How emotionally-induced certainty influences mock jurors' decision-making and verdicts in a criminal case

by

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Abstract

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Lucy Arnot

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Drawing from Appraisal theory's fundamental premise that emotions are differentially elicited by various patterns of cognitive appraisals, several recent theories (Keltner, Ellsworth & Edwards, 1993; Lerner & Keltner, 2000; Tiedens & Linton, 2001) address the way these underlying cognitions cause appraisal-congruent judgments and behavior in subsequent situations. For example, one of the appraisals underlying the emotion fear is uncertainty, and testing of these recent theories has shown that fear induced in one situation results in uncertainty, and certainty-seeking behavior, in a novel situation. Certainty is of particular interest as an appraisal dimension because of its implications for information processing and judgment.

A pair of studies was designed to explore the influence of emotion-induced certainty on mock-jurors' judgments in a criminal case. Study 1 demonstrated that, explicitly induced emotions with different certainty appraisals influenced participants' conviction thresholds, which, in turn, influenced guilt certainty. However, study 2 failed to find similar effects for implicitly induced emotions on subsequent judgments or on final inferences of guilt certainty.

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Chapter 1: General Overview

While researchers have studied extensively the broad topic of how emotions influence judgment (for reviews, see Clore, Schwarz & Conway, 1994; Forgas, 1995; Loewenstein, 1996; Schwarz & Clore, 1996; Zajonc, 1998), it is only recently that psychologists have begun to explore how the cognitive appraisals, which are associated with emotions, influence judgment (Keltner, Ellsworth & Edwards, 1993; Lerner & Keltner, 2000) and information processing (Tiedens & Linton, 2001). According to Appraisal Theory, emotions are elicited and differentiated by peoples' subjective evaluations of a situation, and of whether and how the situation threatens their health, happiness, freedom and goals. While the majority of modern appraisal theories (e.g., Frijda, 1987; Roseman, 1984; Scherer, 1984; Smith & Ellsworth, 1985; Smith & Lazarus, 1990) concentrate on how specific appraisals of a situation elicit specific emotional reactions, several recent theories have instead addressed how these appraisals, and their accompanying emotions, influence information processing and judgment (Keltner, Ellsworth & Edwards, 1993; Lerner & Keltner, 2000; Tiedens & Linton, 2001).

After reviewing some of the history of appraisal theory, and describing several recent theories of the interplay between emotion, appraisal and judgment, I will describe, and report the results of, two studies I conducted on the influence of emotion and appraisal on mock-jurors' judgments in a criminal case.

The Roots of Appraisal Theory

Magda Arnold is credited as the founder of Appraisal Theory because it was she who, in 1960, first presented the idea that emotions could be broken down into cognitive components such as appraisals or evaluations. At that time, researchers in the

behaviorally orientated psychological community focused on the ways in which physiological changes initiate and influence our experiences and behavior. These researchers considered emotions as secondary phenomena defined simply in terms of arousal or as drive states. At the time, psychological scientists considered Arnold's proposal that emotions were more than a mediating factor, and that cognitions, rather than physiological changes, preceded the elicitation of emotions, to be radical. (Schorr, 2001)

Arnold proposed that one's instinctive actions could be preceded by an "intuitive appraisal" of whether something is "good or bad for me." Arnold posited three appraisals that, in combination, determined the emotion an individual experienced. First is the appraisal of whether an object is beneficial or harmful, second is whether the object is present or absent, and third is whether it is easy to attain (if beneficial) or overcome (if harmful) (Arnold, 1960, as cited in Roseman, Spindel & Jose, 1990, p.901).

Similarly, Lazarus and colleagues called for a cognitive approach to emotion psychology because, like Arnold, he was dissatisfied with the prevailing conception of emotion only as a motivational variable. These theorists asked two questions about the role of cognition in emotion. First, "What is the nature of the cognitions (or appraisals) which underlie separate emotional reactions?" and second, "What are the determining antecedent conditions of these cognitions?" (Lazarus, Averill & Opton, 1970, as cited in Schorr, 2001, p. 23). In an attempt to answer these questions, Lazarus proposed his Cognitive-Mediational Theory, which posits two types of appraisal, primary and secondary. The former refers to appraisals of the significance of a situation to the person, while the latter refers to appraisals of the person's ability to cope with the situation

(Lazarus et al., 1970; Lazarus, 1991). The similarities between Arnold's original proposal and Lazarus' early theory are obvious, with both claiming that the emotion an individual experiences depends on the answers to questions like, "What does this situation mean for my well-being?" and "What can I do about it?"

It was not until almost 20 years after Arnold and Lazarus presented these early ideas that other theorists began to build on them to propose new theories that identified cognitions as the initiators, not mediators, of the emotional sequence. The goal of modern appraisal theories was to break down the cognition-emotion sequence into smaller components, and to identify specific relationships between these smaller cognitive and emotional components. These researchers tried to build on the simple idea that cognitions are a factor in emotion, to explore more specifically "what *kinds* of perceptions are most important in differentiating more emotional from less emotional experience, and in differentiating one emotion from another" (Ellsworth & Smith, 1988, p. 272, original italics).

Smith & Ellsworth (1985) and the Principled Appraisal Theories

All modern appraisal theories rest on the premise that different patterns of appraisals on a set of cognitive dimensions can meaningfully distinguish between emotions. These theories attempted to delineate a number of cognitive dimensions and locate each of the major emotions on these dimensions. Further, the cognitive appraisal theories make predictions about what emotion would be associated with a situation that is high and low on specific cognitive dimensions. Reciprocal relationships predict that specific emotions result from situations high and low with regard to these cognitive dimensions.

Some modern appraisal theories propose only a minimal number of motivation-related dimensions, while others invoke as many dimensions as are necessary to maximally differentiate emotions. The majority of appraisal theories, and those most relevant to this discussion, identify emotions that result from psychological principles (Roseman, 1984, Scherer, 1984 & 2001, Smith & Ellsworth, 1985) that are necessary and sufficient to differentiate the major emotions. (Scherer, 1999, p. 642)

The often-cited Smith and Ellsworth (1985) study resulted in one of the most influential of the principled theories because the study brought together and tested many of the dimensions proposed and found by other appraisal researchers. Building heavily on the theories of Roseman (1984) and Scherer (1982), Smith & Ellsworth (1985) proposed 8 cognitive dimensions (pleasantness, attention, control, certainty, perceived obstacle, legitimacy, responsibility, and anticipated effort) to best differentiate 15 emotions (happiness, sadness, fear, anger, boredom, challenge, interest, hope, frustration, contempt, disgust, surprise, pride, shame and guilt). The researchers asked 16 college students who had indicated on a pre-selection questionnaire that they were emotionally expressive, to think about and verbally describe a situation in which they had experienced each of the 15 emotions. After describing the situation, participants answered a series of questions designed to increase the detail of their description (ex: what happened in the situation to make you *happy*? How did you know you were *happy* in this situation?) Finally, participants responded to a number of stimulus ratings, designed to assess the situation on each of the 8 proposed cognitive dimensions. For each dimension, there were two or three questions intended to tap the various aspects of that dimension. For example, for pleasantness, one question asked how pleasant the situation was, and another asked

how enjoyable the situation was. Similarly, for legitimacy, the first question asked how fair the situation was, while the second asked how much they felt cheated or wronged in that situation.

Using two different types of analyses, Principle Component Analysis and Symmetric Individual Differences Multidimensional Scaling, Smith & Ellsworth (1985) compared the loadings and weights of each of the 18 questions. The dimensional solution that Smith & Ellsworth proposed consists of the six dimensions supported by both types of analysis. The six dimensions are pleasantness, own vs. other's responsibility/control, certainty, attentional activity, anticipated effort and situational vs. human control.

Smith & Ellsworth's (1985) interpretable set of dimensions provides insight into the similarities and interrelations between emotions in a way that reflects our natural intuitions about those similarities and differences. For example, most people would agree that anger and frustration are similar but distinct, but probably could not clearly explain how they are similar or how they are different. Likewise, most would also agree that pride and shame are opposite, but again be unable to explain what is really meant by "opposite." Smith & Ellsworth (1985) explain that, "the very idea of opposition implies a dimension or set of dimensions along which emotions can be arranged, so that we can begin to make more specific statements of *how* emotions are similar or dissimilar to each other" (p. 813, original italics). Using Smith & Ellsworth's (1985) six-dimensional model, it becomes clear that anger and frustration are similar in that both are associated with high effort, unpleasantness, and other responsibility, but different in that anger is associated with certainty and human control, while frustration is associated with uncertainty and more situational control. Regarding the opposition of pride and shame,

analysis of the dimensions shows that these two emotions are only significantly different on one dimension, pleasantness. In fact, pride and shame are both high on the dimensions of human control and self-responsibility, and their only significant difference is that pride is associated with pleasantness, while shame is associated with unpleasantness.

Comparative testing and revision of the principled appraisal theories converges on agreement that there is a significant amount of consistency among them and evidence in all of them of the original ideas of Arnold and Lazarus. The three dimensions that appear consistently across most of these appraisal theories are: Pleasantness (Is this event pleasant?), Certainty (How certain am I about what is happening or going to happen?), and Agency (Who is responsible for the event, myself, someone else or the situation?) For example, Pleasantness is a dimension in the theories of Smith & Ellsworth (1985), Roseman (1984) (referred to as Situational State), Frijda (1987) (referred to as Valence), Scherer (2001), and Smith & Lazarus (1990) (referred to as Motivation Congruence). Similarly, both Certainty and Agency appear in all of these theories. Certainty is an explicit dimension in Roseman's (1984), Smith & Ellsworth's (1985) and Frijda's (1987) theories. Certainty shows up in Smith & Lazarus' (1990) theory as Future Expectancy, and in Scherer's theory (2001), as a sub-check of the Novelty dimension. Agency is an explicit dimension in Roseman's (1984), Smith & Ellsworth's (1985), and Frijda's (1987) theories. It is also shows up in Smith & Lazarus' (1990) theory as Accountability, and in Scherer's (2001) theory as a sub-check of the Coping Potential dimension.

Several researchers have tested and compared these theories, usually with positive results. Smith & Ellsworth (1985) correctly predicted 42% of 15 emotions with their 6 predictors, and have found consistent support for 5 of their dimensions since. Scherer

(1997, as cited in Scherer, 1999) correctly predicted 40% of 7 emotions using 7 predictor dimensions, and 32% with the more recent version of this theory containing 4 predictors (2001). Repeated testing has found support for the appraisals proposed by Roseman (Roseman et al., 1990), with all 5 significantly differentiating various emotions.

Emotion, Appraisal and Judgment

Satisfied by the repeated findings that cognitive aspects of situations differentiate emotional experiences, several researchers have gone further and explored how these appraisals and their related emotions influence evaluations and judgments of novel and unrelated situations.

Keltner, Ellsworth and Edwards (1993) explored the connection between appraisal theory and mood-and-judgment research, in order to test whether the influence of emotion on subsequent judgments corresponds to the appraisal dimensions associated with that emotion. Researchers in these studies asked two important questions. First, would the negative emotions elicited in response to a particular situation have the carry-over effect of influencing one's causal judgments of a novel and unrelated situation? Second, would these carry-over effects show more than just a negative bias, but actually correspond to the underlying appraisal dimensions of those emotions? For example, sadness and anger are both negative emotions but sadness is associated with appraisals of high situational control, while anger is associated with appraisals of low situational control and high agency control. Keltner et al. investigated whether induced sadness would lead to appraisals of high situational control, and induced anger to appraisals of low situational control, in an unrelated ambiguous situation. They predicted that, "the

specific influence an emotion has on ensuing judgments should correspond to the pattern of appraisal that characterized that emotion" (Keltner et al., 1993, p. 741).

Keltner et al. (1993) found that experimentally induced sadness and anger had differential impacts on participants' causal judgments of unrelated situations. The researchers induced sadness by asking participants to write about how they would feel about the death of their mother and they induced anger by asking participants to write about how they would feel if an unfair professor gave them a low and undeserved grade. Relative to those in the anger condition, participants in the sad condition were more likely to find events situationally determined, and to find situational forces more responsible for ambiguous events. In comparison, participants in the anger condition were more likely to attribute the outcomes to human causality, and to hold other people, rather than situational forces, responsible for these ambiguous events. Thus, Keltner et al. (1993) found strong support for their hypotheses that, not only do emotions elicited in one situation influence judgments of unrelated situations, but also that those judgments correspond to the cognitive appraisals associated with the initial emotions.

A recent appraisal theory that includes basic appraisal dimensions, but also addresses how cognitions and emotions carry-over and influence unrelated situations, is Lerner & Keltner's (2000) Appraisal-Tendency Theory of affect and judgment. This theory combines elements of cognitive-appraisal theory and functional theories of emotion. From cognitive-appraisal theory, Lerner & Keltner borrowed the fundamental idea that it is cognitive dimensions, and not simply valence, that meaningfully distinguish emotions. From functional theories of emotion, Lerner & Keltner borrowed the idea that emotions serve a functional purpose and direct our attention and behavior towards

situations meriting that attention (this idea is common to most appraisal theories, but more explicitly detailed in this theory). More importantly, however, the Appraisal-Tendency Theory extends Keltner et al.'s (1993) research and posits that emotions elicited in one situation can cause appraisal-congruent evaluations and judgments in novel situations. "Each emotion activates a cognitive predisposition to appraise future events in line with the central-appraisal dimensions that triggered the emotion – what we call an appraisal tendency" (Lerner & Keltner, 2000, p. 477).

Chapter 2: Certainty Appraisal Research

While past research has examined the impact of a number of different appraisal dimensions (Frijda, 1987; Roseman, 1984; Roseman & Smith, 2001; Roseman, et al., 1990; Scherer, 1982, 1984, 1997, 1999, & 2001; Smith & Ellsworth, 1985) social psychological investigations of cognitive appraisal theories often focus on the certainty dimension because, more than the other dimensions, certainty has the most significant implications for information processing (Tiedens & Linton, 2001; Lerner & Keltner, 2000 & 2001). As will be detailed below, certainty appraisals have been found to influence degree of processing, reliance on stereotypes and similar informational cues, assessment of risk, and certainty-seeking behavior. It follows that researchers conduct a great deal of this work using anger, disgust or contentment, and fear or surprise, because these emotions are associated with certainty and uncertainty, respectively (Smith and Ellsworth, 1985).

For example, Tiedens & Linton (2001) focused on how emotions associated with different certainty appraisals influence subsequent information processing and judgment. In-line with previous work in which uncertain people processed information more systematically than those who felt certain (Weary & Jacobson, 1997; Pelham & Wachsmuth, 1995, as cited in Tiedens & Linton, 2001), Tiedens & Linton (2001) predicted that participants who were induced to feel uncertain emotions, such as fear or worry, would process more systematically in an attempt achieve greater levels of certainty about their judgments or decisions. In contrast, those induced to feel certainty emotions, such as disgust or contentment, would process more heuristically because the certainty feelings negate the need to process systematically in order to regain a sense of

certainty in the decision outcome. Central to Tiedens & Linton's work is the Sufficiency Threshold hypothesis, which, modeled after Chaiken's Sufficiency Principle (1980), proposes that people will seek out and process only the minimum amount of information that they have to in order to feel sufficiently certain of their decision or judgment.

To assess the influence of certainty appraisals on persuasion, Tiedens & Linton (2001) used the traditional "write about an autobiographical emotional event" task to induce two emotions associated with certainty, anger and contentment, and two emotions associated with uncertainty, worry and surprise. By including one positive and one negative emotion for each cognitive appraisal, Tiedens & Linton were able to separate appraisal effects from valence effects. After the emotion induction, and as part of a supposedly unrelated study, participants read a persuasive argument either for or against grade inflation ostensibly written by either a respected college professor or a student at a nearby community college. A short version of Smith and Ellsworth's (1985) appraisal questionnaire served as the manipulation check and showed that participants who had been induced to feel anger and contentment felt significantly more certain than did participants induced to feel worry and surprise. Tiedens and Linton found that the difference in status of the author of the article (a heuristic cue) influenced participants induced to feel the certainty emotion but not those induced to feel the uncertainty emotion. An interaction between type of emotion and status of the author showed that uncertainty emotion participants were equally persuaded by the argument regardless of the attributed source, while participants in the certainty emotion condition were significantly more persuaded by the argument when it was attributed to a high-status source. These findings support the hypothesis that the experience of emotions associated

with certainty leads to feelings of certainty, and to a greater use of heuristic cues, than does the experience of emotions associated with uncertainty. These results were independent of the valence of the emotion.

In a subsequent experiment, Tiedens & Linton (2001) induced fear and disgust with film clips, and then asked participants to decide a student court case in which a student was charged with cheating. For half of the participants the materials described the "defendant" as a student athlete. For the other half this description was absent. The results showed that disgust, a negative emotion associated with certainty, led to a greater reliance on stereotypic information (i.e., that the student was an athlete), while the presence of that stereotypic information made no difference to those participants who had been induced to feel fear, a negative emotion associated with uncertainty. Regression analyses of the athlete condition showed that participants who felt disgust were more certain about their ability to make a fair judgment about the student, and felt more certain that the student athlete was guilty of cheating, than did participants who were induced to feel fear. This finding showed that the cognitive appraisal of certainty, which is associated more with disgust than fear (Smith & Ellsworth, 1985), can carry over and lead to increased certainty in one's ability to make an unrelated decision, and to increased guilt certainty. Finally, disgusted participants were more likely to consider the student-defendant guilty of cheating than were fearful participants. Thus, for participants experiencing a certainty emotion, the presence of stereotypic information significantly impacted their judgment of the student's guilt, while this information made no difference to the participants experiencing an uncertainty emotion. These results support Tiedens' &

Linton's hypothesis that the experience of an emotion associated with certainty leads to a greater reliance on stereotypic information, in this case the student's athletic affiliation.

In a related study, Lerner, Goldberg & Tetlock (1998) investigated the effects of experimentally induced anger on judgments of negligence and damage awards in a tort case, as well as the number of cues that the participants relied on when making their decision. Anger-primed participants made more punitive attributions and punishment decisions than did neutrally-primed participants. Of particular interest is the finding that, compared to participants in the neutral condition, those in the anger condition used fewer informational cues when reaching their responsibility and punishment decisions. Lerner et al. interpreted these findings as support for the theory that anger can lead to simplified cognitive processing and a reduced reliance on informational cues.

In a series of studies designed to test their Appraisal-Tendency theory, Lerner and Keltner (2000, 2001) explored the ways in which anger and fear, two negative emotions that differ in their appraisals of certainty and control, influence perceptions of risk and risky choice preferences. "Drawing on fear's appraisal structure, the model predicts that fear will be associated with the tendency to perceive uncertainty and situational control in new situations and that fearful people will – as a consequence of that appraisal tendency – perceive greater risk across new situations. Anger, by contrast, will be associated with the tendency to perceive certainty and individual control in new situations and – as a consequence – to perceive *less* risk across new situations" (Lerner & Keltner, 2000, p. 478).

In the first of two studies regarding risk *assessment*, Lerner & Keltner (2000) found that dispositionally fearful people made more pessimistic risk assessments, while

dispositionally angry people made more optimistic risk assessments. In a subsequent study, Lerner and Keltner (2001) experimentally induced anger and fear, and included a shortened version of Smith & Ellsworth's (1985) appraisal questionnaire that contained the certainty and the human vs. situational control questions. Anger-induced participants indicated higher certainty appraisals, higher human control appraisals, and made more optimistic risk assessments, than did fear-induced participants. Path analysis revealed that appraisals of control significantly mediated the relationship between emotion and optimism. Certainty appraisal was not a significant mediator of this relationship. These findings are consistent with the appraisal-tendency theory in that certainty appraisals differentiated between two negative emotions, anger and fear, in judgments of risk. While certainty appraisals did not mediate the relationship between emotion and optimism, control appraisals directly mediated this relationship. Lerner & Keltner could only offer a measurement problem, low reliability for the certainty scale, to explain why control was a mediator but certainty was not.

Regarding risk *preference*, Lerner & Keltner found that participants who scored high on a dispositional fear scale (2001) were more likely to choose a sure thing over a gamble. In contrast, participants who scored high on the dispositional anger scale (2001) were more likely to choose the gamble instead of a sure thing. These results suggest that a higher degree of anger is associated with a greater willingness to take risks. In contrast, a higher degree of general fearfulness is associated with an aversion to risk and uncertainty, and a preference for outcomes that seem more certain and reliable. Because these studies measured dispositional emotions, no cognitive appraisals were assessed and the mediational role of these appraisals was not explored.

In summary, research has shown that our cognitive appraisals of a situation elicit emotions that are relevant to, and serve a functional purpose within, that situation. In addition, however, those cognitive appraisals can lead to similar appraisals of unrelated situations and thus can influence judgments and information processing in that novel situation. For example, an uncertain situation would lead to appraisals of uncertainty in a novel situation, and prompt behavior, such as systematic processing, that is aimed at reducing that uncertainty. In contrast, appraisals of certainty in one situation would carry over and lead to a subsequent situation being appraised as more certain that it might otherwise have been. (Tiedens & Linton, 2001).

Research into the emotions associated with certainty and uncertainty appraisals suggests that the experience of certainty-associated emotions, like anger, can lead to greater optimism (Lerner & Keltner, 2000 & 2001), greater risk-taking (Lerner & Keltner, 2001), less systematic processing and less reliance on informational cues (Lerner et al., 1998; Tiedens & Linton, 2001), and greater reliance on heuristics and stereotypes (Tiedens & Linton, 2001).

Chapter 3: Overview of the Current Research

The current research was prompted by the question of how appraisal theory could help us to better understand the influence of emotion on juror decision-making in civil and criminal trials. I believe that the appraisal theories of emotions can provide important insight into the complexity of juror decision-making, and how and why some emotions can be a particular hindrance to the goal of punishing the guilty and not the innocent. I specifically predicted that reasonable doubt would be the mechanism through which emotional appraisals would influence juror decision-making and verdicts.

Beyond a reasonable doubt is the standard of proof used in criminal trials. Jurors hearing criminal cases are instructed to return a guilt verdict only if the evidence convinces them beyond a reasonable doubt that the defendant committed the charged crime. A different standard of proof is used in civil cases, where jurors must decide whether the prosecution has shown by a *preponderance of the evidence* that the defendant is guilty. While commentators interpret the civil standard to mean that it is more likely than not that the defendant is liable, the criminal standard of *beyond a reasonable doubt* is less well defined.

In *In re Winship* (1970), the Supreme Court ruled that a defendant has a right, under the due process clause of the Constitution, to be protected "against conviction except upon proof beyond a reasonable doubt of every fact necessary to constitute the crime with which he is charged" (as cited in Faust, 2000). Since that time the definition of reasonable doubt has been the subject of much debate, with a number of convictions challenged on the grounds that a court's definition of reasonable doubt led to an unconstitutionally low conviction threshold. While some courts favor the definition of

reasonable doubt as a "substantial doubt", others favor the likening of beyond a reasonable doubt to a "moral certainty" of guilt, or "proof that leaves you firmly convinced" of guilt (Faust, 2000). This latter definition has been endorsed both by the Federal Judicial Center and several Supreme Court judges, but there is still little consensus among the courts. For example, pattern instructions used in West Virginia do not mention either moral certainty or firm conviction, and instead define reasonable doubt as "a doubt based upon reason and common sense – the kind of doubt that would make a reasonable person hesitate to act. Proof beyond a reasonable doubt, therefore, must be proof of such convincing character that a reasonable person would not hesitate to rely and act upon it" (*State v. Goff*, 1980).

While the legal system continues to debate the definition of reasonable doubt, jurors in criminal cases are still reaching their verdicts armed only with instructions to convict only if they feel a "moral certainty" or are "firmly convinced" of guilt. Such vague guidance means that jurors are free to (and obliged to) set for themselves the certainty level for the lower boundary of *beyond* reasonable doubt. For example, if jurors were to decide that 5% is a reasonable doubt, then their definition of beyond a reasonable doubt should be higher than 95% convinced of guilt. This 95% would be their conviction threshold, the point at which their default verdict of not-guilty (because ideally a defendant is innocent until proven guilty) changes to a verdict of guilty.

Another way to conceptualize reasonable doubt is as a juror's willingness to return a verdict that might be incorrect. For example, a reasonable doubt of 5% suggests that a juror is willing to return a guilty verdict when there is a 1 in 20 chance that the defendant is actually not guilty of the crime. While using percentages to represent doubt,

and beyond a reasonable doubt, helps conceptualize the decision process, most jurors probably do not attempt to explicitly quantify reasonable doubt, but rather rely on whether they "feel" that the incriminating evidence has been convincing enough to justify a guilty verdict. Jurors likely ask if the evidence is convincing enough for their consciences to allow them to be comfortable with a guilty verdict. In other words, if they are returning a guilty verdict, is the chance that the defendant is innocent small enough to be an acceptable risk?

In the current studies, I proposed that a juror's conviction threshold would differ depending on whether that juror is experiencing an emotion associated with certainty or with uncertainty. Specifically, I predicted that the experience of an uncertain emotion, unlike the experience of a certainty emotion, should result in the need to feel more confident of the evidence that supports a verdict. Therefore jurors experiencing an uncertain emotion will demonstrate a higher conviction threshold.

According to Lerner and Keltner (2000 & 2001), a fearful person is more likely than is an angry person to choose a certain sure thing over an uncertain gamble. That is, the uncertainty associated with fear compels one to seek certainty, while the certainty associated with anger allows one to risk an uncertain gamble. In other words, a person experiencing an uncertainty-emotion (like fear or surprise) will seek certainty as a way to feel more sure about her or his decision, while a person experiencing a certainty-emotion (anger, contentment) will be more willing to take a risk and make a decision that they are not sure is correct. To apply these predictions to a juror situation, the need for certainty associated with an uncertainty-emotion could result in a juror returning a guilty verdict

only when most sure of guilt. In contrast, a juror experiencing a certainty-emotion might be more willing to return a guilty verdict when that juror is less sure of guilt.

The current research consisted of a pair of studies designed to explore the way in which the certainty appraisals associated with specific emotions influence jurors' definitions of reasonable doubt and verdict decision-making. The studies measured the difference between verdicts returned by angry (certain) and fearful (uncertain) jurors when presented with the same criminal case, but with varied levels of evidence incriminating the defendant. Study 1 examined the way in which explicitly induced emotions influenced conviction thresholds and verdicts, while study 2 did the same for implicitly induced emotions.

The influence of emotion on conviction threshold and verdicts is an important issue because jurors in real trials very likely experience extreme emotions while hearing the evidence, and it would be helpful to understand if, and how, these emotions influence their decision-making processes. The jurors could be experiencing a number of different emotions, some as a reaction to the case before them, but others that might be completely unrelated to the case. While some jurors might be feeling sad because of the victim's suffering, others might be worried that the case will drag on and they fear being fired from their jobs. Emotion could also be a tool used by one or both of the attorneys to swing the verdict in their favor. For example, in their opening argument, the prosecutor could try to induce anger in the jurors by emphasizing that the defendant had purposely targeted a defenseless old woman as his mugging victim. It is easy to imagine that such an argument, while not establishing the facts of the case, could exert a powerful influence over a jury's verdict.

While control appraisals were not, originally, a major focus of this study, they serve several important functions in this research. First, the individual vs. situational control is an appraisal that consistently differentiated between anger and fear. (Smith & Ellsworth, 1985; Lerner & Keltner, 2001). Second, asking respondents only three certainty appraisal questions could create a demand characteristic, so that adding the three control questions decreased the transparency in the juror questionnaire. Third, in light of Lerner & Keltner's (2001) finding that control mediated the relationship between emotion and judgment while certainty did not, it seemed prudent to add this measure to the current experiments.

Chapter 4: Study 1 Method

The purpose of the current research was to explore the possibility that anger and fear, because they are associated with certainty and uncertainty, respectively, would have differential effects on mock-jurors' reasonable doubt, and therefore on their verdict, when judging a criminal case. Applying what we know about emotion and certainty appraisal to juror decision-making suggests that a desire for certainty could strongly influence the way in which jurors weigh evidence and decide whether the evidence proves guilt "beyond a reasonable doubt." Since specific emotions are associated with certainty, and since certainty results in reduced cognitive processing and more risky behavior and choices, those certainty-emotions might also result in an unconscious reduction of one's conviction threshold. This would lead to a juror being more easily convinced of a defendant's guilt, and thus more likely to return a guilty verdict, when the incriminating evidence was not enough to convince a juror who was experiencing an uncertainty emotion.

Hypotheses

There were several predictions for Study 1. First, compared to participants in the fear condition, participants in the anger condition would indicate more certainty, and higher human control, when evaluating their emotion-induction situation. This prediction was based on the repeated finding that appraisals of certainty and control effectively differentiate between anger and fear, with anger associated with certainty and human control, and fear associated with uncertainty and situational control.

Second, higher certainty appraisals should be associated with a lower conviction threshold, that is, a lower definition of "guilty beyond a reasonable doubt". As previously

mentioned, the reasoning behind this hypothesis was that uncertainty has been shown to result in an increased desire for certainty in subsequent decisions, suggesting that mock jurors will need to be more convinced of guilt in order to return a guilty verdict. Meanwhile, a participant experiencing a certainty-emotion would not feel as compelled to feel sure of their verdict, and might be more willing to take a risk and return a guilty verdict even when the evidence did not strongly justify it.

Extending this logic is the third prediction that a lower conviction threshold would be associated with higher guilt certainty. This prediction stems from the idea that the less one needs to be convinced of guilt in order to return a guilty verdict, the more likely it is that the evidence would be seen as convincing enough to justify a conviction.

A fourth prediction was that, in the ambiguous evidence condition, angry participants would be significantly more likely to convict the defendant than would fearful participants. This prediction reflected the belief that participants in the anger condition would appear conviction-prone because of their lower conviction thresholds (hypothesis 2). Thus, when the evidence was not conclusive of either guilt or innocence, I expected angry participants to favor a guilty verdict, and fearful participants to favor a not-guilty verdict.

Fifth was the prediction that angry participants would be less influenced by the level of incriminating evidence than would fearful participants.. In other words, neutral and fearful participants would be sensitive to the evidence and would convict only when the level of incriminating evidence was high, while angry participants would be conviction-prone even under conditions where there was less evidence to support a conviction.

Finally, the sixth prediction was that emotion would have a main effect on guilt certainty, and that both certainty appraisal and reasonable doubt would mediate this effect. The specific expectation was that, compared to fear, anger would result in higher guilt certainty, but that this effect would be mediated by the fact that anger was associated with higher certainty, which in turn was associated with a lower definition of "beyond a reasonable doubt."

Method

Participants

Participants were 188 undergraduates at the University of Nebraska – Lincoln (UNL) who completed the study as part of a requirement, or for extra-credit, for a Psychology course. The sample was 31% (59) male, and 69% (129) female. In age, the sample ranged from 18 to 53, with a mean age of 20. Most participants (67%) were in their first or second year of college. The vast majority of participants (93%) identified themselves as Caucasian/non-Hispanic. The sample was 29% Protestant, 37% Catholic and 28% other, with only a handful of participants indicating that they were either an Agnostic or Atheist. No participants indicated being Jewish, Hindu or Islamic.

Procedure

Participants were recruited for this study using UNL's online research participation system. The title of the study was listed as "Perceptions and the law", and the brief description stated that the purpose of the research was to "explore judgments of criminal cases in the legal system."

To complete the study, participants gathered in a research lab in groups of up to 12. Each participant sat at their own desk and, after giving their informed consent to

participate, received a 12-page packet containing all of the materials. The Informed Consent stated that they would be asked, "to describe an event/activity in your life, to read a summary of a criminal case and to respond to a series of questionnaires." After all of the participants had completed their packet of materials, the experimenter fully debriefed and them. While most participants did not comment on the study, several stated that they had been speculating about the relationship between the experimental materials. This is not surprising considering the participants were psychology students learning about experimental methods.

Materials

Trait Scales. In order to assess baseline anger and fear, participants first completed the trait portions of the State-Trait Anger Scale, (Spielberger, Jacobs, Russel, & Crane, 1983), and the State-Trait Anxiety Inventory (STAI; Spielberger, 1983). The Trait Anger scale measures anger as a relatively stable personality trait using 15 statements such as "I have a fiery temper" and "I get angry when I'm slowed down by others' mistakes." For each statement, the respondent indicates how often they feel this way: almost never, sometimes, often, or almost always. This scale is highly reliable (α = .87) (Spielberger et al., 1983). The Trait Anxiety Inventory (Spielberger, 1983) consists of 21 statements designed to measure how often the respondent feel anxious, from almost never to almost always. Two example statements are "I feel at ease" and "I worry over possible misfortunes." This scale has high reliability (α = .86) (Spielberger, 1983).

Participants then completed the Desire for Control Scale (Burger & Cooper, 1979) and the Need for Structure Scale (Thompson, Naccarato & Parker, 1989). These scales were included because of the expectation that the two traits that they measure would

influence the way an individual uses information and reaches decisions. The Desire for Control Scale contains 20 statements designed to assess an individual's motivation to control various events in their life. For each of the statements, the respondent must indicate the degree to which that statement applies to them. For example, one of the statements is "I prefer a job where I have a lot of control over what I do and when I do it." This scale has high reliability ($\alpha = .75$) (Burger & Cooper, 1979). The Need for Structure scale (Thompson, et al., 1989) consists of 12 statements regarding the desire for structure in one's life. An example is "I enjoy having a clear and structured mode of life." The respondent must indicate how much they disagree or agree with each of the statements. This scale is reliable ($\alpha = .76$) (Neuberg & Newsom, 1993).

Emotion Induction. Anger or fear were then explicitly induced using the traditional method of asking participants to describe five things that make them the most angry or afraid (Lerner & Keltner, 2001). A second question then asked them to "Describe in more detail the one situation that makes you, or has made you, most angry [afraid]. Write this description so that someone reading it might even feel angry [afraid] just from learning about the situation." Participants in the control group were asked to write down 5 things they do on an average weekday, and then to describe one of those things in detail. The instructions for this task indicated that participants should take their time and spend approximately 8-10 minutes on this task.

The Criminal Case: Evidence Manipulation. Participants then indicated their definition of reasonable doubt ("Please indicate your response to complete the following sentence: To find a criminal defendant guilty beyond a reasonable doubt, I would have to be _____% certain of his guilt." (scale from 0% to 100%, increasing in increments of

5%)) and read a summary of a criminal case (*People v. Somers,* see Appendix) in which the defendant is accused of attempted murder in the 2nd degree. The case facts were followed by a short summary of Nebraska law regarding this criminal charge.

There were three versions of the case summary, one with little incriminating evidence, one with substantial incriminating evidence, and one that was ambiguous as to the defendant's guilt. The ambiguous version came from a prior study (N = 135), in which it resulted in an ambiguous mean verdict rating (*M* =1.50) (*SD* = .41)(1 = not guilty and 2 = guilty). The "low" and "high" incriminating evidence versions were then created by removing and adding, respectively, pieces of incriminating evidence. A new pilot study showed that the "low" incriminating evidence version had a mean verdict rating of 1.32 (*SD* = .48), while the "high" incriminating evidence version had a mean verdict rating of 1.76 (*SD* = .44). These two versions resulted in significantly different verdict, t (1,79) = -3.68, p = .000, and guilt certainty, t (1,79) = -4.27, p = .000, ratings. The pilot also contained a question about how likely it was, based on the evidence in the summary, that the defendant committed the crime, and this likelihood rating was also significantly different for the low (*M* = 48.38) and high (*M* = 76.83) evidence versions, t (1,79) = -5.84, p = .000.

Dependant Measures: Verdict. After reading the case and legal summary, participants completed a Verdict Questionnaire, which asked them to indicate how convinced they were that the defendant committed the crime ("How convinced are you that Kevin Somers committed the crime of attempted murder in the second degree?" (0-100% in increments of 5%)), whether they thought the defendant was guilty or innocent, and their confidence in that verdict (9-point scale, from 1 = not at all certain, to 9 = very

certain). A final question on the Verdict Questionnaire was open-ended and asked participants to briefly describe the facts of the case that led them to reach the verdict they indicated.

Manipulation Check: State Emotion Scale. Participants then completed a shortened version of the Positive and Negative Affect Scale (PANAS) (Watson, Clark & Tellegen, 1988), which required them to indicate for a list of emotions (ex: upset, hostile, nervous, excited, attentive, afraid) the degree to which they felt each (1= not at all, to 5 = extremely) while reading the criminal case summary. The PANAS treats positive and negative affect as two separate and distinct dimensions, and the correlations between the two scales are consistently low, ranging from -.12 to -.23 (Watson et al., 1988). While high positive affect reflects high energy, concentration and pleasurable engagement, low positive affect reflects sadness and lethargy. High negative affect is a state of distress and unpleasurable engagement, while low negative affect reflects calmness and serenity. (Watson et al., 1988) The PANAS scales are highly reliable, regardless of whether the instructions refer to the participant's emotional state at the moment, today, in the past few days, etc. For the "at the moment" instructions, which are the closest to those used in this study, the reliability is high, $\alpha = .89$ for the positive affect scale, and $\alpha = .85$ for the negative affect scale.

Appraisal Questions. Participants were then instructed to re-read the situation they described in the emotion induction and to complete a shortened version of Smith and Ellsworth's Appraisal Questionnaire, containing 3 certainty and 3 control questions. (ex: "In the events that you described, to what extent did you typically feel that someone other than yourself had the ability to influence what was happening?" "In the events described,

how uncertain were you about what would happen in the various situations?" Each question was measured on a 6-point Likert-type scale.)

Demographics & Memory Questionnaire. Finally, participants completed a questionnaire asking them to indicate their age, gender, ethnic background, and religious preference. The last question was the "Memory" question asking participants to list as many case facts from *People v. Somers* as they could recall, without looking back at the case summary.

All experimental materials are appended.

Chapter 5: Study 1 Results

Trait Emotion and Personality Scales

A Trait Anger score was calculated for each participant by adding up his or her answers to each of the 15 Trait Anger items ($\alpha = .86$). A Trait Anxiety score was also calculated, after reverse scoring several items ($\alpha = .91$). A Need for Structure score was calculated ($\alpha = .86$), as was a Desire for Control score ($\alpha = .76$).

A certainty score was calculated based on the mean response to each of the three certainty appraisal questions ($\alpha = .79$). A composite control score was not calculated because the three questions do not tap the same aspect of control ($\alpha = .44$). As found by Smith & Ellsworth (1985) and Ellsworth & Smith (1988), there are two distinct control dimensions, one relating to how much the individual or someone else is controlling the situation, and the other relating to how much the situation is under the control of any individual or of situational factors. The first 2 of the control questions, ("In the events that you described, to what extent did you typically feel that someone other than yourself had the ability to influence what was happening?" and "In the events that you described, to what extent did you typically feel that someone else was to blame for what was happening in the situation?") refer to the former and have high reliability ($\alpha = .77$). The third question ("In the events that you described, to what extent were the events beyond anyone's control") addresses the dimension of human agency vs. situational control, and best distinguishes between anger and fear. Anger is associated with human control while fear associated with situational control (Smith & Ellsworth, 1985; Ellsworth & Smith, 1988). Because the emotions induced in this study were anger and fear, a participant's

response to this human control vs. situational control question constituted the control appraisal variable used in all of the analyses.

State Emotion Scales

The Positive Affect and Negative Affect scores were calculated for each participant based on their mean response to the positive words and negative words, respectively, on the PANAS. Both Positive Affect ($\alpha = .85$) and Negative Affect ($\alpha = .86$) were reliable. The two emotion words that had been added to the end of the PANAS scale, "outraged" and "angry," were not included in the calculation of the negative affect score and were analyzed separately.

There were a number of significant correlations between the 6 state and trait affect and personality scales (See Table 1). Both Trait Anger and Trait Anxiety were positively correlated with each other ($p < .01$), and with Negative Affect ($p < .05$ and $p < .01$, respectively). While Desire for Control and Need for Structure were not correlated with each other, they were both significantly related to Trait Anxiety. Trait Anxiety was positively correlated with Need for Structure ($p < .01$), and was negatively correlated with Desire for Control ($p < .05$). Need for Structure was positively correlated with Negative Affect ($p < .01$), while Desire for Control was correlated with Positive Affect ($p < .05$). Finally, the two separate PANAS scales, Positive Affect and Negative Affect, were significantly positively correlated ($p < .01$).

Gender effects

There were several differences between male and female participants on the emotion, personality and affect scales. Men and women differed significantly on Positive Affect, t (1, 185) = 2.52, $p < .01$, with males ($M = 2.75$) being significantly more positive

than females (M = 2.48). The genders also differed on Negative Affect, t (1, 185) = -2.67, $p < .01$, with females being significantly more negative (M = 1.59) than males (M = 1.39). The only personality scale on which men and women differed was Desire for Control, t (1,185) = 3.62, $p < .01$, where men indicated a greater Desire for Control (M = 102.19) than did women (M = 96.11).

Manipulation check

To test whether the emotion manipulation had the desired effect, two 3 (emotion) X 2 (gender) ANOVA's were conducted on the Positive and Negative Affect scores. Gender was included because the previous analyses showed a gender difference for Positive and Negative affect. There was a significant main effect of the emotion manipulation on Positive Affect, F (2, 184) = 3.71, $p < .05$. Participants in the anger condition (M = 2.41) were less positive than neutral (M = 2.63) participants, and significantly less positive than fearful (M = 2.66) participants, LSD, $p < .05$. This effect, however, was not strong, eta^2 = .04. Emotion did not have a significant effect on Negative Affect. Emotion also failed to have a significant effect on the individual "angry" and "afraid" words on the PANAS, F (2, 186) = .17, p = .8, and F (2, 186) = .39, p = .68, respectively.

Certainty and Control Appraisals

It was important to replicate the common finding that people appraise situations associated with anger as more certain and more subject to human control than situations associated with fear. An ANOVA yielded a significant main effect of emotion condition on ratings of certainty, F (2, 185) = 37.79, $p < .01$, eta^2 = .29, Scheffe (fear vs. neutral, p = .000; neutral vs. anger, p = .000; anger vs. fear, p = .021) with anger associated with

more certainty (M = 3.96) than fear (M = 3.52), as expected, and neutral (M = 4.86) associated with the most certainty. (See Table 2.) (This is not surprising since the neutral-emotion induction task asked participants to write about activities they do on an average day, activities with which they should feel very familiar, and about which they should feel certain.)

A separate ANOVA on the control score (based on the "beyond anyone's control" question) also showed a significant main effect of emotion condition, F (2, 184) = 38.92, $p < .01$, eta^2 = .3. Specific contrasts showed that participants in the fear condition indicated significantly more situational control (M = 3.83) (higher score that it was beyond anyone's control) than any other group (Scheffe: fear vs. neutral, p = .000; fear vs. anger, p = .000). Participants in the anger (M = 2.11) and neutral (M = 2.1) condition were not significantly different from each other (Scheffe, anger vs. neutral, p = .99). (See Table 2). This supports the long-found (Smith & Ellsworth, 1985, 1987) difference between anger and fear regarding perceptions of situational versus human agency control.

Reasonable Doubt

A 3(emotion) X 2 (gender) ANOVA was carried out to explore the influence of gender and emotion condition on participants' conception of reasonable doubt. While there was no significant main effect of emotion on reasonable doubt, F (2, 187) = 1.62, p = .2, eta^2= .02, planned contrasts showed that participants in the anger (M = 91.43) and fear (M = 93.14) conditions were marginally significantly different, p = .08. This difference was in the hypothesized direction, with anger associated with a lower conviction threshold than fear. Post-hoc tests also showed no significant differences between emotion conditions. There was no gender difference for reasonable doubt, F (1,

187) = .01, p = .95, eta^2= .00, with men and women having an almost identical mean response (men M = 92.25, women M = 92.17).

The interaction of emotion and gender on reasonable doubt was marginally significant, F (2, 187) = 2.15, p = .12, eta^2= .02, but interesting because of the different patterns of change for men and women across emotion conditions. For male participants, there was a significant effect of emotion on conviction threshold, F (2, 58) = 3.17, p = .05. Post-hoc tests showed that the conviction threshold was significantly higher (LSD, p = .02) in the fear condition (M = 95.36) than in the anger condition (M = 89.21). This pattern, of fearful participants having a higher conviction threshold than angry participants, was originally predicted for all participants, not just for males. In contrast, emotion condition had no effect on female participants' conviction thresholds, F (2, 128) = .03, p = .97. Their conviction thresholds were almost identical across emotion conditions, fear M = 91.95, neutral M = 92.16, and anger M = 92.39.

Guilt and Guilt Certainty

Participants were separately asked to indicate their verdict (not guilty or guilty) and their certainty in that verdict (from 1 = not at all certain, to 9 = very certain.) Participants were generally unwilling to convict the defendant and, of the 188 participants in this study, only 61 (32%) indicated a guilty verdict. Nine participants (14%) in the low evidence condition returned a guilty verdict, as did 18 (29%) participants in the ambiguous evidence condition, and 34 (55%) participants in the high evidence condition.

A guilt certainty variable was computed by multiplying the verdict (not-guilty = –1, and guilty = 1) by verdict certainty. The resulting guilt certainty variable ranged from –

9 (= very certain of not-guilty verdict) to 9 (= very certain of guilty verdict). The mean guilt certainty rating was -1.16 (*SD* = 5.65).

A 3 (emotion) X 3 (evidence) ANOVA was conducted on guilt certainty. There was a significant main effect of level of incriminating evidence on guilt certainty, F (2, 187) = 19.5, $p < .01$, $eta^2 = .18$, with higher guilt certainty as the level of incriminating evidence increased. Follow-up tests showed that guilt certainty means were significantly different, LSD, $p < .05$, for each of the 3 evidence conditions (low evidence, M = -3.73; ambiguous evidence, M = -1.66; high evidence, M = 1.97). There was not a significant main effect of emotion condition on guilt certainty, F (2, 187)= .71, p = .49, $eta^2 = .008$. The means for the angry and fearful participants, however, were in the hypothesized directions, such that in all evidence conditions fearful participants were less certain of guilt (or, when the means were negative, more certain of innocence) than were angry participants. There was no interaction effect of emotion and evidence on guilt certainty, F (4, 187) = .67, p = .61, $eta^2 = .02$. (See Table 3.)

Verdict Certainty

An ANOVA was carried out on certainty of verdict by emotion condition, but no differences were found, F (2, 187) = 1.84, p = .16. Across emotion conditions, participants indicated very similar certainty in their verdicts, fear (M = 5.00), neutral (M = 5.73) and anger (M = 5.31).

Decision-making model

A stepwise multiple regression path model was examined to explore the relationship between the manipulated emotion and evidence variables, certainty and control appraisals, affect and personality variables, gender, participants' conceptions of

beyond a reasonable doubt and conviction regarding the defendant's guilt, and guilt certainty. These regression analyses allowed an examination of the roles of emotion and cognitive appraisals in the complex decision-making process required to return a verdict. They also allowed a test of the prediction that both emotion and appraisals would influence participants' conceptions of beyond a reasonable doubt, which would, in turn, influence guilt certainty. Each of the manipulated variables, emotion and evidence, was represented by a pair of dummy-coded variables for these regression analyses. For emotion, the first vector consisted of anger coded as 1, with both fear and neutral coded as zero, while the second vector consisted of fear coded as 1, with both anger and neutral coded as zero. For evidence, the first vector was high evidence coded as 1 and the low and ambiguous evidence coded as zero, while the second vector was low evidence coded as 1 and the ambiguous and high evidence coded as zero.

In the first of these stepwise regression analyses, guilt certainty was the criterion variable, with all of the other variables as possible predictors. Each of the variables that was found to significantly predict guilt certainty was then entered as the criterion in a separate regression equation. For these analyses, the only possible predictors entered were those variables that had not been found to significantly predict guilt certainty. This process was continued for each significant predictor until all that remained as possible predictors were the manipulated or demographic variables that could not be entered as criteria.

The correlational coefficients and standardized regression weights are laid out in Table 4, and the model is presented in Figure 1.

Certainty Appraisals. Only the emotion condition significantly predicted certainty appraisal (Table 4A), with the first emotion vector (anger vs. fear and neutral) accounting for 29% of the variance in certainty, and the second emotion vector (fear vs. anger and neutral) accounting for 17% of that variance. Post-hoc tests showed that each emotion condition was significantly different from the others, Scheffe, $p < .05$, with the neutral participants indicating the most certainty (not surprising given task instructions), but more importantly, with angry participants indicating significantly more certainty ($M = 3.96$) than fearful participants ($M = 3.52$).

Beyond a Reasonable Doubt. As expected, certainty appraisals were significantly related to reasonable doubt, $B = -.16$, $p < .05$, with higher certainty associated with a lower conviction threshold. Need for Structure also predicted reasonable doubt, $B = -.16$, $p < .05$, with those participants indicating a higher need for structure also indicating a lower conviction threshold. (See Table 4B)

Convinced of Guilt. Both Negative Affect and evidence manipulation were significantly related to how convinced a participant was of the defendant's guilt. (See Table 4B) Higher Negative Affect was associated with higher belief in the defendant's guilt, $B = .17$, $p < .05$. The second evidence vector significantly predicted convinced, such that, as the level of evidence increased, so did participants' belief in guilt.

Guilt Certainty. Together, the state and trait emotion variables, gender, the manipulated variables of emotion and evidence, reasonable doubt, convinced of guilt and appraisal scores accounted for 52% of the variance in guilt certainty. (See Table 4C)

By far the most significant predictor of guilt certainty was how convinced the participant was of the defendant's guilt, $B = .64$, $p < .001$, with participants who were

more convinced of guilt indicating more certainty in a guilty verdict. The participant's definition of reasonable doubt was also a significant predictor of guilt certainty, $B = -.17$, $p < .01$, with participants indicating a higher conviction threshold also indicating less certainty of a guilty verdict (or more certainty of a not-guilty verdict), as expected. The level of incriminating evidence also predicted guilt certainty, as expected, with more evidence leading to more certainty of a guilty verdict, $p < .001$. While evidence vector 1, which compared high evidence to ambiguous and low evidence, significantly predicted guilt certainty, evidence vector 2, which compared low evidence to ambiguous and high evidence, did not. The guilt certainty means for each evidence condition were as follows: low evidence, $M = -3.73$, medium evidence, $M = -1.66$, and high evidence, $M = 1.97$, and the fact that vector 2 was not a significant predictor of guilt certainty reflects the fact that there is greater within-group variance than between-group variance for this grouping. Finally, Trait Anxiety significantly predicted Trait Anger, which in turn significantly predicted guilt certainty, $B = -.11$, $p < .05$, with participants who indicated higher Trait Anger being less convinced of guilt.

Table 1: Correlations between trait and state affect and personality scales - Study 1.

	Trait Anger	Trait Anxiety	Need for Structure	Desire for Control	Positive Affect
Trait Anger					
Trait Anxiety	.57**				
Need for Structure	.22**	.39**			
Desire for Control	.04	-.15*	-.004		
Positive Affect	.07	-.04	-.05	.18*	
Negative Affect	.17*	.21**	.23**	-.08	.21**

* $p < .05$. ** $p < .01$.

Table 2: Mean Certainty and Control Appraisals by Emotion Condition – Study 1.

	Certainty Appraisal	Control Appraisal
Fear	3.52^{a}	3.83^{a}
Neutral	4.86^{b}	2.1^{b}
Anger	3.96^{c}	2.11^{b}

Note: For each independent variable, means with different superscripts differ significantly (LSD, $p < .05$)

Table 3: Guilt Certainty Means by Evidence and Emotions conditions – Study 1.

	Low Incriminating Evidence	Ambiguous Incriminating Evidence	High Incriminating Evidence	Total
Fear	-3.57	-2.29	.76	-1.7^{a}
Neutral	-4.29	-1.05	3.55	$-.66^{a}$
Anger	-3.33	-1.64	1.67	-1.10^{a}
Total	-3.73^{a}	-1.66^{b}	1.97^{c}	

Note: For each independent variable total, means with different superscripts differ significantly (LSD, $p < .05$)

Table 4: Correlational Coefficients and standardized regression weights for path model - Study 1. For all tables: * $p < .05$. ** $p < .01$.

Table 4A

	Certainty	
Predictor	***r***	***Beta***
Emotion Vector 1	-.1	-.4**
Vector 2	-.4**	-.61**
Gender	.06	.03
Positive Affect	.05	.05
Negative Affect	-.01	-.04
Desire for Control	.04	.03
Control Appraisal	-.32**	-.14

Tale 4B

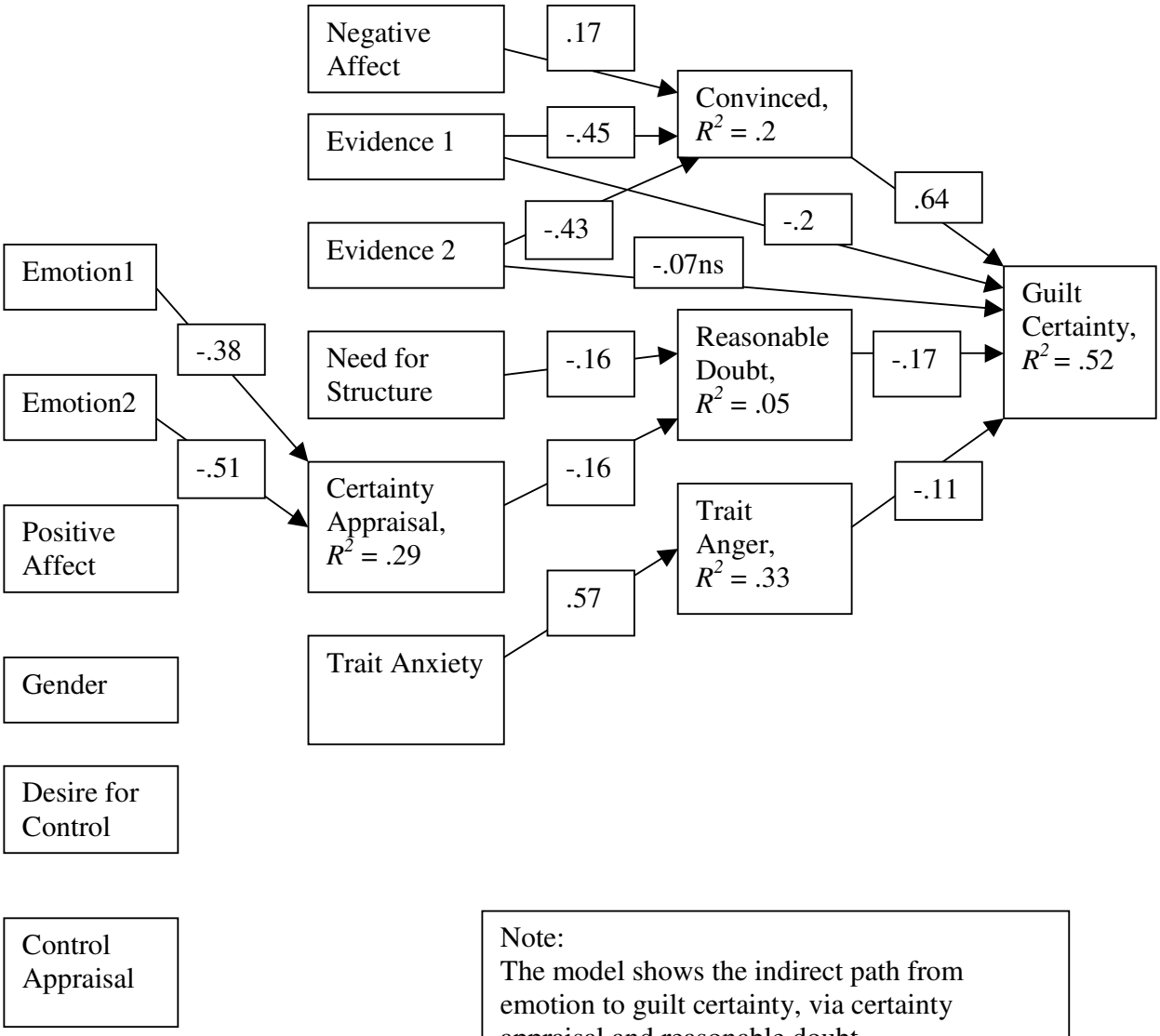
	Convinced of Guilt		Reasonable Doubt		Trait Anger	
Predictor	***r***	***Beta***	***r***	***Beta***	***r***	***Beta***
Emotion Vector 1	-.02	-.02	-.08	-.09	.07	-.07
Vector 2	-.02	-.02	.09	.02	-.06	.05
Gender	.06	.05	.02	.04	-.05	-.05
Positive Affect	-.02	-.02	.03	.03	.07	.08
Negative Affect	.12	.17*	-.05	-.01	.2	.07
Desire for Control	.03	-.01	.06	.06	.04	.11
Control Appraisal	.05	.03	-.01	-.05	-.03	-.01
Need for Structure	.03	-.04	-.16*	-.16*	.22**	-.01
Trait Anxiety	-.03	-.1	-.04	.02	.57**	.39**
Certainty Appraisal	.02	.08	-.15*	-.16*	-.03	.01
Evidence Vector 1	-.22**	-.45**	-.05	-.04	.01	.002
Vector 2	-.19**	-.43**	-.03	-.03	-.08	-.04

Table 4C

	Guilt Certainty	
Predictor	***r***	***Beta***
Emotion Vector 1	.01	.01
Vector 2	-.06	-.05
Gender	.08	.05
Positive Affect	-.01	-.03
Negative Affect	.11	.07
Desire for Control	.08	.02
Control appraisal	.09	.04
Need for Structure	-.06	-.06
Trait Anxiety	-.09	-.01
Certainty appraisal	.03	-.01
Evidence Vector 1	-.33**	-.2**
Vector 2	-.05	-.07
Convinced	.67**	.64**
Reasonable Doubt	-.14*	-.17**
Trait Anger	-.07	-.11*

Figure 1: Decision-making path model - Study 1

Except where specified as not significant (ns), all listed Beta weights are standardized and significant at the .05 level;
Emotion Vector 1: Anger = 1, Fear and Neutral = 0;
Emotion Vector 2: Fear = 1, Anger and Neutral = 0;
Evidence Vector 1: High incriminating evidence = 1, Low and ambiguous evidence = 0;
Evidence Vector 2: Low incriminating evidence = 1, Ambiguous and high evidence = 0.



Chapter 6: Discussion – Study 1

Study 1 showed mixed support for the central hypotheses. There was significant support for the hypothesis that anger-related situations would be associated with greater certainty and human agency than would fear-related situations. This was an important finding because a main premise of this study was that appraisals of certainty and control differentiate anger from fear. It was also important because it replicated the finding of Smith & Ellsworth (1985), that anger is associated with certainty and human control, while fear is associated with uncertainty and a lack of human control.

There was also strong support for the second hypothesis, with increased evaluations of certainty being associated with a lower conviction threshold. This hypothesis reflected the proposition that participants who were feeling more certain, because of the induction of anger, would not feel as compelled to be sure of their verdict and thus would have a lower definition of "beyond a reasonable doubt" than would participants who were experiencing uncertainty. Fearful participants indicated a higher conviction threshold than did angry participants, thus showing their need to be more convinced of a defendant's guilt before they would return a guilty verdict. This finding is in line with the previous work by Tiedens and Linton (2001) and Keltner et al. (1993), that certainty about one situation can carry over and influence our desire, or lack of desire, to be certain in another situation.

There was significant support for the hypothesis that a lower conviction threshold would be associated with higher guilt certainty. There was no support, however, for the fourth hypothesis that angry participants would be more likely to convict than would fearful participants, especially when the evidence was ambiguous. In the ambiguous

evidence condition, angry participants were no more likely to convict, or to have higher guilt certainty, than were fearful participants.

The fifth hypothesis, that the amount of incriminating evidence would not be as important a factor in the verdicts of angry participants as it was in the verdicts of fearful and neutral participants, was also not supported. There was no interaction between emotion condition and level of incriminating evidence, and level of evidence was a significant predictor of guilt certainty for all participants, regardless of emotion condition.

There was also no support for the mediation hypothesis. There was no main effect of emotion condition on guilt certainty, so the question of mediation effects of certainty or reasonable doubt was moot. While the path model revealed an indirect relationship between emotion and guilt certainty, with emotion influencing certainty, certainty influencing reasonable doubt, and reasonable doubt influencing guilt certainty, the lack of a main effect of emotion on guilt certainty disallows a strong mediation conclusion (See Baron and Kenny, 1986).

No difference was found in certainty of verdict for participants in the different emotion conditions, and there are several possible interpretations of this. The more simple, and thus more likely, interpretation is that induced emotion had little effect on participants when they were forming their verdicts, and thus participants' verdicts were not affected by the certainty and uncertainty associated with those emotions. Another possibility is that the emotions and their associated appraisals did have the expected effect on participants' decision making process, and thus participants in the fear condition, in an attempt to compensate for their uncertainty, more thoughtfully

considered their verdicts so that they were as certain of their final verdicts as were angry participants.

Finally, it is interesting, and unexpected, that participants who indicated high trait anger also indicated less guilt certainty. While I had made no specific predictions about the relationships between trait anger and guilt certainty, I had expected participants who were high in trait anger to be conviction prone and to feel fairly sure of those conviction verdicts. While Lerner et al. (1998) had not explored the influence of trait emotion, their findings that *state* anger increased participants' punitive attributions and punishment decisions led me to expect that trait anger might have the same effect.

Chapter 7: Study 2 Method

Study 2 further explored the question of the influence of emotion and associated appraisals on juror decision-making. This study used a subliminal priming task presented on a computer to implicitly induce emotion. While participants reviewed study 1 materials on paper, all study 2 participants reviewed the materials visually on a computer. Participants indicated their responses using either the mouse or the keyboard. Further, because there was no event or situation to appraise, this experiment did not include the explicit certainty and control appraisal questions. The rest of the materials in study 2 were the same as those in study 1, with the same induced emotions; anger, fear, and neutral feelings; and the same dependant measures. Using the same emotions and case facts allowed a careful comparison of the results from study 1 to study 2.

The primary question in study 2 was whether subliminally induced emotions and their related cognitions would influence the complex and deliberative task of forming a verdict. There is no theoretical reason why unconscious emotions should not have the same influence on judgments as do conscious emotions. None of the appraisal theories claims that appraisals must be conscious in order to influence emotion or subsequent judgment and information processing. In fact, beginning with Arnold, appraisal theorists have emphasized that appraisal is intuitive, and is not a deliberative or rational process. Appraisal theory acknowledges that the appraisal process can involve any level of processing, from conscious, high-level cognition to unconscious low-level processing, such as processing sensory input or automatic priming (Roseman & Smith, 2001). By extension, there is no reason why the emotion associated with an appraisal would have to

be conscious. Based on this reasoning, study 2 tested effects of unconsciously induced emotions on information processing and judgments.

Hypotheses

My hypotheses for study 2 were similar to those in study 1. First participants in the anger condition should indicate a lower conviction threshold, than would participants in the fear condition. Second, I predicted an association between reasonable doubt and guilt certainty, such that a lower definition of "beyond a reasonable doubt" would be associated with higher guilt certainty. The third prediction was that when the incriminating evidence against the defendant was ambiguous, participants in the anger condition would be significantly more likely than would participants in the fear condition to return a guilty verdict. Fourth, the level of incriminating evidence should not be as important a factor in the verdicts and guilt certainty of participants in the anger condition as it would be for participants in the neutral and fear conditions. The fifth hypothesis was a main effect of emotion on guilt certainty, mediated by reasonable doubt. Specifically, I predicted that anger would result in higher guilt certainty than would fear, but that this effect would actually reflect anger's association with a lower conviction threshold. Once again, there were no specific predictions about the effect of emotion condition on certainty of verdict.

Design Overview

Study 2 used similar methodology to Study 1, except that emotions were induced subliminally while the participants completed a reaction-time task on the computer. The other changes in methodology were the result of this difference in emotion induction. For example, since this study focused on the possible effects of unconscious emotions that

were not associated with a specific situation, it was not appropriate to include the same situationally-referenced certainty and control appraisal questions as had been used in Study 1.

Study 2, like study 1, was a 3 (emotion: anger, fear, neutral) x 3 (level of incriminating evidence: low, medium, high) between-subjects design.

Method

Participants

Participants were 185 undergraduates at the University of Nebraska – Lincoln who completed the study as part of a requirement, or as extra credit, for a Psychology course. As in study 1, the sample was predominantly female (72%), white (81%), and in the first half of their college career (64% were either freshmen or sophomores). The mean age of the sample was 19 years old. Almost 89% of the sample (164 participants), indicated speaking English as their first language.

Procedure

Participants were recruited the same way as for Study 1, except the project description stated that the experiment would be conducted using a computer. Participants gathered in groups of 4-8 in the computer lab and, after consenting to participate in the study, each participant sat at a private desk with a Dell computer, a 15" monitor and a chin-rest attached to the front center of the desk. Tall dividers separated the desks so that participants could not see each other or another participant's computer. All materials were presented on the computer using MediaLab and Direct RT software. Each question was presented individually on a screen, and each set of questions was preceded by

specific instructions as to how to answer those questions. Participants indicated their responses to each question by pressing the appropriate key on the keyboard.

After completing a series of personality and trait emotion scales, participants completed a lexical decision task that required them to indicate as rapidly and accurately as possible whether the string of letters appearing on the screen was a word or not. This task took 3-4 minutes, during which participants rested their chins in a chin-rest, and indicated, with their forefingers on the "f" and "j" keys, whether the letters formed a word. When they had finished with the lexical decision task, participants could sit back from the chin-rest while they completed the rest of the materials. The entire study took approximately 25 minutes to complete, and when the participants were finished, they were debriefed and excused. As in Study 1, several participants mentioned that they had wondered about the relationship between the tasks, and a few specifically commented that they thought the word/non-word task was in fact a priming task.

Materials

Trait Emotion Scales. Participants first completed the same 4 scales as in Study 1: trait anger, trait anxiety, Desire for Control, and Need for Structure.

Implicit Emotion Induction. Emotion was then induced through a lexical decision task, presented using Direct RT software. Between presentations of letter strings in the center of the screen, anger-related, fear-related or neutral words were presented parafoveally in one of the four quadrants on the screen for 30 ms.

The program consisted of 80 trials, for each of which the participant had to indicate whether the letter string was a word or not by pressing a specified key. Each trial began with a fixation point, which appeared in the center of the screen for 300 ms, and

was followed by a blank screen for 100ms. Next, a prime appeared in one of the quadrants of the screen for 30ms, preceded and followed by a mask (XXXXX) for 30ms. After another 100ms of blank screen, the letter string appeared in the center of the screen where the fixation point had been. The letter string remained on the screen until the participant had indicated with a key press whether the string of letters formed a word or not. The word and non-word letter strings were not theoretically meaningful to this study, were chosen from computer-generated lists of words and non-words, and presented in a random order determined by the computer. There was no relationship between these letter strings and the subliminally presented emotional primes.

The emotional primes consisted of 4 anger-related, fear-related or emotionally neutral words. The anger and fear words were the same words that Power, Brewin, Stuessy and Mahony (1991) used to successfully prime anger and fear in their emotional priming study. The 4 repeating anger words were: anger, hate, jealousy and aggression. The 4 repeating fear words were: fear, panic, anxiety, and terror. The 4 repeating emotionally-neutral words were: tree, chair, paper and building. Because there were 80 trials in total, a participant saw each of their 4 emotion words 20 times. For example, a participant in the anger condition was presented with “anger” 20 times, “hate” 20 times, “jealousy” 20 times, and “aggression” 20 times, all parafoveally and in random order.

After they completed this task, participants sat back from the chin-rest and continued with the rest of the materials at their own pace.

The Criminal Case. Participants next read the instructions for the Verdict Questionnaire. After first indicating how convinced they would have to be of a defendant’s guilt to find him “guilty beyond a reasonable doubt”, they then read one of

the three versions of the case summary. The case summaries were the same as in Study 1, and contained varied levels of incriminating evidence. Participants then completed the verdict questionnaire, which asked them to indicate: how convinced they were that the Defendant committed the crime, their verdict, and how certain they were of their verdict.

State Emotion. Participants then completed the PANAS. The instructions asked participants to indicate the degree to which they felt each of several emotions *while they were reading* the case summary. In addition to the 20 PANAS emotions, and the words "outraged" and "angry" added in Study 1, I also added to this PANAS two final words, "certain" and "in-control". These words assessed participants' feelings of certainty and control instead of the traditional appraisal questions, used in Study 1, which would not have been appropriate in this experiment.

The final set of questions consisted of demographic and memory items, which asked participants to indicate age, gender, ethnic background, religious affiliation, and whether English was their first language. This question of primary language tested the possibility that subliminal priming using English words would be less effective for participants who did not speak English as their primary language. Finally, as in Study 1, participants in Study 2 listed as many facts about the case summary as they could.

The final question asked participants to describe what the flashes they might have seen during the word/non-word task were. The instructions said that if they did not see any flashes, they should write that. This question, like the previous listing-facts question, appeared on the computer with a blank box on the screen in which their answer appeared as they typed it.

Chapter 8: Study 2 Results

Trait Emotion Scales

A trait anger score was calculated for each participant by adding his or her answers to each of the 15 trait anger items ($\alpha = .81$). A trait anxiety score was also calculated ($\alpha = .92$), after reverse scoring several items. A participant's Need for Structure score was calculated, and the scale was reliable, ($\alpha = .77$). Finally, the Desire for Control scale was also reliable, ($\alpha = .72$).

State Emotion Scales

The Positive Affect and Negative Affect scores were calculated for each participant based on their mean response to the positive words and negative words, respectively, on the PANAS. Both scales were reliable, positive affect scale ($\alpha = .82$), and negative affect scale ($\alpha = .84$). As in Study 1, the two added words, "outraged" and "angry," were not included in the calculation of the negative affect score. The two appraisal-related words, "certain" and "in control," were also not used to calculate either the positive or negative affect scores.

There were a number of significant correlations between the trait and state emotion scales (See Table 5), and all except one of these relationships mirror those found in Study 1. For example, in this study, as in Study 1, Trait Anger and Trait Anxiety were significantly positively correlated ($p < .01$). Likewise, Trait Anxiety was again correlated with Need for Structure (both $p < .01$) and with Desire for Control ($p < .05$). Once again, Positive Affect was significantly positively correlated with both Negative Affect ($p < .01$) and with Desire for Control ($p < .05$). Finally, Negative Affect was again found to correlate with Trait Anger ($p < .05$), Trait Anxiety ($p < .01$) and Need for Structure ($p <$

.01). The only relationship found in Study 2 that was not found in Study 1 was the significant correlation between Trait Anger and Need for Structure ($p < .01$).

Gender Effects

There was only one significant effect of gender on any of the emotion and personality scales. Men and women were significantly different in trait anger, t (1, 183) = 2.48, $p < .05$, with men indicating significantly more trait anger ($M = 29.51$) than women, ($M = 27.33$). There was a marginally significant difference between men and women on the positive affect scale, t (1, 183) = 1.73, $p = .09$, with men ($M = 2.76$) tending to indicate more positive affect than women ($M = 2.56$).

Manipulation Check

Separate ANOVA's were conducted to test whether there were differences in positive or negative affect across emotion conditions. There were no significant effects of emotional priming on either positive, F (2, 184) = 1.22, $p = .3$, or negative, F (2, 184) = .2, $p = .82$, affect. These values only became marginally significant when Gender was included in the analysis, positive affect, F (2, 179) = 2.88, $p = .06$, and negative affect, F (2, 179) = 2.28, $p = .11$.

Four separate ANOVAs were conducted to test the influence of emotion priming on 2 emotion words, afraid and angry, and the 2 certainty and control words added to this PANAS questionnaire. There were no significant effects of emotion on indications of being afraid, F (2, 184) = .12, $p = .89$, or of being angry, F (2, 184) = 2.4, $p = .1$. The emotional priming also had no effect on indications of feeling certain, F (2, 184) = .84, $p = .43$, or in control, F (2, 184) = 1.21, $p = .3$.

This, and all of the other analyses, included all participants, regardless of first language. Contrary to expectations, there were no differences in significance levels in any of these analyses when participants who did not speak English as a first language were excluded.

While several participants indicated in the final question that they thought the flashes on the computer screen during the lexical task were words, none accurately identified which words that they had seen. None said that the words were emotional primes. The majority of participants responded that they had not seen any flashes.

Reasonable Doubt

An ANOVA was conducted to assess the effects of emotional primes on definitions of reasonable doubt. Emotion did not have a significant effect on Reasonable Doubt, F (2, 182) = 1.87, p = .16, eta^2 = .02.

Guilt Certainty

As in Study 1, each participant's verdict (-1 = not guilty, 1=guilty) was multiplied by their certainty in that verdict, resulting in a guilt certainty score ranging from –9 (very certain of a not-guilty verdict), up to 9 (very certain of a guilty verdict). Participants in this study, like those in study 1, favored a not-guilty verdict, with only 27% indicating that they would convict the defendant. The created guilt certainty variable reflects this, with a mean of -2.16 (SD = 5.46).

A 3 (emotion) X 3 (evidence) ANOVA was conducted on guilt certainty. There was no main effect of emotion on guilty certainty, F (2, 184) = .86, p = .42. There was a main effect of level of incriminating evidence on guilty certainty, F (2, 184) = 17.94, $p <$ .01, eta^2 = .17. As expected, participants were more certain of a not-guilty verdict in the

low evidence condition (M = -4.63), slightly certain of a not-guilty verdict in the medium evidence condition (M = -2.55) and slightly certain of a guilty verdict in the high evidence condition, (M = .74). Follow-up tests confirmed these guilt certainty means were significantly different from each other in each evidence condition (LSD, $p < .05$). The interaction of emotion and evidence was not significant, F (4, 184) = 1.22, p = .31, eta^2 = .03. (See Table 6)

Including only participants who had been presented with the ambiguous evidence version of the case summary, I conducted separate one-way ANOVAs on verdict and guilt certainty by emotion condition. There was no effect of emotion on verdict, F (2, 61) = .42, p = .66, or on guilt certainty, F (2, 61) = .61, p = .55. Participants were just as likely to convict, and to feel certain of their verdict, regardless of whether they had been primed with anger, fear, or neutral words.

Verdict Certainty

There were no significant differences between participants in the different emotion conditions on certainty of verdict. Participants in the fear condition indicated almost exactly as much certainty of verdict (M = 5.54) as did participants in the anger (M = 5.5) and neutral (M = 5.6) conditions.

Decision-making model

The next set of analyses used multiple regression to construct a path model predicting guilt certainty. The predictors included all of the manipulated (dummy variables for emotion and evidence) and scale variables (convinced of guilt, reasonable doubt, trait anger, trait anxiety, negative affect, positive affect, desire for control, need for structure) and gender and first language (English or not). The emotion and evidence

variables were dummy coded the same way that they had been in study 1. The first emotion vector compared anger (coded as 1) to neutral and fear (both coded as zero), while the second vector compared fear (coded as 1) to neutral and anger (both coded as zero.) The first evidence vector compared high evidence (coded as 1) to low and ambiguous evidence (coded as zero), while the second vector compared low evidence (coded as 1) to ambiguous and high evidence (coded as zero.) As in Study 1, stepwise multiple regression was used and guilt certainty was entered as the first criterion, with all other variables entered as predictors. The significant predictors produced by this first analysis were then entered as the criterion in separate analyses, and so on, until only manipulated or demographic variables were left. Table 7 lays out the correlational coefficients and standardized regression weights, and Figure 2 is a graph of the resulting path model.

Negative Affect. Negative affect was significantly related to trait anxiety, $B = .28$, $p < .01$, and to first language (English or not), $B = .17$, $p < .05$ (See Table 7A). Participants high in trait anxiety were more likely to indicate higher negative affect, as were participants for whom English was not their first language.

Convinced of Guilt. Negative affect and evidence level were both significantly related to how convinced a participant was of the defendant's guilt, together accounting for 29% of the variance of convinced (See Table 7B). Specifically, those participants who indicated more negative affect were more convinced of guilt. Both of the evidence vectors significantly predicted the convinced variable, with participants being more convinced of the defendant's guilt when the evidence was higher. In the low evidence

condition the mean for convinced was 44.44, in the medium condition $M = 58.43$, and in the high incriminating evidence condition $M = 74.23$.

Reasonable Doubt. There were no significant predictors of reasonable doubt.

Guilt Certainty. Gender, evidence level, reasonable doubt and convinced of guilt all significantly predicted guilt certainty, accounting for 44% of the variance (Table 7C). Men were more certain of a not-guilty verdict (and would be very uncertain of a guilty verdict) than were women, $M = -3.35$ and $M = -1.71$, respectively. Participants presented with a higher level of incriminating evidence indicated more certainty in a guilty verdict. As expected, the lower a participant's level of reasonable doubt, the more certain they were of a guilty verdict. Also, the more convinced they were that the defendant was guilty, the higher their guilt certainty. This variable, convinced, accounted for 38% of the variance in guilt certainty.

Table 5: Correlations among personality, trait and affect scales – Study 2.

	Trait Anger	Trait Anxiety	Need for Structure	Desire for Control	Positive Affect
Trait Anger					
Trait Anxiety	.57**				
Need for Structure	.22**	.39**			
Desire for Control	.04	-.15*	-.004		
Positive Affect	.07	-.04	-.05	.18*	
Negative Affect	.17*	.21**	.23**	-.08	.21**

* $p < .05$. ** $p < .01$.

Table 6: Guilt Certainty Means by Evidence and Emotion conditions – Study 2.

	Low Incriminating Evidence	Ambiguous Incriminating Evidence	High Incriminating Evidence	Total
Fear	-4.86	-1.9	.71	-2.02[a]
Neutral	-3.86	-3.48	2.45	-1.69[a]
Anger	-5.2	-2.25	-.95	-2.8[a]
Total	-4.63[a]	-2.55[b]	.74[c]	

Note: For each independent variable total, means with different superscripts differ significantly (LSD, $p < .05$)

Table 7: Correlational Coefficients and standardized regression weights for path model - Study 2. For all tables: * $p < .05$ ** $p < .01$.

Table 7A

	Negative Affect	
Predictor	***r***	***Beta***
Language	.2**	.17*
Trait Anxiety	.3**	.28**
Positive Affect	.08	.12
Trait Anger	.18**	.05
Desire for Control	-.18**	-.12
Need for Structure	.15*	.08
Gender	.05	.04
Emotion	-.03	-.01
	.05	.03

Table 7B

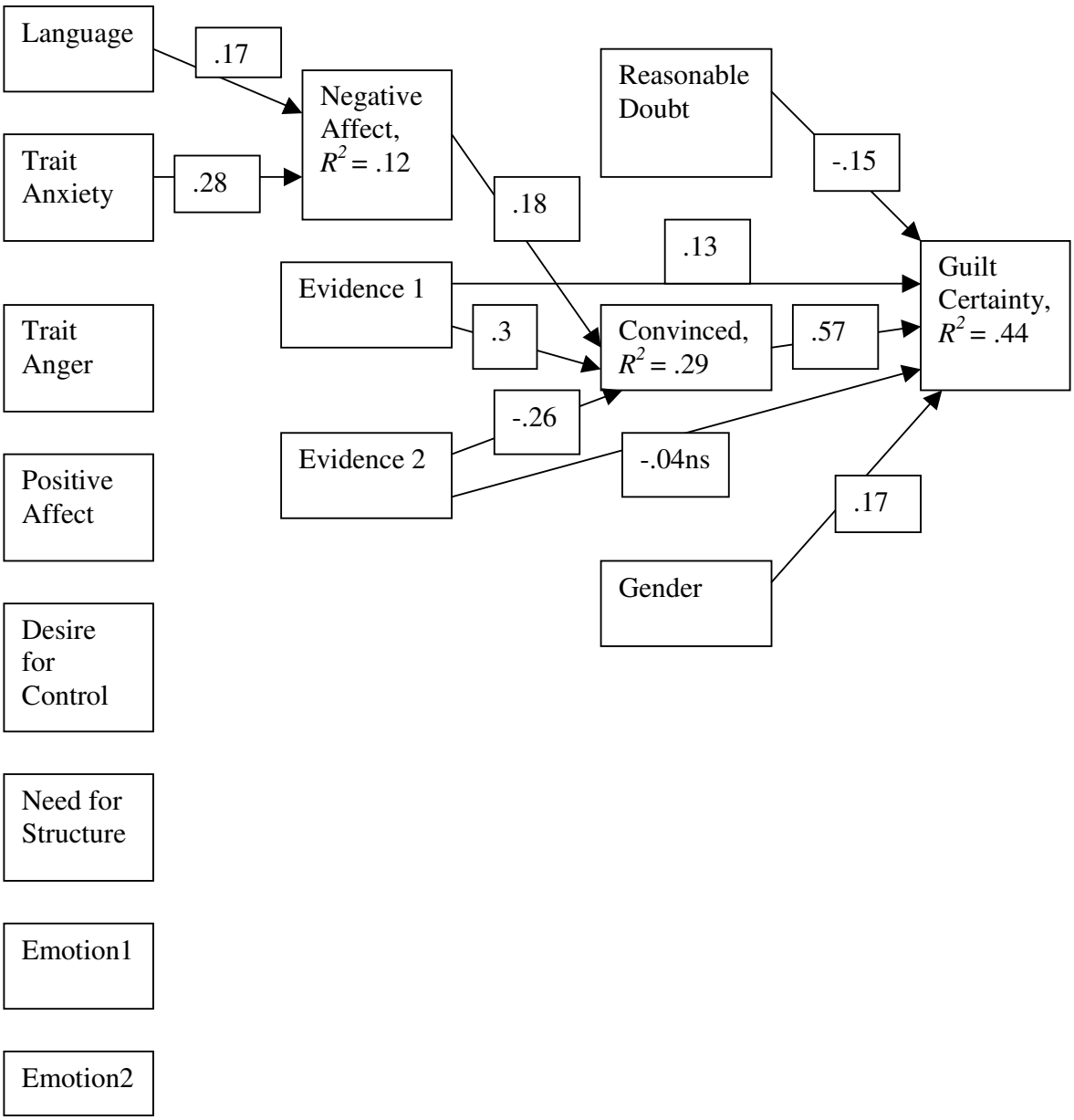
	Convinced of Guilt	
Predictor	***r***	***Beta***
Language	.05	.03
Trait Anxiety	-.07	-.11
Positive Affect	-.03	-.03
Trait Anger	-.04	-.01
Desire for Control	-.1	-.06
Need for Structure	.02	-.02
Gender	-.04	-.01
Emotion	-.09	-.09
	.01	-.01
Negative Affect	.25**	.18**
Evidence	.45**	.3**
	-.43**	-.26**

Table 7C

	Guilt Certainty	
Predictor	***r***	***Beta***
Language	.08	.06
Trait Anxiety	-.03	.03
Positive Affect	-.08	-.04
Trait Anger	-.04	.01
Desire for Control	-.06	.04
Need for Structure	.01	-.02
Gender	.13*	.17**
Emotion	-.08	-.02
	.02	.01
Negative Affect	.12**	.03
Evidence	.38**	.13*
	-.32**	-.04
Reasonable Doubt	-.17	-.15**
Convinced of Guilt	.62**	.57**

Figure 2: Decision-making path model - Study 2.

Except where specified as not significant (ns), all listed Beta weights are standardized and significant at the .05 level;
Emotion Vector 1: Anger = 1, Fear and Neutral = 0;
Emotion Vector 2: Fear = 1, Anger and Neutral = 0;
Evidence Vector 1: High incriminating evidence = 1, Low and ambiguous evidence = 0;
Evidence Vector 2: Low incriminating evidence = 1, Ambiguous and high evidence = 0.



Chapter 9: Discussion – Study 2

In the second study, little support was found for the hypotheses. The analyses described included all the participants because comparison showed no differences between native and non-native-English speakers. There was no support for the first hypothesis that participants in the anger condition would indicate a lower conviction threshold. There was no support for the third hypothesis that, in the ambiguous evidence condition, angry participants would be more likely to convict and more likely to feel higher guilt certainty than would fearful participants. There was no support for the fourth hypothesis, that evidence would be a more important factor in the guilt certainty decisions of fearful participants than of angry participants. Finally, there was no support for my fifth hypothesis, that reasonable doubt would mediate an effect of emotion on guilt certainty.

The only hypothesis that was supported was that a lower conviction threshold would be associated with higher guilt certainty (hypothesis 2). Thus, as in Study 1, participants indicating a lower conviction threshold were more likely to convict and to feel certain of that verdict. While all of the other hypotheses involved a comparison between emotion conditions, this hypothesis was the only one that did not involve the emotion manipulation. Considering that this manipulation seemed to have no effect on participants' state emotion, according to the PANAS, it is not surprising that there were no differences between participants in the anger and fear conditions.

It is not clear why the implicit emotion manipulation failed to have any effect on either positive or negative affect, but its failure makes it impossible to test the ultimate

prediction that implicitly induced emotions would influence jurors' conviction thresholds and verdicts.

Chapter 10: General Discussion

The purpose of these two studies was to explore whether emotionally induced certainty appraisals would influence mock-jurors' judgments in a criminal case. While Study 1 found strong support for the idea that explicitly induced emotions influence guilt certainty, Study 2 did not find that same effect for implicitly induced emotions.

Study 1 replicated the findings that anger-related situations are appraised with higher certainty and higher human control than are fear-related situations. Higher certainty appraisals were associated with lower conviction thresholds, and lower conviction thresholds were associated with higher guilt certainty. The path model showed an indirect relationship between emotion and guilt certainty, such that participants in the anger condition indicated more certainty, more certainty was associated a lower conviction threshold, and a lower conviction threshold was associated with higher guilt certainty. The model did not support my hypothesis that reasonable doubt would mediate the relationship between emotion and guilt certainty.

Unfortunately, the emotion manipulation in Study 2 seemed to have little effect, and no differences were found on any of the dependent variables across the emotion conditions. Study 2, however, did replicate the Study 1 finding that a lower conviction threshold was associated with higher guilt certainty. Participants with a lower definition of beyond a reasonable doubt were more likely to return a guilty verdict and to feel more certain of that verdict.

One of my main hypotheses, in both studies, was that participants in the anger condition would be more willing to convict the defendant, especially when the incriminating evidence was ambiguous. I did not find support for this hypothesis, and

instead found that in both studies all participants, regardless of emotion condition, were surprisingly reluctant to convict. As mentioned previously, of the 188 participants in Study 1, only 61 (32%) indicated a guilty verdict, while of the 185 participants in Study 2, only 50 (27%) returned a guilty verdict. It is not clear why participants were so unwilling to convict the defendant in these studies, especially considering that in the pilot study these three evidence conditions resulted in an appropriate range of verdicts between 1 = not guilty and 2 = guilty. In the pilot study, the mean verdicts for the low, medium and high evidence conditions were 1.32, 1.5, and 1.76, respectively. This compares with the mean verdicts for those three evidence conditions in Study 1, 1.14, 1.29, and 1.55, and in Study 2, 1.11, 1.21, and 1.49, respectively. I have no explanation for this difference between conviction rates in the pilot and main studies, but the reduced variance in verdicts in the main studies could explain why I found so little difference in the verdicts of participants across the emotion conditions.

Implications

While several of the main hypotheses were not supported, this lack of findings could be interpreted as good news for criminal defendants. The primary goal of our court system is for juries to return unbiased and objective verdicts that punish the guilty and not the innocent. While emotions can be a significant source of bias in our decision-making, the study 1 finding that emotion had no direct effect on verdict suggests that jurors can ignore or correct this bias when asked to make a careful and deliberative verdict decision. Thus, whether a juror was angry at having been chosen for jury duty, happy because they had always wanted to serve their civic duty, or annoyed at the boring

and long-winded attorneys, this research suggests that each would be able to limit the effect of these emotions on their decision-making process.

It is also reassuring that participants in these studies indicated such a high conviction threshold of (Study 1 $M = 92.2$; Study 2 $M = 92.9$), and that there were such strong negative correlations between conviction threshold and guilt certainty. While one might expect the undefined legalese of "beyond a reasonable doubt" to result in juror confusion, and possibly conviction thresholds more appropriate for a civil rather than criminal case, it seems that jurors understand that a guilty verdict is only justified when the prosecution presents a strong and highly convincing argument.

Limitations and future research

There are several limitations of this research, the most obvious of which is that participants were asked to return a verdict based on a 1-page summary of a criminal case. It could be that even if the page had contained a long list of incriminating evidence, participants would still have been unwilling to convict purely because a page of information is not enough on which to convict even a fictitious defendant.

In addition, as with all mock-juror research involving college undergraduates, there is always the possibility that the participants in this study do not accurately reflect the population of jury-eligible citizens. While some research suggests that these two groups are comparable in terms of their verdicts, the fact remains that UNL undergraduates are probably more educated than the average juror, and thus may perceive and process information differently.

Another limitation stems from the use of the PANAS to gauge state emotion. Most self-report instruments are interpreted with some caution, but such caution seems

particularly appropriate for the self-reporting of emotional state. In both studies, reported emotion was low, with means no higher than "moderately", and this was especially true for negative emotion whose means were never more than "a little." While I have used the PANAS in previous research and never with any significant success, it is only with the clarity of hindsight that I realize that a more subtle test of state emotion would have been preferable.

On a broader level, this research is limited by the fact that it did not follow closely enough from the existing appraisal and judgment research. In my quest for an interesting and coherent pair of studies suitable for a dissertation, I made too big of a leap from the previous research. This too is said with the benefit of hindsight. Future research should remedy this and attempt to more closely replicate and build on the existing research in this area.

In addition, whether from an appraisal perspective or not, future research should explore the more relevant and realistic emotional components of the juror experience. In particular, research should address the impact on juror decision-making of emotions associated with specific trial issues or evidence. This research could emphasize the emotional component of previous work that, for example, has explored the impact of graphic visual evidence on juror verdicts (for example, Douglas, Lyon & Ogloff, 1997). It is possible that jurors are less able to separate their emotion from their judgment if that emotion arises from an integral aspect of the case, such as photographs of the victim of a violent crime. This would be an interesting caveat to my tentative finding in Study 1 that the jury decision-making process is one in which people are able to limit the influence of their state emotions on their judgment.

Appendix A: State Anger and Fear Scales

[Both Study 1 & Study 2]

Self-questionnaire

A number of statements that people have used to describe themselves are given below. Read the statements below and indicate how you *generally* feel by circling the appropriate number next to each item.

		Almost Never	**Sometimes**	**Often**	**Almost Always**
1.	I have a fiery temper.	1	2	3	4
2.	I am quick tempered.	1	2	3	4
3.	I am a hotheaded person.	1	2	3	4
4.	I get annoyed when I am singled out for correction.	1	2	3	4
5.	It makes me furious when I am criticized in front of others.	1	2	3	4
6.	I get angry when I'm slowed down by others' mistakes.	1	2	3	4
7.	I feel infuriated when I do a good job and get a poor evaluation.	1	2	3	4
8.	I fly off the handle.	1	2	3	4
9.	I feel annoyed when I am not given recognition for doing good work.	1	2	3	4
10.	People who think they are always right irritate me.	1	2	3	4
11.	When I get mad, I say nasty things.	1	2	3	4
12.	I feel irritated.	1	2	3	4
13.	I feel angry.	1	2	3	4
14.	When I get frustrated, I feel like hitting someone.	1	2	3	4

		Almost Never	Sometimes	Often	Almost Always
15.	It makes my blood boil when I am pressured.	1	2	3	4
16.	I feel calm.	1	2	3	4
17.	I feel secure.	1	2	3	4
18.	I am tense.	1	2	3	4
19.	I feel irritated.	1	2	3	4
20.	I feel at ease.	1	2	3	4
21.	I feel strained.	1	2	3	4
22.	I feel upset.	1	2	3	4
23.	I worry over possible misfortunes.	1	2	3	4
24.	I feel satisfied.	1	2	3	4
25.	I feel frightened.	1	2	3	4
26.	I feel comfortable.	1	2	3	4
27.	I feel self-confident.	1	2	3	4
28.	I feel nervous.	1	2	3	4
29.	I am jittery.	1	2	3	4
30.	I feel indecisive.	1	2	3	4
31.	I am relaxed.	1	2	3	4
32.	I feel content.	1	2	3	4
33.	I am worried.	1	2	3	4
34.	I feel confused.	1	2	3	4
35.	I feel steady.	1	2	3	4
36.	I feel pleasant.	1	2	3	4

Appendix B: Need for Structure Scale

[Both Study 1 & Study 2]

Survey Questionnaire I

Read each of the following statements and decide how much you agree with each according to your attitudes, beliefs, and experiences. It is important for you to realize that there are no "right" or "wrong" answers to these questions. People are different, and we are interested in how you feel.
Please respond according to the following 6-point scale:

-1-	-2-	-3-	-4-	-5-	-6-
Strongly disagree	**Moderately disagree**	**Slightly disagree**	**Slightly agree**	**Moderately agree**	**Strongly agree**

1) _____ It upsets me to go into a situation without knowing what I can expect from it.

2) _____ I'm not bothered by things that interrupt my daily routine.

3) _____ I enjoy having a clear and structured mode of life.

4) _____ I like to have a place for everything and everything in its place.

5) _____ I enjoy being spontaneous.

6) _____ I find that a well-ordered life with regular hours makes my life tedious.

7) _____ I don't like situations that are uncertain.

8) _____ I hate to change my plans at the last minute.

9) _____ I hate to be with people who are unpredictable.

10) _____ I find that a consistent routine enable me to enjoy life more.

11) _____ I enjoy the exhilaration of being in unpredictable situations.

12) _____ I become uncomfortable when the rules in a situation are not clear.

Appendix C: Desire for Control Scale

[Both Study 1 & Study 2]

Survey Questionnaire II

Below you will find a series of statements. Please read each statement carefully and respond to it by expressing the extent to which you believe the statement applies to you. For all items a response from 1 to 7 is required. Use the number that best reflects your belief when the scale is defined as follows:

1 = The statement doesn't apply to me at all.

2 = The statement usually doesn't apply to me.

3 = Most often, the statement does not apply.

4 = I am unsure about whether or not the statement applies to me, or it applies to me about half the time.

5 = The statement applies more often than not.

6 = The statement usually applies to me.

7 = The statement always applies to me.

1) _____ I prefer a job where I have a lot of control over what I do and when I do it.

2) _____ I enjoy political participation because I want to have as much of a say in running government as possible.

3) _____ I try to avoid situations where someone else tells me what to do.

4) _____ I would prefer to be a leader rather than a follower.

5) _____ I enjoy being able to influence the actions of others.

6) _____ I am careful to check everything on an automobile before I leave for a long trip.

7) _____ Others usually know what is best for me.

8) _____ I enjoy making my own decisions.

9) _____ I enjoy having control over my own destiny.

10) _____ I would rather someone else took over the leadership role when I am involved in a group project.

Scale:
1 = The statement doesn't apply to me at all.
2 = The statement usually doesn't apply to me.
3 = Most often, the statement does not apply.
4 = I am unsure about whether or not the statement applies to me, or it applies to me about half the time.
5 = The statement applies more often than not.
6 = The statement usually applies to me.
7 = The statement always applies to me.

11) _____ I consider myself to be generally more capable of handling situations than others are.

12) _____ I'd rather run my own business make my own mistakes than listen to someone else's orders.

13) _____ I like to get a good idea of what a job is all about before I begin.

14) _____ When I see a problem I prefer to do something about it rather than sit by and let it continue.

15) _____ When it comes to orders, I would rather give them than receive them.

16) _____ I wish I could push many of life's daily decisions off on someone else.

17) _____ When driving, I try to avoid putting myself in a situation where I could be hurt by someone else's mistake.

18) _____ I prefer to avoid situations where someone else has to tell me what it is I should be doing.

19) _____ There are many situations in which I would prefer only one choice rather than having to make a decision.

20) _____ I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered by it.

Appendix D: Explicit Emotion Induction Task

[Study 1 only]

Imagination Task: (**anger**)

Briefly describe three to five things that have happened in the last year that have made you most angry.

1)

2)

3)

4)

5)

Describe in more detail the one situation from the list above that makes you feel, or has made you feel, most angry. Write this description so that someone reading it might even get angry just from learning about the situation.

Imagination Task: (fear)

Briefly describe three to five things that have happened in the last year that have made you most afraid.

1)

2)

3)

4)

5)

Describe in more detail the one situation from the list above that makes you feel, or has made you feel, most afraid. Write this description so that someone reading it might even feel afraid just from learning about the situation.

Imagination Task: **(Neutral)**

Briefly describe three to five things that you do during an average weekday.

1)

2)

3)

4)

5)

Describe in more detail one of the activities from the list above that you do on an average day. Write this description so that someone reading it would have a very clear picture of this activity.

Appendix E: Instructions and Definition of Reasonable Doubt

[Both Study 1 & Study 2]

Instructions:

On the following screens you will be asked to read a summary of a criminal case, followed by the law that applies to the case.

As you read the case summary and law, keep in mind that later you will be asked to answer several questions about the case. For example, you will be asked to indicate whether you think the defendant is Not-Guilty or Guilty of the crime with which he is charged. In other words, you will be asked to indicate whether you think the defendant is guilty beyond a reasonable doubt.

Before you proceed, please answer the following question.

1) On the scale below, please put a mark next to the number that you would use to complete the following sentence:

To find a criminal defendant guilty beyond a reasonable doubt, I would have to be ____% certain of his guilt.

____ 0%	____ 40%	____ 80%
____ 5%	____ 45%	____ 85%
____ 10%	____ 50%	____ 90%
____ 15%	____ 55%	____ 95%
____ 20%	____ 60%	____ 100%
____ 25%	____ 65%	
____ 30%	____ 70%	
____ 35%	____ 75%	

Appendix F: Criminal Case Summaries

[Ambiguous Version]

People v. Somers

The defendant, Kevin Somers, was charged with attempted murder in the second degree.

In late November, police responded to a report of a shooting at a deli. The police found the victim, Matthew Roman, lying on the floor bleeding from several gunshot wounds. Police recovered shell casings and fragments of bullets. Several days later, Roman gave the police his account of the crime, naming Kevin Somers as the shooter. Roman testified at trial that he knew the defendant from "the neighborhood" and that the two had a history of conflict. Roman told the police that he had been making a purchase at the deli when Somers and several of Somers's friends, approached him. An argument began between the two. Roman claimed that as he turned to leave the store, he heard gunshots and felt a pain in his back. According to Roman, he spun around and *saw* Somers holding a gun and that he saw Somers' friends fleeing the store. According to Roman, he lay on the floor, and Somers fired another two or three rounds, hitting Roman in both legs. Somers ran off.

Upon learning that he was wanted by the police, Somers went to the police station to assist them in their investigation. Somers acknowledged that he was at the scene but denied any involvement in the shooting. He told police that he and Roman were arguing inside of the deli and that Roman knocked him down with a large display candle. Somers claimed that while he was lying on the floor, he heard gunshots, got up, and ran out of the deli. He said he did not notice who had fired the gun or that Roman had been wounded. The defense introduced a ballistics report into evidence, which linked the bullets (recovered from the floor of the deli) to a gun owned by a man named, Sean Cooke. Cooke used the gun two months after the Roman incident in an unrelated assault. Somers testified at trial that he had seen Cooke at the deli at the time of the shooting, but no other witness was able to identify Cooke as one of the people in the deli at the time of the shooting.

The Law of the Case: Kevin Somers is guilty of attempted murder in the second degree *if* he intended to cause the death of Matthew Roman and he took a significant step towards causing Mr. Roman's death. It is the state's burden to prove beyond a reasonable doubt that Mr. Somers is guilty of all elements of attempted second-degree murder. Proof beyond a reasonable doubt is proof that leaves you firmly convinced of the Defendant's guilt. The law does not require proof that overcomes every possible doubt.

[Low Evidence Version]

People v. Somers

The defendant, Kevin Somers, was charged with attempted murder in the second degree.

In late November, police responded to a report of a shooting at a deli. The police found the victim, Matthew Roman, lying on the floor bleeding from several gunshot wounds. Police recovered shell casings and fragments of bullets. Several days later, Roman gave the police his account of the crime, naming Kevin Somers as the shooter. Roman testified at trial that he knew the defendant from "the neighborhood" and that the two had a history of conflict. Roman told the police that he had been making a purchase at the deli when Somers and several of Somers's friends, approached him. An argument began between the two. Roman claimed that as he turned to leave the store, he heard gunshots and felt a pain in his back. According to Roman, he spun around and *thought he saw* Somers holding a gun and that he saw Somers' friends fleeing the store. According to Roman, he lay on the floor, and Somers fired another two or three rounds, hitting Roman in both legs. Somers ran off.

Upon learning that he was wanted by the police, Somers went to the police station to assist them in their investigation. Somers acknowledged that he was at the scene but denied any involvement in the shooting. He told police that he and Roman were arguing inside of the deli and that Roman knocked him down with a large display candle. Somers claimed that while he was lying on the floor, he heard gunshots, got up, and ran out of the deli. He said he did not notice who had fired the gun or that Roman had been wounded. The defense introduced a ballistics report into evidence, which linked the bullets (recovered from the floor of the deli) to a gun owned by a man named, Sean Cooke. Cooke used the gun two months after the Roman incident in an unrelated assault. Somers and one other witness both testified at trial that they had seen Cooke at the deli at the time of the shooting.

The Law of the Case: Kevin Somers is guilty of attempted murder in the second degree *if* he intended to cause the death of Matthew Roman and he took a significant step towards causing Mr. Roman's death. It is the state's burden to prove beyond a reasonable doubt that Mr. Somers is guilty of all elements of attempted second-degree murder. Proof beyond a reasonable doubt is proof that leaves you firmly convinced of the Defendant's guilt. The law does not require proof that overcomes every possible doubt.

[High Evidence Version]

People v. Somers

The defendant, Kevin Somers, was charged with attempted murder in the second degree.

In late November, police responded to a report of a shooting at a deli. The police found the victim, Matthew Roman, lying on the floor bleeding from several gunshot wounds. Police recovered shell casings and fragments of bullets. Several days later, Roman gave the police his account of the crime, naming Kevin Somers as the shooter. Roman testified at trial that he knew the defendant from "the neighborhood" and that the two had a history of conflict. Roman told the police that he had been making a purchase at the deli when Somers and several of Somers's friends, approached him. An argument began between the two. Roman claimed that as he turned to leave the store, he heard gunshots and felt a pain in his back. According to Roman, he spun around and *saw* Somers holding a gun and that he saw Somers' friends fleeing the store. According to Roman, he lay on the floor, and Somers fired another two or three rounds, hitting Roman in both legs. Somers ran off.

The police found Somers and questioned him about the shooting. Somers acknowledged that he was at the scene but denied any involvement in the shooting. He told police that he and Roman were arguing inside of the deli and that Roman knocked him down with a large display candle. Somers claimed that while he was lying on the floor, he heard gunshots, got up, and ran out of the deli. He said he did not notice who had fired the gun or that Roman had been wounded. The defense introduced a ballistics report into evidence, which linked the bullets (recovered from the floor of the deli) to a gun owned by a man named, Sean Cooke. Cooke used the gun two months after the Roman incident in an unrelated assault.

At trial, the prosecution claimed that Somers was friends with Cooke and had borrowed his gun in order to shoot Roman. A witness for the prosecution testified that he had been in the deli during the shooting and had seen a gun in Somers' hand. At trial, Somers denied knowing Cooke, and denied having had a gun in the deli.

The Law of the Case: Kevin Somers is guilty of attempted murder in the second degree *if* he intended to cause the death of Matthew Roman and he took a significant step towards causing Mr. Roman's death. It is the state's burden to prove beyond a reasonable doubt that Mr. Somers is guilty of all elements of attempted second-degree murder. Proof beyond a reasonable doubt is proof that leaves you firmly convinced of the Defendant's guilt. The law does not require proof that overcomes every possible doubt.

Appendix G: Verdict Questionnaire

[Both Study 1 & Study 2]

1) Using the percentage scale below, please indicate how convinced you are that Kevin Somers committed the crime of attempted murder in the second degree.

____ 0%	____ 40%	____ 80%
____ 5%	____ 45%	____ 85%
____ 10%	____ 50%	____ 90%
____ 15%	____ 55%	____ 95%
____ 20%	____ 60%	____ 100%
____ 25%	____ 65%	
____ 30%	____ 70%	
____ 35%	____ 75%	

2) Please indicate your verdict in the case of Kevin Somers. (Circle your answer)

Not Guilty Guilty

3) How certain are you of the verdict you indicated in question #2?

1	2	3	4	5	6	7	8	9
Not at all Certain				Somewhat Certain				Very Certain

4) Briefly describe the facts that led you to decide on the verdict you indicated above (in question #2).

Appendix H: Positive and Negative Affect Scale (PANAS)

[Both Study 1 & Study 2]

Questionnaire

Below are a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer (a number) in the space next to that word. Indicate to what extent you felt this way while reading the summary of the case of *People v. Somers*.

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

_____ interested

_____ distressed

_____ excited

_____ upset

_____ strong

_____ guilty

_____ scared

_____ hostile

_____ enthusiastic

_____ proud

_____ irritable

_____ alert

_____ ashamed

_____ inspired

_____ nervous

_____ determined

_____ attentive

_____ jittery

_____ active

_____ afraid

_____ outraged

_____ angry

Appendix I: Appraisal Questionnaire

[Study 1 only]

Please go back to the first task that asked you to write about a situation that made you angry. Re-read the list of events, and the detailed description of one particular event, and then answer the following questions:

1) In the events that you described, to what extent did you typically feel that someone other than yourself had the ability to influence what was happening?

1	2	3	4	5	6
Not at all					Very much

2) In the events that you described on the previous pages, to what extent did you typically feel that someone else was to blame for what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

3) In the events that you described on the previous pages, to what extent were the events beyond anyone's control?

1	2	3	4	5	6
Not at all					Very much

4) In the events described on the previous pages, how well did you understand what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

5) In the events described on the previous pages, how uncertain were you about what would happen in the various situations?

1	2	3	4	5	6
Not at all					Very much

6) In the events described on the previous pages, how well could you typically predict what was going to happen next?

1	2	3	4	5	6
Not at all					Very much

Please go back to the first task that asked you to write about a situation that made you afraid. Re-read the list of events, and the detailed description of one particular event, and then answer the following questions:

1) In the events that you described, to what extent did you typically feel that someone other than yourself had the ability to influence what was happening?

1	2	3	4	5	6
Not at all					Very much

2) In the events that you described on the previous pages, to what extent did you typically feel that someone else was to blame for what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

3) In the events that you described on the previous pages, to what extent were the events beyond anyone's control?

1	2	3	4	5	6
Not at all					Very much

4) In the events described on the previous pages, how well did you understand what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

5) In the events described on the previous pages, how uncertain were you about what would happen in the various situations?

1	2	3	4	5	6
Not at all					Very much

6) In the events described on the previous pages, how well could you typically predict what was going to happen next?

1	2	3	4	5	6
Not at all					Very much

Please go back to the first task that asked you to write about a situation in your everyday life. Re-read the list of events, and the detailed description of one particular event, and then answer the following questions:

1) In the events that you described, to what extent did you typically feel that someone other than yourself had the ability to influence what was happening?

1	2	3	4	5	6
Not at all					Very much

2) In the events that you described on the previous pages, to what extent did you typically feel that someone else was to blame for what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

3) In the events that you described on the previous pages, to what extent were the events beyond anyone's control?

1	2	3	4	5	6
Not at all					Very much

4) In the events described on the previous pages, how well did you understand what was happening in the situation?

1	2	3	4	5	6
Not at all					Very much

5) In the events described on the previous pages, how uncertain were you about what would happen in the various situations?

1	2	3	4	5	6
Not at all					Very much

6) In the events described on the previous pages, how well could you typically predict what was going to happen next?

1	2	3	4	5	6
Not at all					Very much

Appendix J: Suspicion-check

[Study 2 only]

Final Task

While you were reading the case summary of People v. Somers, you might have seen some quick flashes on the screen. Please describe what you think those flashes were. If you didn't notice any flashes, please just say that.

Appendix K: Demographics

[Both Study 1 & Study 2]

Demographics and Memory Questionnaire

1. What is your age? _____ Years

2. What is your gender? Check one: _____ Male _____ Female

3. Which of the following categories best reflects your ethnic/racial identity? (check only one)

   _____ African American _____ Asian/Pacific Island

   _____ Caucasian: Non-Hispanic _____ Hispanic

   _____ Native American _____ Other

4. Do you speak English as your first language?

   Yes No

   If No, what language do you speak as your first language? _____

5. What is your religious preference (if any)?

   _____ Protestant _____ Islamic _____ Atheist

   _____ Catholic _____ Hindu _____ Other

   _____ Jewish _____ Agnostic

6. Without looking back at the case summary, list as many facts as you can recall about the case of *People v. Somers*.

   1) _____

   2) _____

   3) _____

   4) _____

   5) _____

   6) _____

   7) _____

   8) _____

   9) _____

   10) _____

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