Politics, Policy, and Some Emotion

THESIS

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Abstract

This study examines the relationship between framing messages, emotional responses, and persuasive effects. A theoretical framework was developed to explain how emotional cues embedded in message frames may influence whether frames are processed heuristically or systematically by audiences, thus moderating the frame's impact on belief accessibility and importance, and consequentially the probability of attitude change. Exposing 573 college aged participants to fictitious news stories about different aspects of the political issue of gun control. We found a frame's embedded emotional cues appeared to influence accessibility (fear) and applicability (enthusiasm) differently, depending on the valence of the emotional cues.

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LITERATURE REVIEW

Introduction.

This paper examines the relationship between emotional responses to message frames and their effectiveness in shaping political attitudes. Politicians and their advisors have long grasped the importance of strategic campaigning, because reception of a message can "make or break" a candidate. Democracy thrives on the mobilizing power of campaigns, and successful framing is essential to any campaign as the framing of political issues or a candidate is the "basic component of political persuasion campaigns" (Nelson and Oxley, 1999).

In practice, political communicators employ message frames in order to make certain aspects or features of a candidate or issue more salient to audiences by promoting a specific interpretation of that issue or candidate (Entman, 1993; Nabi, 2003). In addition, though political consultants have been using emotion in political campaigns for years, surprisingly few scholars have examined how emotional aspects of campaign messages influence political persuasion (Brader, 2006). The majority of framing literature to date has focused on the cognitive effects rather than the emotional effects while at the same time many scholars have called for more research on how emotion can affect attitude change (Dillard, 1993; Gross 2008; Nabi, 2003). Studying, therefore, how emotional responses may moderate framing effects may provide both scholars and politicians insights on why emotional appeals are often found to effective.

This study will examine the relationship between framing messages, emotional responses, and persuasive effects. We will develop a theoretical framework to explain

how emotional cues embedded in message frames may influence whether frames are processed heuristically or systematically by audiences, thus moderating the frame's impact on belief accessibility and importance, and consequentially the probability of attitude change. The proposed theoretical framework will be examined through a unique study combining the relevant aspects of framing, emotion, information processing, and their influence on attitude change. While gun control is the issue being examined, the results of this study can be considered relevant to other political issues.

Framing, Information Processing and Attitude Change.

Framing Theory is grounded in the idea that a message can be interpreted in many ways depending on how the information was presented. Message frames tend to emphasize a specific aspect of a message in hopes to influence its interpretation and how it impacts an audience. Small changes within the frame can result in large changes in the audience's attitudes and opinions (Chong and Druckman, 2007). There are multiple perspectives for explaining how these changes are brought about, and the psychological perspective of framing best fits with this study's focus. The psychological perspective suggests that outcomes are dependent on several cognitive processes described below (Chong and Druckman, 2007; Nabi, 2003). Other factors such as limited motivation and resources are also considered when determining why certain information becomes more salient and easily retrieved, while other information is not.

Many information processing models came about to further explain the limitations which are best described by Fiske and Taylor (1991) in their cognitive miser metaphor. This metaphor explains how individuals need to be motivated and have sufficient

cognitive resources in order to invest the mental effort needed to properly process information. Along with motivations and cognitive resources, there are other elements involved in information processing. These are referred to as the three "A's": *availability*, *accessibility*, and *applicability*. Understanding how information is processed and stored provides context for understanding how emotion influences the impact of message frames.

The Availability Principle refers to storage of new information in the memory. Basically, the individual must have both previous exposure and the ability to access the memory of the information. The Accessibility Principle states that information, or a representation of the information, should be accessible to the memory in order to be used. Individuals have countless pieces of activated, available information ready to be used, but for the correct information to be retrieved it must be salient and stored to be accessible. Finally, the Applicability Principle refers to how well the new information relates to the information stored in the individual's memory. The "three A's" are a foundation for understanding how embedded emotional cues within a frame affect attitudes.

Attitude and public opinion research tends to be interested in "framing effects," which are thought to be large changes in the audience's attitudes and opinions caused by very small changes in the presentation of an idea or message (Chong and Druckman, 2007). These small changes could be anything from the wording of the argument, endorsements from credible sources, the images attached to the messages, or the music playing in the background of an advertisement. Researchers are trying to understand and ultimately predict how these cues will affect an individual's attitude. Frames may not

only affect the accessibility of an individual's stored information, but frames can also affect the importance (i.e. applicability) an individual attaches to the belief.

This study defers to the expectancy value model to explain how belief accessibility and importance may affect attitude development. An attitude, whether towards an object, issue or individual, is the result of a series of weighted belief evaluations about that specific item. The formula used is "$Attitude = \Sigma vi * wi$, where vi is the evaluation of the object or attribute i, and wi is the salience weight ($\Sigma wi = 1$) associated with that attribute" (Chong and Druckman, 2007). An individual's overall attitude about a candidate is a compilation of both accessible positive and negative evaluations (v_i). For example, the individual may agree with President Bush's policy on tax cuts and his stance on National Defense, but may think negatively about the potential use of cocaine while he was in college. In this model the valence of the evaluations is important, but is contingent on the weight or magnitude (w_i) the individual attributes to the individual evaluations (Nelson and Oxley, 1999; Chong and Druckman, 2007). This model functions on the assumption that an individual can place different emphases on different aspects of the information being presented, which has considerable implications when considering the psychology of framing.

The accessibility and importance (applicability) an individual places on different aspects of an issue (i.e. gun control), are relevant in determining the individual's overall attitude about an issue. Different framing of gun control arguments may influence the accessibility of the individual's belief on the issue (belief accessibility) and or the

importance an individual assigns to the issue (belief importance), both contributing to altering one's attitude about gun control policy.

Information Processing and Dual Mode Theory.

Another important consideration is how different aspects of a message can "trigger qualitatively different information processing" (Druckman and McDermott, 2008). These dual-mode theories of information processing explains that individuals can either pay careful attention to a message and actively think about the message or they can pay less attention, only picking up enough information necessary for comprehension. This is especially important in regards to how messages, whether in a political or marketing context, are designed and presented to an audience. Many dual-mode models attempt to outline and predict which pathway will process the information presented to an individual (Chaiken, 1987; Petty and Cacioppo, 1981; Todorov et. al., 2003). Within this study, we will employ the Heuristic-Systematic Model (HSM; Chaiken, 1987) which assumes individuals may *systematically* or *heuristically* process messages as long as the individual consumes the provided cues within or surrounding a message.

Systematic processing is the preferred form of information processing when trying to inspire more stable attitude change through effectively framing a message. Both heightened attention and actively analyzing a message are essential for systematic processing to take place. When systematic processing is employed an individual gathers all available information rather than the normal routine of simply consuming as little information as necessary for comprehension (Todorov, Chaiken & Henderson, 2002). In a political context, an individual would normally rely on their party affiliation when

consuming a strategic message. As long as biased processing does not occur, a message with fear cues from the opposing party is more likely to catch that individual's attention and break them out of their normal routine of relying on their ideological predisposition, resulting in systematic processing. Once all possible information is considered the individual then forms an opinion or attitude; this cognitive elaboration can often lead to an attitude change. If biased processing does occur when counter-attitudinal messages are presented, the message may be processed systematically but in a biased way that may not lead to attitude change but may instead result in message discounting (Todorov, Chaiken & Henderson, 2002; Chaiken & Maheswaran, 1994; Alba & Marmorstein, 1987; Wood, 1982; Ditto & Lopez, 1992; Liberman and Chaiken, 1992).

Heuristic processing is the most common of the dual modes. Factors such as low motivation or limited cognitive resources make heuristic processing the most reasonable for individuals. People tend to gather just enough information that is needed for comprehension when forming an opinion. They look for cues peripheral to the central message; these heuristics resemble mental shortcuts which often lead an attitude to form or change more rapidly (Todorov, Chaiken & Henderson, 2002; Fiske & Taylor, 1991; Chen Chaiken, 1999). Again referring to a political context, heuristic processing would take place when an individual relies on habitual routines, their party affiliation or ideological predisposition, when consuming framed messages. Although systematic processing is often preferred among framer's whose goal is attitude change, heuristic processing is preferred by strategic communicators who prefer *attitude reinforcement* or have weak arguments (Todorov et al 2003).

Emotion and Emotional Response.

Within the social science disciplines, the study of emotion is starting to move away from a simplistic focus on positive-negative valence and towards expanding the research on emotion to include specific evaluations of the conceptualization of the different types of affect, mood states, emotions and feelings, however, there is little standardization between scholars (e.g. Druckman and McDermott, 2008; Marcus et al, 2000; Brader, 2006; Ekman and Davidson, 1994). Although there are several scholars working toward a common understanding of the relationship between framing and emotion (i.e. Witte, 1992; Marcus et al, 2000), we draw upon Brader's (2006) conceptualization of emotion because due to the similarities between his approach and this study's exploration of the linkages between framing effects and emotion.

Many of the terms found in emotion studies (i.e. affect, mood, emotion, and feelings) are used interchangeably by the lay people and scholar alike, yet they are not synonyms. This study's primary focus is how emotional cues, when integrated into a strategic message, will influence information processing and the accessibility and/or applicability of beliefs when making a judgment or evaluation; thus it is important to understand and differentiate between the various processes. *Affect*, is the instinctual physiological and psychological reaction due to exposure to a perceived significant stimuli (Brader, 2006). Emotions, which are central to this study, can have specific effects, typically described in the short term that can be altered quickly. *Feelings* are the manifestations of emotions, or the response to an emotional reaction; they are considered

subjective. Feelings are often how an individual interprets emotion and are often used as a proxy to measure emotion. (Damasio, 2000; Brader, 2006)

This study will compare and contrast the influence of enthusiasm and fear cues in hopes of synthesizing their role in message processing. It is expected that different emotions will produce distinct effects based on the unique qualities attributed to each emotion. Fear and enthusiasm were chosen for this study as the emotions of interest because they are both associated with high arousal but they are of opposite valence (Brader, 2006).

However, we do not suggest fear and enthusiasm are opposite or competing emotions; simply they are contrasting. As previously examined by other researchers, this paper will also look into systems of emotion, which is a compilation of several emotions with similar appraisal patterns, motivational functions and behavior associations (Nabi, 2003). The fear system in our study includes anxiety, worry and unease, whereas the enthusiasm system includes hope, elation and joy; as defined by past studies (Marcus et al, 2000; Brader, 2006).

Fear is felt when message content presents some sort of a threat that cannot be controlled. Reaction to a perceived threat can be learned in a cultural context, or may be the result of an innate biological response or individual traits. Often fear results in "flight" behavior, manifested through defensive mechanisms like denial or avoidance. Under the right conditions, fear can be overcome since the reaction to fear, or fear systems can create or cause motivation and active evaluation, which is one way of coping with perceived danger (Brader, 2006). There has been extensive research on fear and

message effects and under certain circumstances fear positively correlated with attitude change (Nabi, 1999).

Enthusiasm and enthusiasm systems involve how the individual views his or her progression towards a goal. Enthusiasm is felt when the message content indicates that there have been positive results from their current pursuit, that reasonable progress has been made and this strengthens the individual's desire to accomplish his or her goal (Lazarus, 1991; Brader, 2006). Enthusiasm is less likely to create high motivation or need for conscious evaluation, but often results in a reinforcement of initial beliefs and attitudes (Brader, 2006).

Drawing upon the previous research and prior assumptions this study is most interested in how frames influence belief accessibility and importance. The information presented in a message may be processed by an individual through two different routes, either systematic or heuristic processing. The pathway in which an individual consumes a message may determine its impact on accessibility and importance. Not only does the route in which a message is consumed affect attitude, but also different emotions my influence how frames are processed. These key points will be essential in manipulating message frames which will result in making a message more impactful.

Moderating Role of Political Knowledge.

Previous research has shown that political knowledge may also moderate the influence of a message frame on belief accessibility and importance. For instance, previous studies have shown that if an individual is knowledgeable about an issue, its salience allows them to more easily store relevant message information in memory

contained within a message frame, access that information from memory, and integrate the information into an everyday understanding of the world around them (Nelson, Oxley, & Clawson, 1993; Miller & Krosnick, 2000; Druckman & Nelson, 2003). However, other studies have shown that individuals with prior knowledge are also more likely to hold prior opinions about the issue, which may lead to the use systematic processing when interpreting the message, causing resistance to embedded message cues (Kinder & Sanders, 1990; Haider-Markel & Joslyn, 2001; Chong & Druckman, 2007).

Hypotheses.

This study will attempt to influence the route in which the audience processes information in order to make a message more impactful. To do so, we will examine how emotional cues embedded in a message frame will moderate the impact of the message on belief accessibility and importance.

In practice, political messages tend to have two components, informational cues and emotional cues (Brader, 2006). In a political context, informational cues in a message present beliefs about a candidate, event, topic, or that are either ideologically congruent or non-congruent with audiences - for example a Republican advertisement viewed by Democrats would likely be incongruent with Democrat's political predispositions, whereas it would likely be congruent with Republican political orientations, and vice versa. In the context of political persuasion and campaigns, exposure to incongruent messages may induce attitude change, where exposure to congruent messages may lead to attitude reinforcement through their relative impacts on belief accessibility and importance. However, as the aforementioned research suggests, incongruent message

frames processed heuristically are likely to be rejected based on the ideological predisposition of audiences, whereas incongruent message frames processed systematically are more likely to result in attitude change. Conversely, ideologically congruent message frames that are processed heuristically are more likely to reinforce pre-existing attitudes.

However, we argue the second component of political message frames, emotional cues, may moderate the influence of informational cues on belief accessibility and importance by influencing whether a message is processed through a systematic or heuristic pathway. The aforementioned research also suggests fear cues in message frames represent a potential threat, causing individuals to have heightened attention and increases motivation to actively analyze a message, whereas message frames with enthusiasm cues will not trigger a defense mechanism. In contrast, enthusiasm cues will reinforce an individual's pre-existing routine and goals, increasing the probability of heuristic processing of a message consistent with the individual political predisposition.

Thus, when an individual is exposed to a politically incongruent message with embedded fear cues, the likelihood of systematic processing is increased. In turn, systematic processing increases the probability of an incongruent message influencing belief accessibility and importance compared to messages processed heuristically, increasing the probability of attitude change. Therefore, our first set of hypotheses is:

*H*1. Relative to a control condition (no message), non-congruent message frames with fear cues are more likely to alter belief importance than non-congruent message frames with enthusiasm cues.

*H*2. Relative to a control condition (no message), non-congruent message frames with fear cues are more likely to increase the accessibility of non-congruent considerations than non-congruent message frames with enthusiasm cues.

*H*3. Relative to a control condition (no message), non-congruent message frames with fear cues are more likely to result in attitude change than non-congruent message frames with enthusiasm cues.

In contrast, congruent message frames that contain enthusiasm cues will not trigger any defense mechanisms, but will encourage the individual to continue on his or her current pursuit, and thus increase the likelihood of heuristic processing. The heuristic processing of congruent messages should reinforce the accessibility and importance of informational cues congruent with the individual's ideological predisposition. Congruent messages with fear cues may activate systematic processing of the congruent message, but such processing may have a negative effect on motivation and attitude reinforcement (Brader, 2006). Thus, we hypothesize:

*H*4. Relative to a control condition (no message), congruent message frames with enthusiasm cues are more likely to alter belief importance than congruent message frames with fear cues.

*H*5. Relative to a control condition (no message), congruent messages frames with enthusiasm cues are more likely to increase the accessibility of congruent considerations than congruent message frames with fear cues.

*H*6. Relative to a control condition (no message), congruent message frames with enthusiasm cues are more likely to reinforce attitudes than congruent message frames with fear cues.

In addition to our primary hypotheses, as discussed above, previous research suggests effects of message frames on belief accessibility or importance may be

contingent upon the amount of political knowledge a subject's holds. Therefore, we pose the following research questions:

*RQ*1: Does political knowledge moderate the influence of frame exposure on belief importance and accessibility?

METHODOLOGY

Data Collection.

We used the issue of gun control as a context for evaluating the proposed hypotheses and research questions. The issue of gun control was selected as it is a salient political issue with competing frames and interpretations (Haider-Markel & Joslyn, 2001; Nisbet, 2001). It also has the potential to be a highly emotional issue as it has emotional components of fear (i.e. gun crime, violence) and enthusiasm (i.e. gun rights activism, 2nd amendment rights, etc.)

The overall design was a two (embedded fear versus enthusiasm cues) by two ("safety" versus "rights" frame) experimental design. The emotional valence of the stimulus was manipulated by presenting a newspaper article either about a campus rally (enthusiasm cues) or a home invasion (fear cues). The framing manipulation was comprised of presenting an article discussing gun control in terms of gun safety (more regulation) or gun rights (less regulation). Participants were also randomly assigned to a control condition where they simply filled out a questionnaire asking their opinions about the issue of "gun control." The stimulus materials employed in the study are presented in Appendix A.

Participants in the study were undergraduate students recruited from three introductory communication classes at a large Midwestern university. In total there were 573 participants. The study was administered by an online survey with a mean completion time of 15 minutes across all participants. All participants were given extra credit by their professor as an incentive to complete the study.

Coding independent variables.

Four sets of independent variables were included in the analysis: a) demographics, b) political predisposition, c) political knowledge, and d) framing conditions. In terms of subject demographics, participants were asked their *age* on a 8pt scale ranging from "Under 18" to "24 or older" (M=4.0, SD=1.5) and their *undergraduate status* on 4pt scale ranging from "freshman" to "senior" (M=2.5, SD=1.1). *Gun ownership* was assessed by asking participants whether they owned a firearm or not, with ownership coded high (8.9%). Race was coded as white or other, with white students coded high (80.1%). Lastly gender was coded with women coded high (59.6%).

Political predisposition was assessed by asking students “How would you describe your views on most political matters” on a seven-point scale ranging from "very liberal" to "very conservative" (M=3.9, SD=1.5). *Political knowledge* was assessed by asking participants a series of five factual questions either about general politics or specific to gun control. Specific items included 1) "Do you happen to know what state U.S. Senator Sharrod Brown represents in Congress?" 2) "Who is the current vice president?” 3) “How many justices are on the U.S. Supreme Court?” 4) Which constitutional amendment in the “Bill of Rights” states “the right of the people to keep and bear arms shall not be infringed” and 5) "In the 2008 Presidential election, which presidential candidate received the endorsement of the National Rifle Association?". Correct answers were tallied and combined into an additive index ranging from zero to five of political knowledge (M=3.2, SD=1.4).

Coding dependent variables.

Three sets of dependent variables were coded for the analyses examining how the frame conditions influenced a) belief accessibility b) belief importance and c) gun policy preferences.

Belief accessibility was measured by asking participants to engage in a thought listing exercise that assessed the accessibility of either gun safety (pro-regulation) or gun rights (anti-regulation) thoughts (Price et al, 2007). Specifically, participants were given an open-ended question that asked:

> There are many different arguments and considerations when thinking about different government policies aimed at Gun Rights/Gun Safety/Gun Control. When you think about the issue of Gun Rights/Gun Safety/Gun Control and what the government should or should not do about it, what arguments or considerations most readily come to mind? Please briefly list as many as you can.

Open-ended responses were coded by the author to assess the *number of gun safety* (pro-regulation) vs. *gun-rights* (anti-regulation) considerations expressed by each respondent (M=.94, SD=1.04 and M=.76, SD=1.0, respectively). The number of *ambiguous statements* per subject was also coded (M=.41, SD=.79). An *overall index of the relative accessibility* of gun safety considerations vs. gun rights considerations was created by subtracting the number of expressed gun rights considerations per subject from the number of gun safety considerations expressed per subject (M=.18, SD=1.6).

Belief importance was assessed by asking respondents about four considerations and how much importance they placed on each when making evaluations about gun control policy. A seven-point Likert scale was employed, ranging from "not at all important" to "extremely important." Participants were asked to weight two gun rights considerations: a) "the ability to use a firearm for self-protection" (M=5.2, SD=1.6) and

b) "the right to freely purchase or sell firearms" (M=4.4, SD=1.9) as well as two gun safety considerations: c) "reducing the availability of firearms" (M=4.9, SD=1.8) and d) "protecting people from firearm accidents" (M=5.8, SD=1.5). The gun rights items were combined into an overall measure of *gun rights belief importance* (M=9.6, SD=3.1, r=.51) and the gun safety items were combined into an overall measure of *gun safety belief importance* (M=10.7, SD=2.8, r=.44). Finally, a measure of the *relative belief importance* of gun safety vs. gun rights was created by subtracting the importance of gun rights considerations from the importance placed on gun safety considerations (M=1.1, SD=4.5).

The last dependent variable employed in our analyses was gun policy preferences. Participants were asked their level of agreement with five statements about gun control policy on a seven-point Likert scale ranging from "strongly disagree" to "strongly agree". Specifically, participants were asked whether they disagreed/agreed to a) "requiring all gun owners to register each firearm with the government" (M=6.9, SD=1.4), b) "at gun shows, extending the waiting period between the time a person applies to buy a gun and the time it is sold to them to conduct background check" (M=5.8, SD=1.4) c) "requiring all gun buyers to pass a safety course and obtain a photo license in order to purchase guns" (M=6.2, SD=1.2), d) "permitting people to carry a concealed firearm at work or school" (reverse coded) (M=5.4, SD=1.7) and e) "the government should do everything it can to keep handguns out of the hands of criminals, even if it means that it will be harder for law-abiding citizen to purchase handguns" (M=5.2, SD=1.7). The five items were

summed into an additive index to assess *overall support for gun control policies* (M=28.8, SD=5.1, α=.73).

Manipulation Check

Two independent manipulation checks were conducted to assess whether 1) participants accurately understood the content valence (pro-regulation or anti-regulation) of the framing stimulus 2) participants' emotional response to the fear and enthusiasm cues. Content valence was assessed by asking participants "When considering the article you just read, which statement best describes the article's point of view?" Four response options were available: "The government should not enforce more regulations on firearms"; "The government should enforce more regulations on firearms"; "Neither"; and "Not sure."

A dichotomous variable was created to indicate whether a participant accurately assessed the content valence of the article they read. Across the four framing conditions, 63.7% of the participants (270) accurately assessed the content valence of the article. Participants who inaccurately assessed the content valence were excluded from the analysis. Including the control condition, this reduced the total number of participants in the analyses from 573 to 416.

Based on the content valence of the manipulation check the four framing conditions and the control condition were coded into a single variable for use in the analyses in order evaluate the effect of the framing conditions as compared to the control condition. Due to a significant difference in percentages of participants passing the manipulation check across the conditions ($\chi^2(3,N = 424) = 69.498, p < .000,$), the number

of participants included in each condition was somewhat unbalanced. Seventy participants were in the *gun rights/enthusiasm condition*, forty-three participants were in the g*un rights/fear condition*, seventy-two participants in the *gun safety/enthusiasm condition*, eighty-five participants in the *gun safety/fear condition*, and one hundred forty-six participants in the *control condition*, for a total of 416 participants.

In addition to assessing the content valence, we also assessed whether the framing conditions, on average, induced an emotional response consistent with the valence of the embedded cues in the frame messages. Emotional response was assessed by asking respondents "Now moving on, we would like to ask you how you feel about Gun Rights/Gun Safety/Gun Control. When you think about the possible consequences of the article you just read, how do you feel?" Respondents were asked about six discrete emotions (worried, afraid, enthusiastic, encouraged, anxious, hopeful) on a six point scale ranging from "not at all" to a "a great deal." Positive emotions (enthusiastic, encouraged, hopeful) were tallied and combined into an additive index of *positive emotional response* (M=7.3, SD=3.9, α=.85). Negative emotions were (worried, afraid, anxious) and combined into an additive index of *negative emotional response* (M=8.2, SD=4.0, α=.84). In addition, a measure of *overall emotional valence* for each subject was created by subtracting their index score for positive emotions from their negative emotion index score. The resulting measure ranged from "-15" (highly negative) to "15" (highly positive) and with "0" as neutral (M=-.90, SD=5.7).

We conducted an ANCOVA analysis to assess whether mean overall emotional response varied significantly across the stimulus conditions and compared to the control

condition. By assessing overall emotional valence, rather than simply assessing negative and positive emotional valence independently, we can better evaluate the emotional state of the participants. In the analyses, we included the participants' age, gun ownership, undergraduate status, gender, race (white), and political ideology as covariates with an indicator of the participants' experimental condition entered as a fixed factor in the model. Overall emotional valence was found to significantly vary across conditions (F[4,400]=13.942., $p\leq$.000). Post-hoc pairwise comparisons with a Fischer's LSD test indicated the mean overall emotional valence (Estimated Mean=3.682, SE=.560) for participants in the gun safety/fear condition was significantly more negative in comparison to all other conditions, including control. Likewise, post-hoc pairwise comparisons indicated the mean overall emotional valence of the gun safety/enthusiasm condition was significantly more positive (Estimated Mean=-2.488, SE=.620) in comparison to all other conditions, including control. In contrast, mean overall emotional valence in the gun rights/fear condition was significantly more negative in comparison to gun safety/enthusiasm condition (MD=3.890, SE=.999, $p\leq$.000) but not in comparison to any other condition, including control (MD=.384, SE=.904, p=.672). The mean overall emotional valence in the gun rights/enthusiasm condition was significantly more positive in comparison to gun safety/fear condition (MD=-3.297, SE=.839, $p\leq$.000) but not in comparison to any other condition, including control (MD=-.634, SE=.761, p=.405).

In summary, these results indicate the emotional manipulation of influencing participants' systems of emotion (fear and enthusiasm) by embedding emotional cues

with the frame messages was successful for the gun safety conditions. However, the emotional manipulation of the gun rights conditions was less successful.

RESULTS

Evaluating belief importance.

Three sets of analyses were conducted to assess the relative influence of our framing and emotional manipulations on belief importance, belief accessibility, and subject's gun policy preferences, testing our stated hypotheses. An ANCOVA analysis was employed to assess mean differences across conditions. In the analyses, we included the participants' age, gun ownership, undergraduate status, gender, race (white), political knowledge, and political ideology as covariates with an indicator of the participants' experimental condition entered as a fixed factor into the models.

Relative belief importance (importance of gun safety minus the importance of gun rights) varied significantly across the experimental conditions (F[4,401]=3.933, $p\leq$.001). Post-hoc pairwise comparisons using a Fischer's LSD test indicated the estimated mean of the gun safety/enthusiasm condition was the only estimated mean that varied significantly from the control (MD=1.874, SE=.591, $p\leq$.001). Furthermore, in comparison to the other stimulus conditions, the estimated mean belief importance in the gun safety/enthusiasm condition significantly higher than the gun safety/fear condition (MD=1.090, SE=.649, p=.094), but was significantly higher than both gun rights conditions (MD=2.126, SE=.688, $p\leq$.001) for gun rights/enthusiasm and MD=2.430, SE=.776, $p\leq$.001 for gun rights/fear).

Furthermore, in order to evaluate *H*1 and *H*4, we entered an interaction term between ideological predisposition and the frame conditions in the model. Political ideology was re-coded into a categorical variable (1=Liberal, 2-Moderate, 3=Conservative) and entered into the model as a fully-crossed fixed factor rather than a covariate. The results indicated that ideological predispositions did not significantly moderate the influence of the frame conditions on belief importance (F[8,392]=1.101, p=.362).

In order to evaluate *R*1, political knowledge was also coded into a 2-level categorical variable of low/high based on a median split and entered into model as a fixed factor rather than covariate. The results indicate a marginally significant interaction (F[4,395]=2.044, $p\leq$.10). The results indicate that political knowledge moderated the effects of the gun rights frames on relative belief importance, with gun rights/fear (b=-2.333, $p\leq$.05) and gun rights/enthusiasm frames (b=-3.217, $p\leq$.05) significantly reducing the relative accessibility of gun safety considerations compared gun rights considerations compared among participants with a low level of political knowledge, but not among participants with a high level of political knowledge, compared to the control condition.

Evaluating belief accessibility.

The variance in mean relative accessibility of gun considerations (number of gun safety considerations minus gun rights considerations) across conditions was analyzed in a similar manner as belief importance. The ANCOVA analysis found mean accessibility of gun considerations varied significantly across conditions (F[4,356]=3.194, $p\leq$.01). Post-hoc pairwise comparisons with a LSD test found that only the estimated mean of the gun safety/fear condition varied significantly from the control condition (MD=.640,

SE=.218, $p \leq .001$). The estimated mean of the gun safety/fear condition was also significantly higher than the estimated means of both the gun rights/fear and gun rights/enthusiasm conditions (MD=.763, SE=.298, $p \leq .01$ and MD=.749, SE=.257, $p \leq .001$, respectively) but not the gun safety/enthusiasm condition.

In order to test *H*2 and *H*5, an interaction term between ideological predispositions and the frame conditions in the model was again entered into the model. However, the analysis showed that the interaction was not significant ($F[4,347]=.543$, $p=.823$). Likewise, *R*1 was evaluated by entering an interaction term between levels of political knowledge (high/low at median split) and the frame conditions, and this interaction was also not significant ($F[4,347]=.543$, $p=.823$).

Evaluating gun policy preferences.

Lastly, whether gun policy preferences varied across the experimental conditions was evaluated, again employing a similar ANCOVA analysis with previously mentioned controls. The analysis indicated that mean support for gun control regulation significantly varied across the frame conditions ($F[4,411]=.543$, $p \leq .01$) with mean support significantly higher in the gun safety/fear and gun safety/enthusiasm (MD=1.318, SE=.651, $p \leq .05$ and MD=1.603, SE=.697, $p \leq .05$, respectively) compared to the control condition. Though mean support for gun control regulation in the gun rights/fear and gun rights/enthusiasm conditions was lower than support in the control condition, the difference was not significant (MD=-.539, SE=.696, $p=.265$ and MD=-.924, SE=.697, $p=.439$, respectively).

In order to assess *H*3 and *H*6, an interaction term between frame conditions and political ideology was entered into the analysis. The results indicated a marginally significant interaction (F[8,411]=1.785, $p\leq.10$). Furthering, examining the results indicate liberals are significantly less supportive of gun control regulation in the gun safety/enthusiasm condition compared to liberals in the control condition (b=-4.494, $p\leq.01$). Also, in order to assess R1, high/low political knowledge was interacted with frame conditions, but the interaction was not significant (F[4,411]=.053, p=.995).

DISCUSSION

This study attempted to better define the relationship between emotional responses to message frames and their effectiveness in shaping political attitudes, but the most insight this study provided is that the relationship between framing, accessibility and applicability (belief importance), and emotion still needs further examination. In our case, a frame's embedded emotional cues appeared to influence accessibility (fear) and applicability (enthusiasm) differently, depending on the valence of the emotional cues. This was unexpected and should be further examined for clarity. This study provided limited, but intriguing, findings. Often, the results were opposite of what was anticipated.

Hypotheses 1 & 4 were not supported in this study; ideological predispositions did not interact with the frame conditions in moderate the influence of the frame conditions on belief importance. On the other hand, in answer to *RQ*1, political knowledge moderated the effects of frames on belief importance with low knowledge participants more likely to be influenced by frame exposure. In terms of belief accessibility, hypotheses 2 & 5 were not supported in this study; ideological predispositions did not moderate the impact of frames on belief accessibility. Similarly, in answer to *RQ*1, political knowledge did not moderate the effects of frame exposure on belief accessibility.

Turning to overall gun policy preferences, we found contradictory findings. Ideology interacted with the frame conditions, but in the opposite direction hypothesized, with the gun rights/enthusiasm condition being more effective than gun rights/fear condition with liberals, relative to the control condition (the opposite of *H*6). We found

no support for hypotheses 3 nor did political knowledge moderate the effects of frame conditions on gun policy preferences (*RQ*1). However, beyond the hypotheses, the study found both gun safety message conditions significantly increased support for gun regulation relative to the control condition, whereas the gun rights conditions did not significantly decrease support for gun regulation relative control.

Possible explanations for these differences are effectiveness of the gun safety conditions in influencing either belief importance or accessibility compared to the gun rights conditions. Other reasons for our contradictory findings may include the nature of the stimulus. The gun rights enthusiasm condition used a fictitious newspaper article about a rally, and it effectively influence liberal students but in the opposite way than was anticipated. The gun safety/enthusiasm condition was the most effective frame overall across the conditions as well. These findings raise the potential question of whether the emotional manipulation of the enthusiasm frames was confounded by inadvertent communication of collective action cues and peer social norms by employing a story about a mass rally of students to induce an enthusiastic emotional response. Future research will endeavor to tease out this potential confound by employing frames with enthusiasm cues with a more individualistic focus.

The study has several limitations that should be taken into consideration. The sample was rather homogeneous compared to the general population. Participants were of a similar age, race and education level. There could be an unanticipated generational or age cohort bias about guns and or a bias may stem from being college educated. This homogenous sample and/or bias may have contributed to the large percentage of

participants who did not pass the manipulation check in the gun rights frame conditions, especially the gun rights/fear condition which had nearly half the number of participants compared to the other conditions. This may have significantly reduced the statistical power of our analyses when considering the effects of these conditions and may be the underlying reason for why the gun safety conditions were systematically more successful than the gun rights conditions. A logistic regression analysis to determine whether age, gender, ideology, gun ownership, political knowledge, undergraduate status, or race predicted whether participants passed or failed the manipulation check in the gun rights condition failed to produce any significant results. Potentially something else like motivation or need for cognition may have been able to predict passing the manipulations check, or simply, there may have been some fundamental error in the design of the gun rights stimulus that was over looked.

Future research could avoid the limitations experienced in this study by running a pilot test on stimulus if possible. This would help detect any fundamental flaws in the stimulus. Using a larger adult sample would ensure that there are no biases that stem from education level or generational differences. Future research should also include a pretest/posttest element. This would help identify pre-existing attitudes towards gun control, as well as more accurately assessing the participants' overall emotional state. In the study, we employed political ideology to determine exposure to counter-attitudinal messages, but pre-existing attitudes towards gun control would have been a more accurate measure. Additional measures of motivation and need for cognition would also aid in understanding how participants may have processed the message frames. Lastly,

our measure of political knowledge combined both general political knowledge and issue specific knowledge. Future research should look to split these two types of knowledge into two independent measures, as they may each moderate framing effects in different manners.

When reviewing this study as a whole, there were new considerations brought to the attention of the researchers. In looking at the analysis, the results show that applicability (belief importance) and accessibility may be influenced differently by emotional cues. Messages with enthusiasm cues influenced belief importance, while messages with fear cues influenced belief accessibility. This result indicates that the relationship between emotional cues and framing mechanisms may be more complicated than initially thought. This reinforces the need for further research into the interaction between frames and emotions and consequences for public opinion. By continuing to examine how emotional responses may moderate framing effects, scholars would be able to offer insight to politicians on why some emotional appeals are often found to be more effective than others.

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APPENDIX A: STIMULUS

Associated Press

Associated Press News Wire
September 14, 2010

College Campuses Rally for Gun Rights

(AP) Student Groups Call for Less Regulation of Firearms

DAYTON, O.H.- College campuses across the country are gearing up for Gun Rights Week, Oct. 17th-23rd. Many campuses plan to host local politicians and policemen to discuss the right to own personal firearms.

The University of Dayton campus has organized one event for each day of gun rights week. The week's itinerary features guest speakers from the local police force and city council members, petition-signings, a poster session of gun rights statistics researched by University of Dayton faculty, and the week culminates with a gun rights rally on Friday.

Pictured: Dayton students gather to support fewer regulations on handguns

"We're really excited about all the events we've planned for gun rights week this year," said University of Dayton student organizer Tim Riggs. "We hope students will come out, educate themselves and relay their concerns about personal firearms to their local elected officials."

Last year, pressure from University of Dayton students during gun rights week blocked the passage of two local laws. The first attempted to ban all handguns from residences located within a 5-mile radius of the Dayton campus and on campus property. A second ordinance proposed an extra fine on the second-hand sale of firearms.

Many Madison residents have been able to retain their handguns for personal safety, and the area has seen a large reduction in robbery, murder and gun-related injuries. The local police station reported only 21 robberies so far in 2010.

"One of the things I learned at a gun rights meeting last year was that crime is less likely to happen when people actively protect themselves," said UW-Madison sophomore Danielle Jackson. "I have the right to keep a gun in my apartment. It makes the whole university area more safe."

Gun rights advocates similarly argue that possession of firearms makes individuals feel more confident, and successfully reduces the activities of criminals, juveniles and other "high-risk" individuals.

"Easy access to handguns makes Midwest communities more immune from crime," said gun rights advocate Marcus Reyford. "Possessing such devices does not infringe on constitutional rights and has no significant social costs. It's win-win."

Gun rights experts and the student leaders organizing Gun Rights Week warn that without increased activism and engagement by students and others additional gun safety regulations, such as more stringent licensing, waiting periods, and locking devices, may be enacted that will further restrict access to handguns.

"We have a fundamental right to own guns that cannot be hindered or restricted by the government," said Riggs. "But we need all students to get involved and contact their local and state representatives to make this happen," he continued.

Associated Press News Wire
September 14, 2010

Armed Invaders Threaten College Students

(AP) Gun Rights Experts Warn Students Lack of Protection is Worrisome Trend

DAYTON, O.H.- High unemployment and evictions have caused a shocking rise in home invasions and shootings since late 2008. The National Association of Police Organizations reported 1917 arrests for invasion-related homicide so far in 2010, compared to 1343 arrests in 2007.

The majority of home invaders prey on the elderly and college students, often murdering or crippling residents. They target temporary or low-income housing in areas that are unlikely to have personal security systems or neighborhood watch organizations. Gun rights experts note that an increasing number of these home invaders use illegal firearms in their robberies.

Pictured: Handguns used in recent home invasions recovered by Dayton Police

A series of violent home invasions near the University of Dayton campus have police and students on high alert. Twenty-one college apartments have been robbed since June, resulting in 12 gun-related injuries and four murders.

Two unidentified men forcibly entered the apartment of four college students 8 p.m. Friday. Both men were armed with semiautomatic handguns and ordered the residents to lie on the floor while they removed cash, electronics and other valuables from the apartment.

When resident Sean Poltser moved to reach for a cell phone, he was shot once in the shoulder and once in the thigh.

"I thought they killed him," said resident Tim Riggs. "I couldn't see him breathing, and his blood was soaking the carpet under me."

Polster was taken to Miami Valley Hospital and remains in critical condition.

At 9:30 p.m. two men of similar descriptions broke through the window of a neighboring house leased to three students.

"One man put a gun to my head and told me to give him all my money and not look at them or they were going to kill me," said resident Danielle Jackson. "I don't know if I'll ever feel safe in my home again."

Jackson and her housemates had attended a gun rights meeting on campus the week prior.

"One of the things we learned at the gun rights meeting was that robbery is less likely to happen to people who actively protect themselves," said Jackson. "I wish I had a gun when the men robbed me. It would make the whole university area more safe."

Gun rights experts similarly argue that possession of firearms makes individuals feel more confident, and successfully reduces the activities of criminals, juveniles and other "high-risk" individuals.

"Personal handgun ownership makes Midwest communities more immune from crime," said gun rights expert Marcus Reyford. "Possessing such devices is a constitutional right and has no significant social costs. It's win-win."

However, gun rights experts warn that additional gun regulations such as more stringent licensing, waiting periods, and locking devices will make it more difficult for people to defend themselves against home invasions or other criminal activities.

"I think the only way to prevent things like this [violent home invasions] from happening is to make sure people can easily arm themselves as needed," said Riggs.

Associated Press News Wire
September 14, 2010

College Campuses Rally for Gun Safety

(AP) Student Groups Call for More Regulation of Firearms

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Pictured: Dayton students gather to support more regulations on handguns

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Last year, pressure from University of Dayton students during gun safety week enabled the passage of two local laws. The first bans all handguns from residences located within a 5-mile radius of the University of Dayton campus and on campus property. A second ordinance adds an extra fine on the second-hand sale of firearms.

Fifty-six Dayton residents have been fined for violating the laws implemented last November, and the area has seen a large reduction in robbery, murder and gun-related injuries. The local police station reported only 21 robberies so far in 2010, compared to 63 in 2007.

"One of the things I learned at a gun safety meeting last year was that crime is likely to happen when people have easy access to weapons," said UW-Madison sophomore Danielle Jackson. "No one, especially college students, need to have guns in their homes. It makes the whole university area less safe."

Gun safety experts similarly argue that federal measures can successfully reduce the availability of firearms, especially to criminals, juveniles and other "high-risk" individuals.

"Easy access to handguns makes Midwest communities more vulnerable to crime," said gun safety expert Marcus Reyford. "Banning such devices does not infringe on constitutional rights and has no significant social costs. It's win-win."

Gun safety experts and the student leaders organizing Gun Safety Week assert that increased activism and engagement by students and others will lead to additional gun safety regulations, such as more stringent licensing, waiting periods, and locking devices, that will further restrict access to handguns.

"I think the only way we can increase gun safety for our community is to strengthen government regulations and restrictions on the availability of handguns," said Riggs. "But we need all students to get involved and contact their local and state representatives to make this happen," he continued.