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Examining the Distinct Effects of Emotive Triggers on Public Reactions to International Terrorism

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In recent years, a growing body of research has set out to examine the role that emotions play in shaping political attitudes and behaviors regarding terrorism. However, one major issue that is generally overlooked is whether the thematic relevance of emotive triggers leads to differential effects on people’s reactions to international terrorism. Specifically, does anger—regardless of its source—tend to drive people towards supporting an aggressive foreign policy option to counterterrorism, or do the thematic underpinnings of anger (i.e., the specific contents that trigger this particular emotion, such as watching a news story about a recent terrorist attack) matter vis-à-vis the policy choice? To address this gap, this study experimentally examines the impact of anger—induced by thematically relevant versus irrelevant emotive triggers—on people’s cognitive processing and foreign policy preferences regarding international terrorism. Overall, we find that the induction of anger via thematically relevant emotive triggers leads to a higher tendency for selecting a military option, a lower amount of information acquisition, and a shorter processing time in response to terror-related incidents.

Keywords emotions, information processing, policy preferences, public opinion, terrorism

Emotions constitute an inherent component of terrorism. The very term “terrorism” stems from the word “terror,” which denotes a state of intense fear, anxiety, and other negative emotions. In recent years, a growing body of research has set out to examine the role that emotions play in shaping political attitudes and behavior regarding terrorism.

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terrorism. Therein, several studies have begun exploring the distinct effects of different emotions on public reactions to terrorist attacks. Overall, this line of research suggests that anger is likely to increase one’s propensity to favor retaliatory, risky, and aggressive policy actions while fear tends to instigate a preference for more precautionary, risk-averse, and defensive policy responses to terrorism.

Despite heightened scholarly interest concerning emotion-laden reactions to terrorism, one major issue that is generally overlooked is the potential link between the antecedent conditions that trigger a particular emotion and the effects that such emotion has on one’s decision making. Is it of importance whether the specific cause for a certain emotional state is thematically linked to the decision task at hand (i.e., is the trigger for such emotional state related to the policy issue under consideration)? For instance, does anger—regardless of its source—tend to drive people towards supporting an aggressive foreign policy option to counter international terrorism or do the thematic underpinnings of anger (i.e., the specific contents that trigger this particular emotion, such as watching a news story about a recent terrorist attack) matter vis-à-vis the policy choice? In seeking an answer to these questions, this study experimentally examines the impact of anger—induced by thematically relevant versus irrelevant emotive triggers—on people’s cognitive processing and foreign policy preferences regarding international terrorism.

The study proceeds as follows. We first briefly review the literature on the role of emotions in public reactions to terrorism. Next, we discuss alternative theoretical perspectives about whether and how the thematic relevance of emotive triggers may affect such reactions, and introduce our hypotheses. We follow with a description of the experiment that we conducted to test these hypotheses and then present our experimental results. We conclude with a discussion of the study, the implications of our findings, and future avenues of research.

The Role of Emotions in Reactions to Terrorism

A vast body of literature has accumulated on public reactions to terrorist attacks, especially in the aftermath of the tragic events of September 11, 2001. Therein, a number of studies have set out to explore emotional reactions to terrorism across a wide range of topics, including causal attributions about terrorist attacks, perceived risks of terrorism and counter-terrorism measures, support of anti-terrorism policies, preferences regarding civil liberties, perceived consequences of terrorism, political rhetoric about terrorism, media coverage of terrorist events, presidential approval, and trust in government. In addition, several studies have examined the effects of emotions primed by terrorist attacks on various sociopolitical attitudes such as authoritarianism, political tolerance and ethnocentrism, and negative stereotyping.

Initial research on the role that emotions play in decision making generally focused on a dichotomous, valence-based categorization of emotions as positive and negative. Within this research tradition, studies on approach-avoidance motivational systems have suggested that positive emotions are associated with the approach system motivating one to achieve positive outcomes for pleasure and reward whereas negative emotions are linked to the avoidance system activated to elude negative outcomes in order to protect against pain and harm. Therein, one’s current affective state is considered to function as an informational cue utilized to guide judgment regarding a certain issue, event, environment, or choice. Schwarz and Clore designate this process as using “feelings as information.” On a parallel
basis, Slovic et al. refer to individuals’ reliance on positive and negative emotions in making decisions and judgments as the “affect heuristic.”

Contrary to valence-based approaches, emotion-specific approaches propose that different emotions (such as anger, fear, and sadness) have distinct influences on decision processes and outcomes. This line of research asserts that different emotions sharing the same valence may nevertheless have dissimilar, even opposite, effects on decision making. For instance, Lerner and Keltner suggest that—although fear and anger are both negative emotions—fear is linked to appraisals of uncertainty and situational control whereas anger is associated with appraisals of certainty and personal control. Such distinct appraisal tendencies associated with different emotions are also connected to variations in information acquisition patterns and cognitive processing, as well as assessments of risk. Specifically, a number of studies find that higher levels of anger tend to trigger more superficial searches for information, heuristic-based cognitive processing, and lower risk assessments whereas certain emotional states such as anxiety or fear are likely to raise one’s level of cognitive effort, vigilance, and perceived risks.

With respect to policy preferences, studies show that anger tends to increase people’s support for retaliatory and/or aggressive policy responses compared to fear, anxiety, and sadness. Nevertheless, several studies suggest that cognitive and behavioral consequences of anger also depend on the intensity of anger. According to this view, milder forms of anger may actually yield constructive decision making processes and outcomes such as developing a moderate willingness to carefully consider a situation and/or motivation for problem solving.

Regarding studies that specifically focus on the emotion-laden reactions to terrorist attacks, their results are consistent with the general findings of the research on emotions. For example, conducting a national field experiment, Small et al. have found that priming anger triggered more causal attributions regarding the 9/11 terrorist attacks than did priming sadness. In another study on reactions to 9/11, Lerner et al. have shown that people who responded to the terrorist attacks with greater anger were likely to have more optimistic expectations about the future, make lower risk assessments, display increased out-group derogation, and prefer more confrontational responses to the attacks. In contrast, those who reported greater fear about the terrorist attacks were generally more pessimistic about the future, more likely to have higher risk assessments, and more inclined to take non-confrontational precautionary measures to counter terrorism. On a parallel basis, Skitka et al. have found that anger (rather than fear) predicted support for expanding the “War on Terror” beyond Afghanistan whereas fear (rather than anger) predicted support for deporting various groups that were perceived to be symbolically associated with the attackers.

Although there have been major advances in the study of emotional reactions to terrorism across a diverse range of issues, there remain several important questions that await further systematic exploration. One such question is whether the thematic relevance of emotive triggers intervenes in the way that emotions affect the formation of policy preferences regarding terrorism. In other words, when assessing the impact of a particular emotion on one’s cognitive processing and political judgments about terrorism, should a researcher also consider the source of that person’s emotional state? If specific sources of emotions are in fact associated with the type and intensity of reactions to terrorism, then a more nuanced approach that takes into account the thematic relevance of emotions is necessary.
Theoretical Framework and Hypotheses

In exploring the effects of particular sources of emotions on policy preferences regarding terrorism, one may consider two alternative theoretical perspectives: a) the functional autonomy of emotions versus b) the thematic relevance of emotions.

To begin with, one may argue that the effects of emotions are functionally autonomous from their sources such that a particular emotional state (e.g., being angry) may have a uniform effect on one’s decision making irrespective of the thematic content of the emotive trigger as its source. According to this view, appraisal tendencies generated by specific emotions can persist and spill over to influence one’s political judgment on a given issue, even when the target of one’s judgment is completely unrelated to the emotion-eliciting stimulus.

Alternatively, it is also plausible to argue that the effects of a certain emotional state on one’s policy preference are conditional on whether the specific source of that emotional state is thematically related to the policy issue at hand. For instance, Schwarz and Clore suggest that although people have a tendency to attribute their affective states to the current object of attention (even if such object is not related to the actual emotive source), such misattributions typically disappear when people become aware of the true source of their affective states. Furthermore, Rosenboim et al. point out that intense emotions are likely to be particularly resistant to misattribution since their sources tend to be highly salient. Accordingly, the extent to which an emotional state influences subsequent political judgments may be contingent on whether the individual perceives an external stimulus as connected to and/or responsible for such emotional state. Thus, a given emotion may be considered an irrelevant source of information if the decision making domain under evaluation is unrelated to the emotional state.

These two alternative theoretical perspectives over the effects of thematically relevant, thematically irrelevant, and neutral emotive triggers can be expressed as follows (where “E” denotes emotive trigger, “R” denotes thematic relevance, “IR” denotes thematic irrelevance, and “C” denotes control):

1. \[E_R \approx E_{IR} \neq C\] (functional autonomy of emotions)
2. \[E_R \neq [E_{IR} \approx C]\] (thematic relevance of emotions)

Of these two contending theoretical perspectives, we expect that the thematic relevance of emotions (rather than the functional autonomy of emotions) is more likely to be the primary underlying mechanism regarding the effects that emotions have on public reactions to international terrorism. Since an emotive trigger is embedded in a given cognitive context, we propose that the thematic relevance (or irrelevance) of that context to a policy issue under consideration is likely to accentuate (or diminish) the impact of the induced emotional state on an individual’s information processing and policy choice.

In the context of international terrorism, if the source of a certain emotional state is also thematically relevant to the issue (e.g., getting angry by watching a news report about a terrorist attack that killed children), the salience of such source is likely to amplify the impact of the elicited emotion on people’s policy preferences. By comparison, if the source of a certain emotional state is not thematically relevant to the issue (e.g., getting angry by watching a news report about a traffic accident that killed children), the disconnect between the source of the emotional state (traffic accident) and the policy issue to be considered (international terrorism) may subdue the impact.
of the elicited emotion on people’s policy preferences. As such, our arguments regarding the effects of the thematic relevance of emotions on reactions to international terrorism parallel the “social amplification of risk” framework, which suggests that an adverse event, be it an accident or act of terrorism, interacts with various psychological, social, institutional, and cultural processes that may subsequently amplify (or attenuate) people’s responses to the event. Consequently, such interaction triggers risk-related behavior.36

In this study, we focus on examining how anger—induced by thematically relevant and irrelevant emotive triggers—affects people’s information processing and policy preferences regarding international terrorism. As mentioned above, several scholars such as Lerner et al. and Skitka et al. find that anger has a greater effect on the public’s propensity to favor retaliatory, risky, and/or aggressive policy responses compared to that of fear, anxiety, and/or sadness.37 In terms of information processing, prior research shows that anger leads to more superficial and heuristic-based cognitive processing.38 Building on the previous research concerning the specific effects of anger on decision making combined with our expectations regarding the thematic relevance of emotions, we hypothesize as follows:

Hypothesis 1 (H1): Individuals who are exposed to thematically relevant emotive triggers of anger are more likely to prefer an aggressive policy option in response to international terrorism than those who are not (i.e., as compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers).

H2: Individuals who are exposed to thematically relevant emotive triggers of anger are likely to acquire less information before selecting a particular course of action as their preferred counter-terrorism policy than those who are not (i.e., as compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers).

H3: Individuals who are exposed to thematically relevant emotive triggers of anger are likely to spend a shorter amount of time before selecting a particular course of action as their preferred counter-terrorism policy than those who are not (i.e., as compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers).

Experimental Design

To test our hypotheses, we conducted an experiment using a 3 (thematic relevance) × 2 (method of emotion induction) between-groups factorial design.39 Figure 1 illustrates the design of the experiment. Specifically, the three main experimental conditions for the manipulation of thematic relevance consisted of: a) the thematically relevant emotive trigger (terrorist attack), b) the thematically irrelevant emotive trigger (traffic accident), and c) the emotion-neutral control. The two different methods we employed for robustness purposes to induce emotions
entailed: the use of a) video clips and b) writing exercises. The dependent variables were a) policy choice, b) information acquisition, and c) processing time.

We structured the experiment around a hypothetical scenario depicting a new wave of terrorism in Israel targeting U.S. citizens and interests (provided to all participants). The scenario set the stage for the decision task, which was to make a policy choice (after one’s exposure to the experimental stimuli) on whether to a) evacuate U.S. citizens from the area (i.e., a defensive reaction to international terrorism) or b) militarily target terrorist headquarters and infrastructures in the area (i.e., an aggressive reaction to international terrorism). At this stage, participants were also given the option of viewing additional information before declaring their policy preference.

A total of eighty-three upper-level undergraduate students took part in this experiment. We randomly assigned the participants to the experimental conditions. At the end of the experiment, we debriefed the participants.

To run the experiment, we utilized a web-based computerized process tracing platform, the DecTracer, which presents written, audio, and visual information in a controlled setting while recording the information processing patterns and decisions of the experimental participants. For the purposes of this experiment, the DecTracer recorded each participant’s policy choice, the number of information items accessed, and the amount of time taken to make a decision. Before starting the experiment, participants were seated at individual computer terminals and were instructed on how to use the DecTracer. Thereafter, the DecTracer guided the participants through each stage of the experiment. Figure 2 presents the schematic representation of DecTracer’s screen display for the information acquisition and policy choice stage.

### Operationalization of the Dependent Variables

#### The Outcome Parameter

*Policy choice.* Operationalized as the foreign policy option chosen by participants in reaction to the terror events depicted in the experimental scenario.
(recorded by the DecTracer once the participant clicked on a choice button corresponding to his or her preferred policy alternative on the screen). Specifically, the policy choice consisted of two options: a) evacuating of U.S. citizens from the area or b) military targeting of terrorist headquarters and infrastructures in the area.

**The Information-Processing Parameters**

*Information acquisition.* Operationalized as the total number of information items (out of 20) viewed by participants at the point that a policy option was chosen (recorded by the DecTracer). Following exposure to the crisis scenario and to the experimental stimuli, participants could view at their own pace up to 20 items of information before declaring their policy preference. In order to access an information item, a participant could click on the “more information” box displayed on the computer screen (see Figure 2 above). Upon viewing an information item, participants could either choose to access an additional item of information or stop the process and choose the policy they preferred to be executed by the U.S. government in reaction to the terror events depicted in the experimental scenario. Regarding the valence of the information items, we used nine pro-evacuation items, nine pro-military action items, and two neutral items, all of which we distributed in random order to avoid any potential priming effects.

*Processing time.* Operationalized as the amount of time that participants allocated in making their policy choice. The DecTracer's time counter started when a participant accessed the first information item and stopped when the participant clicked on one of the two policy choice options displayed on the computer screen.

**Experimental Conditions**

As mentioned above, the experimental design consisted of three main experimental conditions (i.e., the independent variables): a) the thematically relevant emotive
trigger (terrorist attack), b) the thematically irrelevant emotive trigger (traffic accident), and c) the emotion-neutral control.

To induce emotional reactions, we employed two different methods for robustness purposes: the use of a) video clips and b) writing exercises. This is important because using different methods for inducing emotions in experimental procedures may potentially affect one’s experimental results. For instance, Graber suggests that “among various types of media, television is the most unique. It appears to be a more potent stimulus than print sources for stirring emotions and creating vivid mental pictures.”40 Similarly, Neuman et al. posit that vivid video presentations break the attention barrier and make the personal relevance of issues more apparent, which in turn facilitates emotional arousal.41 Accordingly, one may expect stronger effects for a treatment group that is exposed to visual stimuli (such as a video clip) compared to another treatment group that receives a writing exercise. Meanwhile, Small and Lerner argue that self-reflective writing is likely to elicit discrete target emotions such as anger with only minimal levels of related but non-targeted emotions (such as sadness), partly because the instructions of the writing exercise specifically solicit writing about memories and experiences associated with a given emotion.42 In the visual stimuli method, the researcher has less control over the induction of a particular emotion that is isolated from other related emotions. As such, it is also probable that the hypothesized effects stemming from anger may be more conservative if sadness and/or fear are induced alongside anger by one’s exposure to video clips. If this is the case, the use of writing exercises as the method of emotion induction may lead to stronger effects due to increased control when inducing the targeted emotion (here, anger).

Alternatively, one may argue that different methods of measuring the same property should yield similar results based on the assumptions of convergent validity.43 Thus far, most research on emotions has employed such methods of emotion induction without checking for their construct validation. As such, we find it necessary to systematically test the convergent validity of these two methods within our study and to ensure that our experimental findings are robust across different methods of emotion induction. If our measuring instruments have high construct validity, the effects we obtain from the group exposed to a video clip should be similar to those from the group that receives a writing exercise.

In the visual stimuli group, immediately after their exposure to the experimental scenario, the participants in the thematically relevant emotive trigger condition viewed a “newsbreak” video clip that depicted the consequences of a terrorist attack as a result of a suicide-bombing of a school bus that was transporting American children to an American school in Israel. The participants in the thematically irrelevant emotive trigger condition, on the other hand, watched the same video clip with a different voice-over that depicted the consequences as a result of a traffic accident where a truck reportedly collided with a school bus that was transporting American children to an American school in Israel. The details of the bus bombing and traffic accident incidents (i.e., in terms of the victims involved, the number of casualties, and the number and condition of the wounded) were kept as similar as possible. The emotion-neutral control group watched a video clip about the discovery of a stalactite cave by American geologists in Israel.

For the writing exercise group, we asked the participants in the thematically relevant emotive trigger condition to write about the top three things that made them most angry about terrorist attacks and to then describe in more detail one such terror
incident. The participants in the thematically irrelevant emotive trigger condition were asked to do the same writing tasks for traffic-related incidents. Last, participants in the emotion-neutral control condition were asked to write about their daily activities.44

**Terrorist Attacks Versus Traffic Accidents**

Before we report our experimental findings, a comparative discussion of reactions to terrorist attacks versus traffic incidents is warranted since our experimental manipulation of thematic relevance of emotions entails exposing the participants to terrorism-related (thematically relevant) versus traffic accident-related (thematically irrelevant) emotive triggers.

As mentioned before, various processes may amplify (or attenuate) people’s reactions to adverse events. In exploring such processes, psychometric studies on risk perception have identified two primary factors: a) dread risks and b) unknown risks.45 Dread risks are associated with lack of control, dreaded and fatal consequences, catastrophic potential, inequitable distribution of risks and benefits, high risk to future generations, resistance to reduction, and involuntariness. Unknown risks are those perceived as unobservable, unknown to those exposed, delayed in their effect, new, and unknown to science. Psychometric studies suggest that the higher the dread factor levels and the higher the perceived unknown risks for a given adverse event, the more amplified the perceived risk and reactions to that event.46 As a dreaded and relatively unknown risk, the perceived risk of terrorism tends to surpass the perceived risk of traffic accidents (which entails non-dread, known risk characteristics), even though the actual probability of getting harmed by a traffic accident is much higher than by a terrorist attack.47

According to Slovic, one major mechanism that contributes to the social amplification of risk and ensuing reactions to adverse events is tied to the “signal value,” that is the type of threats such events portend for the future.48 As Kasperson et al. suggest, an accident with a high death toll may produce relatively little social disturbance (except for the victims’ families and friends) if it occurs as part of a familiar and well-understood system (such as a train wreck).49 In contrast, an incident in an unfamiliar or poorly understood system (as in the case of the 9/11 terrorist attacks) may have immense consequences if it is perceived as a harbinger of further catastrophic errors.50 As an event with high signal value, terrorism thus evokes strong affective attention to the possibility of its catastrophic harm despite its low probability, which Sunstein refers to as “probability neglect.”51

In addition to being a high signal event, terrorism involves intentional acts of violence. The premeditated nature of terrorism also contributes to intense psychological reactions generated by terror events.52 Moreover, terrorist attacks are perceived not only as direct threats to the individual but also as threats to a given collective. Studies show that individuals may experience more intense emotions in response to events such as terrorist acts that affect a group with which they identify, even if such events do not directly affect them in person.53

Another factor that may account for differences in reactions to terrorism and traffic accidents concerns the fact that the traffic accident risk contains a voluntary element. As Viscusi and Zeckhauser suggest, drivers and passengers obtain some valued benefit such as increased mobility, which compensates for the risks associated with such activity.54 In contrast, there is no voluntary market transaction and no compensatory benefit regarding the risks of terrorism.55
Finally, differences in reactions to terror attacks and traffic accidents among the general public may also be related to the scale and manner of media coverage of such events. Terrorist attacks receive wide attention in the media as breaking news with vivid and emotive coverage.\textsuperscript{56} Traffic accidents, in contrast, are rarely considered important enough to be covered by the national media, especially as breaking news (barring a high-profile traffic-related incident).

Given such differences regarding terrorist attacks and traffic accidents, analyses involving these hazards should be sensitive to potential higher order effects. It is especially important for internal validity purposes to ensure that the experimental manipulations of thematic relevance of emotive triggers are not confounded by other factors. Accordingly, we sought to keep the basic structure and details of the experimental treatments (both for the visual stimuli and the writing exercises) as similar as possible for the thematically relevant and irrelevant emotive trigger conditions. That said, even if people may generally have higher risk perceptions and feelings of dread for terrorist attacks as compared to traffic accidents, this would actually make the testing of our hypotheses and the ensuing results more conservative given that higher perceptions of risk and feelings of fear have been found to inhibit support for aggressive policies, as well as promote a more extensive search for information and enhanced cognitive processing.\textsuperscript{57}

**Experimental Findings**

**Manipulation Checks**

Before testing our hypotheses, it is necessary to ascertain whether our manipulations to induce anger worked as intended by our experimental design. Accordingly, we conducted manipulation checks. Sixty upper-level undergraduate students (outside of the participant pool for the actual experiment) were involved in the pretest of our emotive triggers and were randomly assigned to the experimental conditions. After reading the experimental scenario and being exposed to a particular experimental stimulus (depending on the experimental condition), all participants were asked to rate (on a scale of 0 to 10) whether and to what extent they had experienced anger.

Overall, participants who received thematically relevant and irrelevant emotive triggers expressed higher levels of anger ($M_{R} = 7.00$ and $M_{IR} = 5.65$) compared to the emotion-neutral control groups ($M_{C} = 1.35$). The results of our analysis of variance (ANOVA, hereafter) indicated statistically significant between-group differences for the manipulation of thematic relevance [$F (2, 54) = 59.96$, $p < .0001$].\textsuperscript{58} Having obtained this significant omnibus F-test, we then conducted post-hoc analyses for pairwise comparisons to determine which specific means significantly differed from one another. As the primary statistical method for post-hoc pairwise comparisons, we employed the Scheffè test because it is generally acknowledged as the most conservative of available post-hoc procedures.\textsuperscript{59} The results of the Scheffè test demonstrate that the difference between the means for the thematically relevant and control conditions is statistically significant ($p < .0001$). The means for the thematically irrelevant and control conditions are also significantly different from one another ($p < .0001$). These pretest responses thus suggest that both thematically relevant and irrelevant emotive triggers are effective in generating anger.

Although the levels of anger expressed by participants exposed to thematically relevant and irrelevant triggers are not identical, the difference observed between
the two means is only of marginal statistical significance at the .10 level. It would be ideal to induce precisely equal levels of anger for the manipulations of the thematically relevant and irrelevant conditions. However, as mentioned above, several studies have shown that people's reactions to terrorism are generally stronger in terms of emotional intensity compared to many other adverse events (including traffic accidents), particularly in the context of the post-9/11 world. Therefore, the differences observed regarding reactions to the thematically relevant (terrorist incident) versus irrelevant (traffic accident) emotive triggers are to a certain extent reflective of the reactions of the general population.

Last, the results of the pretest show that the method of emotion induction—the use of video clips versus writing exercises—did not have a significant effect on the level of anger induced (p > .10), which indicates that both methods have convergent validity. In all, the manipulation checks served to ensure that we executed an accurate manipulation of the experimental factors, thereby confirming the internal validity of our experiment.

**Policy Choice**

For our first hypothesis, we proposed that individuals who are exposed to thematically relevant emotive triggers of anger are more likely to prefer an aggressive policy option in response to international terrorism than those who are not (i.e., compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers). In the experiment, the aggressive policy option was the military targeting of terrorist headquarters and infrastructures in the area (coded as “1”) whereas the defensive policy option was the evacuation of U.S. citizens from the area (coded as “0”) in reaction to the terror events depicted in our experimental scenario. Given the binary nature of our dependent variable “policy choice,” we conducted a logistic regression analysis.

In order to test our hypothesis, we generated separate dummy variables for the thematically relevant, irrelevant, and emotion-neutral conditions (taking a value of 0 or 1 depending on the respective experimental treatment measured). The emotion-neutral control condition constituted the reference category in our model as the baseline comparison group. We also controlled for the number of information items that participants accessed before declaring their policy preference.

The results (presented in Table 1) show that the participants who were exposed to thematically relevant emotive triggers expressed a significantly higher tendency to choose the military policy option compared to the emotion-neutral control groups (p < .05). On the other hand, thematically irrelevant triggers exerted only a marginally significant effect on policy choice at the .10 level. Substantively speaking, with respect to changes in the predicted probability for choosing the military option, exposure to thematically relevant emotive triggers led to a 34 percent increase whereas exposure to thematically irrelevant emotive triggers resulted in an increase of 25 percent.

The results also reveal that the number of information items accessed (included as a control in our model) did not have any statistically significant effect on policy choice (p > .10). We also conducted mediation analyses to further test whether the effects of the experimental manipulations on policy choice were partially or fully mediated by differences in the number of information items accessed (i.e., the amount of additional information that participants acquired). Due to our binary
dependent variable, we employed standardized logistic regression coefficients to assess mediation. The results of these mediation analyses show that only around 1% of the effect of thematic relevance on policy choice is potentially driven by the amount of additional information that participants acquired. The bootstrapping tests further demonstrate that such reduction in the effect of thematic relevance on policy choice through information acquisition (i.e., the indirect effect) is not statistically significant given a bias-corrected confidence interval of $0.02$ to $0.10$ ($p > .10$). Therefore, the results suggest that the amount of additional information that participants acquired does not act as a mediator of the relationship between thematic relevance and policy choice.

Last, the method of emotion induction—the use of video clips versus writing exercises—did not demonstrate a statistically significant effect on policy choice ($p > .10$), which suggests that both methods have convergent validity. In sum, the experimental results are in line with our theoretical expectations and corroborate our first hypothesis regarding the effect of the thematic relevance of emotions on policy choice.

Information Acquisition

For our second hypothesis, we proposed that individuals who are exposed to thematically relevant emotive triggers of anger are likely to acquire less information before selecting a particular course of action as their preferred counter-terrorism policy than those who are not (i.e., as compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers).

The ANOVA results (presented in Table 2) indicate that the thematic relevance of emotive triggers displays a marginally significant overall effect on information acquisition [$F(2, 77) = 2.34, p = .10$]. Specifically, the results show that the participants who received the thematically relevant emotive triggers accessed the lowest number of information items ($M_R = 5.63$) compared to those who were assigned to the thematically irrelevant and the emotion-neutral control conditions ($M_{IR} = 6.46$ and $M_C = 9.57$). Following the omnibus $F$-test revealing significant between-group
differences concerning thematic relevance, we conducted Scheffe post-hoc analyses on the mean scores in order to more directly test the hypothesized effects. The results (illustrated in Figure 3) demonstrate that only the difference between the means for the thematically relevant and control conditions is statistically significant ($p < .10$) whereas no statistically significant difference exists between the means for the thematically irrelevant and control conditions ($p > .10$). The results thus corroborate our second hypothesis and are consistent with our findings regarding policy choice. Once again, the method of emotion induction (using video clips versus writing exercises) does not demonstrate a significant effect on participants' information acquisition patterns, thereby indicating that both methods have convergent validity.

**Processing Time**

For our third hypothesis, we proposed that individuals who are exposed to thematically relevant emotive triggers of anger are likely to spend a shorter amount of time

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</tr>
<tr>
<td>Method of emotion induction</td>
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<td>1</td>
<td>39.21</td>
<td>0.87</td>
<td>$&gt;.10$</td>
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<tr>
<td>Method × Thematic relevance</td>
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<td>11.75</td>
<td>0.26</td>
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</tr>
<tr>
<td>Residual</td>
<td>3446.25</td>
<td>77</td>
<td>44.75</td>
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<td>9.57</td>
<td>7.82</td>
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Table 2. Effects of the thematic relevance of emotive triggers on information acquisition

![Figure 3](image.png) **Figure 3.** Thematic relevance of emotive triggers and information acquisition—Scheffé post-hoc comparisons.
before selecting a particular course of action as their preferred counter-terrorism policy than those who are not (i.e., as compared to individuals who are exposed to thematically irrelevant emotive triggers of anger or are otherwise not exposed to any emotive triggers).

The ANOVA results (presented in Table 3) demonstrate that the thematic relevance of emotive triggers has a statistically significant overall impact on processing time $[F(2, 77) = 4.16, p < .05]$. Specifically, the results show that those participants who were exposed to thematically relevant emotive triggers declared their preferred policy within the shortest amount of time ($M_{TR} = 50.51$ seconds) compared to those in the thematically irrelevant and emotion-neutral control conditions ($M_{IR} = 57$ seconds and $M_{C} = 100.89$ seconds). Following the significant omnibus $F$-test, we conducted Scheffé post-hoc contrast analyses on the mean scores to more directly test the hypothesized effects of thematic relevance on processing time. The results (illustrated in Figure 4) indicate that the means for the thematically relevant and irrelevant emotive trigger conditions are both significantly different from the means for the control conditions ($p < .05$). We also find that the method of emotion induction has a

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**Table 3. Effects of the thematic relevance of emotive triggers on processing time**

<table>
<thead>
<tr>
<th>Experimental conditions</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F-value</th>
<th>p value</th>
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<td>3.66</td>
<td>≤.10</td>
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<tr>
<td>Method × Thematic relevance</td>
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<td>Residual</td>
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<td>77</td>
<td>4264.61</td>
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</tbody>
</table>

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**Means table**

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<th>Experimental conditions</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
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<tbody>
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<td>51.19</td>
<td>27</td>
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<tr>
<td>Thematically irrelevant condition</td>
<td>57.00</td>
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<tr>
<td>Emotion-neutral control condition</td>
<td>100.89</td>
<td>87.90</td>
<td>28</td>
</tr>
</tbody>
</table>

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**Figure 4.** Thematic relevance of emotive triggers and processing time—Scheffé post-hoc comparisons.
marginally significant effect on processing time \[F (1, 77) = 3.66, p < .10\]. Specifically, the use of writing exercises leads to a decrease in processing time (\(M_{WE} = 54.82\) seconds) compared to the use of video clips (\(M_{VC} = 87.31\)). Nevertheless, the ANOVA did not yield a significant interaction between the thematic relevance of emotive triggers and the method of emotion induction (\(p > .10\)).

### Discussion and Conclusion

This study has addressed an important gap in the literature by examining whether the thematic relevance of emotive triggers leads to differential effects on people’s policy preferences and cognitive processing with regards to international terrorism. Overall, we find that the induction of anger via thematically relevant emotive triggers leads to a higher tendency for selecting a military option, a lower amount of information acquisition, and a shorter processing time. In contrast, the effects of anger on policy choice and information acquisition (with the exception of processing time) observed in the thematically irrelevant emotive trigger condition are not significantly different from the emotion-neutral control condition. By exploring variations in the thematic relevance of emotional states in the context of international terrorism, our study provides not only a robustness check, but also a novel supposition about the makeup of emotions, their specificity, and their potential effects on public decision making.

The results of this study suggest that the public is sensitive to the thematic relevance of emotive stimuli in their information environment and therefore somewhat selective in their reactions to international terrorism. More specifically, the findings indicate that it is primarily the particular feelings of anger aroused by terror-related incidents that significantly affect people’s policy preferences concerning terrorism rather than the general feelings of anger (brought on by non-terror-related emotive triggers) that individuals may have in the context of their personal lives.

The findings of this study bear important implications because emotive triggers are deeply embedded in everyday social interactions and constitute recurring aspects of the political arena. Particularly with respect to international terrorism, emotions are constantly exploited by various circles including terrorists, politicians, the news media, and profiteers of terrorism, all contributing to public perceptions of terrorism as a dread risk and a highly salient issue.

Regarding political discourse and communication, several studies indicate that emotion-laden appeals, particularly on the issue of terrorism, are selectively deployed by political leaders in order to a) re-boost their public approval ratings while suppressing criticism and dissent, b) justify and garner support for their policy agenda (including counter-terrorism policies), and c) divert the attention of the public in times of domestic turmoil.63 The use of emotional content embedded in the public messages of political leaders is further bolstered by emotionally evocative, sensational, and dramatic media coverage of terrorism.64

Such extensive use of emotion-laden rhetoric on the subject of terrorism by politicians and the media, however, may empower terrorism by exacerbating its psychological impact on the public and weaken a state’s ability to mitigate the terror generated.65 In fact, some scholars employ the term “mass-mediated terrorism” to allude to the symbiotic relationship between terrorism and its media coverage, and the centrality of media considerations in the calculus of terrorism.66 Moreover, anger, anxiety, and other negative emotions evoked by such provocative
broadcasting and political discourse may contribute to the development of divisive and discriminatory political attitudes among the mass public, such as negative stereotyping, prejudice, ethnocentrism, derogation of out-group members, and political intolerance. Indeed, as studies on terror management theory suggest, such negative emotional reactions may seriously compromise peace processes and contribute to the escalation of intergroup conflict and violence.

The use of political agitation via the manipulation of people’s emotional states is also likely to hurt the democratic process because the public may become more prone to making uninformed judgments based on emotion-driven impulses instead of developing informed preferences based on enlightened interests. As the findings of this study and prior research indicate, higher levels of anger are associated with limited information searches and cognitive processing, as well as increased support for aggressive options. Premature support for military policy options, particularly in cases where such options are not the most optimal responses, may result in costly policies—not only in financial terms but also in terms of casualties.

As Sheppard puts it, “Critical to effective emergency planning and long term recovery is understanding the public’s likely behavioral responses so as to design effective risk communication strategies that augment societal resilience.” Accordingly, our nuanced examination of emotive reactions to international terrorism also offers some insights that are pertinent to the study of risk communication and terror management strategies. Based on our findings, we propose that the effectiveness of public communication strategies to deal with the threat of terrorism depends on the provision of substantive, reliable, and trustworthy information (rather than exclusive reliance on emotional storytelling with little informative value) in order to encourage the public to consider different policy alternatives by rationally weighing the costs and benefits of each option rather than reaching impulsive decisions.

One should also note that, under certain conditions, the use of anger appeals in risk communication may actually be an effective strategy (rather than a counter-productive one) for increasing one’s awareness of an issue and willingness to take control of a risk. According to Turner, the impact of anger on cognitive responses and behavioral intentions is moderated by people’s prior attitudes and perceptions of efficacy. Presenting the “Anger Activism Model,” Turner posits that anger may motivate an otherwise inactive public to engage in high commitment behavior in order to “fix” a given issue so long as the public is already pro-attitudinal and has strong perceptions of efficacy. However, if the public is originally against the issue position of the risk communicator, higher levels of anger will debilitate one’s chances of persuasion. As Turner puts it, “In such cases, it is the risk communicator’s job to diffuse anger and to increase knowledge about the other side of the issue.” In another study, Musgrove and McGarty find that identification with opinion-based groups (i.e., with supporters or opponents of the “war on terror”) triggers specific group-based emotions in line with the norms of the group (i.e., feeling angry at terrorists or the government), which in turn lead to differences in collective action intentions (i.e., offensive action against terrorists or protest against the government).

In light of these studies, future avenues of research may involve more nuanced investigations of public reactions to terrorism by interacting the thematic relevance of emotions with other antecedent conditions such as prior attitudes, identification with opinion-based groups, and perceptions of efficacy.

Investigating the role that emotions play in shaping people’s responses to international terrorism also helps provide greater insights into the policy choices
of political leaders who take public opinion into account when making decisions. Particularly for democratic leaders, following the will of the people is not just a normative ideal to fulfill; it is a prerequisite for political survival given that the public can vote out of office those politicians who defy their preferences. Public opinion may thus significantly influence a leader’s decision to undertake either more defensive or aggressive counter-terrorism policies. As such, our analyses of people’s foreign policy preferences regarding international terrorism also informs future analyses of political leaders’ decision making in an emotion-driven public opinion environment.

In view of the results of our experimental analyses, a brief discussion is warranted regarding the use of the experimental method in this study. Whereas political scientists in general acknowledge the high internal validity of experimentation as a means for testing hypotheses, debate continues over the external validity of this method. Therein, most criticism is directed at the use of college students and the artificiality of laboratory settings with regard to the representativeness of the experimental samples and the generalizability of results.

In addressing this debate about experimentation, we echo the sentiments expressed by Mook that, “what makes research findings of interest is that they help us understand everyday life. That understanding, however, comes from theory or the analysis of mechanism; it is not a matter of ‘generalizing’ the findings themselves.” In other words, the research objective and the conclusions drawn from an experiment relate solely to the logic of one’s theory and hypotheses. As such, the main purpose of most experimental studies is neither to estimate the characteristics of a given population from sample characteristics nor to draw inductive conclusions about that population, but to investigate if the theorized relationships exist between the variables of interest.

As Gartner suggests, experiments using hypothetical scenarios allow researchers to capture the broader range of processes concerning public opinion by enabling one to manipulate and vary the factors of interest in accordance with one’s research objectives. Employing hypothetical scenarios also allows a researcher to prevent any bias or confusion that might arise by referring to present or past time real-world actors and events, which could contaminate the validity and reliability of the findings if not applied properly. Nevertheless, the experimenter should avoid developing hypothetical scenarios that are unrealistic or artificial. With these considerations in mind, we developed our experimental scenario as well as the video clips in the form of fictional news reports in close concert to the type of content found in real news stories by using the Vanderbilt Television News Archive database.

We also emphasize that the experiment used in this study was designed for examining public reactions to international terrorism rather than that of elite decision makers. Otherwise, using students in an experiment that aims to study elite perceptions would be problematic since the patterns of information acquisition and cognitive processing, associative memory structures, levels of experiential knowledge, and decision strategies are different for the public and the elite. That said, as Mintz et al. suggest, experimentation is an appropriate method when the real-world equivalent of a student sample in an experiment is the public—not the political elite. Indeed, an increasing number of studies (such as by Druckman and Kam) empirically demonstrate that college students and the non-student general population differ very little on a majority of politically relevant variables. For instance, in comparing the results of his national-level experiment on public support for war with those he conducted in laboratory conditions with students, Gartner
does not find a significant difference between the reactions of students and older adults. The results of these systematic studies thus suggest that even if the actual link between the thematic relevance of emotive triggers and reactions to international terrorism might differ in strength and degree in the general population, the basic cognitive and psychological processes that lead to the proposed outcomes are essentially similar among all members of the public. That said, we believe that the robustness and validity of the findings reported here may be further advanced by future studies that involve replications of the experiment design using nationally representative samples, variations in the information sets and scenarios, and/or manipulations of other emotional states invoked by terrorist attacks such as sadness, fear, and hatred. One might also further analyze the effects of the thematic relevance of emotions using public opinion data on reactions to terrorism.

Another important future avenue in this line of research is to replicate the analyses in different cultural contexts outside the United States. This is particularly important because various national, cultural, and other contextual factors such as prior experience with terrorist acts (and other forms of political violence) may also influence people’s reactions to international terrorism. For instance, comparing the distress of Israeli and American students studying at the same university in Israel during a period of recurrent terrorist acts, Kovatz et al. find that cultural background leads to significant differences in student responses, with Americans reporting higher levels of anxiety and fear in reaction to the perceived threat of terror than the Israelis. Such variation between Israelis and Americans may be partly due to differences in their degree of familiarity with terrorism, especially given that Israelis have frequently been exposed to acts of terrorism in their country over a long period of time whereas Americans are less familiar with living in an environment susceptible to endemic terrorist attacks (even with the increased salience of perceived terrorist threats in the U.S. since September 11, 2001).

Despite such contextual differences, comparative studies of terrorism have found key cross-national similarities in reactions to international terrorism. For instance, Friedland and Merari find an association between terrorist threats and support for aggressive military action among Israelis, which parallels the findings of most studies on the perceived threat of terrorism and U.S. public opinion. At any rate, it is important to take into account context-specific factors when drawing conclusions and interpreting the implications of one’s findings. In all, more cross-sectional studies are necessary for systematic explorations of potential contextual effects on public reactions to international terrorism. We expect that such future efforts will help advance the accumulation of knowledge in this field of research.

Notes


3. Ibid.

4. One should note that there is no universally accepted definition of international terrorism. Nevertheless, the literature contains several useful conceptualizations that offer some common ground to build on for operational purposes. For instance, Jenkins posits that international terrorism consists of terror acts with clear international repercussions such as incidents in which terrorists operate abroad to strike their targets, select certain targets because of their connections to a foreign state, or attack international lines of commerce. On a parallel basis, Wilkinson defines international terrorism as “political terrorism directed at foreign targets; concerted by factions of more than one state; or aimed at influencing the policies of a foreign government.” For the purposes of this study, we focus on acts of international terrorism in a country targeting the citizens and interests of another country. Therein, because the subject pool of our experiment was drawn from the United States, the specific context of the study concerns the reactions of the U.S. public to terrorist attacks abroad targeting U.S. citizens and interests. See Brian M. Jenkins, The Study of Terrorism: Definitional Problems (Santa Monica, CA: RAND Corporation, 1980); 3; Paul Wilkinson, Terrorism and the Liberal State (London: Macmillan, 1986), 182. See also Walter Enders and Todd Sandler, The Political Economy of Terrorism (Cambridge, MA: Cambridge University Press, 2006).


8. Friedland and Merari (see note 1 above); Huddy et al. (see note 2 above); Skitka et al. (see note 2 above).
13. Huddy et al. (see note 1 above); Landau et al. (see note 5 above).
17. Huddy et al. (see note 2 above).


25. Huddy et al. (see note 22 above); Lerner et al. (see note 2 above); Skitka et al. (see note 2 above).


27. Ibid.

28. Small et al. (see note 6 above).

29. Lerner et al. (see note 2 above). See also Fischhoff et al. (see note 7 above).

30. Skitka et al. (see note 2 above).


32. Gasper and Clore (see note 31 above); Goldberg et al. (see note 22 above). See also Johnson and Tversky (see note 18 above).


36. Our experimental design section offers an extended comparative discussion of public reactions to terrorist attacks versus traffic accidents (particularly in terms of the varying

37. Lerner et al. (see note 2 above); Skitka et al. (see note 2 above).
38. Bodenhausen et al. (see note 22 above); Druckman and McDermott (see note 24 above); Lerner and Keltner (see note 22 above); Lerner and Tiedens (see note 24 above); Marcus et al. (see note 22 above); Tiedens (see note 24 above); and Tiedens and Linton (see note 24 above).
39. All experimental materials are available upon request.
44. Writing exercise questions are adopted from Small and Lerner (see note 42 above).
45. Some studies also add “the number of people exposed to the risk” as a third factor. See Slovic (see note 36 above).
46. Ibid.
48. Slovic (see note 36 above).
49. Kasperson et al. (see note 36 above), 186.
50. Ibid.
55. Ibid.
57. Lerner et al. (see note 2 above); Skitka et al. (see note 2 above); Bodenhausen et al. (see note 22 above); Lerner and Tiedens (see note 24 above); Tiedens (see note 24 above); Tiedens and Linton (see note 24 above); and Lerner and Keltner (see note 22 above).

58. As Izard et al. suggest, individuals can experience several emotions at any given moment and one emotion may trigger another. Taking this possibility into consideration, in addition to anger, we asked the participants whether they experienced several other emotions (specifically, fear and sadness) in reaction to the experimental stimuli as part of our manipulation checks. The participants rated these emotions on a scale of 0 to 10. The results demonstrate that the means for anger expressed by participants after exposure to emotive triggers in both the thematically relevant and irrelevant conditions ($M_{R} = 7.00$ and $M_{IR} = 5.65$) are substantively higher than the means for fear ($M_{R} = 3.55$ and $M_{IR} = 2.35$) and sadness ($M_{R} = 4.95$ and $M_{IR} = 3.75$). The results thus suggest that anger is the dominant emotion induced by the experimental stimuli. It is also important to note that even if other emotions are intervening with the predicted effects of anger, our experimental results would be more, not less, conservative because it would demonstrate that the hypothesized effects for anger still hold even in the presence of other emotional states that would otherwise nullify or mediate the impact of anger. Carroll E. Izard, Brian P. Ackerman, Kristen M. Schoff, and Sarah E. Fine, “Self-Organization of Discrete Emotions, Emotion Patterns, and Emotion-Cognition Relations,” in Marc D. Lewis and Isabela Granic, eds., Emotion, Development, and Self-Organization (New York: Cambridge University Press, 2000), 15–36. See also Sadler et al. (see note 1 above).


60. See, for example, Burns and Slovic (see note 36 above); Kaspier et al. (see note 36 above); Rogers et al. (see note 47 above); and Sunstein (see note 51 above).


65. Slone (see note 64 above); and Shoshani and Slone (see note 12 above).

66. Nacos (see note 56 above); and Shoshani and Slone (see note 12 above).

67. See, for example, Shoshani and Slone (see note 12 above).

69. Lerner et al. (see note 2 above); Skitka et al. (see note 2 above); Bodenhausen et al. (see note 22 above); Lerner and Tiedens (see note 24 above); Tiedens (see note 24 above); Tiedens and Linton (see note 24 above); and Lerner and Keltner (see note 22 above).


73. Ibid.

74. Ibid., 118.


77. For instance, Sears argues that young adults have "less-crystallized attitudes, less-formulated senses of self, stronger cognitive skills, stronger tendencies to comply with authority, and more unstable peer group relationships." Such differences may create concern about the generalizability of experimental findings based on student samples. However, by using Monte Carlo simulations on different levels of attitude crystallization, Druckman and Kam statistically demonstrate that "any convenience sample poses a problem only when the size of an experimental treatment effect depends upon a characteristic on which the convenience sample has virtually no variance." David O. Sears, "College Sophomores in the Laboratory: Influences of a Narrow Data Base on Social Psychology's View of Human Nature," *Journal of Personality and Social Psychology* 51, no. 3 (1986): 515; and James N. Druckman and Cindy D. Kam, "Students as Experimental Participants: A Defense of the 'Narrow Data Base,'" in James N. Druckman, Donald P. Green, James H. Kuklinski, and Arthur Lupia, eds., *Cambridge Handbook of Experimental Political Science* (Cambridge, MA: Cambridge University Press, 2011), 41. See also Donald R. Kinder and Thomas R. Palfrey, "On Behalf of Experimental Political Science," in Donald R. Kinder and Thomas R. Palfrey, eds., *Experimental Foundations of Political Science* (Ann Arbor, MI: University of Michigan Press 1993), 1–42; and Rose McDermott, "Experimental Methods in Political Science," *Annual Review of Political Science* 5 (2002): 31–61.


83. Gartner (see note 79 above).


86. Ibid.

87. Friedland and Merari (see note 1 above). See also, for example, Bar-Tal and Labin (see note 1 above); and Carol Gordon and Asher Arian, "Threat and Decision Making," *Journal of Conflict Resolution* 45, no. 2 (2001): 196–215.

88. See, for example, Huddy et al. (see note 2 above); Lerner et al. (see note 2 above); Sadler et al. (see note 1 above); and Skitka et al. (see note 2 above).