Con-Drill Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .70 and the R^2 is .49. When the general cognitive response variable is entered into the second block, the R^2 does not increase ($F_{1, 43}$ Change = .23, ns). When the general emotional response variable is entered into the third block, the R^2 increases by only 1% ($F_{1, 42}$ Change = .67, ns).

In sum, the results for the Con-Drill conditions support Hypothesis 1 and Hypothesis 2. The Con-Drill High Emotion message generated significantly more general emotional responses among subjects than the Low Emotion message. Additionally, the results reveal a stronger relationship between the general emotional response variable and post-message attitudes in the Con-Drill High Emotion condition than in the Con-Drill Low Emotion condition. In other words, subjects in the Con-Drill High Emotion condition were more likely to use their general emotional responses to express attitudes toward the message's advocated policy position than subjects in the Con-Drill Low Emotion condition.

Target of Subjects' Emotional Statements (Tables 16a and 16b)

As Chapter 2 and 3 describe, an examination of the target of subjects' general emotional responses provides more insight into whether an emotional framing effect actually occurred. In other words, it tells us whether the target of subjects' affective-beliefs is congruent with the emotional problem definition and/or the emotional propositions in the policy frame (Gross & D'Ambrosio 2004).

As discussed in Chapter 5, the target(s) of subjects' affective-beliefs to the three open-ended questions were coded (Please see Chapter 5). Since a subject could respond to the open-

ended questions using more than one emotional statement and since his/her emotional statements could have different targets (e.g., one directed at injured patients, another directed at negligent doctors), separate cross-tabulations were conducted for each affective-belief target.

Before describing the data in Table 16a, it is helpful to review the content and intent of the experimental policy frame. The Con-Drill High Emotion message opposes drilling in ANWR by framing it as a short-term solution to a long-term problem that could have potentially catastrophic environmental consequences. It attempted to raise concerns about the amount of oil Americans are using. It also attempted to evoke anger at oil companies, oil workers and supporters of drilling. It attempted to evoke concern about potential oil spills and their impact on the environment and wildlife. It uses a story about a veterinarian's experience trying to save animals covered in oil from an oil spill and her anger at seeing oil workers eating their lunches as if nothing had happened. In sum, if the Con-Drill High Emotion message had an intended emotional framing effect, then the results should show a larger proportion of subjects with affective-beliefs directed at one or more of the targets (drilling - negative impact on wildlife/environment; oil companies (negative emotions); drilling - amount of oil (negative emotions); oil/gas consumption; and supporters of drilling (negative emotions) in the Con-Drill High Emotion condition than in the Con-Drill Low Emotion condition.

Turning to Table 16a, the results demonstrate that the although some of the proportions are in the expected direction, the Con-Drill High Emotion policy frame did not achieve its intended effect. For example, a larger proportion of subjects expressed concern over the potential impact that drilling could have on wildlife and the environment in the Con-Drill High Emotion condition (53%) than in the Con-Drill Low Emotion condition (37%), however this difference is not significant, $X^2(1df)= 2.48$, ns. Additionally, a larger proportion of subjects expressed anger and frustration toward the oil companies and their workers in the Con-Drill High Emotion condition (14%) than in the Con-Drill Low Emotion condition (4%), however, the cell count in the Low

Emotion condition is less than 5 so the Chi-Square cannot be calculated. It is interesting to note

that while 7% of the subjects in the Con-Drill Low Emotion condition expressed negative emotions

over the small amount of oil in the ANWR reserve, none of the subjects in the Con-Drill High

Emotion condition expressed emotions about this proposition. The remaining targets in Table

16a show no real difference between the Low and High Emotion conditions and the proportion of

subjects responding to the other propositions are small.

It should be noted that in the Con-Drill High Emotion condition, many of the subjects who

expressed negative emotions toward drilling's impact on wildlife and the environment were

responding to the actual story. Their responses, however, were coded as the specific proposition

because their emotional response actually targeted "drilling - negative impact on

wildlife/environment." Five subjects in the Con-Drill High Emotion condition, however, expressed

positive emotions toward the stories as a strategy. Therefore, they were coded as "stories-

global evaluations."

The lower half of Table 16a illustrates the affective-belief targets that oppose the Con-

Drill messages' policy position. Since none of these targets were included in the Con-Drill

messages, subjects would have had to retrieve this information from memory (e.g., pre-existing

knowledge). For example, 4% of the subjects in both the Con-Drill Low and High Emotion

conditions expressed negative emotions toward high gas prices. This was not discussed in either

of the Con-Drill message and in fact was one of the main arguments used in the Pro-Drill

messages. Therefore, it was coded as opposing the message's advocated policy position.

Before turning to the next part of the analysis, it is helpful to collapse the data presented

in Table 16a to determine just how many subjects used their affective-beliefs to support and

oppose the message's advocated position. Referring to Table 16b, the results show that a

slightly larger proportion of subjects expressed affective-beliefs supporting the message's

advocated policy position in the Con-Drill High Emotion condition (70%) than in the Low Emotion

condition (59%). Alternatively, an almost equal proportion of subjects used affective-beliefs to express emotions that opposed the message' advocated policy position in the Con-Drill High Emotion condition (6%) and in the Con-Drill Low Emotion condition (7%). Similarly, an almost equal proportion of subjects expressed a mixture of affective-beliefs that support and oppose the messages' advocated policy position in the Con-Drill High Emotion condition (6%) and in the Con-Drill Low Emotion condition (7%). However, the proportions in both of these distributions are small reflecting the large support subjects had for the message's advocated policy position.

Emotional Framing Effect Model 2 -- Affective-Belief Index (Tables 17a - 17c)

The next part of the analysis tests the study's hypotheses using the affective-belief index. While the general emotional response variable is a measurement of the magnitude of subjects' emotional statements, the affective-belief index is a measurement of the *magnitude* and *direction* of subjects' emotional statements. As described in Chapter 5, the direction of subjects' emotional statements was categorized as favorable (e.g., supporting the advocated position of the message frame), unfavorable (e.g., opposing the message frame's advocated position) or neutral (e.g., neither supporting or opposing the message frame's advocated position). The neutral emotional statements were dropped from the analysis and an index was created for each subject by subtracting the number of emotional statements opposing the message's advocated position from the number of emotional statements supporting the message's advocated policy position. A similar variable was created using subjects' cognitive statements.

Table 17a presents the mean affective-belief and cognitive-belief target indices. The results show that the mean affective-belief index is significantly higher in the Con-Drill High Emotion condition (M=1.76) than in the Con-Drill Low Emotion condition (M=.91), t(86df)= 2.85, p < .01. These results suggest that there was less opposition to the Con-Drill High Emotion

condition than Con-Drill Low Emotion condition. In other words, subjects were significantly more likely to interpret the issue using affective-beliefs that support the message's policy position in response to the Con-Drill High Emotion message than in response to the Con-Drill Low Emotion message. Therefore, *in the Con-Drill condition, Hypothesis 1 is supported using the affective-belief index.*

Turning next to cognitive responses, the results demonstrate that subjects in both the Con-Drill High and Low Emotion condition responded to the open-ended questions using about the same amount of cognitive statements. Specifically, although the mean cognitive-belief index is slightly smaller in the Con-Drill High Emotion condition (M=1.96) than in the Con-Drill Low Emotion condition (M=2.00), the difference is not significant, $t(80df) = .09$, ns.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the affective-belief index, the cognitive-belief index and the pre-message attitude variable. Referring to Table 17b, there is a significant and stronger relationship between the affective-belief index and post-message attitudes in the Con-Drill High Emotion condition (standardized beta: .32) than in the Con-Drill Low Emotion condition (standardized beta: .12). Therefore, *in the Con-Drill condition, Hypothesis 2 is supported using the affective-belief index.*

An examination of the results reveals that in the Con-Drill High Emotion condition, the relationship between pre-message attitudes and post-message attitudes is stronger (standardized beta: .46) than the relationship between the affective-belief index and post-message attitudes (standardized beta: .32). Additionally, the relationship between the cognitive-belief index and post-message attitudes is significant and only slightly smaller (standardized beta: 30) than the relationship between affective-belief index and post-message attitudes. In other words, when the amount and direction of subjects' affective-beliefs and cognitive-beliefs are taken into account, both have a similar and significant relationship with post-message attitudes.

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Turning to the Con-Drill Low Emotion condition, the results demonstrate that the relationship between the cognitive-belief index and post-message attitudes is significant and stronger (standardized beta: 31) than the relationship between the affective-belief index and post-message attitudes (standardized beta: .12). Nevertheless, pre-message attitudes continue to play a significant role in post-message attitudes (standardized beta: .61).

Hierarchical regression analyses also were conducted to determine how much variance the affective-belief index contributes to the model above and beyond the pre-message attitude variable and the cognitive-belief index (See Table 17c). In the Con-Drill High Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .69 and the R^2 is .47. When the cognitive-belief index is entered into the second block, the R^2 increases by 13% and the change is significant ($F_{1, 46}$ Change = 15.07, p < .000). When the affective-belief index is entered into the third block, the R^2 increases by 8% and the change also is significant ($F_{1, 45}$ Change = 11.71, p < .001).

In the Con-Drill Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .70 and the R^2 is .49. When the cognitive-belief index is entered into the second block, the R^2 increases by 12% and the change is significant ($F_{1, 43}$ Change = 13.38, p < .001). When the affective-belief index is entered into the third block, the R^2 increases by only 1% ($F_{1, 42}$ Change = 1,13, ns).

In sum, the results for the Con-Drill conditions support Hypothesis 1 and Hypothesis 2. The affective-belief index is significantly larger in the Con-Drill High Emotion condition than in the Con-Drill Low Emotion condition. In other words, subjects expressed significantly more affective beliefs that support the message's advocated policy position in the Con-Drill High Emotion condition than in the Low Emotion condition. Additionally, the results reveal a stronger relationship between the affective-belief index and post-message attitudes in the Con-Drill High Emotion condition than in the Con-Drill Low Emotion condition.

Emotional Framing Effect Model 3: Affective-Belief Targets (Tables 16a, 18a - 18c)

The final stage of the analysis examines the target of subjects' affective-beliefs. As discussed in the methods chapter, the targets of subjects' affective-beliefs are categorized based on whether they referred to the specific emotional problem definition or emotional propositions in the Con-Drill High Emotion message or whether they referred to broader more global constructs.

Returning to Table 16a, the first six affective-belief targets (e.g., drilling - negative impact on wildlife/environment; oil companies - unfavorable emotions; drilling - amount of oil -- unfavorable emotions; oil/gas consumption - unfavorable emotions; alterative to oil/fuel - favorable emotions; supporters of drilling -- unfavorable emotions) are identified as specific affective-belief targets because they represent the emotional problem definition and emotional propositions in the High Emotion Con-Drill message. The targets of subjects' affective-beliefs are identified as "global targets" if they refer to broader constructs associated with the message. For example, subjects' affective-beliefs that are directed at the general issue, policy and message/speaker are identified as global affective-belief targets. Finally, it is important to note that in the Con-Drill High Emotion message, although stories were used to convey the propositions, a large proportion of subjects responded using affective-beliefs that described the broader story (e.g., This story made me sad.) rather than what or who in the story made them feel emotional. Therefore, they were coded as references to the global story.

Each subject received four scores corresponding to the total number of affective-beliefs in Target Category 1, the total number of affective-beliefs in Target Category 2, etc. Next, these four scores were used to create two indices for each subject. The first index, *Specific Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 3 (e.g., Specific Targets that oppose the message's policy position) from Target Category 1 (e.g., Specific

Targets that support the message's policy position). The second index, *Global Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 4 (e.g., General Targets that oppose the message's policy position) from Target Category 2 (e.g., General Targets that support the message's policy position).

Table 18a displays the mean index for the specific and global affective-belief indices. The results show that the mean specific affective-belief index is significantly higher in the Con-Drill High Emotion condition (M=1.55) than in the Con-Drill Low Emotion condition (M=.72), t(71 df)= 2.65, p < .01. Therefore, ***in the Con-Drill condition, Hypothesis 1 is supported using the specific affective-belief target index.*** Turning next to the global affective-belief index, the mean global affective-belief index small but slightly larger in the Con-Drill High Emotion condition (M=.49) than in the Con-Drill High Emotion condition (M=.20). However, as expected this difference is not significant, t(91df)=.1.65, ns.

Referring to Table 18b, there is a significant and stronger relationship between the specific affective-belief index and post-message attitudes in the Con-Drill High Emotion condition (standardized beta: 29) than in the Con-Drill Low Emotion condition (standardized beta: 21). Therefore, ***in the Con-Drill condition, Hypothesis 2 is supported using the affective-belief target index.***

There is a significant and stronger relationship between the global affective-belief index and post-message attitudes in the Con-Drill High Emotion condition (standardized beta: 22) than in the Con-Drill Low Emotion condition (standardized beta: .17). Finally, it is important to note that in both conditions, pre-message attitudes continue to have the strongest relationship with post-message attitudes.

Turning next to a hierarchical regression analyses (See Table 18c), when the global affective-belief index is entered into the second block, the R^2 increases by only 5% even though the change significant ($F_{1, 44}$ Change = 4.71, p < .05). When the specific affective-belief index is

entered into the third block, the R^2 increases by 8% and the change is significant ($F_{1, 43}$ Change = 8.91, p < .01).

In the Con-Drill Low Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by only 2% and the change is not significant ($F_{1, 42}$ Change = 1.44, ns). When the specific affective-belief index is entered into the third block, the R^2 increases by 4% and the change is not significant ($F_{1, 41}$ Change = 3.83, ns).

In sum, the results for the Con-Drill conditions support Hypothesis 1 and Hypothesis 2. Subjects exposed to the Con-Drill High Emotion policy frame were more likely to use the emotions evoked by the problem definition and emotional propositions to form an attitude that opposed malpractice caps than individuals exposed to the Con-Cap Low Emotion policy frame. However, compared to the Con-Cap condition, the results were somewhat weaker -- especially the beta coefficients measuring the relationship between the emotion variables and post-message attitudes. The comparisons made to answer the first research question might help to provide insight into why this is the case.

Recall that the first research question inquires: ***What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when process emotional policy frames?*** The research question is answered by comparing the regression coefficients measuring the relationship between the emotional variables and post-message attitudes for each of the three emotion variables (e.g., general emotional response, affective-belief index and affective-belief target).

The findings show that the relationship between the general emotional response variable and post-message attitudes (standardized beta: .42) is stronger than the relationship between the affective-belief index and post-message attitudes (standardized beta: .32) and the specific affective-belief target and post-message attitudes (standardized beta: .29). Consequently, the

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general emotional response variable which only measures the magnitude individuals' emotional responses provides a more precise measurement of subjects' emotional issue interpretations in the Con-Drill High Emotion condition than the other two emotional variables.

This is perhaps due to the fact that since individuals already possessed pre-existing attitudes, the information presented in the Con-Cap High Emotion message was not new. Therefore, they did not use the direction or magnitude of their emotional responses to interpret the issue or form a policy attitude because this would have required more effort than was necessary. In other words, a framing-as-priming effect occurred. Similar to the assumptions of the belief accessibility model, the Con-Drill High Emotion message only needed to activate subjects' pre-existing affective-beliefs. Since the direction already matched the message's advocated position and the target already matched the topical focus of the problem definition and propositions, subjects only used the magnitude of their emotional response to express their policy attitude.

II. Pro-Drill Findings

Similar to the Con-Drill section, this section is divided into five analytic stages (See Chapter 5 for a more detailed discussion). The first analytic stage presents descriptive data measuring attitude change. The second analytic stage, which examines subjects' emotional responses to the first open-ended question, serves as a validation of the manipulation check. The analysis then turns to testing the study's hypotheses using each of the three emotional framing models presented in Chapter 3. Analytic Stage 3 tests the three hypotheses using general emotional responses, Analytic Stage 4 uses affective-beliefs indices and Analytic Stage 5 uses affective-belief targets.

Analytic Stage 1: Attitude Change -- Descriptive Data (Tables 19a - 19b)

The results reveal that slightly more attitude change occurred in the Pro-Drill High Emotion condition than in the Pro-Drill Low Emotion condition. The mean attitude change scores for subjects in the Pro-Drill conditions are presented in Table 19a. Although the high emotion message led to slightly more attitude change, the difference between the Pro-Drill High Emotion condition (M=1.35) and the Pro-Drill Low Emotion condition (M=1.13) is not significant.

Referring to the attitude change distribution categories presented in Table 19b, there was large attitude change (+3.00 or more) among a slightly larger proportion of subjects in the Pro-Drill High Emotion condition (21%) than in the Pro-Drill Low Emotion condition (18%). Similarly, there was small attitude change (1.00 - 2.50 points) among a slightly larger proportion of subjects in the Pro-Drill High Emotion condition (36%) than in the Pro-Drill Low Emotion condition (33%). Although these two distributions are not significantly different, they do show that almost half of the subjects in the Pro-Drill High Emotion condition (53%) and in the Pro-Drill Low Emotion condition

(51%) changed their attitude 1 or more points in the direction of the message's advocated position after reading the message.

The fact that over half of the subjects in both conditions changed their attitudes in the direction of the message's advocated position is somewhat surprising given the fact that the pre-message attitude distributions presented in Chapter 5 demonstrates that a large proportion of subjects opposed drilling in ANWR prior to their exposure to the message. Returning to Table 19b, the data reveals that almost half of the subjects in both Pro-Drill conditions either did not change their attitude or adopted an attitude that opposed the messages' advocated policy position. It is possible, that the subjects who did not change their attitude already possessed such a negative attitude toward drilling.

Analytic Stage 2: Manipulation Check -- Initial Emotional Responses (Tables 20a - 20c)

The next stage of the analysis uses subjects' emotional responses to the first open-ended question as a validation of the manipulation check (see Chapter 5). The cross-tabulation in Table 20a shows that a slightly smaller proportion of subjects responded to the first open-ended question using more or more initial emotional responses in the Pro-Drill High Emotion condition (35%) than in the Pro-Drill Low Emotion condition (39%), $X2 (3df)= .83$, ns. Additionally, referring to Table 20c, the mean initial emotional responses is smaller in the Pro-Drill High Emotion condition (M=.48) than in the Pro-Drill Low Emotion condition (M=.61), $t(91df)= 74$, ns. In sum, the manipulation check is not validated and in fact, the results are in the opposite direction of expectations. As the remainder of this analysis will show, these findings reflect the opposition that occurred in response to the Pro-Drill messages.

<u>Analytic Stages 3 - 5: Main Hypotheses & Models</u>

The next three stages in the analyses tests the study's main hypotheses using the three

models of emotional framing effects. The results from the three models will be compared in order

to answer the first research question (Please see the Con-Cap section in Chapter 6 for a more

detailed description).

Emotional Framing Effect Model 1 -- General Emotional Response (Tables 21a - 21d)

This stage in the analysis tests the study's two hypotheses using the ***general emotional***

response variable which measures the number of emotional statements each subject used to

respond to all three open-ended questions.

Hypothesis 1 is tested by examining subjects' mean emotional responses to all three

open-ended questions. Table 21a displays the mean general emotional and cognitive responses

to all three open-ended questions in the Pro-Drill conditions. Although the mean emotional

response is larger in the Pro-Drill High Emotion condition (M=1.77) than in the Pro-Drill Low

Emotion condition (M=1.49), the difference is not significant, t(91df)= 1.00, ns. In other words,

subjects were not significantly more likely to interpret the issue using emotion in response to the

Pro-Drill High Emotion message than in response to the Pro-Drill Low Emotion message.

Therefore, ***in the Pro-Drill condition, Hypothesis 1 is not supported using the general***

emotional response variable.

The data in Table 21a reveal that the mean general cognitive response is larger in the

Pro-Drill High Emotion condition (M=4.25) than in the Pro-Drill Low Emotion condition (M=3.94),

but again, the difference is not significant, t(91df)=.1.02, ns.

Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the general emotional response variable, the general cognitive response variable and the pre-message attitude variable. Referring to Table 21b, in the Pro-Drill High Emotion condition, the relationship between the general emotional response variable and post-message attitudes is positive but almost negligible (standardized beta: .06). In the Pro-Drill Low Emotion condition, the relationship between the general response variable and post-message attitudes is negative but somewhat strong (standardized beta: -.23). In other words, as subjects' general emotional responses increase, their attitude toward the message's advocated position (drilling in ANWR) decreases. Therefore, ***in the Pro-Drill condition, the results do not support Hypothesis 2 using the general emotional response variable***.

Looking at the Pro-Drill High Emotion condition, the relationships between post-message attitudes and the emotional response and cognitive response variables are both almost negligible. However, the relationship between pre-message attitudes and post-message attitudes is strong and significant (standardized beta: .65). These findings suggest that in the Pro-Drill High Emotion condition, subjects' pre-message attitudes had more of an impact than the message on post-message attitudes.

In the Pro-Drill Low Emotion condition, although the relationship between post-message attitudes and the general cognitive-response variable is negligible, subjects' pre-message attitudes (standardized beta: .55) also had more of an impact than the message on post-message attitudes. Additionally, as stated above, although subjects did respond emotionally, their general emotional responses were negatively related to the message's advocated policy position.

Hierarchical regression analyses also were conducted to determine how much variance the general emotional response variable contributes to the model above and beyond the pre-message attitude and general cognitive response variables (See Table 21c). In the Pro-Drill High Emotion condition, when the pre-message attitude variable is entered into the first block, the

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multiple R is .63 and the R^2 is .39. When the general cognitive response variable is entered into the second block, the R^2 does not increase ($F_{1, 41}$ Change = .29, ns). Similarly, when the general emotional response variable is entered into the third block, the R^2 does not increase ($F_{1, 40}$ Change = .19, ns). In sum, in the Pro-Drill High Emotion condition, neither the general emotional or cognitive response variables explain any of the variance in post-message attitudes.

In the Pro-Drill Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .61 and the R^2 is .37. When the initial cognitive response variable is entered into the second block, the R^2 increases by only 1% ($F_{1, 46}$ Change = .54, ns). When the initial emotional response variable is entered into the third block, the R^2 increases by 4% ($F_{1, 45}$ Change = .19, ns). In the Pro-Drill Low Emotion condition, the general emotional and cognitive response variables explain very little variance in post-message attitudes.

In sum, the results for the Pro-Drill conditions do not support Hypotheses 1 and 2. The Pro-Drill High Emotion message did not generate significantly more general emotional responses than the Low Emotion message. Additionally, the relationship between the general emotional response variable and post-message attitudes was not significant. It is possible that, similar to the Pro-Cap conditions, the backlash against the message's advocated policy position diminished the intended response. The next section, which examines the target of subjects' emotional statements, should provide more insight into what occurred.

Target of Subjects' Emotional Statements (Tables 22a and 22b)

As Chapter 3 discusses, it is not enough to measure emotional framing effects using variables reflecting the magnitude and direction of subjects' emotional responses. Instead, when measuring framing effects using open-ended questions, it is necessary to examine the content of

individuals' statements to determine whether the target of their emotional responses match the emotional issue interpretation and, more specifically, the emotional propositions.

Before describing the data in Table 22a, it is helpful to review the content and intent of the Pro-Drill High Emotion message. The Pro-Drill High Emotion message supports drilling in ANWR by framing as the only way to alleviate our current dependency on foreign oil. It frames our dependency on foreign oil as detrimental to our economic and national security. Its intended effect is to evoke frustration over the high price of gasoline, concern over our national security, anger toward OPEC, concern over our economic security. It intends to evoke positive emotions toward oil companies by stating that they work with environmentalists and have worked in the region for years without impacting the caribou population. If a framing effect occurred then the data should show a larger proportion of subjects in the Pro-Drill High Emotion than in the Pro-Drill Low Emotion condition expressing frustration over high gas prices (e.g., Foreign Oil Dependency -- Economic Security), concern over oil workers in the Middle East (e.g., Foreign Oil Dependency -- National Security), hope that drilling won't harm animals or the environment, and anger towards critics of drilling in ANWR.

Looking the affective-belief targets supporting the message's policy position in Table 22a, the results reveal that the Pro-Drill High Emotion message did not achieved its intended effect. Although a slightly larger proportion of subjects expressed frustration over high gas prices (e.g., Foreign oil dependency -- Economic Security) in the Pro-Drill High Emotion condition (16%) than in the Low Emotion condition (10%), the difference is not significant and the proportions of subjects is very small. The results for the remainder of the affective-belief targets supporting the message's policy position follow these same trends. In sum, the Pro-Drill High Emotion message did not influence subjects to form affective-beliefs supporting its advocated policy position.

Turning next to the affective-belief targets that oppose the message's advocated policy position (see Table 22a), the results clearly reflect the backlash that occurred in response to the

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policy. Specifically, almost 1/4th of the subjects in the Pro-Drill High Emotion (21%) and Low Emotion (25%) condition expressed negative emotions over the potential adverse impact that drilling could have on wildlife and the environment. Since this argument was not included in the Pro-Drill messages, individuals had to retrieve it from memory. In other words, subjects in both Pro-Drill conditions retrieved pre-existing knowledge to counter-argue the message's advocated policy position. Additionally, the other target category with a large proportion of subjects is the message. A slightly larger proportion of subjects expressed negative emotions toward the message in the Pro-Drill High Emotion condition (21%) than in the Pro-Drill Low Emotion condition (16%).

Before turning to the next part of the analysis, it is helpful to collapse the data presented in Table 22a to determine just how many subjects used their affective-beliefs to support and oppose the message's advocated position. Referring to Table 22b, the results show that a larger proportion of subjects expressed affective-beliefs supporting the message's advocated policy in the Pro-Drill High Emotion condition (27%) than in the Pro-Drill Low Emotion condition (16%). However, 1/3rd of the subjects used affective-beliefs opposing the message' advocated policy position in both of the Pro-Drill Conditions (High: 36%; Low: 35%). Additionally, only a small proportion of subjects expressed a mixture of affective-beliefs that support and oppose the messages' advocated policy position in both Pro-Drill conditions (High: 7%; Low: 8%). Finally, it is important to note that a slightly lower but still large proportion of subjects did not express any affective-beliefs in the Pro-Drill High Emotion condition (30%) than in the Low Emotion (41%).

Emotional Framing Effect Model 2 -- Affective-Belief Index (Tables 23a - 23c)

The next part of the analysis tests the study's hypotheses using the affective-belief index. While the general emotional response variable is a measurement of the magnitude of subjects'

emotional statements, the affective-belief index is a measurement of the magnitude and direction of subjects' emotional statements. The direction of subjects' emotional statements was categorized as favorable (e.g., supporting the advocated position of the message frame), unfavorable (e.g., opposing the message frame's advocated position) or neutral (e.g., neither supporting or opposing the message frame's advocated position). The neutral emotional statements were dropped from the analysis and an index was created for each subject by subtracting the number of emotional statements opposing the message's advocated position from the number of emotional statements supporting the message's advocated policy position. A similar variable was created using subjects' cognitive statements.

Table 23a displays the mean affective-belief and cognitive-belief target indices. The first observation is that all of the mean affective-belief indices are negative reflecting subjects' use of affective-beliefs to oppose the messages' advocated policy positions. Although the difference is not significant, it is interesting to note that the mean affective-belief index score is negative but slightly smaller in the Pro-Drill High Emotion condition (M= -.30) than in the Pro-Drill Low Emotion condition (M= = - .53). These means show that subjects in the Pro-Drill High Emotion condition used slightly more affective-beliefs that support the message's advocated position and/or slightly fewer affective-beliefs that oppose the message's advocated position than subjects in the Pro-Drill Low Emotion condition. Nevertheless, since the affective-beliefs index scores are negative *in the Pro-Drill High Emotion condition, Hypothesis 1 is not supported.*

It is interesting to note that the mean cognitive-belief index scores reflect the opposite finding with the mean slightly larger in the Pro-Drill High Emotion condition (M= - .48) than in the Pro-Drill Low Emotion condition (M= - .39). These means indicate that subjects in the Pro-Drill High Emotion condition used slightly more cognitive-beliefs that oppose the message's advocated position and/or slightly fewer cognitive-beliefs that support the message's advocated position than subjects in the Pro-Drill Low Emotion condition.

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Hypothesis 2 is tested by conducting a separate linear regression for each condition with post-message attitudes regressed on the affective-belief index, the cognitive-belief index and the pre-message attitude variable. Referring to Table 23d, although the relationship between the affective-belief index and post-message attitudes is significant in both conditions, there is not real difference between the Pro-Drill High Emotion condition (standardized beta: .29) and the Pro-Drill Low Emotion condition (standardized beta: .30). Additionally, given the negative sign of the affective-belief indices in Table 23c, the strong relationship between the affective-belief index and post-message attitudes is actually reflecting subjects' opposition to the message rather than their support for the message's advocated policy position. Therefore, ***in the Pro-Drill condition Hypothesis 2 is not supported using the affective-belief index***.

Looking at the Pro-Drill High Emotion condition (see Table 23b), the relationship between the cognitive-belief index and post-message attitudes is one of the strongest relationships of the three independent variables (standardized beta: .48). This is followed by the affective-belief index (standardized beta: .29) and then pre-message attitudes (standardized beta: .23). This finding suggests that subjects' post-message attitudes were influenced more by the affective- and cognitive beliefs evoked by the message than by their pre-message attitudes. However, the negative mean affective-belief and cognitive belief indices in Table 23b reveals that these affective- and cognitive-beliefs opposed the message's advocated policy position..

The Pro-Drill Low Emotion condition shows similar results. Specifically, the relationship between the cognitive-belief index and post-message attitudes is one of the strongest relationships of the three independent variables (standardized beta: 52). This is followed by the affective-belief index (standardized beta: .30) and then pre-message attitudes (standardized beta: .12). Indeed, the relationship between pre-message attitudes and post-message attitudes is incredibly small. Again, this finding suggests that subjects' post-message attitudes were influenced more by the affective- and cognitive-beliefs evoked by the message than by their pre-

message attitudes. However, the negative mean affective-belief and cognitive belief indices in Table 23b reveals that these affective- and cognitive-beliefs opposed the message's advocated policy position. In sum, the Pro-Drill Low Emotion condition also generated a backlash effect.

Hierarchical regression analyses were conducted to determine how much variance the affective-belief index contributes to the model above and beyond the pre-message attitude variable and cognitive-belief index when they are entered into the same model (See Table 23c). In the Pro-Drill High Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .63 and the R^2 is .39. When the cognitive-belief index is entered into the second block, the R^2 increases by 25% and the change is significant ($F_{1, 41}$ Change = 28.06, p < .000). When the affective-belief index is entered into the third block, the R^2 increases by 6% and the change is significant ($F_{1, 40}$ Change = 7.39, p < .01).

In the Pro-Drill Low Emotion condition, when the pre-message attitude variable is entered into the first block, the multiple R is .61 and the R^2 is .37. When the cognitive-belief index is entered into the second block, the R^2 increases by 27% and the change is significant ($F_{1, 46}$ Change = 34.01, p < .000). When the affective-belief index is entered into the third block, the R^2 increases by 7% and the change is significant ($F_{1, 45}$ Change = 11.27, p < .01).

In sum, the results for the Pro-Drill conditions do not support Hypothesis 1 or 2. Instead, the results demonstrate that subjects may have used their affective and cognitive-beliefs to counter-argue the message.

Emotional Framing Effect Model 3 -- Affective-Belief Targets (Tables 22a, 24a - 24c)

The final stage of the analysis examines the target of subjects' affective-beliefs. As discussed in the methods chapter, the targets of subjects' affective-beliefs categorized based on whether they referred to the specific emotional problem definition or emotional propositions in the

Pro-Drill High Emotion message or whether they referred to broader more global constructs. Returning to Table 22a, the first four affective-belief targets (e.g., foreign oil dependency-- economic security; foreign oil dependency--national security; drilling won't harm animals; and critics of drilling - unfavorable emotions) are identified as specific affective-belief targets because they represent the emotional problem definition and emotional propositions in the High Emotion Pro-Drill message. The next three affective-belief targets (e.g., issue - unfavorable emotions, policy- favorable emotions, and message-favorable are identified as global affective-belief targets.

This coding created four categories. Target Category 1 includes specific targets that support the message's policy position. Target Category 2 includes global targets that support the message's policy position. Target Category 3 includes specific targets that oppose the message's policy position. Target Category 4 includes global targets that oppose the message's policy position. Each subject received four scores corresponding to the total number of affective-beliefs in Target Category 1, the total number of affective-beliefs in Target Category 2, etc.

Next, these four scores were used to create two indices for each subject. The first index, *Specific Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 3 (e.g., Specific Targets that oppose the message's policy position) from Target Category 1 (e.g., Specific Targets that support the message's policy position). The second index, *Global Affective-Belief Targets*, was created by subtracting each subject's score for Target Category 4 (e.g., General Targets that oppose the message's policy position) from Target Category 2 (e.g., General Targets that support the message's policy position).

Table 24a displays the mean index for the specific and global affective-belief indices. The results show that the although the mean specific affective-belief indices are negative in both Pro-Drill conditions, the mean is smaller in the High Emotion condition (M= - .09) than in the Low Emotion condition (M= - .31). It is important to remember that the closer the score is to zero, the

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more it is reflecting specific affective-beliefs supporting and opposing the message's advocated position. In other words, the Pro-Drill High Emotion condition has a score closer to zero because it includes more subjects who expressed specific affective-beliefs supporting the message's policy position (see Table 22a and 22b). Nevertheless, since the two means are not significantly different, t(91df)= 1.03, ns., ***in the Pro-Drill conditions, Hypothesis 1 is not supported for the mean specific affective belief indices.***

Turning next to the global affective-belief targets, in addition to being negative in both conditions, the mean is larger in the Pro-Drill High Emotion condition (M= - .34) than in the Pro-Drill Low Emotion condition (M= - .23). However, the difference is not significant, t(91df)= .67, ns. Therefore, in the Pro-Drill conditions, Hypothesis 1 is not supported for the mean specific global belief indices.

Referring to Table 24b, although the relationship between the specific affective-belief index variable and post-message attitudes is significant in both conditions, it is also smaller in the Pro-Drill High Emotion condition (standardized beta: .26) than in the Pro-Drill Low Emotion condition (standardized beta: .36). Therefore, ***in the Pro-Drill conditions, Hypothesis 2 is not supported for the specific affective-belief indices.***

The relationship between the global affective-belief index and post-message attitudes is also significant in both Pro-Drill conditions, however, it is only slightly larger in the Pro-Drill High Emotion condition (standardized beta: .27) than in the Pro-Drill Low Emotion condition (standardized beta: .23).

Turning next to a hierarchical regression analyses (See Table 24c), in the Pro-Drill High Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by 10% and the change is significant. ($F_{1, 41}$ Change = 8.07, p < .01). When the specific affective-belief index is entered into the third block, the R^2 increases by 5% and the change is also significant ($F_{1, 40}$ Change = 4.39, p < .05).

In the Pro-Drill Low Emotion condition, when the global affective-belief index is entered into the second block, the R^2 increases by 8% and the change is significant. ($F_{1, 46}$ Change = 7.10, $p < .01$). When the specific affective-belief index is entered into the third block, the R^2 increases by 12% and the change is significant ($F_{1, 45}$ Change = 12.79, $p < .001$).

In sum, the Pro-Drill condition used the only messages that did not lead to an emotional framing effect. Specifically, subjects were familiar with the issue and the policy. They possessed pre-existing attitudes that opposed the Pro-Drill policy supporting drilling in ANWR. Even when they were exposed to the emotional message frame, although it might have softened a few attitudes, it did not achieve its intended effect. So what did occur?

Although some individuals did not respond emotionally, the Pro-Drill High Emotion message primed almost one third of the subjects to focus on their emotions (see initial emotional responses in Table 20a). When subjects' emotions were probed by the second open-ended question, this increased to more than 3/4ths of the subjects. However, their affective-beliefs were directed at the wrong (or unintended) target (See Table 22a). Subjects used their emotions to critique the message (e.g., this message angers me because it is so biased). They also retrieved affective-beliefs from memory to counter-argue the message. In the end, an emotional framing effect did not occur.

Turning to Research Question 1 which inquires ***What are the characteristics of the emotional responses evoked by an emotional policy frame and what do these characteristics tell us about how much effort individuals expend when process emotional policy frames?*** The results in the Pro-Drill High Emotion condition reveal that the relationship between the affective-belief index and post-message attitudes (standardized beta: .29) is slightly stronger than the relationship between the specific affective-belief target and post-message attitudes (standardized beta: .26) and much stronger than the relationship between the general emotional response variable and post-message attitudes (standardized beta: .06). However,

these findings must be examined keeping in mind that the Pro-Drill High Emotion message did

not lead to an emotional framing effect and in fact generated backlash among a majority of

subjects.

CHAPTER 8

Main Discussion

This study set out to establish that emotions play a critical role in framing effects by demonstrating that individuals use their emotional responses evoked by emotional policy frames to form/express emotional issue interpretations and policy attitudes. While Gross & D'Ambrosio (2004) provide preliminary evidence that frames influence the target of emotional responses, this study expanded on their findings in five important ways.

First, manipulating the emotionality of policy frames, it demonstrated that High Emotion policy frames generated significantly more emotional responses among subjects than Low Emotion policy frames (Hypothesis 1). Second, it demonstrated that there is a significantly stronger relationship between emotional issue interpretations and policy attitudes in response to a High Emotion policy frame than a Low Emotion policy frame (Hypothesis 2). Third, it demonstrated that the emotional and cognitive responses evoked by emotional policy frames are not redundant predictors of attitudes. Fourth, using three models of emotional framing effects that differ based on the dimensions used to measure emotional responses it demonstrated that individuals engage in different levels of consideration (Brewer 2001) when processing emotional policy frames and transforming their emotional responses into emotional issue interpretations. Finally, this chapter uses the three emotional framing effect models to explain how individuals respond to familiar and unfamiliar emotional policy frames. This final chapter will discuss each of these areas in more depth. It then describes the limitations and strengths of this study before concluding.

Emotional Framing Effects

The primary expectation of this study was that subjects exposed to a High Emotion Policy Frame would be more likely to use emotions evoked by the problem definition to form/express a policy attitude than subjects exposed to a Low Emotion Policy Frame. This was tested using two hypotheses. Hypothesis 1 predicted that *a High Emotion policy frame would evoke significantly more emotional responses leading to the formation of an emotional issue interpretation among individuals than a Low Emotion policy frame.* Hypothesis 2 predicted that *the relationship between emotional issue interpretations and the message's advocated policy position would be stronger in response to a High Emotion policy frame than in response to a Low Emotion policy frame.* The results of three of the four policy conditions (e.g., Con-Malpractice Caps, Pro-Malpractice Caps and Con-Drilling) supported these predictions.

As the literature review described, many framing effect studies demonstrate that individuals use the cognitive responses evoked by a message frame to form a cognitive issue interpretation (Shen 2004a, b; Brewer 2002). The initial research on emotional framing effects (c.f., Gross & D'Ambrosio 2004; Kinder & Sanders 1990) and extant research in social psychology (c.f., Rosselli, et al. 1995) suggested that this same type of effect could occur in response to a High Emotion policy frame.

To review, a High Emotion Policy Frame is constructed when an emotional problem definition is linked to a policy using an association that explicitly states or implies whether individuals should support or oppose the policy (cf. Brewer, Graf & Willnat 2003; Brewer 2001). An emotional problem definition is created when an issue (e.g., medical malpractice awards; dependence on foreign oil) is linked to a *construct* (e.g., individuals or groups of people affected by the issue) evoking the retrieval of emotional experiences and/or object-related emotional responses. This study's emotional policy frames also included propositions describing the

personal stories of individuals affected by the problem. For example, the Con-Cap condition included a proposition describing the experiences of "Beth" who had been misdiagnosed with breast cancer.

Alternatively, a Low Emotion policy frame is constructed through the association of a policy with a problem definition that is not intended to evoke an emotional response (e.g., low emotion policy definition). It influences individuals to focus relatively more on *what* the issue makes them *think* than *how* it makes them *feel*. Additionally, a low emotion problem definition is comprised of propositions containing facts, numbers and/or statistics that attempt to prime individuals to focus more on their thoughts than on their feelings.

Based on this distinction, Hypothesis 1 predicted that *a High Emotion policy frame would evoke significantly more emotional responses leading to the formation of an emotional issue interpretation among individuals than a Low Emotion policy frame*. In general, in the Con-Cap, Pro-Cap and Con-Drill conditions, the High Emotion policy frames evoked significantly more emotional responses among subjects than the Low Emotion policy frames. Additionally, the Con-Cap and Con-Drill High Emotion messages generated significantly more favorable affective-beliefs supporting the policy frame's advocated position than unfavorable beliefs opposing the policy frame's advocated position. Finally, the Con-Cap, Pro-Cap and Con-Drill High Emotion messages generated more specific affective-beliefs targets directly corresponding to the emotional components of the emotional policy frame (e.g., emotional problem definition and emotional propositions) than global affective-belief targets corresponding to broader constructs in the message (e.g., issue, message and policy).

Hypothesis 2 predicted that the relationship between subjects' emotional issue interpretations and policy attitudes would be stronger in response to the High Emotion policy frame than in response to the Low Emotion policy frame. The model presented in Chapter 3 attributed this to the structure of the emotional frame. Specifically, High Emotion policy frames are constructed

using rhetorical devices that explicitly link an emotional problem definition to the policy. Since rhetorical devices describe *how* the emotional problem definition and emotional propositions are related to the policy, they help individuals understand *how* their emotional issue interpretations are related to their policy attitudes. More importantly, these associations are evaluative telling individuals whether they should support or oppose a particular policy (Brewer, Graf & Willnat 2003; Brewer 2001).

The results from the Con-Cap and Con-Drill conditions consistently supported Hypothesis 2. The standardized beta coefficients measuring the relationship between the emotional variables and post-message attitudes were significant and larger in the High Emotion policy conditions than in the Low Emotion policy conditions. Additionally, in the Con-Cap condition, the relationship between subjects' emotional responses and post-message attitudes was, in some cases, stronger than the relationship between their pre-message attitude and post-message attitudes and their cognitive responses and post-message attitudes.

Although the findings provided support for emotional framing effects for the Con-Cap and Con-Drill conditions, this was not the case in all of the conditions. Similar to cognitive framing effect studies, the results also revealed that subjects were not easily persuaded. Instead, they used their pre-existing attitudes to process the policy frames influencing some subjects to reject the policy frame's advocated position.

In the Pro-Cap condition, although there was some opposition toward the policy frame's advocated position, the results still demonstrated that an emotional framing effect occurred. However, this was not the case in the Pro-Drill condition. Subjects opposed drilling before they were exposed to the messages. In the Pro-Drill High Emotion condition, this opposition either diminished subjects' emotional responses or generated emotional responses directed at unintended targets. For example, some subjects expressed anger toward the bias in the Pro-Drill High Emotion message. Subjects also retrieved affective-beliefs from memory to counter-argue

the message. Of course this backlash reversed the "intended" relationship between subjects'

emotional responses and post-message attitudes in the Pro-Drill High Emotion condition. In other

words, subjects' emotional responses opposing the policy frame's advocated position were

positively related to their negative policy attitudes -- the more they used their emotions to oppose

the policy frame's advocated position, they more they actually opposed the policy (e.g., drilling in

ANWR).

    In sum, the study's two hypotheses were supported by the results from three of the four policy

conditions. Specifically, the High Emotion policy frames in the Con-Cap, Pro-Cap and Con-Drill

conditions evoked emotional responses that subjects used to form emotional issue interpretations

and attitudes toward the policy frame's advocated position. The study's findings for the three

policy conditions demonstrated that emotional framing effects can occur in response to emotional

policy frames.

Processing Emotional Policy Frames

    In addition to measuring emotional framing effects, this study also posed two research

questions. The first research question focused on how individuals process emotional policy

frames by inquiring: *What are the characteristics of the emotional responses evoked by an*

emotional policy frame and what do these characteristics tell us about how much effort individuals

expend when processing emotional policy frames? Interestingly enough, the answer to the first

research question also provides insight into the second research question which inquires *whether*

there are differences in how individuals process emotional policy frames when they are exposed

to an unfamiliar or familiar issue/ policy. Therefore, the questions are addressed simultaneously

for each policy condition. First, however, it is helpful to review how processing was measured.

Three models of emotional framing effects were developed that differed according to the dimensions used to measure emotional responses. Specifically, Model 1 tested the study's hypotheses using a **general emotional response variable** which measures the *magnitude* of subjects' emotional responses. Model 2 tested the study's hypotheses using an **affective-belief index** which measures the *magnitude* and *direction* of subjects' emotional responses. Model 3 tested the study's hypotheses using an **affective-belief target index** which measures the *magnitude*, *direction* and *target* of subjects' emotional responses. As each dimension is added to the emotional variable used in the model, the measurement of emotional framing effects becomes more precise and reflects more effortful processing.

To answer the study's two research questions, the regression coefficients measuring the relationship between each emotional variable (e.g., general emotional response, affective-belief index and affective-belief target index) and post-message attitudes were compared for each of the High Emotion policy conditions. The emotion variable with the strongest relationship to post-message attitudes provides the most precise measurement of emotional framing effects for that particular policy condition (Please see Chapters 6 and 7). This not only provided insight into how subjects processed the High Emotion policy frame, but it also helped to explain how subjects responded to the unfamiliar and familiar policy conditions.

The Malpractice Cap messages represent the unfamiliar policy conditions in this study. A majority of subjects did not possess a pre-existing attitude toward Malpractice Caps and were therefore in the process of forming their attitudes while they read the messages (See Chapter 5). The results for both conditions revealed that the **specific affective-belief target index** has the strongest relationship with post-message attitudes compared to the other emotional variables. Specifically, subjects in the Cap conditions engaged in more effortful processing by using the *magnitude, direction* and *target* of their emotional responses to interpret the issue and form an attitude toward the policy frame's advocated position.

The results for both the Con-Cap (see Table 6b) and Pro-Cap (see Table 12b) conditions showed that subjects relied more on the content of the message frame (e.g., specific affective-belief targets) than on pre-existing attitudes when forming their attitudes toward the policy frames' advocated positions. However, the results revealed that there was some opposition among subjects in the Pro-Cap condition. Since a majority did not possess pre-existing affective-beliefs directly related to the emotional frame, it is possible that they might have retrieved other relevant political beliefs that influenced them to oppose the Pro-Cap policy frame's advocated position. Nevertheless, a majority of subjects still formed emotional issue interpretations using specific affective-belief targets that, in turn, influenced them to support the policy frame's advocated position.

The Con-Drill and Pro-Drill messages represented the familiar policy conditions. The descriptive data showed that a majority of subjects possessed pre-existing attitudes that opposed drilling in ANWR. Therefore, while subjects in the Con-Drill conditions were exposed to a pro-attitudinal message, subjects in the Pro-Drill conditions were exposed to a counter-attitudinal message. As the findings revealed, this not only influenced whether an emotional framing effect occurred, but it also influenced the amount of effort subjects used to form emotional issue interpretations.

In the Con-Drill condition, the results reveal that the ***general emotional responses variable*** provided the strongest measurement of emotional framing effects. In other words, subjects used the *magnitude* of their emotional responses more than the direction and target to form emotional issue interpretations. Specifically, when subjects were exposed to the Con-Drill High Emotion message, it likely activated pre-existing favorable affective-beliefs. Since these affective-beliefs already supported the policy frame's advocated position, the *magnitude* of subjects' emotional responses explained more variance in post-message attitudes than the direction or target of their affective-beliefs.

Turning to the Pro-Drill condition, although an emotional framing effect did not occur due to the backlash (see earlier discussion), one question that still remains is whether individuals use their emotional responses to simply reject the message or do they retrieve information from memory to counter-argue it. The results revealed that subjects in the Pro-Drill condition did both (See Table 22a). They flatly rejected the message by expressing their anger toward it's bias. They also retrieved affective-beliefs from memory to counter-argue the policy frame's advocated position. These two processes led to a stronger relationship between subjects' affective-beliefs indices and post-message attitudes in the Pro-Drill High Emotion condition even though the relationship was in the opposite direction.

In sum, this study provides evidence that emotional policy frames can lead to emotional framing effects. Specifically, the results demonstrated that individuals use the emotional responses evoked by High Emotion Policy Frames to form emotional issue interpretations. They use these emotional issue interpretations to form/express an attitude toward the policy frame's advocated position. However, the results also revealed that individuals will use their pre-existing knowledge, attitudes and beliefs to determine whether they agree with an emotional policy frame's advocated position. If they disagree, this could diminish their emotional responses or generate emotions with targets that oppose the policy frame's advocated position leading to no emotional framing effect. Finally, although the High Emotion policy frames evoked both emotional and cognitive responses, Hierarchical Regression Analyses revealed that that they were not redundant predictors of post-message attitudes. Instead, the results demonstrated that even after pre-message attitudes and cognitive responses were entered into the model, the change in the amount of variance explained by emotion is significant. In sum, emotions play an important role in framing effects.

Limitations and Strengths of the Study

Before concluding, it is important to identify the limitations and strengths of this study. The subjects in this study raise two potential problems. First, a majority of the subjects in the pilot tests and the main experiment are female. It is possible that females might respond differently than males to the emotional stimuli. Although there were no significant differences between males and females on the primary dependent variables, it is important to keep the large number of females participating in the study in mind when reviewing the results (see Chapter 5).

A second limitation is the use of student subjects and the generalizability of the results to the larger population. Since college students are educated, they might process emotional message frames using more cognitive complexity than the average person. Although the findings should be reviewed with this limitation in mind, it also provides a more conservative test of the hypotheses because cognitive complexity could diminish emotional responses.

One of the strengths of this study is that every effort was made to create balanced experimental messages in each policy condition that only differed based on the inclusion of personal stories in the High Emotion message and statistics/facts in the Low Emotion message (please refer to Chapter 4). Unfortunately, the messages were somewhat complex and long which could have diminished subjects' emotional responses. However, this also provided a more conservative test of the hypotheses. It is likely that if the messages were shorter and less complex, they might have evoked more emotional responses among subjects.

A second strength of this study is its use of open-ended questions to measure subjects' emotional responses to the experimental messages. One of the problems associated with close-ended questions is that subjects are forced to select an emotion that may not accurately reflect their true feelings. For example, a close-ended question could ask subjects whether they felt angry toward a particular target. If they only felt mild frustration or irritation, then "anger" does not

accurately reflect the intensity of their emotional response. Additionally, it is possible that some

subjects will indicate that they did not feel any emotion at all. Open-ended responses provide

subjects with the opportunity to describe their reactions in their own words.

<u>Future Research</u>

This study focused predominantly on subjects' emotional responses and only used their

cognitive responses as a basis for comparison in the regression models. Future research should

examine the target of subjects' cognitive- and affective-beliefs to arrive at a better understanding

of their relationship with each other and with post-message attitudes. Additionally, this study

provides preliminary evidence that individuals process policy frames using different levels of

issue-relevant thinking. Future research should begin to identify the individual-level and

message-related variables that lead to different levels of issue-relevant thinking.

PILOT TEST DATA TABLES

<u>Pilot Test Table 1a -- Military Draft (Means and Standard Deviations Reported)</u>

		Pro-Draft Low Emotion (n=13)	Pro-Draft High Emotion (n=11)	Con-Draft Low Emotion (n=16)	Con-Draft High Emotion (n=12)
Pre-Message Policy Attitude	*M*	2.54	1.18	2.94	1.92
	SD	(2.30)	(0.60)	(2.54)	(1.51)
Post-Message Policy Attitude	*M*	2.46	2.00	2.94	1.33
	SD	(2.18)	(1.55)	(1.98)	(0.89)
Familiarity with Policy Debates	*M*	5.92	5.55	6.50	5.75
	SD	(2.53)	(2.62)	(2.10)	(3.05)
Emotionality of Message	*M*	5.54	5.09	4.38	5.58
	SD	(1.27)	(1.70)	(1.36)	(1.24)
Amount of Information in Message	*M*	4.00	4.64	4.81	4.08
	SD	(1.63)	(1.50)	(1.05)	(1.51)
Strength of Message	*M*	4.23	4.45	4.75	4.50
	SD	(1.64)	(1.44)	(1.18)	(1.73)

M= Mean; SD= Standard Deviation; Pre- and Post-Message Attitudes, Familiarity based on 10-pt. scale; Emotionality, Information, and Strength based on 7-pt. scales.

<u>Pilot Test Table 1b -- Malpractice Caps (Means and Standard Deviations Reported)</u>

		Pro-Cap Low Emotion (n=10)	Pro-Cap High Emotion (n=10)	Con-Cap Low Emotion (n=11)	Con-Cap High Emotion (n=14)
Pre-Message Policy Attitude	*M*	6.50	5.29	5.00	4.83
	SD	(1.64)	(3.35)	(2.65)	(1.99)
Post-Message Policy Attitude	*M*	6.10	6.30	4.55	2.79
	SD	(2.60)	3.16)	(2.30)	(1.67)
Familiarity with Policy Debates	*M*	2.80	3.30	3.18	3.71
	SD	(1.75)	(2.16)	(2.18)	(2.13)
Emotionality of Message	*M*	4.00	4.30	3.91	5.50
	SD	(1.25)	(1.49)	(1.58)	(1.29)
Amount of Information in Message	*M*	5.20	4.50	5.18	4.79
	SD	(0.79)	(1.08)	(1.40)	(1.19)
Strength of Message	*M*	4.70	5.10	5.55	5.50
	SD	(0.95)	(1.60)	(1.04)	(1.16)

M= Mean; SD= Standard Deviation; Pre- and Post-Message Attitudes, Familiarity based on 10-pt. scale; Emotionality, Information, and Strength based on 7-pt. scales.

Pilot Test Table 2a -- Military Draft (Means and Standard Deviations Reported)

		Pro-Draft Low Emotion (n=11)	Pro-Draft High Emotion (n=10)	Con-Draft Low Emotion (n=14)	Con-Draft High Emotion (n=13)
Pre-Message	M	1.73	1.44	1.64	1.62
Policy Attitude	SD	(1.79)	(0.73)	(0.84)	(1.19)
Post-Message	M	3.27	2.70	2.29	2.62
Policy Attitude	SD	(2.49)	(1.34)	(1.49)	(2.63)
Emotionality	M	5.73	6.40	5.93	6.08
of Message	SD	(1.62)	(1.43)	(1.49)	(1.71)
Amount of Information	M	4.91	5.10	5.64	5.00
in Message	SD	(1.45)	(1.97)	(1.15)	(1.53)
Strength	M	5.36	5.50	6.07	5.15
of Message	SD	(1.12)	(1.58)	(0.09)	(2.27)

M= Mean; SD= Standard Deviation; Pre- and Post-Message Policy Attitudes based on 10-pt. scale.
Emotionality, Information and Strength based on 9-pt. scale.

Pilot Test Table 2b- Malpractice Caps (Means and Standard Deviations Reported)

		Pro-Cap Low Emotion (n=9)*	Pro-Cap High Emotion (n=11)	Con-Cap Low Emotion (n=11)	Con-Cap High Emotion (n=15)
Pre-Message	M	6.25	4.30	4.73	4.50
Policy Attitude	SD	(3.11)	(2.00)	(1.90)	(2.43)
Post-Message	M	6.78	6.82	4.73	3.93
Policy Attitude	SD	(3.23)	(1.89)	(2.10)	(2.40)
Emotionality	M	5.56	6.55	5.45	6.6
of Message	SD	(2.07)	(1.51)	(1.63)	(1.35)
Amount of Information	M	5.44	5.73	5.00	4.73
in Message	SD	(2.13)	(1.62)	(1.55)	(1.71)
Strength	M	5.67	5.55	4.73	6.67
of Message	SD	(2.00)	(1.75)	(1.19)	(1.11)

M= Mean; SD= Standard Deviation; Pre- and Post-Message Policy Attitudes based on 10-pt. scale.
Emotionality, Information and Strength based on 9-pt. scale.

Pilot Test Table 3a -- Military Draft (Means and Standard Deviations Reported)

		Pro-Drill Low Emotion (n=28)	Pro-Drill High Emotion (n=27)	Con-Drill Low Emotion (n=23)	Con-Drill High Emotion (n=26)
Pre-Message Policy Attitudes	M	3.11	2.56	3.00	3.69
	SD	(2.44)	(2.31)	(2.66)	(2.75)
Post-Message Policy Attitudes	M	4.25	3.52	2.57	3.00
	SD	(2.58)	(2.87)	(2.11)	(2.38)
Emotionality of Message	M	3.68	5.59	4.00	5.89
	SD	(1.93)	(1.99)	(2.09)	(1.90)
Thoughts/Emotions	M	2.79	4.89	3.04	4.89
	SD	(2.18)	(2.59)	(2.01)	(2.03)
Amount of Information in Message	M	6.46	5.74	6.30	6.50
	SD	(1.94)	(2.07)	(2.08)	(1.61)
Strength of Message	M	5.65	5.52	6.04	6.81
	SD	(2.11)	(2.17)	(1.99)	(1.90)

M= Mean; SD= Standard Deviation; Pre-and Post-Message Attitudes based on 10-pt. scale.
Emotionality, Thoughts/Emotions, Information and Strength based on 9-pt, scale.

Pilot Test Table 3b -- Malpractice Caps (Means and Standard Deviations Reported)

		Pro-Cap Low Emotion (n=24)	Pro-Cap High Emotion (n=21)	Con-Cap Low Emotion (n=25)	Con-Cap High Emotion (n=28)
Pre-Message Policy Attitudes	M	5.24	4.47	4.62	4.35
	SD	(2.63)	(2.12)	(2.44)	(2.26)
Post-Message Policy Attitudes	M	5.46	5.48	3.08	2.64
	SD	(2.69)	(2.27)	(1.98)	(2.02)
Emotionality of Message	M	4.42	5.62	4.92	7.00
	SD	(1.91)	(2.11)	(1.82)	(1.68)
Thoughts/Emotions	M	3.29	5.29	3.64	6.46
	SD	(1.88)	(2.33)	(2.06)	(1.50)
Amount of Information in Message	M	6.96	5.91	6.16	6.29
	SD	(1.81)	(1.58)	(1.49)	(1.92)
Strength of Message	M	6.38	5.81	6.40	6.68
	SD	(1.44)	(1.72)	(2.04)	(2.20)

M= Mean; SD= Standard Deviation; Pre-and Post-Message Attitudes based on 10-pt. scale.
Emotionality, Thoughts/Emotions, Information and Strength based on 9-pt, scale.

MAIN EXPERIMENT DATA TABLES

Table 1a: Mean Message Attitude Change

	Con-Cap Low Emotion	**Con-Cap High Emotion**	**Total**	***Independent Sample t-Test**
Mean	1.67	2.36	2.02	t= 1.61, 90df
Standard Deviation	(2.16)	(2.00)	(2.09)	*ns*
	n=45	*n=47*	*n=92*	

* One-Tailed Significance Tests Reported

Table 1b: Message Attitude Change Distribution (Proportion of Subjects)

	Con-Cap Low Emotion	**Con-Cap High Emotion**	**Total**
Backlash (-1.00 to 5.00)	9% (4)	4% (2)	7% (6)
No Change (-.50 to .50)	27% (12)	19% (9)	23% (21)
Small Change (1.00 to 2.50)	38% (17)	26% (12)	32% (29)
Large Change (3.00 or more)	27% (12)	51% (24)	39% (36)
Total	(45)	(47)	(92)

Table 2a: Proportion of Subjects Responding to First Open-Ended Question Using Emotional Responses

# of Responses	Con-Cap Low Emotion	Con-Cap High Emotion
5		2%
4	2%	2
3	2	7
2	4	19
1	16	36
0	76	34
	n=45	*n=47*

Table 2b: Proportion of Subjects Responding to First Open-Ended Question Using Cognitive Responses

# of Responses	Con-Cap Low Emotion	Con-Cap High Emotion
6		2%
5	2%	
4	4	4
3	29	23
2	33	28
1	22	32
0	9	11
	n=45	*n=47*

Table 2c: Mean Initial General Emotional and Cognitive Response to 1st Open-Ended Question

	Con-Cap Low Emotion	Con-Cap High Emotion	Total	* Independent Sample t-Test
Initial General Emotional Response	0.38 (0.78)	1.06 (0.99)	0.73 (0.92)	t= 3.70, 90df p < .001
Initial General Cognitive Response	1.96 (0.98)	1.77 (1.01)	1.86 (0.99)	t= .92, 90df ns
	n=45	*n=47*	n=92	

* One-Tailed Significance Tests Reported; Standard Deviations reported in parentheses.
For the Initial General Emotional Responses and Initial Cogntive Responses 3 or more
responses are collapsed and assigned a value of 3.00.

Table 3a: Mean General Emotional and Cognitive Response

	Con-Cap Low Emotion	Con-Cap High Emotion	Total	* Independent Sample t-Test
General Emotional Response	1.53 *(1.29)*	2.98 *(1.50)*	2.27 *(1.57)*	t= 4.95, 90df p < .000
General Cognitive Response	4.24 *(1.32)* *n=45*	3.85 *(1.57)* *n=47*	4.04 *(1.46)* n=92	** t= 1.30, 88df ns

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 3b: Model 1 -- General Emotional Response Predicting Post-Message Attitudes

		Con-Cap Low Emotion	Con-Cap High Emotion
General Emotional	*Unstandardized*	.36 (.28)	.36 (.16) *
Response	*Standardized*	.20	.29
General Cognitive	*Unstandardized*	.34 (.26)	-.32 (.15) *
Response	*Standardized*	.19	-.27
Pre-Message	*Unstandardized*	.57 (.15) ***	.38 (.13) **
Attitudes	*Standardized*	.49	.38
Constant		2.27 (1.58)	6.37 (.97) ***
N		45	47
Adjusted R2		.27	.28
SE of Regression		2.02	1.58

* = p< .05; ** = p< .01; *** = p< .001; Standard errors reported in parentheses

Table 3c: Model 1 -- General Emotional Response - Hierarchical Regression

	Con-Cap Low Emotion	Con-Cap High Emotion
1: Pre-Message Attitudes		
Multiple R	.53	.43
R2 Change	.28 ***	.18 **
F Change	17.07	10.18
	df (1, 43)	df (1, 45)
2: Cognitive Response		
R2 Change	.01	.07
F Change	.57	3.94
	df (1, 42)	df (1,44)
3: Emotional Response		
R2 Change	.03	.08 *
F Change	1.70	4.84
	df (1, 41)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 4a: Target of Affective-Beliefs (Proportion of Subjects)

Target Dimension	Target Category	Target of Affective-Beliefs	Con-Cap Low Emotion (n=45)	Con-Cap High Emotion (n=47)	Total (n=92)
Affective-Beliefs Supporting Message's Policy Position	**1** **Specific**	Injured Patients (victims of negligent doctors)	4% (2)	53% (25)	29% (27)
		Doctors (unfavorable emotions)	7% (3)	53% (25)	30% (28)
		Medical Error/Malpractice Rates (unfavorable)	13% (6)	6% (3)	10% (9)
		Insurance Companies (unfavorable emotions)	9% (4)	9% (4)	9% (8)
		Supporters (unfavorable emotions)	7% (3)	4% (2)	5% (5)
	2 **Global**	Issue (broad topical focus)	24% (11)	6% (3)	15% (14)
		Policy (unfavorable emotions)	22% (10)	9% (4)	15% (14)
		Message (favorable emotions)	2% (1)	2% (1)	2% (2)
		Story (global favorable emotions)		19% (9)	10% (9)
Affective-Beliefs Opposing Message's Policy Position	**3** **Specific**	Doctors (favorable emotions)	7% (3)	6% (3)	7% (6)
		Lawyers/Clients (unfavorable emotions)	4% (2)		2% (2)
		Injured Patients (victims of frivilous lawsuits)	2% (1)		1% (1)
		Lawsuits (unfavorable emotions)	2% (1)	2% (1)	2% (2)
		Opponents of Policy (unfavorable emotions)	2% (1)		1% (1)
	4 **Global**	Message (unfavorable emotions)	4% (2)	11% (5)	8% (7)

Separate cross-tabulation reported for each target (e.g., Injured Patients). Percents represent the proportion of subjects who responded to open-ended questions with at least one affective-belief directed at target.

Table 4b: Con-Cap -- Affective-Belief Direction (Proportion of Subjects)

	Con-Cap Low Emotion	Con-Cap High Emotion
Affective-Beliefs Supporting Message's Advocated Policy Position Only	54% (24)	75% (35)
Affective-Beliefs Opposing Message's Advocated Policy Position Only	16% (7)	2% (1)
Affective-Beliefs Supporting and Opposing Message's Advocated Policy Position (Mixture)	0%	15% (7)
No Affective-Beliefs	31% (14)	9% (4)

Table 5a: Affective- and Cognitive-Beliefs - Mean Response

	Con-Cap Low Emotion	Con-Cap High Emotion	Total	* Independent Sample t-Test
Affective-Belief Index	0.87	2.13	1.51	t= 3.63, 90df
	(1.66)	(1.68)	(1.78)	p < .000
Cognitive-Belief Index	1.42	1,89	1.66	** t= 1.02, 82df
	(2.47)	(1.90)	(2.20)	ns
	n=45	n=47	n=92	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 5b: Affective-Belief Index Predicting Post-Message Attitudes

		Con-Cap Low Emotion	Con-Cap High Emotion
Affective-Belief Index	*Unstandardized*	.26 (.17)	.53 (.13) ***
	Standardized	.18	.47
Cognitive-Belief Index	*Unstandardized*	.51 (.13) ***	.24 (.12) *
	Standardized	.53	.24
Pre-Message Attitudes	*Unstandardized*	.18 (.15)	.23 (.11) *
	Standardized	.16	.23
Constant		5.68 (.85) ***	5.55 (.67) ***
N		45	47
Adjusted R2		.51	.51
SE of Regression		1.66	1.30

* = p< .05; ** = p< .01; *** = p< .001

Table 5c: Affective-Belief Index -- Hierarchical Regression Analysis

	Con-Cap Low Emotion	Con-Cap High Emotion
1: Pre-Message Attitude		
Multiple R	.53	.43
R2 Change	.28 ***	.18 **
F Change	17.07	10.18
	df (1, 43)	df (1, 45)
2: Cognitive-Belief Index		
R2 Change	.23 ***	.19 ***
F Change	20.01	13.40
	df (1, 42)	df (1,44)
3: Affective-Belief Index		
R2 Change	.03	.17 ***
F Change	2.35	15.74
	df (1, 41)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 6a: Mean Affective-Belief Target Indices

	Con-Cap Low Emotion	Con-Cap High Emotion	Total	* Independent Sample t-Test
Specific Affective-Belief Target Index	0.31 (1.24)	1.70 (1.38)	1.02 (1.48)	t= 5.07, 90df p < .000
Global Affective-Belief Target Index	0.56 (0.97)	0.28 (0.80)	0.41 (0.89)	t= 1.51, 90df ns
	n=45	n=47	n=92	

One-Tailed Significance Tests Reported;

Table 6b: Affective-Belief Target Indices Predicting Post-Message Attitudes

		Con-Cap Low Emotion	Con-Cap High Emotion
Specific Affective-Belief Target Index	Unstandardized Standardized	.43 (.25) .22	.74 (.15) *** .55
Global Affective-Belief Target Index	Unstandardized Standardized	.49 (.32) .20	.56 (.25) * .24
Pre-Message Attitudes	Unstandardized Standardized	.47 (.16) ** .41	.31 (.11) ** .31
Constant		4.49 (.94) ***	5.24 (.70) ***
N		45	47
Adjusted R2		.32	.48
SE of Regression		1.95	1.35

* = p< .05; ** = p< .01; *** = p< .001

Table 6c: Affective-Belief Target Indices -- Hierarchical Regression

	Con-Cap Low Emotion	Con-Cap High Emotion
1: Pre-Message Attitude		
Multiple R	.53	.43
R2 Change	.28	.18
F Change	17.07	10.18
2: Global Affective-Belief Targets		
R2 Change	.04	.04
F Change	2.33	2.29
	df (1, 42)	df (1, 44)
3: Specific Affective-Belief Targets		
R2 Change	.05	.29 ***
F Change	3.01	25.42
	df (1, 41)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 7a: Mean Message Attitude Change

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total	*Independent Sample t-Test
Mean	0.62	0.68	0.65	t= .14, 93df
Standard Deviation	(2.12)	(2.76)	(2.18)	ns
	n=48	n=47	n=95	

One-Tailed Significance Tests Reported;

Table 7b: Message Attitude Change Distribution (Proportions of Subjects)

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total
Backlash	23%	26%	24%
(-1.00 to 5.00)	(11)	(12)	(23)
No Change	29%	23%	26%
(-.50 to .50)	(14)	(11)	(25)
Small Change	29%	36%	33%
(1.00 to 2.50)	(14)	(17)	(31)
Large Change	19%	15%	17%
(3.00 or more)	(9)	(7)	(16)
Total	(48)	(47)	(95)

Table 8a: Proportion of Subjects Responding to First Open-Ended Question Using Emotional Responses

# of Responses	Pro-Cap Low Emotion	Pro-Cap High Emotion
3		4%
2	6%	13
1	25	32
0	69	51
	n=48	*n=47*

Table 8b: Proportion of Subjects Responding to First Open-Ended Question Using Cognitive Responses

# of Responses	Pro-Cap Low Emotion	Pro-Cap High Emotion
6	2%	
5	4	4%
4	2	4
3	46	23
2	21	34
1	23	23
0	2	11
	n=48	*n=47*

Table 8c: Mean Initial General Emotional and Cognitive Response to 1st Open-Ended Question

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total	* Independent Sample t-Test
Initial General Emotional Response	0.38 *(0.61)*	0.70 *(0.86)*	0.73 *(0.92)*	** t= 2.14, 91df p < .05
Initial General Cognitive Response	2.27 *(0.89)*	1.87 *(0.99)*	1.86 *(0.99)*	t= 2.06, 93df p < .05
	n=48	*n=47*	n=95	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.
For the Initial General Emotional Responses and Initial Cogntive Responses 3 or more
responses are collapsed and assigned a value of 3.00.

Table 9a: Mean General Emotional and Cognitive Responses

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total	* Independent Sample t-Test
Mean General Emotional Response	1.65 (1.25)	2.00 (1.37)	1,82 (1.31)	t= 1.32, 93df ns
Mean General Cognitive Response	4.44 (1.35) n= 48	3.89 (1.42) n=47	4.17 (1.40) n=95	t= 1.91, 93df p < .05

One-Tailed Significance Tests Reported

Table 9b: General Emotional Responses Predicting Post-Message Attitudes

		Pro-Cap Low Emotion	Pro-Cap High Emotion
General Emotional Response	*Unstandardized*	.15 (.25)	.47 (.24) appr
	Standardized	.07	.25
General Cognitive Response	*Unstandardized*	-.21 (.23)	- .06 (.24)
	Standardized	- .11	- .03
Pre-Message Attitudes	*Unstandardized*	.82 (.15) ***	.62 (.14) ***
	Standardized	.66	.54
Constant		2.21 (1.31)	1.99 (1.53)
N		47	47
Adjusted R2		.38	.36
SE of Regression		2.11	2.10

* = p< .05; ** = p< .01; *** = p< .001; Standard errors reported in parentheses

Table 9c: General Emotional Responses -- Hierarchical Regression Analyses

	Pro-Cap Low Emotion	Pro-Cap High Emotion
1: Pre-Message Attitude		
Multiple R	.64	.58
R2 Change	.41***	.34***
F Change	31.38	22.67
	df (1, 46)	df (1, 45)
2: Cognitive Responses		
R2 Change	.01	.01
F Change	.80	.77
	df (1, 45)	df (1,44)
3: Emotional Responses		
R2 Change	.00	.05
F Change	.34	3.76
	df (1, 44)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 10a: Target of Affective-Beliefs (Proportion of Subjects Reported)

Target Dimension	Target Category	Target of Affective-Beliefs	Pro-Cap Low Emotion (n=48)	Pro-Cap High Emotion (n=47)	Total (n=95)
Affective-Beliefs Supporting Message's Policy Position	**1** *Specific*	Doctors (favorable emotions)	10% (5)	36% (17)	23% ** (22)
		Lawyers/Clients (unfavorable emotions)	17% (8)	34% (16)	25% * (24)
		Injured Patients (victims of frivilous lawsuits)	6% (3)	13% (6)	10% (9)
		Specialized Medicine Access	2% (1)	4% (2)	3% (3)
		Awards (unfavorable emotions)	15% (7)	19% (9)	17% (16)
		Lawsuits (unfavorable emotions)	6% (3)	6% (3)	6% (6)
	2 *Global*	Issue (broad topical focus)	25% (12)	15% (7)	20% (19)
		Policy (favorable emotions)	4% (2)	2% (1)	3% (3)
		Story (global favorable emotions)		6% (3)	3% (3)
		Message (favorable emotions)	2% (1)	2% (1)	2% (2)
Affective-Beliefs Opposing Message's Policy Position	**3** *Specific*	Injured Patients (victims of negligent doctors)	13% (6)	9% (4)	11% (10)
		Insurance Companies (unfavorable emotions)	4% (2)		2% (2)
		Doctors (unfavorable emotions	2% (1)		1% (1)
		Medical Error/Malpractice Rates (unfavorable)	2% (1)		1% (1)
		Issue (broad tppical focus)	4% (2)		2% (2)
		Policy (unfavorable emotions)	13% (6)	6% (3)	10% (9)
	4 *Global*	Message (unfavorable emotions)	6% (3)	13% (6)	10% (9)

*Separate cross-tabulation reported for each target (e.g., Injured Patients). Percents represent the proportion of subjects who responded to open-ended questions with at least one affective-belief directed at target. * Chi-Square between Low and High Emotion is significant (Doctor - positive, X2 (1df) = 8.85, p < .01); (Lawyers - negative, X2 (1df) = 3.80, p= .051)*

Table 10b: Pro-Cap -- Affective-Belief Dimensions (Proportion of Subjects)

	Pro-Cap Low Emotion	Pro-Cap High Emotion
Affective-Beliefs Supporting Message's Advocated Policy Position Only	48% (23)	51% (24)
Affective-Beliefs Opposing Message's Advocated Policy Position Only	21% (10)	15% (7)
Affective-Beliefs Supporting and Opposing Message's Advocated Policy Position (Mixture)	10% (5)	11% (5)
No Affective-Beliefs	21% (10)	23% (11)

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Table 11a: Mean Affective- and Cognitive-Belief Indices

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total	* Independent Sample t-Test
Affective-Belief Index	0.38	0.79	0.58	t= 1.59, 93df
	(1.27)	(1.28)	(1.29)	ns
Cognitive-Belief Index	0.90	1.11	1.00	t= .47, 93df
	(2.23)	(2.17)	(2.19)	ns
	n=48	n=47	n=95	

* One-Tailed Significance Tests Reported;

Table 11b: Affective-Belief Index Predicting Post-Message Attitudes

		Pro-Cap Low Emotion	Pro-Cap High Emotion
Affective-Belief Index	*Unstandardized*	.78 (.21) ***	.48 (.21) *
	Standardized	.37	.24
Cognitive-Belief Index	*Unstandardized*	.40 (.13) **	.59 (.13) ***
	Standardized	.34	.49
Pre-Message Attitudes	*Unstandardized*	.46 (.11) ***	.43 (.10) ***
	Standardized	.37	.38
Constant		2.75 (.57) ***	2.68 (.53) ***
N		48	47
Adjusted R2		.71	.72
SE of Regression		1.44	1.39

* = p< .05; ** = p< .01; *** = p< .001

Table 11c: Pro-Cap -- Affective-Belief Index -- Hierarchical Regression

	Pro-Cap Low Emotion	Pro-Cap High Emotion
1: Pre-Message Attitude		
Multiple R	.64	.58
R2 Change	.41 ***	.34 ***
F Change	31.38	22.67
	df (1, 46)	df (1, 45)
2: Cognitive-Belief Index		
R2 Change	.24 ***	.37 ***
F Change	30.67	54.92
	df (1, 45)	df (1,44)
3: Affective-Belief Index		
R2 Change	.08 ***	.03 *
F Change	13.81	5.09
	df (1, 44)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 12a: Affective-Belief Target Indices - Mean Response

	Pro-Cap Low Emotion	Pro-Cap High Emotion	Total	* Independent Sample t-Test
Specific Affective-Belief *Target Index*	0.44 *(0.92)*	1.09 *(1.35)*	0.76 *(1.19)*	** t= 2.74, 81df p < .01
Global Affective-Belief Target Index	0.06 *(0.93)*	0.06 *(0.85)*	0.06 *(0.89)*	t= .00, 90df ns
	n=48	*n=47*	n=95	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 12b: Affective-Belief Target Indices Predicting Post-Message Attitudes

		Pro-Cap Low Emotion	Pro-Cap High Emotion
Specific Affective-Belief Target Index	*Unstandardized* *Standardized*	.49 (.29) .17	.90 (.21) *** .46
Global Affective-Belief Target Index	*Unstandardized* *Standardized*	1.21 (.28) *** .42	.62 (.31) .20
Pre-Message Attitudes	*Unstandardized* *Standardized*	.63 (.12) *** .51	.45 (.13) *** .39
Constant		2.22 (.64) ***	2.59 (.66) ***
N		48	47
Adjusted R2		.61	.56
SE of Regression		1.68	1.75

* = p< .05; ** = p< .01; *** = p< .001

Table 12c: Affective-Belief Target Indices -- Hierarchical Regression

	Pro-Cap Low Emotion	Pro-Cap High Emotion
1: Pre-Message Attitude		
Multiple R	.64	.58
R2 Change	.41 ***	.34 ***
F Change	31.38	22.67
	df (1, 46)	df (1, 45)
2: Global Affective-Belief Target Index		
R2 Change	.20 ***	.08 *
F Change	23.44	5.96
	df (1, 45)	df (1,44)
3: Specific Affective-Belief Target Index		
R2 Change	.02	.17 ***
F Change	2.91	17.48
	df (1, 44)	df (1, 43)

* = p< .05; ** = p< .01; *** = p< .001

Table 13a: Mean Message Attitude Change

	Con-Drill Low Emotion	Con-Drill High Emotion	Total	*Independent Sample t-Test
Mean	0.40	1.05	0.74	t= 1.77, 93df
Standard Deviation	(1.66)	(1.89)	(1.80)	p < .05
	n=46	n=49	n=95	

* One-Tailed Significance Tests Reported;

Table 13b: Message Attitude Change Distribution (Proportion of Subjects)

	Con-Drill Low Emotion	Con-Drill High Emotion	Total
Backlash (-1.00 to 5.00)	20% (9)	10% (5)	15% (14)
No Change (-.50 to .50)	33% (15)	40% (20)	37% (35)
Small Change (1.00 to 2.50)	44% (20)	31% (15)	37% (35)
Large Change (3.00 or more)	4% (2)	18% (9)	12% (11)
Total	(46)	(49)	(95)

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Table 14a: Proportion of Subjects Responding to First Open-Ended
Question Using Emotional Responses

# of Statements	Con-Drill Low Emotion	Con-Drill High Emotion
6		2%
5		
4		4
3	2%	
2	6	16
1	22	25
0	70	53
	n=46	*n=49*

Table 14b: Proportion of Subjects Responding to First Open-Ended
Question Using Cognitive Responses

# of Statements	Con-Drill Low Emotion	Con-Drill High Emotion
6	2%	2%
5		
4	2	4
3	67	23
2	15	28
1	9	32
0	4	11
	n=46	*n=49*

Table 14c: Mean Responses to First Open-Ended Question

	Con-Drill Low Emotion	Con-Drill High Emotion	Total	* Independent Sample t-Test
Initial General Emotional Response	0.41 *(0.72)*	0.76 *(0.95)*	0.59 *(0.86)*	** t= 1.99, 89df p < .05
Initial General Cognitive Response	2.54 *(0.84)*	2.00 *(1.06)*	2.26 *(0.99)*	t= 2.76, 93df p < .01
	n=46	*n=49*	n=95	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.
For the Initial General Emotional Responses and Initial Cogntive Responses 3 or more
responses are collapsed and assigned a value of 3.00.

Table 15a:Mean General Emotional and Cognitive Response

	Con-Drill Low Emotion	Con-Drill High Emotion	Total	* Independent Sample t-Test
Mean General *Emotional Response*	1.50 (1.13)	2.25 (1.40)	1.88 (1.32)	t= 2.85, 93df p < .01
Mean General *Cognitive Response*	4.00 (1.59)	3.67 (1.65)	3.83 (1.62)	t= .98, 93df ns
	n=46	n=49	n=95	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 15b: General Emotional Responses Predicting Post-Message Attitudes

		Con-Drill Low Emotion	Con-Drill High Emotion
Mean General Emotional Response	*Unstandardized* *Standardized*	-.19 (.23) -.10	.63 (.14) *** .42
Mean General Cognitive Response	*Unstandardized* *Standardized*	-11 (.16) -.08	.09 (11) .07
Pre-Message Attitudes	*Unstandardized* *Standardized*	.74 (.12) *** .71	.51 (.07) *** .63
Constant		3.04 (1.18) *	2.91 (.77) ***
N		46	49
Adjusted R2		.47	.62
SE of Regression		1.60	1.28

* = p< .05; ** = p< .01; *** = p< .001

Table 15c: Con-Drill -- General Emotional Responses -- Hierarchical Regression

	Con-Drill Low Emotion	Con-Drill High Emotion
1: Pre-Message Attitude		
Multiple R	.70	.69
R2 Change	.49 ***	.47 ***
F Change	42.45	41.96
	df (1, 44)	df (1, 47)
2: Cognitive Responses		
R2 Change	.00	.00
F Change	.23	.00
	df (1, 43)	df (1, 46)
3: Emotional Responses)		
R2 Change	.01	.17 ***
F Change	.67	20.88
	df (1, 42)	df (1, 45)

* = p< .05; ** = p< .01; *** = p< .001

Table 16a: Target of Affective-Beliefs

Target Dimension	Target Category	Affective-Belief Targets	Con-Drill Low Emotion (n=46)	Con-Drill High Emotion (n=49)	Total (n=95)
Affective-Beliefs Supporting Message's Policy Position	**1** *Specific*	Drilling - Negative Impact on Wildlife/Env	37% (17)	53% (26)	45% (43)
		Oil Companies (unfavorable emotions)	4% (2)	14% (7)	43% (9)
		Drilling - Amount of Oil (unfavorable emotions)	7% (3)		3% (3)
		Oil/Gas Consumption (unfavorable emotions)	15% (7)	16% (8)	16% (15)
		Alternative to Oil/Fuel (favorable emotions)	2% (1)	4% (2)	3% (3)
		Supporters of Drilling (unfavorable emotions)	2% (1)	4% (2)	3% (3)
	2 *Global*	Policy (unfavorable emotions)	13% (6)	14% (7)	14% (13)
		Issue (broad topical focus)	9% (4)	10% (5)	10% (9)
		Stories (global favorable emotions)		10% (5)	5% (5)
		Message (favorable emotions)		10% (5)	5% (5)
Affective-Beliefs Opposing Message's Policy Position	**3** *Specific*	Foreign Oil Dependency - Economic Security	4% (2)	4% (2)	4% (4)
		Critics of Drilling (unfavorable emotions)	2% (1)	2% (1)	2% (2)
	4 *Global*	Policy (positive emotions)	2% (1)		1% (1)
		Issue (broad topical focus)		4% (2)	2% (2)
		Message (unfavorable emotions)	7% (3)	4% (2)	5% (5)

Table 16b: Con-Drill -- Affective-Belief Dimensions (Proportion of Subjects)

	Con-Drill Low Emotion	Con-Drill High Emotion
Affective-Beliefs Supporting Message's Advocated Policy Position Only	59% (27)	70% (34)
Affective-Beliefs Opposing Message's Advocated Policy Position Only	7% (3)	6% (3)
Affective-Beliefs Supporting and Opposing Message's Advocated Policy Position (Mixture)	7% (3)	6% (3)
No Affective-Beliefs	28% (13)	18% (9)

Table 17a: Mean Affective- and Cognitive-Beliefs

	Con-Drill Low Emotion	Con-Drill High Emotion	Total	* Independent Sample t-Test
Affective-Belief Index	0.91	1.76	1.35	** t= 2.85, 86df
	(1.17)	(1.68)	(1.51)	p < .01
Cognitive-Belief Index	2.00	1.96	1.98	** t= .09, 80df
	(2.53)	(1.78)	(2.16)	ns
	n=46	n=49	n=95	

*One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.*

Table 17b: Affective-Belief Index Predicting Post-Message Attitudes

		Con-Drill Low Emotion	Con-Drill High Emotion
Affective-Belief Index	Unstandardized	.22 (.21)	.40 (.12) ***
	Standardized	.12	.32
Cognitive-Belief Index	Unstandardized	.26 (.09) **	.35 (.11) **
	Standardized	.31	.30
Pre-Message Attitudes	Unstandardized	.64 (.10) ***	.37 (.08) ***
	Standardized	.61	.46
Constant		2.41 (.78) **	4.23 (.52) ***
N		46	49
Adjusted R2		.60	.66
SE of Regression		1.39	1.20

* = p< .05; ** = p< .01; *** = p< .001

Table 17c: Affective-Belief Index -- Hierarchical Regression

	Con-Drill Low Emotion	Con-Drill High Emotion
1: Pre-Message Attitude		
Multiple R	.70	.69
R2 Change	.49 ***	.47 ***
F Change	42.45	41.96
	df (1, 44)	df (1, 47)
2: Cognitive-Belief Index		
R2 Change	.12 ***	.13 ***
F Change	13.38	15.07
	df (1, 43)	df (1, 46)
3: Affective-Belief Index		
R2 Change	.01	.08 ***
F Change	1.13	11.71
	df (1, 42)	df (1, 45)

* = p< .05; ** = p< .01; *** = p< .001

Table 18a: Mean Affective-Belief Target Indices

	Con-Drill Low Emotion	Con-Drill High Emotion	Total	* Independent Sample t-Test
Specific Affective-Belief _Target Index_	0.72 _(0.96)_	1.55 _(1.97)_	1.15 _(1.61)_	** t= 2.65, 71df p < .01
Global Affective-Belief _Target Index_	0.20 _(0.78)_	0.49 _(0.96)_	0.35 _(0.89)_	** t= 1.65, 91df ns
	n=46	n=49	n=95	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 18b: Affective-Belief Target Indices Predicting Post-Message Attitudes

		Con-Drill Low Emotion	Con-Drill High Emotion
Specific Affective-Belief _Target Index_	_Unstandardized_	.51 (.26) appr	.47 (.16) **
	Standardized	.21	.29
Global Affective-Belief _Target Index_	_Unstandardized_	.47 (.31)	.51 (.23) *
	Standardized	.17	.22
Pre-Message Attitudes	_Unstandardized_	.65 (.11) ***	.42 (.08) ***
	Standardized	.63	.52
Constant		2.59 (.86) **	4.47 (.59) ***
N		46	49
Adjusted R2		.52	.57
SE of Regression		1.52	1.35

* = p< .05; ** = p< .01; *** = p< .001

Table 18c: Affective-Belief Target Indices -- Hierarchical Regression

	Con-Drill Low Emotion	Con-Drill High Emotion
Pre-Message Attitude		
Multiple R	.70	.69
R2 Change	.49 ***	.47 ***
F Change	42.45	41.96
	df (1, 44)	df (1, 47)
Block 2 (Global Affective-Beliefs)		
R2 Change	.02	.05 *
F Change	F= 1.44	F= 4.71
	df (1, 43)	df (1, 46)
Block 3 (Specific Affective-Beliefs)		
R2 Change	.04	.08 **
F Change	F= 3.83	F= 8.91
	df (1, 42)	df (1, 45)

* = p< .05; ** = p< .01; *** = p< .001

Table 19a: Mean Message Attitude Change by Condition

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total	*Independent Sample t-Test
Pro-Drill	1.13 *(2.33)* *n=49*	1.35 *(2.16)* *n=44*	1.24 *(2.24)* *n=93*	t= .47, 91df *ns*

* One-Tailed Significance Tests Reported;

Table 19b: Message Attitude Change Distribution (Proportion of Subjects)

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total
Backlash (-1.00 to 5.00)	14% (7)	9% (4)	12% (11)
No Change (-.50 to .50)	35% (17)	34% (15)	34% (32)
Small Change (1.00 to 2.50)	33% (16)	36% (16)	34% (32)
Large Change (3.00 or more)	18% (9)	21% (9)	19% (18)
Total	(49)	(44)	(93)

Table 20a: Proportion of Subjects Responding to First Open-Ended Question Using Emotional Responses

	Pro-Drill Low Emotion	Pro-Drill High Emotion
4	4%	2%
3	4	2
2	6	7
1	25	23
0	61	65
	n=49	*n=44*

Table 20b: Proportion of Subjects Responding to First Open-Ended Question Using Cognitive Responses

# of Statements	Pro-Drill Low Emotion	Pro-Drill High Emotion
6		2%
5		2
4	2%	2
3	49	55
2	33	23
1	10	14
0	6	2
	n=49	*n=44*

Table 20c: Mean Responses to First Open-Ended Question

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total	* Independent Sample t-Test
Initial General Emotional Response	0.61 (0.93)	0.48 (0.82)	0.55 (0.88)	t= .74, 91df ns
Initial General Cognitive Response	2.29 (0.89)	2.43 (0.82)	2.36 (0.86)	t= .82, 91df ns
	n=49	*n=44*	n=93	

* One-Tailed Significance Tests Reported; Standard Deviations reported in parentheses.
For the Initial General Emotional Responses and Initial Cogntive Responses 3 or more
responses are collapsed and assigned a value of 3.00.

Table 21a: Mean General Emotional and Cognitive Responses

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total	* Independent Sample t-Test
Mean General Emotional Response	1.49 (1.39)	1.77 (1.33)	1.62 (1.36)	t= 1.00, 91df ns
Mean General Cognitive Response	3.94 (1.51)	4.25 (1.43)	4.09 (1.47)	t= 1.02, 91df ns
	n-49	n=44	n=93	

* One-Tailed Significance Tests Reported

Table 21b: General Emotional Responses Predicting Post-Message Attitudes

		Pro-Drill Low Emotion	Pro-Drill High Emotion
Mean General Emotional Response	*Unstandardized* *Standardized*	-.47 (.25) -.23	.12 (.28) ,06
Mean General Emotional Response	*Unstandardized* *Standardized*	.01 (.23) .00	.17 (.26) .09
Pre-Message Attitudes	*Unstandardized* *Standardized*	.65 (.14) *** .55	.88 (.17) *** .65
Constant		2.95 (1.31) *	.78 (1.59)
N		49	44
Adjusted R2		.38	.36
SE of Regression		2.20	2.20

* = p< .05; ** = p< .01; *** = p< .001

Table 21c: General Emotional Responses -- Hierarchical Regression

	Pro-Drill Low Emotion	Pro-Drill High Emotion
!: Pre-Message Attitude		
Multiple R	.61	.63
R2 Change	.37 ***	.39 ***
F Change	27.39	27.30
	df (1, 47)	df (1, 42)
2: Cognitive Responses)		
R2 Change	01	.00
F Change	.54	.29
	df (1, 46)	df (1, 41)
3: Emotional Responses		
R2 Change	.04	.00
F Change	3.41	.19
	df (1, 45)	df (1, 40)

* = p< .05; ** = p< .01; *** = p< .001

Table 22a: Pro-Drill -- Target of Affective-Beliefs (Proportion of Subjects)

Target Dimension	Target Category	Target of Affective-Beliefs	Pro-Drill Low Emotion (n=49)	Pro-Drill High Emotion (n=44)	Total (n=93)
Affective-Beliefs Supporting Message's Policy Position	**1** *Specific*	Foreign Oil Dependency - Economic Security	10% (5)	16% (7)	13% (12)
		Foreign Oil Dependency - Nat'l Security	2% (1)	16% (7)	9% (8)
		Drilling Won't Harm Animals	2% (1)	7% (3)	4% (4)
		Critics of Drilling (unfavorable emotions)	2% (1)		1% (1)
	2 *Global*	Policy (favorable emotions)	4% (2)	4% (2)	4% (4)
		Issue (broad topical focus)	2% (1)	2% (1)	2% (2)
		Message (positive emotions)	8% (4)		4% (4)
Affective-Beliefs Opposing Message's Policy Position	**3** *Specific*	Drilling - Negative Impact on Wildlife/Env	25% (12)	21% (9)	23% (21)
		Oil Companies (unfavorable emotions)		2% (1)	1% (1)
		Drilling - Amount of Oil (unfavorable emotions)	2% (1)		1% (1)
		Oil/Gas Consumption (unfavorable emotions)	6% (3)	5% (2)	5% (5)
		Alternatives to Oil/Fuel (favorable emotions)		5% (2)	2% (2)
		Supporters of Drilling (unfavorable emotions)	2% (1)		1% (1)
	4 *Global*	Policy (unfavorable emotions)	6% (3)	7% (3)	7% (6)
		Issue (broad topical focus)	2% (1)		1% (1)
		Message (unfavorable emotions)	16% (8)	21% (9)	18% (17)

Table 22b: Pro-Drill -- Affective-Belief Dimensions (Proportion of Subjects)

	Pro-Drill Low Emotion	Pro-Drill High Emotion
Affective-Beliefs Supporting Message's Advocated Policy Position Only	16% (8)	27% (12)
Affective-Beliefs Opposing Message's Advocated Policy Position Only	35% (17)	36% (16)
Affective-Beliefs Supporting and Opposing Message's Advocated Policy Position (Mixture)	8% (4)	7% (3)
No Affective-Beliefs	41% (20)	30% (13)

Table 23a: Mean Affective- and Cognitive-Beliefs Indices

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total	* Independent Sample t-Test
Affective-Belief Index	-0.53 (1.60)	-0.30 (1.71)	-0.42 (1.64)	t= .69, 91df ns
Cognitive-Belief Index	-0.39 (2.75)	-0.48 (2.99)	-0.43 (2.85)	t= .15, 91df ns
	n=49	n=44	n=93	

* One-Tailed Significance Tests Reported; ** Levene's Test for Equality of Variance is significant.

Table 23b: Affective-Belief Index Predicting Post-Message Attitudes

		Pro-Drill Low Emotion	Pro-Drill High Emotion
Affective-Belief Index	*Unstandardized*	.53 (.16) **	.46 (.17) **
	Standardized	.30	.29
Cognitive-Belief Index	*Unstandardized*	.53 (.11) ***	.44 (.11) ***
	Standardized	.52	.48
Pre-Message Attitudes	*Unstandardized*	.25 (.12) *	.31 (.15) *
	Standardized	.12	.23
Constant		4.09 (.47) ***	3.77 (.53) ***
N		49	44
Adjusted R2		.69	.67
SE of Regression		1.56	1.57

* = p< .05; ** = p< .01; *** = p< .001

Table 23c: Pro-Drill -- Affective-Belief Index -- Hierarchical Regression

	Pro-Drill Low Emotion	Pro-Drill High Emotion
Block 1 (Pre-Message Attitude)		
Multiple R	.61	.63
R2 Change	.37 ***	.39 ***
F Change	27.39	27.30
	df (1, 47)	df (1, 42)
Block 2 (Cognitive-Belief Index)		
R2 Change	.27 ***	.25 ***
F Change	34.01	28.06
	df (1, 46)	df (1, 41)
Block 3 (Affective-Belief Index)		
R2 Change	.07 *	.06 **
F Change	11.27	7.39
	df (1, 45)	df (1, 40)

* = p< .05; ** = p< .01; *** = p< .001

Table 24a: Mean Affective-Belief Target Indices

	Pro-Drill Low Emotion	Pro-Drill High Emotion	Total	* Independent Sample t-Test
Specific Affective-Belief	-0.31	-0.09	-0.20	t= 1.03, 91df
Target Index	_(0.94)_	_(1.07)_	_(1.01)_	ns
Global Affective-Belief	-0.23	-0.34	-0.28	t= .67, 91df
Target Index	_(0.85)_	_(0.83)_	_(0.84)_	ns
	_n=49_	_n=44_	n=93	

* One-Tailed Significance Tests Reported;

Table 24b: Affective-Belief Target Indices Predicting Post-Message Attitudes

		Pro-Drill Low Emotion	Pro-Drill High Emotion
Specific Affective-Belief	_Unstandardized_	1.07 (.30) ***	.65 (.31) *
Target Index	_Standardized_	.36	.26
Global Affective-Belief	_Unstandardized_	.75 (.36) *	.89 (.37) *
Target Index	_Standardized_	.23	.27
Pre-Message Attitudes	_Unstandardized_	.59 (.13) ***	.62 (.16) ***
	Standardized	.50	.46
Constant		2.98 (.53) ***	2.86 (.60) ***
N		49	44
Adjusted R2		.55	.51
SE of Regression		1.89	1.92

* = p< .05; ** = p< .01; *** = p< .001

Table 24c: Affective-Belief Target Indices -- Hierarchical Regression

	Pro-Drill Low Emotion	Pro-Drill High Emotion
1: Pre-Message Attitude		
Multiple R	.61	.63
R2 Change	.37 ***	.39 ***
F Change	27.39	27.30
	df (1, 47)	df (1, 42)
2: Global Affective-Belief Index		
R2 Change	.08 **	.10 **
F Change	7.10	8.07
	df (1, 46)	df (1, 41)
3: Specific Affective-Belief Index		
R2 Change	.12 ***	.05 *
F Change	12.79	4.39
	df (1, 45)	df (1, 40)

* = p< .05; ** = p< .01; *** = p< .001

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Experimental Message Tables

NOTE: The messages used to manipulate the independent variables were created by using a number of quotes and phrases from a wide variety of sources. Therefore, the messages do not reflect the original work of the author of this dissertation. Additionally, although real stories were used to personalize the messages, the names of the individuals were changed.

Con-Medical Malpractice Caps (Main Experiment - Final)	
Low Emotion	**High Emotion**
The Healthcare Industry is experiencing a problem. Patients are finding it difficult to locate affordable, quality healthcare.	The Healthcare Industry is experiencing a problem. Patients are finding it difficult to locate affordable, quality healthcare.
Some policymakers believe that this problem is due to medical malpractice lawsuits filed against doctors. In response, they have proposed a bill that would place a $250,000 limit on the amount of money that patients can receive when suing a doctor for negligence.	Some policymakers believe that this problem is due to medical malpractice lawsuits filed against doctors. In response, they have proposed a bill that would place a $250,000 limit on the amount of money that patients can receive when suing a doctor for negligence.
However, limiting Medical Malpractice Awards to $250,000 might not be an effective solution because it is more advantageous to doctors and their malpractice insurance companies than patients.	However, limiting Medical Malpractice Awards to $250,000 is wrong because it victimizes patients while rewarding negligent doctors and their malpractice insurance companies.

Con-Medical Malpractice Caps	
Low Emotion	**High Emotion**
The primary problem affecting our healthcare system is the high incidence of medical negligence and the large number of medical errors.	The primary problem affecting our healthcare system is the high incidence of medical negligence and the large number of medical errors. There are too many preventable medical errors occurring in our healthcare system today!
The Institute of Medicine conducted a study examining the number of fatalities that occur due to medical errors. Two large studies, one conducted in Colorado and Utah and the other in New York, found that adverse events occurred in 2.9 to 3.7 percent of hospitalizations. In hospitals located in Colorado and Utah, 6.6 percent of these adverse events led to fatalities. In New York hospitals, 13.6 percent of these adverse events led to fatalities. When these results are extrapolated to approximately 33.6 million admissions to U.S. hospitals in 1997, the results of the Colorado and Utah study suggest that at least 44,000 Americans die each year as a result of medical errors. The results of the New York Study suggest that the number may be as high as 98,000. Based on the data presented in this study, placing a $250,000 limit on the amount a patient can receive when suing for malpractice won't adequately address the system wide problems caused by medical errors.	Take Sally Moore, for example. A doctor informed her that she had aggressive breast cancer and needed emergency surgery if she wanted to live. After spending months in pain following a double mastectomy and chemotherapy, the doctor called Sally and her husband into his office. They were expecting to hear whether the surgery and treatment were successful. Instead, the doctor delivered some shocking news. Her chart had been accidentally switched with another patient's chart. Sally had undergone major surgery and chemotherapy when she was completely healthy. Even more devastating was the fact that the other woman who had been told she was cancer-free, had still not received treatment. How could this happen? This wasn't a simple mistake that inconvenienced two women – it was a life altering error. Two lives were ruined due to a hospital's clerical error and a surgeon's failure to double check the label on a medical chart. The personal stories are tragic and numerous. Terry had the wrong kidney removed. Jessica died from an anesthesia overdose administered during her routine tonsillectomy. Jonathon received the wrong blood type during a transfusion and died when he was only 8 years old. And these cases are just the tip of the iceberg. Yet some misguided policymakers would have you believe that giving each of these patients $250,000 for preventable medical errors is sufficient compensation for their injuries and in some cases their lives.

Con-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Limiting malpractice awards to $250,000 is disadvantageous to patients. By citing the large number of lawsuits filed against doctors as the problem but placing a limit on the amount of money awarded to injured patients, policymakers are essentially putting doctors' interests above patient safety.	Limiting malpractice awards to $250,000 victimizes the patient. In fact, this is actually insulting to injured patients. By citing the large number of lawsuits filed against doctors as the problem and then placing a limit on awards that go to the injured patients, policymakers are blaming the patient for getting injured by the doctor.
Additionally, assigning a $250,000 limit to all medical malpractice awards does not address the variance among individual adverse events. In other words, it allocates a pre-determined amount of money to multiple cases without taking into account the degree of negligence or the severity of the injury. While some medical errors are minor infractions, others are major errors resulting in more deleterious, long-term effects.	Also, it is not clear how these policymakers came up with $250,000. How can anyone put a $250,000 price tag on Terry's kidney or Jonathon's life? Is the pain and suffering Sally and the other female patient endured only worth $250,000? Placing a $250,000 limit on malpractice awards treats each medical error the same without taking into account the fact that a patient who receives the wrong medication but survives is different from a patient who loses his or her life. Consequently, placing a $250,000 limit on malpractice awards only victimizes the injured patient – the one person who should be the primary concern when a medical error occurs.

Con-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Limited medical malpractice awards are more advantageous to malpractice insurance companies.	The sad fact is that while limited medical malpractice awards victimize patients, they benefit malpractice insurance companies.
Doctors purchase medical malpractice insurance to protect their personal assets from lawsuits in the event that they are sued for negligence. Under a malpractice insurance contract, the insurance company agrees to investigate claims, provide legal representation for the doctor, and pay the claim in the event that they lose the case. The insurance company provides this coverage in return for a fee or premium.	Doctors purchase medical malpractice insurance to protect their personal assets, such as their cars and houses, from lawsuits in the event that they are sued for negligence. Under a malpractice insurance contract, the insurance company agrees to investigate claims, provide legal representation for the doctor, and pay the claims in the event that they lose the case. The insurance company provides this coverage in return for a fee or premium.
If doctors are never sued or if they are sued for less than what they paid in premiums, then the insurance company makes a profit. More importantly, if the insurance company continues to charge doctors high premiums, regardless of whether they have been sued in the past, but only compensates patients $250,000, their profit margin will increase even more.	This is how the insurance company profits. If doctors are never sued or if they are sued for less than what they paid in premiums, then the insurance company makes a profit. More importantly, if the insurance company continues to charge doctors high premiums, regardless of whether they have been sued in the past, but only has to pay $250,000 awards to settle malpractice lawsuits, their profits will increase even more.

Con-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Limited malpractice awards could lead to more medical errors.	Limited malpractice awards could also lead to more medical errors.
Indeed, while the majority of doctors practicing in the U.S. are competent, medical errors can be attributed to a small percent of doctors. According to the National Practitioner Data Bank, during a 10-year period ending in 2002, just 5 percent of doctors nationwide were responsible for about 55 percent of malpractice payouts. When malpractice awards are unlimited, doctors who have lost multiple malpractice lawsuits are a bad risk for insurance companies because they decrease the company's profit margin. However, if malpractice awards are limited to $250,000, the insurance companies can afford to continue insuring negligent doctors. Unfortunately, this means that negligent doctors will continue to practice medicine.	Although there are good, compassionate doctors in America today, the large number of medical errors is attributable to a few incompetent doctors who only care about their own personal financial gain. When malpractice awards are unlimited, doctors who have lost multiple malpractice lawsuits are a bad risk for insurance companies because they decrease the company's profit margin. However, if malpractice awards are limited to $250,000, the insurance companies can afford to continue insuring negligent doctors. Unfortunately, this means that negligent doctors will continue to practice medicine and perhaps harm even more patients. Take Doug, for example. He grew up expecting to work in construction. But after spending years battling diabetes, he was told he had to have his right leg amputated. Doug was devastated. But he learned that he could still work in construction with a prosthetic leg as long as he still had one good leg. However, when he woke up from surgery, he learned the news. The surgeon had accidentally removed his good leg – and had no other option but to also remove the bad leg. This mistake ended Doug's construction job. He lost his income and his medical insurance. With mounting medical and physical therapy bills, he decided to sue. It was then that he learned his surgeon had been charged with malpractice multiple times in the past but because he never lost a case, he was able to continue practicing. But what upset Doug the most was that while he sat in the courtroom in his wheelchair, this surgeon, the very surgeon who amputated his good leg, was at the hospital performing more surgeries. While he was facing the prospect of losing his house, this surgeon was making more money than Doug could earn in a lifetime. And he didn't even have the decency to show up to court. Instead, he sent the 'Big Guns' from the insurance company to do his fighting for him.

Con-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Limiting Medical Malpractice Awards to $250,000 might not be an effective solution because it is more advantageous to doctors and their insurance companies than patients.	Limiting Medical Malpractice Awards to $250,000 will only victimize patients while rewarding negligent doctors and their greedy corporate insurance companies.
However, unlimited awards have multiple benefits. First, insurance companies will discontinue insuring doctors who have multiple malpractice lawsuits filed against them because it will be too costly. Second, unlimited awards will serve as a deterrent for malpractice thereby forcing healthcare professionals to incorporate quality control measures.	If awards are unlimited, insurance companies will be forced to stop insuring negligent doctors because they won't be able to make a profit if they have to continue to pay the large malpractice awards. If these doctors can't find insurance, they won't be able to practice medicine. Removing these few negligent doctors from the healthcare system will decrease medical errors and therefore decrease malpractice lawsuits. Additionally, it will influence doctors to be more careful when practicing medicine. If they know that their insurance company can be sued for unspecified amounts of money and that this could result in loss of insurance, they will make a point to provide safer healthcare.
Although the United States has a superior healthcare system, the high cost of healthcare is influenced, in part, by the problems associated with medical errors. Unlimited Medical Malpractice Awards will restore quality healthcare, professional responsibility and fairness to our healthcare system.	We are fortunate in this country to have many highly qualified and caring doctors who just want to help their patients live a long, healthy life. Unfortunately, a few incompetent, negligent doctors who are allowed to continue practicing medicine are undermining our healthcare system. Unlimited Medical Malpractice Awards will restore quality healthcare, professional responsibility and fairness to our healthcare system.

APPENDIX A

Experimental Message Tables

NOTE: The messages used to manipulate the independent variables were created by using a number of quotes and phrases from a wide variety of sources. Therefore, the messages do not reflect the original work of the author of this dissertation. Additionally, although real stories were used to personalize the messages, the names of the individuals were changed.

Pro-Medical Malpractice Caps (Main Experiment - Final	
Low Emotion	**High Emotion**
America's Healthcare Industry is experiencing a problem. Patients are finding it difficult to locate affordable, specialized healthcare.	America's Healthcare Industry is facing an escalating crisis. Patients are finding it difficult to locate affordable, specialized healthcare.
Analysts attribute this problem to the large number of medical malpractice lawsuits filed against doctors. In response, policymakers are proposing a bill that would place a $250,000 limit on the amount of money an individual can receive when suing a doctor for malpractice.	Analysts argue that this escalating crisis is due to the large number of frivolous and fraudulent malpractice lawsuits filed against doctors. In response, policymakers are proposing a bill that would place a $250,000 limit on the amount of money an individual can receive when suing a doctor for malpractice.
Unfortunately, there is some opposition to this bill among those who believe that the amount of money or award plaintiffs receive should be unlimited.	Surprisingly, there are a few misguided policymakers who oppose this bill. They believe that the amount of money or award plaintiffs receive should be unlimited.
However, Unlimited Medical Malpractice Awards is not an effective solution because they benefit lawyers more than patients and doctors who have never been sued.	However, the solution to this crisis is not Unlimited Medical Malpractice Awards because they reward malpractice lawyers while victimizing patients and innocent doctors who have never been sued.

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
The problem affecting our healthcare system begins with the large number of medical malpractice lawsuits filed against doctors. This, in turn, is due to the large amount of awards clients receive when successfully suing a doctor.	The crisis affecting our healthcare system begins with the large number of fraudulent and frivolous medical malpractice lawsuits filed against doctors. This, in turn, is due to the large amount of awards clients receive when successfully suing a doctor.
The average amount of money awarded in medical malpractice lawsuits has increased over the past decade. According to Jury Verdict Research, the average award is $3.9 million. In 1985, less than one out of every 100 medical liability awards resulted in payments at or exceeding $1 million dollars. Today, nearly one out of every 8 payments is over $1 million. In 1997, only two medical liability verdicts topped $20 million. However, in 2001, at least 21 exceeded $20 million. There has also been an increase in the number of malpractice lawsuits. A study of nationwide trends indicates that between 1996 and 2000, the number of medical malpractice lawsuits increased 5% nationwide, with some states experiencing a 20-40% increase.	The average amount of money awarded in medical malpractice lawsuits has increased over the past decade. Many of these awards were outrageously high. For example, in 2001, at least 21 lawsuits exceeded $20 million and three exceeded $100 million. The most shocking was a record $249 million dollar verdict! So it's no surprise that the number of malpractice lawsuits has escalated over the past few years.

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
The increase in malpractice awards has led to an increase in the number of lawyers taking on medical malpractice lawsuits.	The increase in multi-million dollar awards has led to an increase in the number of lawyers taking on medical malpractice lawsuits.
When malpractice lawyers represent clients, many of them work on contingency. Instead of charging an hourly rate, they receive 30-40% of the award. If the award reaches millions of dollars, they will receive a much larger payment than if they charge an hourly rate. For some lawyers, these large awards served as an incentive to sue doctors. This, in turn, increased the number of medical malpractice lawsuits.	When a malpractice lawyer represents a client, instead of charging an hourly rate, they work on contingency. Although there are good, honest lawyers in our legal community, a few of these lawyers pocketed up to 30-40% of the award – money that should have gone directly to the patient. When the award reached millions of dollars, they received a much larger payment than if they had charged an hourly rate. Unfortunately, the desire for personal wealth influenced a few of these lawyers to sue for the largest amount of money possible, even when the lawsuit was unjustified and frivolous. It's not surprising that unlimited awards lure a few, greedy lawyers to jump at the chance to sue doctors. Getting paid 30-40% of a $100 million or even $249 million dollar award is like winning a lottery! One or two large jury awards and many of these lawyers can retire early.

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Unlimited awards in medical malpractice lawsuits have a negative impact on doctors and their malpractice insurance companies.	While unlimited awards reward a few lawyers, they victimize innocent doctors and their malpractice insurance companies.
In order to practice medicine, a doctor must pay for malpractice insurance. When a company insures a doctor for malpractice, it agrees to investigate claims, provide legal representation and pay the award if they lose the case. Consequently, the insurance company is acting on the doctor's behalf. However, the increase in multi-million dollar lawsuits has caused insurance companies to lose so much money that some have stopped insuring doctors altogether. Others who have stayed in the industry have been forced to increase insurance premiums or face bankruptcy.	In order to practice medicine, a doctor must pay for malpractice insurance. When a company insures a doctor for malpractice, it agrees to investigate claims, provide legal representation and pay the award if they lose the case. Consequently, the insurance company is acting on the doctor's behalf. However, the increase in multi-million dollar lawsuits has caused insurance companies to lose so much money that some have stopped insuring doctors altogether. Others who have stayed in the industry have been forced to increase insurance premiums or face bankruptcy.

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Doctors practicing in medical fields that experience a large number of malpractice lawsuits, the so-called high-risk areas such as Cardiology and OB-GYN, pay higher insurance premiums than doctors practicing in low-risk medical fields such as internal medicine.	Doctors practicing in medical fields that experience a large number of malpractice lawsuits, the so-called high-risk areas such as Cardiology and OB-GYN, pay higher insurance premiums than doctors practicing in low-risk medical fields such as internal medicine. Unfortunately, some doctors' premiums are so high that they are forced to either stop performing technical procedures that could save patients' lives or retire early. With fewer doctors practicing specialized medicine, patients have less access to specialized medical care. This has had a devastating effect on patients, especially those living in rural areas.
For example, a Florida insurance company was forced to charge base premium rates of $53,153 for internal medicine, $174,268 for general surgery and $201,376 for OB-GYN. Unfortunately, some doctors' premiums are so high that they are forced to either stop performing technical procedures or retire early. With fewer doctors practicing specialized medicine, patients have less access to specialized medical care.	For example, Dr. Johnson was the only OB-GYN specialist practicing in a small town. Although she had never been sued, she couldn't earn enough money to pay the high malpractice insurance premiums because her patients came from a working class community and could only afford modest medical fees. Eventually, she was forced to move to a metropolitan hospital where she could earn a higher salary to pay her malpractice premiums.

A month after Dr. Johnson moved, one of her patients, Susanne Davison, experienced complications during childbirth. Since there weren't any OB-GYN surgeons on staff at the community hospital, the general practitioner had no other option but to fly Susanne to a metropolitan hospital where she could have surgery. As they put her into the helicopter, she went into cardiac arrest and died. When Dr. Johnson heard the news she was devastated. If she could have stayed, maybe she could have performed surgery and the woman would be alive today. Now a mother's life is gone and her little boy will grow up never knowing her. |

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Unlimited malpractice awards also increase the cost of specialized medical care.	Unlimited multi-million dollar awards also victimize patients by increasing the cost of specialized medical care.
The risk of multi-million dollar lawsuits influences doctors to practice defensive medicine during which they order multiple tests before performing complicated procedures. This practice increases healthcare costs and delays emergency procedures.	The risk of multi-million dollar lawsuits influence doctors to practice defensive medicine where they order multiple tests before performing complicated procedures. Although some of these tests are completely unnecessary, if they weren't conducted, it could be used against the doctors in a malpractice lawsuit. Unfortunately, not only do these multiple tests increase the cost of the patients' medical bills but they also delay emergency procedures that could save the patients' lives. One doctor has practiced medicine for 20 years and has performed hundreds of cardio-vascular surgeries. Sometimes, when a patient arrives in the ER, delaying surgery for even a few minutes so all of the 'appropriate tests' can be performed could cost the patient his/her life. But if he doesn't perform every single test, it could mean a multi-million dollar lawsuit. He became a doctor so he could help patients. But the lawsuits have gotten so out of control that now he's considering leaving practice altogether.

Pro-Medical Malpractice Caps	
Low Emotion	**High Emotion**
Unlimited malpractice awards will not increase patients' access to affordable, specialized medicine. Instead, a more effective solution is placing a $250,000 limit on medical malpractice awards.	Policymakers who believe unlimited awards will solve the problem of patient access to affordable, specialized medicine are sorely mistaken. Unlimited awards only victimize patients and innocent doctors while rewarding a few greedy lawyers. The only solution to this escalating crisis is to reform our legal system by limiting medical malpractice awards to $250,000.
Limited awards have multiple benefits. They will decrease the number of malpractice lawsuits because the size of awards will no longer serve as an incentive to sue. Fewer lawsuits will make it possible for insurance companies to lower doctors' insurance premiums. This will enable doctors to continue practicing specialized medicine. This will also enable doctors to stop ordering multiple, unnecessary tests thereby lowering the cost of healthcare.	Limited malpractice awards will stop these few lawyers who only care about making a quick million from filing frivolous lawsuits against innocent doctors. Fewer lawsuits will make it possible for insurance companies to lower doctors' insurance premiums. This will enable doctors to continue practicing specialized medicine and to perform complicated procedures that could save patients' lives. This will also enable doctors to stop ordering multiple, unnecessary tests thereby lowering the cost of healthcare.
Limiting Medical Malpractice Awards to $250,000 will provide patients access to affordable specialized medical care.	We are fortunate in this country to have many highly qualified and caring doctors who just want to help their patients live a long, healthy life. Limiting Medical Malpractice Awards to $250,000 will provide patients access to affordable specialized medical care.

APPENDIX A

Experimental Message Tables

NOTE: The messages used to manipulate the independent variables were created by using a number of quotes and phrases from a wide variety of sources. Therefore, the messages do not reflect the original work of the author of this dissertation. Additionally, although real stories were used to personalize the messages, the names of the individuals were changed.

Con-Drilling (Main Experiment - Final)	
Low Emotion	**High Emotion**
America's dependence on oil imported from foreign countries is one of its leading national and economic security problems. We use a quarter of the world's petroleum but have just 3% of known reserves. .	America's dependence on oil imported from foreign countries is one of our leading national and economic security problems. We use a quarter of the world's petroleum but have just 3% of known reserves.
In response, some policymakers say that the United States should increase its domestic oil production. So, they have sponsored a bill in Congress that will eliminate the ban on oil exploration and drilling in Alaska's Arctic National Wildlife Refuge (ANWR).	In response, some policymakers say that we should increase our domestic oil production. So, they have sponsored a bill in Congress that will eliminate the ban on oil exploration and drilling in Alaska's Arctic National Wildlife Refuge (ANWR).
However, a policy based on increasing domestic oil supplies might not provide an effective long-term solution. Over the past three decades, Americans' oil consumption has steadily increased and it will only continue to rise. Consequently, permanent solutions that focus on decreasing oil consumption might be more effective and less harmful to the environment.	However, a policy based on increasing domestic oil supplies is wrong. Over the past three decades, Americans' oil consumption has steadily increased and it will only continue to rise. The problems that we're currently facing won't disappear with a few more barrels of oil. Instead, we need to find more permanent solutions that focus on decreasing our demand for oil instead of destroying one of our last pristine wildernesses.

Con-Drilling	
Low Emotion	**High Emotion**
According to the Energy Information Administration (EIA), an independent statistical agency in the U.S. Department of Energy, Americans consume over 20 million barrels of oil each day. However, since the United States produces only 7.8 million barrels, it must import the remaining 12 million barrels from foreign countries. If the United States continues at this rate of consumption, by 2010 we will have to import 75% of our fuel.	According to the Energy Information Administration (EIA), an independent statistical agency in the U.S. Department of Energy, Americans consume over 20 million barrels of petroleum products each day. However, since the United States produces only 7.8 million barrels, it must import the remaining 12 million barrels from foreign countries. If the United States continues at this rate of consumption, by 2010 we will have to import 75% of our fuel.
The Natural Resources Defense Council (NRDC) concludes that as long as the United States' dependence on oil continues, economic and national security will be influenced by the fluctuations of the international oil market and the political instability of countries around the world.	The Natural Resources Defense Council (NRDC) concludes that as long as our dangerous addiction to oil continues, America's economy and national security will be vulnerable to the fluctuations of the international oil market and the politics of unstable regimes around the world.
However, eliminating the ban on oil exploration and drilling in ANWR to address these problems might provide a temporary solution with potentially negative environmental consequences.	However, eliminating the ban on oil exploration and drilling in ANWR to address these problems is not an effective solution. We cannot drill our way out of dependency on foreign oil. This literally amounts to placing a band-aid on a long-term problem with potentially catastrophic environmental consequences.

Con-Drilling	
Low Emotion	**High Emotion**
Alaska's Arctic National Wildlife Refuge is the largest refuge in the United States. Its premier feature is the wide diversity of undisturbed arctic and subarctic ecosystems, the only protected area of its kind in North America. Ranging from the boreal forest to the rugged Brooks Range to the arctic tundra on the coastal plain, varying habitats exist in relatively close proximity.	Alaska's Arctic National Wildlife Refuge is one of the last pristine ecosystems in North America. Blanketed with snow for much of the year, the Coastal Plain explodes with life during the brief spring and summer months, earning the nickname, "America's Serengeti." The Porcupine River herd of 129,000 caribou gathers annually on the Coastal Plain to bear and nurse their young. Polar Bears rely on the Coastal Plain of the Refuge as their denning area. Musk oxen, grizzly bears, wolves, wolverines, foxes, golden eagles and snowy owls gather here to hunt and den. In the fall, the Coastal Plain supports up to 300,000 snow geese. Millions of other birds use the Arctic Refuge to nest as a critical staging area before journeying through every state.
Proponents of the bill to drill in ANWR maintain that eliminating the ban on oil drilling will solve our national and economic security problems.	The oil companies who support the bill to drill in ANWR maintain that eliminating the ban on oil drilling will solve our national and economic security problems.
However, this might not provide an effective solution because there is not enough oil located in ANWR to significantly decrease our dependence on foreign oil or affect world prices. Specifically, according to a 2000 study conducted by the U.S. Geological Survey (USGS), there is a 95% chance of finding 1.9 billion barrels of economically recoverable oil but only a 50% chance of finding 5.3 billion barrels of oil. According to the USGS, it is possible that there is only a 6-month supply of oil beneath ANWR. Additionally, even if drilling in ANWR was approved today, according to the EIA, it would take 7 to 12 years before the oil is ready for consumption.	However, what they fail to tell you is that there is not enough oil located in ANWR to decrease our dependence on foreign oil or affect world prices. According to the U.S. Geological Survey (USGS), it is possible that there is only a 6-month supply of oil beneath ANWR. More importantly, even if drilling in ANWR was approved today, it would take 7 to 12 years before the oil is ready for consumption.

Con-Drilling	
Low Emotion	**High Emotion**
Proponents of drilling in ANWR maintain that they will practice environmentally responsible energy development by extracting oil from the Arctic Refuge in an "environmentally sensitive" manner. However, in the past 30 years, their record in Alaska's North Slope has been substandard. Each year, hundreds of spills occur on the North Slope, involving tens of thousands of gallons of crude oil and other petroleum products and hazardous materials. From 1996 to 1999, approximately 1600 spills occurred involving more than 1.2 million gallons of diesel fuel, oil, acid, biocide, ethylene glycol, drilling fluid and other hazardous materials. The Alaska Department of Environmental Conservation lists more than 55 existing contaminated sites associated with oil industry operation on the North Slope. These sites contain a variety of toxic materials including acids, lead, pesticides, solvents, diesel fuel, caustics, corrosives, and petroleum hydrocarbons. Leakage from some sites has contaminated the surrounding area killing animals and permanently damaging the environment.	The oil companies promise that they will practice environmentally responsible energy development by extracting oil from the Arctic Refuge in an "environmentally sensitive" manner. They are essentially asking us to "trust them" to drill responsibly. However, over the past 30 years, they have demonstrated that they care more about making a profit than the environment. Most people are familiar with the 1989 Exxon Valdez oil spill when 11 million gallons of crude oil seeped from a tanker into Prince William Sound killing tens of thousands of animals and destroying the pristine beaches. What people don't realize is that while catastrophic oil spills are reported in the news, smaller oil spills are never reported. In fact, 300-400 oil spills ranging from a few gallons to thousands of gallons occur each year in Alaska where the oil companies are allegedly drilling "responsibly." Yet, because these aren't considered crises, they go relatively unnoticed in the media. Part of Stacy Folden's job as a veterinarian is to be on-call when an oil spill occurs. The first time that she responded she remembers walking up the beach and seeing hundreds of birds covered in black oil, gasping for breath. She spent countless days and nights trying to wash the thick, slimy oil off birds and sea otters trying to save their lives. Most of the animals died including a small polar bear cub. But the memory that is etched in her mind is when saw the oil workers, sitting on a rig, eating their lunch, talking and laughing, as if nothing had happened.

Con-Drilling	
Low Emotion	**High Emotion**
It is clear that eliminating the ban on oil drilling in ANWR might not be an effective short- or long-term solution because there is not enough oil.	It is clear that eliminating the ban on oil drilling in ANWR is not an effective short- or long-term solution because there is not enough oil to justify destroying our wilderness and risking the lives of innocent animals.
Instead of putting a bandaid on the problem – we need to look for responsible, permanent solutions such as improving the fuel economy of cars and expanding the use of alternative fuels such as ethanol.	Instead of putting a bandaid on the problem – we need to look for responsible, permanent solutions such as improving the fuel economy of cars and expanding the use of alternative fuels such as ethanol.

Experimental Message Tables

NOTE: The messages used to manipulate the independent variables were created by using a number of quotes and phrases from a wide variety of sources. Therefore, the messages do not reflect the original work of the author of this dissertation. Additionally, although real stories were used to personalize the messages, the names of the individuals were changed.

Pro-Drill (Main Experiment - Final)	
Low Emotion	**High Emotion**
America's dependence on oil imported from foreign countries is one of its leading national and economic security problems. It uses a quarter of the world's petroleum but has just 3 percent of known reserves.	Astronomical prices at the gas pump, outrageously high heating bills … America's dependence on oil imported from foreign countries is creating a crisis and hitting Americans in their pocketbooks. As we send troops to unstable countries in the Middle East, it is becoming increasingly clear how much our dependence on foreign oil is undermining our economic and national security. We need to find a solution fast!
In response, some policymakers say that the United States should increase its domestic oil production. Consequently, they have sponsored a bill in Congress that will lift the ban on oil exploration and drilling in Alaska's Arctic National Wildlife Refuge (ANWR).	In response, some policymakers say that we should increase our domestic oil production. Consequently, they have sponsored a bill in Congress that will lift the ban on oil exploration and drilling in Alaska's Arctic National Wildlife Refuge (ANWR).
Opponents of the bill say that instead of drilling for oil in ANWR, the United States should decrease its consumption of oil by searching for alternative fuel sources.	Opponents of the bill say that instead of drilling for oil in ANWR, we should decrease our consumption of oil by searching for alternative fuel sources.
However, while this strategy is beneficial, it's not realistic because it doesn't provide a timely, cost-effective solution to the problems currently affecting the United States.	However, while this strategy is beneficial, it's not realistic because it doesn't provide a timely, cost-effective solution to the crisis we are currently facing.

Pro-Drill	
Low Emotion	**High Emotion**
The United States' dependence on foreign oil is steadily increasing. According to the Energy Information Administration (EIA), an independent statistical agency of the U.S. Department of Energy, Americans consume over 20 million barrels of petroleum products each day. However, since the United States produces only 7.8 million barrels, it must import the remaining 12 million barrels from foreign countries. About 50% of these imports come from countries in the Western Hemisphere, 20% from the Persian Gulf region, 15% from Africa and 15% from other miscellaneous regions.	The United States' dependence on foreign oil is steadily increasing. According to the Energy Information Administration (EIA), about 50% of our imported oil comes from countries in the Western Hemisphere, 15% from Africa, 15% from other miscellaneous regions. However, 20% of our oil comes from countries in the Persian Gulf region.
Dependence on foreign oil affects our economic security. For example, the price of oil has increased from $38 dollars per barrel in 2003 to over $55 this last year. Additionally, the U.S. Department of Energy estimates that spending on oil imports will reach $160 billion by 2020, an increase in price of more than 50 percent. The more dependent the United States is on foreign oil, the more vulnerable we are to the international market's price fluctuations.	Our dependence on foreign oil affects our economic security. Currently, OPEC sets the price of crude oil. The more dependent we are on foreign oil, the more vulnerable we are to OPEC's prices. Indeed, the price of oil has skyrocketed from $38 dollars per barrel in 2003 to over $55 today. Unfortunately, our dependence on foreign oil means that other countries, including countries that are hostile toward the United States, control what you and I pay at the gas pump.

Pro-Drill	
Low Emotion	**High Emotion**
Our dependence on foreign oil also affects our national security including where the U.S. deploys its military. One of the military's priorities is to secure areas around the globe so our oil supplies won't be disrupted. However, as recent events have demonstrated, this is becoming increasingly difficult.	Our dependence on foreign oil also affects our national security including where we send our military troops. One of the military's priorities is to secure areas around the globe so our oil supplies won't be disrupted. However, as recent events have demonstrated, this can lead to casualties among our soldiers and oil workers in foreign countries. Jim, an engineer working in the Persian Gulf Region loves his job and wouldn't even think about changing his career. He has lived over there for 11 years and has made close friends. However, things have changed. When he and his colleagues travel to the oil rig, they are constantly aware of the local people watching them, some with pure hatred in their eyes. They have security, but it's clear that they're no longer welcome there. What angers him is that the U.S. pays good money for this oil, but many of the locals don't realize this. They're just taught to hate Americans.
It is clear that we need to decrease our dependence on foreign oil in order to strengthen our economic and national security. However, while decreasing our oil consumption is an important long-term solution, it does not address the problems currently facing the United States. For example, searching for alternative sources of fuel for cars is time-consuming to implement – it would take decades to replace cars that use gasoline with gasoline-electric hybrids or hydrogen fuel-cell vehicles. Consequently, the most effective way to decrease our dependence on foreign oil is to drill for oil in ANWR.	It is clear that we need to decrease our dependence on foreign oil in order to strengthen our economic and national security. However, while decreasing our oil consumption is an important long-term solution, it does not address the problems currently facing the United States. For example, searching for alternative sources of fuel for cars is time-consuming to implement – it would take decades to replace cars that use gasoline with gasoline-electric hybrids or hydrogen fuel-cell vehicles. Consequently, the most effective way to decrease our dependence on foreign oil is to drill for oil in ANWR.

Pro-Drill	
Low Emotion	**High Emotion**
Alaska's 19 million acre Arctic National Wildlife Refuge is one of the largest refuges in the United States. In 1980, Congress deferred a decision regarding oil exploration and drilling in ANWR's coastal plain region because of its potentially enormous oil and gas resources.	Alaska's 19 million acre Arctic National Wildlife Refuge is one of the largest refuges in the United States. In 1980, Congress deferred a decision regarding oil exploration and drilling in ANWR's coastal plain region because of its potentially enormous oil and gas resources.
In 1998, the U.S. Geological Survey (USGS) estimated that the coastal plain area in ANWR could contain a mean estimate of 10.4 billion barrels making it one of the largest untapped reserves in the Western Hemisphere. Consequently, opening ANWR for drilling could significantly reduce the amount of foreign oil imported into the United States.	In 1998, the U.S. Geological Survey (USGS) estimated that the coastal plain area in ANWR could contain a mean estimate of 10.4 billion barrels making it one of the largest untapped reserves in the Western Hemisphere. Consequently, opening ANWR for drilling could significantly reduce the amount of foreign oil imported into the United States.

Pro-Drill	
Low Emotion	**High Emotion**
Unfortunately, opponents contend that drilling in ANWR might harm the environment.	Unfortunately, opponents argue that drilling in ANWR might harm the environment.
However, the oil industry has four decades of experience drilling in Alaska and has produced over 13 billion barrels of oil to meet the United States' energy needs. During this time, the oil industry has worked closely with environmentalists to develop new technology that will extract oil with a much smaller "footprint" on the surface.	However, the oil industry has four decades of experience drilling in Alaska and has produced over 13 billion barrels of oil to meet the United States' energy needs. During this time, the oil industry has worked closely with environmentalists to develop new technology that will extract oil with a much smaller "footprint" on the surface.
Alaska's Prudhoe Bay turned out to be the largest deposit of oil found in North America to date and over the past twenty years, its caribou population increased from 3,000 to 27,100.	In fact, when oil exploration began in Alaska's Prudhoe Bay 30 years ago, these same critics claimed that it wouldn't produce enough oil and that it would harm the environment. Prudhoe Bay turned out to be the largest deposit of oil ever found in North America and in 20 years, its caribou population increased from 3,000 to 27,100.
More importantly, only 8% of ANWR's coastal region would be affected by oil drilling, leaving the other 92% untouched. This small coastal plain, which is north of the Arctic Circle, is uninhabitable. Winters last 9 months, the average temperature is 10 degrees Fahrenheit and there are 58 consecutive days of complete darkness during the winter when drilling would occur.	More importantly, only 8% of ANWR's coastal region would be affected by oil drilling, leaving the other 92% untouched. This small coastal region, which is north of the Arctic Circle, is uninhabitable. Winters last 9 months, the average temperature is 10 degrees Fahrenheit and there are 58 consecutive days of complete darkness during the winter when drilling would occur. This is why the opposition to drilling in a small area of ANWR just doesn't make sense. Critics would rather risk our soldiers' lives and rob Americans' pocketbooks to save a few acres of uninhabitable land that no one ever visits.

Pro-Drill	
Low Emotion	**High Emotion**
	Unfortunately, these critics are completely out of touch with the American people. Each day, families struggle to make ends meet. Escalating heating bills and gasoline prices only make this more difficult. Look at Beth, a college student who is on a tight budget. She's working two jobs to pay for tuition, books, rent and living experiences. So when gas prices go up at the pumps, she feels it. There have been times when she hasn't been able to drive into class because she couldn't afford gas. She describes herself as a huge environmentalist. But she also realizes that she has to survive. In her opinion, if drilling a few acres in Alaska will help her to make ends meet and it doesn't affect the environment, then she supports it.
It is evident that increasing our domestic oil production provides a reasonable solution to the problems currently facing the United States because it will decrease our dependence on foreign oil which, in turn, will strengthen our economic and national security.	It's time that we stop letting other countries control what we pay for gas. If we increase domestic production by drilling in ANWR, we can reduce our dependence on those foreign countries that only want to make a profit at our expense.

Drilling Questionnaire

<u>Pre-Message Policy Attitude Questions</u>
Using your mouse, please select the number that best reflects your attitude toward each of the following policies/issues with one (1) meaning "extremely unfavorable" up to ten (10) meaning "extremely favorable." If you don't know anything about the policy/issue, then select "D/K" for "don't know."

Universal Healthcare
School Vouchers
Drilling for oil in Alaska's Artic National Wildlife Refuge
Privatization of Social Security
Limiting Medical Malpractice Awards to $250,000[1]

<u>Experimental Message</u>
The following is a speech given by Alex Johnston, a member of Citizens for ANWR, arguing in favor (against) drilling in ANWR. Please read the message and then press "submit" to move to the next page of the study.

-Insert one of four Drilling Messages (Please See Appendix B)

<u>1st Open-Ended Question</u>
Please type at least three things that came to mind while you read the previous message. If possible, try to separate your different reactions using numbers or paragraph spaces. Don't worry about grammar or spelling. Remember that there is NO right or wrong answer. This is your chance to describe what you were THINKING and/or FEELING while you read the message.

<u>2nd Open-Ended Question</u>
Please write a little more about the EMOTIONS you felt while you read this message. Please describe how you felt and why you believe you felt this way. If possible, also identify who or what made you feel this way. If you didn't feel any emotions, please indicate this.

<u>3rd Open-Ended Question</u>
Please write a little more about the THOUGHTS you had while you read this message. Describe the BELIEFS that came to mind. If you didn't have any thoughts, please indicate this.

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[1] The Malpractice Cap Questionnaire followed this same format.

Post-Message Policy Attitude Question

Using your mouse, please select the number that best reflects your attitude toward Drilling in ANWR with one (1) meaning "Extremely Unfavorable" up to ten (10) meaning "Extremely Favorable."

-insert scale-

Close-Ended Agree/Disagree Frame Questions

Please select the number that best reflects how much you agree with each of the following statements with one (1) meaning "totally disagree" up to nine (9) meaning "totally agree."

Pro-Drilling
1. Increasing our domestic oil production will reduce our dependence on foreign oil.
2. Oil drilling will not harm ANWR's environment or wildlife.
3. ANWR is a frozen tundra.
4. I feel frustrated with environmentalists who are unwilling to compromise.
5. I feel concerned for oil personnel working in foreign countries.

Con-Drilling
1. Decreasing our consumption of oil will reduce our dependence on foreign oil.
2. ANWR is a pristine wilderness that should be protected.
3. I feel frustrated with the oil companies who drill in Alaska.
4. I feel concerned for animals living in ANWR.

Manipulation Check Questions

Would you say that the message you just read appealed more to your THOUGHTS or appealed more to your EMOTIONS? Using the scale below, please select the number that best reflects your judgment with one (1) meaning "appealed more to my thoughts" up to nine (9) meaning "appealed more to my emotions."

-insert scale-

<u>**Political Characteristics/Demographic Questions**</u>

There are just a few more questions regarding your political characteristics and demographic information. Please remember that we do not know your identity so your responses are completely anonymous.

What is your party affiliation?
- Democrat
- Republican
- Independent
- Libertarian
- Other (please specify)

Please select the number closest to the party that best represents your beliefs the most (1 = Democrat up to 9 = Republican).

-insert scale-

How much attention do you pay to politics?
- A great deal
- Quite a lot
- Some
- A little
- None at all

What is your gender?
- Female
- Male

What is your age? _____

What is your class standing?
- Freshman
- Sophomore
- Junior
- Senior
- Other (please specify) _____

Are you a U.S. Citizen?
- Yes
- No