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Effects of Direct and Indirect Emotional Manipulations on Mock Jurors' Decision-Making

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Abstract

The role of emotion at trial, especially in relation to jurors' emotional states, is a controversial and contentious topic. A primary concern is that jurors' emotions will be manipulated and these manipulated emotions will affect verdicts improperly. Jurors' emotions can be manipulated in multiple ways, such as indirectly through observed emotional situations or directly through emotional appeals. Two psychological theories—the Appraisal-Tendency Framework (ATF) and Cognitive-Experiential Self-Theory (CEST)—predict that emotional states relate to cognitive processing states which, in turn, relate to decision-making outcomes. These two theories have slightly different predictions as to the specifics of these outcomes, however. Guided by components of the ATF and CEST, this project included two studies which had four main goals: first, to evaluate the impact of an indirect emotional manipulation (observed incivility; Study 1) and a direct emotional manipulation (fear appeal; Study 2) on juror decision-making; second, to evaluate the effectiveness of a mitigation tactic for a direct emotional manipulation (stealing thunder; Study 2) on juror decision-making; third, to examine the relationship between jurors' emotional states, jurors' cognitive processing states, and jurors' subsequent decision-making (Studies 1 and 2), and; fourth, to examine whether jurors' gender and trait cognitive processing interact with an emotional manipulation's relationship to trial decision-making outcomes (Studies 1 and 2). Results from this line of research suggest that: 1) both indirect and direct emotional manipulations can relate to differences in juror decision-making, though direct emotional manipulations related to more punitive decision-making; 2) that stealing thunder did reduce the effectiveness of a direct emotional manipulations, but was limited in its ability to do so; 3) that jurors'

emotional states were one of the most consistent predictors of decision-making outcomes but jurors' state cognitive processing was not significant at predicting any decision-making outcome; and 4) that three-way interactions were found such that, in certain circumstances, there were significant differences between jurors based on their experimental condition, gender, and trait cognitive processing. These studies suggest that knowing the emotional states of jurors is of the utmost importance for predicting jurors' decisions.

Keywords: juror decision-making, Appraisal-Tendency Framework, Cognitive-Experiential Self-Theory, emotions, incivility, fear appeal, stealing thunder

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Chapter 1: Introduction

An examination of the recent 2020 presidential election provides ample examples of political tactics meant to persuade voters by manipulating their emotions or emotional state. For example, many political attack ads use scare tactics, or fear appeals, which are meant to incite fear in voters as to what will happen if the opposing candidate is elected (Milligan, 2020; Scheller, 2019). This type of persuasion tactic is consistently used by candidates and their election committees because of how effective fear appeals can be at creating stronger associations with a political party and, therefore, a specific candidate (Waldroff, 2020).

An additional political discourse tactic that was consistently employed throughout Donald Trump's presidency was that of incivility; this includes the President's use of demeaning or aggressive language, interruptions, and constant name calling, both in person and on social media platforms like Twitter (Bratslavsky et al., 2020; Brechter & Bond, 2020). This tactic occurred throughout the entire first debate between then President Trump and future President Biden, in which all meaningful debate and discussion was replaced with constant interrupting and talking over one-another (Zarracina & Petras, 2020).The increase in incivility across the entire country, in part because of the actions and behaviors of President Trump (Bernstein, 2019), has come to the point that incivility is viewed by some as a crisis in the United States (Brechter & Bond, 2020; Weber Shandwick, 2019). This is a problem for people who only observe incivility, as observing incivility can cause stress and negative emotions in observers (Bunk & Magley, 2013; Cortina et al., 2001).

These emotional manipulation tactics not only affect political discourse and decision-making but might also affect people in nearly every facet of their lives. One area where these types of persuasion tactics could have tremendous—and potentially catastrophic—effects is in the courtroom. Attempts to manipulate the jurors' emotions create the concern that these manipulations might affect jurors' cognitive processing abilities and, therefore, affect their verdicts which might render the verdict legally impermissible. Biased verdicts, in turn, could lead to miscarriages of justice at court and negatively affect defendants, plaintiffs, families, and future legal proceedings.

Fear appeals from attorneys and expert witnesses have been used in recent trials to sway jurors' opinions regarding the strength of the plaintiff's case. For instance, the chemical manufacturer Monsanto was recently found liable and ordered to pay billions of dollars in damages to plaintiffs who blamed one of the company's chemicals for causing their cancer. Attorneys appealed to jurors' fear by explaining how carcinogenic chemicals could potentially affect, and infect, anyone—despite the research showing little to no support that the chemical in question is carcinogenic (Bendix, 2019). In fact, multiple agencies, including the U.S.'s Environmental Protection Agency and various international health organizations, assessed the chemical in question as being safe (Kabat, 2019). Instead, these cases rely in part on an edited report from the WHO's International Agency for Research on Cancer, which removed a section stating the chemical was found to be non-carcinogenic (Kellend, 2017).

Incivility has also become an issue in the courtroom and at trial. Attorneys who have used uncivil behaviors during trial or court proceedings have found themselves suspended (Filisko, 2013) and even subjected to disciplinary hearings for professional

misconduct (Beatson, 2018). Although the courts and legal professionals are beginning to address ways to prevent and curb incivility at court (Dreyer, 2019), it continues to be a problem for legal professionals. Incivility is a problem throughout the entire legal system (Cortina et al., 2002) and people who observe incivility – such as jurors, who might view incivility if it occurs during trial – can suffer increased psychological stress and negative emotions (Bunk & Magley, 2013; Cortina et al., 2001).

These examples suggest that jurors' emotions can be manipulated in multiple ways, such as directly through emotional appeals or indirectly through observed emotional situations. Two psychological theories—the Appraisal-Tendency Framework (ATF; Lerner & Keltner, 2000) and Cognitive-Experiential Self-Theory (CEST; Epstein et al., 1996)—predict that emotional states relate to cognitive processing states which, in turn, relate to decision-making outcomes, though these two theories have slightly different predictions as to the specifics of these relationships. Guided by components of the ATF and CEST, this project included two studies which have three main goals. First, the project evaluated the impact of an indirect emotional manipulation (observed incivility; Study 1) and a direct emotional manipulation (fear appeal; Study 2) on juror decision-making. Second, the project evaluated the effectiveness of a mitigation tactic for a direct emotional manipulation (stealing thunder; Study 2) on juror decision-making. Third, the project examined the relationship between jurors' emotional states, jurors' cognitive processing states, and their subsequent decision-making (Studies 1 and 2). These studies expand the current theoretical literature on the relationships between emotion manipulations, cognitive process, and legal decision-making tasks.

Results from this line of research have implications for psychological research. The studies tested competing hypotheses of emotion-based theories that include conflicting propositions regarding the effects of emotion on cognitive processing (i.e., ATF versus CEST). The results of these competing hypotheses provide insight into circumstances under which each theory is more accurate in its propositions and suggests when future research use one theory over the other. Additionally, Study 1 expands the incivility literature regarding a novel situation that, as of now, has never been empirically tested (i.e., perceptions of incivility in the courtroom from a juror's perspective). Study 2 expands the fear appeal literature to the same novel situation while also testing the effectiveness of stealing thunder from an emotional appeal, something that has also never been empirically researched. There are also implications for the individual difference literature, both regarding gender differences and cognitive processing preference differences (i.e., trait and state CEST).

Results from this line of research also have implications for the legal system; in particular, results from this study can help guide attorneys on potential courtroom tactics to use or avoid. Results provide information on whether displays of incivility directed toward expert witnesses is beneficial to one party or the other in securing a desired verdict. Additionally, results provide information regarding the extent to which direct emotional appeals to jurors are effective and whether tactics such as stealing thunder are as effective against negative emotional manipulations as it is against presentations of negative information. Results suggesting significant relationships between participants' cognitive processing preferences and decision-making outcomes provide guidance on questions to ask potential jurors during *voir dire*. There are also gender effects, and

although gender cannot be used as a reason for removing potential jurors during jury selection (*J.E.B. v. Alabama*, 1994), knowledge of the relationship between gender and legal decision-making outcomes could help attorneys guide case theory if they know the jury is heavily male or female.

Chapter 2 provides an overview of the role and expression of emotions in the courtroom for trial participants (e.g., jurors, attorneys, witnesses), including when emotions or emotional displays are and are not allowed. Chapter 3 discusses the theoretical underpinnings and research conducted regarding the Appraisal-Tendency Framework, beginning the discussion of the theoretical foundation for this study. Somewhat related to the Appraisal-Tendency Framework, Chapter 4 discusses the Cognitive-Experiential Self-Theory, a cognitive processing theory that includes emotion as a key theoretical element. Chapter 5 reviews research regarding workplace incivility and the resultant outcomes. The last portion of theoretical discussion focuses on the use and effectiveness of fear appeals (Chapter 6) followed by a potential way to limit the effectiveness of fear appeals—stealing thunder (Chapter 7). Chapter 8 reviews variables that were used as mediating and moderating variables in the studies. Chapter 9 provides an overview of trial outcomes that were measured in previous jury decision-making research and the current studies. Then, Chapter 10 discusses the study materials that were included and how those materials have been used in past research. An overview of the two studies, as well as the research questions and hypotheses associated with those studies, is discussed in Chapter 11. The pilot studies of the materials for both Study 1 and Study 2 is discussed in Chapter 12 followed by a description of the methods, materials, data analysis, results, and discussions for Study 1 and Study 2 in Chapters 13 and 14,

respectively. Chapter 15 provides a general discussion on this line of research and includes potential limitations and future directions for the research. Finally, Chapter 16 provides a brief conclusion to the paper. To begin, it is important to first understand the role of emotions in the context of a courtroom.

Chapter 2: Emotions in the Courtroom

The role of emotions in the legal system is a constantly debated and contentious topic. Emotions can be defined as "feelings, cognitions, and actions, or intentions to act," regardless of whether it is consciously realized by the person (Feigenson & Park, 2006, p. 144). From a legal standpoint, there are instances in which emotions are legally allowed at trial. For parties at the trial, such as attorneys or witnesses, there are socially accepted and, in some cases, legally defined instances in which emotions can be displayed. Socially agreed-upon instances are known as emotion display rules. For jurors' decision-making, however, there are stricter rules regarding when emotions can be relied upon, as will be discussed, as well as the mechanisms that explain how emotions might relate to juror decision-making.

Emotion Display Rules

In a workplace or organizational setting, emotion display rules can be explicitly stated in a training manual or handbook or can be implicit, such as when someone observes how others behave and that person tries to mimic the observed emotional expression. The emotional expression (or emotional suppression in some instances) might not necessarily be sincere in that people might have to fake or embellish their perceived emotional state to fit with emotional display rules (Grandey, 2000). An important caveat to faking or embellishing emotions is that, to persuade others that emotional display rules are being adhered to, the emotional display must be perceived by others as sincere or else the displayer of emotion is at risk of violating display rules. Display rules might also vary based on the situation or those who are present to witness the emotional display (Grandey, 2000).

The proper and appropriate expression or display of emotion in court is an issue that has been debated as early as the 19th century. In *Ferguson v. Moore* (1897), an appeal filed by the defense challenged the jury's verdict as unfair because, during closing arguments, the plaintiff's attorney cried (Blumenthal, 2009; Salerno et al., 2018). Not only did the appellate court side with the plaintiff in this matter but added that it is an attorney's obligation to their client and "his professional duty to shed [tears] whenever proper occasion arises" (*Ferguson v. Moore*, 1897, p. 343, cited in Blumenthal, 2009). This ruling from over 100 years ago supports the idea that there are emotional display rules; both generally throughout organizations as well as for specific jobs (Grandey, 2000).

A point of contention from the appellate court's decision in *Ferguson v. Moore* (1897) is the inclusion of the term "proper occasion," as there is no operational definition or explicit mention of what specific emotions are proper and when to use them. There have, however, been written materials for attorneys which recommend the use of emotions for their own benefit. Additionally, some trial advocacy materials—such as books, reports, or instructional manuals on trial techniques—recommend that attorneys improve their credibility with the jury by expressing appropriate emotions (Salerno et al., 2018). This increase in perceived credibility is the primary way in which expressions of emotions might affect juror decision-making (Brodsky et al., 2009; Salerno et al., 2018). For example, some of these trial advocacy materials suggest that expressions of anger during closing arguments show the jury that the attorney has conviction, and this expression of emotion will, consequently, increase the attorney's standing and credibility with the jury. This improved credibility will then increase the persuasiveness of the

message delivered by the attorney (Brodsky et al., 2009). Empirical tests of the effectiveness of anger have revealed that there are limitations to this type of emotional display. Salerno and colleagues (2018) found that expressions of anger by male attorneys were beneficial regarding participants' desire to hire that attorney in the future because male attorneys were seen as having more conviction and power after emotionally displaying anger. For female attorneys, though, emotional displays of anger were associated with a lower likelihood of participants wanting to hire the attorney because angry female attorneys were seen as shrill or obnoxious (Salerno et al., 2018). This suggests that there are affect display rules for attorneys, but these display rules are not universal to all attorneys.

Emotional displays from witnesses are also subject to certain emotional display rules which could also affect their credibility with jurors (Brodsky et al., 2009). Victims who take the witness stand in emotional cases, such as a rape case, face specific emotional display rules to which they are expected to adhere. Research suggests that rape victims who display emotion while testifying are seen as more credible by jurors (Ask & Lanstrom, 2010), especially amongst jurors who have a high expectation that rape victims should be emotionally expressive (Hackett et al., 2008). These effects of witness credibility can also be seen when examining expert witnesses. Mock jurors perceive expert witnesses who display positive emotions as more likeable and trustworthy and, in turn, more credible (Brodsky et al., 2009). This increase in witness credibility has been empirically associated with being more persuasive to jurors (Brodsky et al., 2010).

The courtroom is also a rather unique setting for examining displays of emotion and factors that might moderate the effects of emotional displays. Returning to the

"proper occasion" mentioned by the appellate court in *Ferguson v. Moore* (1897), there is the possibility that jurors do not know the proper occasion for when witnesses or attorneys should or should not be displaying emotions. There are no professional jurors nor is there an exhaustive manual or list of when attorneys or witnesses should show emotion, so jurors might be unaware of the emotional display rules of the courtroom. Therefore, unrealistic expectations regarding emotional display rules might be a factor that moderates the effectiveness of emotional displays regarding their persuasiveness. In line with emotional expectations, there is also the concern that jurors will not perceive emotional displays to be sincere because of their unrealistic or inaccurate beliefs surrounding emotional displays of parties at trial (e.g., attorneys, witnesses). This, in turn, might lower the perceived credibility of these parties amongst jurors and lead to their messages being less persuasive (Grandey, 2000).

Emotions in Legal Decision-Making

The law allows jurors to rely upon emotions in certain realms of decision-making. A primary instance is when the issue at hand in the trial requires jurors to make a moral judgment, such as evaluating the heinousness of the crime when deciding whether a defendant should receive the death penalty (Bandes & Blumenthal, 2012; Hastie, 2001; Karstedt, 2002). There are also legal integral emotions which are emotions specifically related to case-relevant behaviors of parties at trial (e.g., attorneys, defendants, witnesses) and any outcomes associated with those behaviors (Feigenson, 2009). This is the case when judges and jurors evaluate the credibility of witnesses; the law allows legal decision-makers to rely on affective mechanisms to make whatever credibility determinations decision-makers deem appropriate (Pettys, 2007). Lastly, in certain

instances, emotions are even considered a viable legal defense (Karstedt, 2002). For instance, crimes of passion reference crimes in which the defendant was in a heightened emotional state and could not reflect on his actions before committing the crime. The legal decision-maker in these cases is asked to evaluate whether they believe the heightened emotional state was to blame, which could lead to lesser charges and sentences for the defendant (Cornell Law School, n.d.).

Conversely, the law outlines situations in which the use of emotions in decision-making is impermissible. Legal decisions in which the decision-maker is unduly swayed by emotional appeals—from the attorneys' arguments or the presentation of evidence—is explicitly forbidden (Walker & Monahan, 1987). In fact, Rule 403 of the Federal Rules of Evidence states that if the emotional impact of a piece of evidence outweighs the probative value of that evidence or if the evidence would unfairly prejudice legal decision-makers through emotional appeals, then the evidence is inadmissible (Pettys, 2007). In contrast to legal integral emotions, Feigenson (2009) states that there are also extralegal integral emotions which are emotions based on factors of the trial but are impermissible in legal decision-making. These could include emotions related to the race of the defendant or a witness or emotions associated with pre-trial publicity (Feigenson, 2009). There could additionally be incidental emotions, or emotions completely unrelated to the trial at hand. For example, emotions related to the weather or from familial disputes are not legally allowed to be used in any decision-making processes (Hastie, 2001).

There are areas in which the use of and reliance on emotions is still highly debated amongst legal scholars. For instance, the continued use and presentation of

Victim Impact Statements (VIS) at sentencing phases of capital trials could unfairly prejudice jurors through the presentation of emotions (Bandes & Blumenthal, 2012). Victim Impact Statements were initially conceived to provide jurors with unique information about the deceased from family members and prevent the deceased from becoming a "faceless stranger" (Bandes & Blumenthal, 2012, p. 167). In response to VIS, defendant advocates introduced Execution Impact Statements (EIS) in which jurors in the sentencing phase are urged to see family members of the defendant as additional victims of the situation to discourage jurors from giving death sentences (Wolff & Miller, 2009). However, legal scholars, including various Supreme Court justices, have argued that the emotional impact of these statements is exceptionally prejudicial to the jury and far outweighs the value of the presented information (Bandes & Blumenthal, 2012). This debate is still not settled, though. Legal decisions made during the sentencing phase of a capital trial are inherently emotion-based and, although there is some support that impact statements relate to differences in sentencing decisions (Nuñez et al., 2017), the presentation of VIS and EIS do not significantly influence capital sentencing decisions (Boppre & Miller, 2014; West et al., 2019).

Mechanisms of Emotions Affecting Decision-Making

From a psychological standpoint, Feigenson (2009) asserts that there are four ways in which emotions can affect legal judgments: a) by affecting information processing; b) by biasing perception, recall, or evaluation of trial information in a specific direction; c) by providing informational cues; and d) by anticipating potential emotions in the future that might follow from a judgment. The effect of emotions on legal decision-makers' information processing is a critical factor in trial and could affect the extent to

which jurors might use a top-down (or schema-based) processing approach versus a bottom-up (or data- and information-based) processing approach (Feigenson & Park, 2006). For example, anger has been associated with a higher likelihood of relying on stereotypes—a top-down, schema-based approach—in decision-making. Therefore, a juror who is angry—regardless of the source of that anger—might rely on stereotypes associated with characteristics of the defendant, such as race or gender, to come to a legal decision (Feigenson & Park, 2006). Jurors might also use "somatic markers" to associate either positive or negative emotions with potential outcomes associated with decisions (Pettys, 2007). That is, when a potential decision is presented, the information associated with that decision is processed and "marked" with either positive or negative emotions which affect the decision-making process and, therefore, final decisions.

Emotions also have the potential to bias a legal decision-maker's perceptions, recall, or evaluations of trial information via mood-congruent effects. For example, being in a negative emotional state might lead decision-makers to perceive information as more negative or to recall more negative information (Feigenson & Park, 2006). This could also be affected by the previously mentioned incidental emotions—if a legal decision-maker is in a negative emotional state from a situation or interaction unrelated to the trial, the decision-maker might evaluate evidence more negatively or recall a disproportionate amount of negative information. Hastie (2001) suggests that this might be because an emotional state creates associative networks which activate certain concepts or feelings. With these concepts and feelings more readily accessible, it increases the likelihood of recall of information more closely associated with that emotion. For instance, if a

decision-maker is angry, they might be biased to recall more information that activates or is associated with anger (Hastie, 2001).

Emotions provide informational cues in which a person's affect can act as information. With affect-as-information, the person acknowledges their emotional state and then makes an attribution regarding what caused that emotional state (Feigenson, 2009). Using these informational cues could lead to improper or inaccurate decisions, however, if the source of the emotion is misattributed (Feigenson & Park, 2006). Negative emotional states can also provide informational cues to create motivation to act; feedback or information that a person is in a negative emotional state could prompt that person to act to relieve those negative emotions (Pettys, 2007). In essence, making certain decisions to alleviate a negative emotional state could act as a kind of cognitive dissonance reduction.

For Feigenson's (2009) fourth point, emotions can affect judgments through anticipation of potential, future emotions that might follow from a judgment. For instance, a legal decision-maker might base their decision on what they believe they would least regret in the future (i.e., regret aversion; Feigenson, 2009). However, previous research has found that, under certain negative emotional states (such as "worry"), participants showed less prospection and opted for smaller immediate rewards rather than larger rewards in the future (Worthy et al., 2014). This suggests that legal decision-makers might not make optimal decisions while under certain emotional states.

The studies of this dissertation manipulated participants' emotions in one of two ways—through the occurrence of incivility in the courtroom (Chapter 5) and through the presentation of a fear appeal (Chapter 6)—and evaluated participants' legal decision-

making as it relates to these emotional manipulations. The emotional response elicited from these manipulations and participants' resultant decisions regarding factors in the trial can inform both legal and psychological scholars. For the law, the studies can assess the relationship associated with inducing extralegal integral emotions and jurors' legal decision-making, using both a direct and indirect emotion manipulations. Additionally, these studies can simultaneously assess the relationship between two different legal integral emotions and ensuing decisions regarding legal actors' credibility (i.e., witness and attorney credibility assessments, both of which the law allows to be based on emotion). For psychology, the studies examined whether there are any biasing effects of incivility-induced emotions and/or fear appeal-induced emotions on information processing, trial perceptions, or evaluations of information at trial. These two emotions and related emotional manipulations have either been understudied in a legal context (i.e., fear) or have a complete lack of studies in a legal context (i.e., incivility-induced emotional responses).

This area is of study is important because, in every trial, there is a possibility that some party at trial (e.g., witness, attorney) will attempt to manipulate jurors' emotions and create biased decisions. As stated by Feigenson (2009), "...in order to purge judgments of unwanted bias, the decision maker must be: (i) aware of the unwanted bias and its magnitude and direction; (ii) motivated to correct the bias; and (iii) able to adjust the response appropriately" (p. 78). Understanding how these emotions affect legal decisions is the first step to formulating possible ways to combat these potentially biasing effects. The next section will discuss a framework through which emotions can affect a

person's understanding or processing of information – the Appraisal-Tendency Framework.

Chapter 3: Appraisal-Tendency Framework

Emotions can affect an experiencer's attention, memory, and behavior in the experiencer's current situation as well as and future, novel situations (Wiener et al., 2006). The Appraisal-Tendency Framework (ATF) is a framework for understanding the relationship between emotions and subsequent cognitions and behaviors (Lerner & Tiedens, 2006). Specifically, the framework posits that certain emotions will elicit specific cognitions and motivations in the experiencer of the emotion; these cognitions and motivations will then be expressed through the emotion experiencer's behaviors (Han et al., 2007; Lerner & Tiedens, 2006). This influence occurs because of carryover effects from the emotions onto subsequent outcomes, such as judgments, choices, behaviors, and cognitions (Han et al., 2007; Lerner et al., 2015). The ATF is founded on five specific principles—that there are integral and incidental emotions; that there are emotional dimensions beyond positive and negative (i.e., valence); that emotional appraisals relate to specific tendencies; that behaviors and outcomes will be in-line with, or match, the emotional appraisal due to carryover effects; and that there are conditions under which the any carryover effects will deactivate (Han et al., 2007).

Integral and Incidental Emotions

The first principle of the ATF focuses on the role and origination of emotions in relation to the subsequent cognition or behavior. Integral emotions are emotions that are directly related to the situation at hand, and are relevant for making judgments, choices, behaviors, or cognitions (Tiedens & Linton, 2001). For example, fear is an integral emotion when related to gambling or betting – the fear from anticipations of regret or loss from losing a bet is directly related to the behavior of betting and can help guide a

person's decision about whether that person should engage in the behavior (i.e., place a bet). The reliance on integral emotions is beneficial for optimal decision-making (Lerner et al., 2015). This is supported by research examining brain function and impairment; specifically, patients who have damage or injuries to their ventromedial prefrontal cortex—a key brain area for emotion and cognition—and are unable to experience or feel emotions are sub-optimal decision-makers (Lerner et al., 2015). Integral emotions, however, can bias decision-makers under certain circumstances. For example, integral emotions might override a rational decision; if a person is afraid to fly in an airplane for fear of dying in a plane crash, that person might decide to drive to their destination instead. Although the person's fear is an integral emotion in that it is relevant and directly related to the situation at hand, accident and death rates for flying are far lower than that of driving, so driving is not the most rational travel option when it comes to passenger safety (Lerner et al., 2015).

Counter to integral emotions are incidental emotions, or emotions and emotional experiences that are irrelevant to a present situation and should not factor into any judgments, choices, behaviors, or cognitions (Tiedens & Linton, 2001). Typical examples of incidental emotions are emotions derived from listening to music or from the weather which might then have carryover effects that impact a later decision. Incidental emotions are effectively a source of bias in decision-making and the biasing effects of incidental emotions dates back to the early 1980s (Lerner et al., 2015). There are potentially moderating factors that can affect the relationship between carryover effects of incidental emotions and various cognitive or behavioral outcomes. The amount of influence a given emotion will have on decision-making might vary along a continuum, with the emotion

having the strongest or largest influence on decisions when the present situation is complex and unanticipated. Additionally, people with high emotional intelligence are more able to mentally assess and directly associate the influence of emotional states on their decision-making as compared to people with low emotional intelligence, suggesting that high emotional intelligence could beneficially assist a person with screening and eliminating the effects of incidental emotions (Lerner et al., 2015).

Beyond Valence

The second principle of the ATF is that emotions have more appraisal dimensions than simply being positive or negative (Han et al., 2007). This is not to say that the valence of emotions is unimportant but, rather, to suggest that the additional dimensions allow for more differentiation. This differentiation allows for comparisons based on where each emotion falls on the spectrum of these additional dimensions as well as a more specific examinations of how different emotions relate to behavioral and cognitive outcomes (Han et al., 2007; Lerner & Keltner, 2000). There are a variety of dimensions that could be used to differentiate emotions, but the ATF focuses on six in particular: certainty, pleasantness, attentional activity, control, anticipated effort, and responsibility (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). Each of these dimensions can be viewed as a spectrum upon which an emotion is placed. Certainty is the extent to which a potential situation appears predictable and comprehensible (High Certainty) versus unpredictable and incomprehensible (Low Certainty). Pleasantness is the extent to which a person feels pleasure (High Pleasantness) versus displeasure (Low Pleasantness). Attentional activity is the extent to which a situation draws a person's attention (High Attentional Activity) versus deters a person's attention (Low Attentional Activity).

Control is the extent to which an outcome is brought about by personal agency (High Control) versus situational agency (Low Control). Anticipated effort is the extent to which physical and/or mental energy will need to be exerted (High Anticipated Effort) versus will not need to be exerted (Low Anticipated Effort). Responsibility is the extent to which someone or something other than the emotion experiencer is responsible (High Responsibility) versus the person themselves are responsible (Low Responsibility; Lerner & Keltner, 2000). For example, anger differs from fear on the certainty dimension, with anger relating to high certainty and fear relating to low certainty (i.e., uncertainty). The ability to differentiate these two emotions would be difficult if only a valence approach was used because they are both traditionally thought of as negative emotions. Additionally, because happiness is related to certainty, happiness is more closely related to anger than fear on the certainty dimension (Han et al., 2007).

In conjunction with appraisal dimensions, emotions can be defined thematically via a core appraisal theme. These themes provide a general overview of the benefits and harms associated with a specific emotion and can guide future behavior or courses of action (Han et al., 2007). For example, because anxiety is thematically characterized by appraisals of uncertainty and existential threat, experiencing anxiety might guide a person to a behavior which reduces or eliminates that sense of uncertainty (Han et al., 2007).

Although appraisals are typically thought of as cognitive precursors to emotion, there is a recursive relationship between the two such that emotions can occur first temporally and then be followed by an appraisal (Han et al., 2007; Lerner & Tiedens, 2006). Some emotions arise without cognitive awareness, such as through unconscious priming. In these instances, in which emotion arises non-consciously, an appraisal would

not cause the emotion but, rather, occur afterward and the presence of this appraisal could still influence or affect future judgment (Han et al., 2007). These instances of non-conscious emotion would also benefit from having more dimensions than emotional valence; if a person is using emotional feedback as a source of information, having more appraisal dimensions than simply positive or negative would provide more information (Lerner & Tiedens, 2006).

Appraisal Tendencies

The third principle of the ATF involves the tendencies associated with appraisals. The ATF posits that each emotion has motivational properties that direct cognitive processes and thoughts toward addressing a problem at hand through subsequent judgments and decisions (Han et al., 2007; Lerner & Keltner, 2000). These appraisal tendencies can influence both the *content* of these cognitive processes and thoughts as well as the *depth* of these cognitive processes and thoughts.

Content of Thought

The content of thought can be influenced by carryover effects of appraisal dimensions as well as appraisal themes (Han et al., 2007). For appraisal dimensions, emotions that arise from a cognitive appraisal along specific dimensions in the immediate situation would have carryover effects in that the emotion experiencer would have a tendency to perceive a future, novel situation in line with the same appraisal dimensions. For example, sadness co-occurs with appraisals of situational control; therefore, the appraisal tendency of sadness would be to perceive low control (i.e., situational agency) in a subsequent situation or environment. Conversely, anger co-occurs with appraisals of individual control; therefore, the appraisal tendency of anger would be to perceive

individual control in a subsequent situation or environment. Appraisal themes might also have carryover effects and relate to specific appraisal tendencies which surround reducing harms or maximizing benefits (Han et al., 2007). For example, sadness is thematically related to loss whereas anxiety is thematically related to existential threat and uncertainty. Therefore, to combat these harms, experiencers of sadness might be motivated to choose behaviors or options which maximize rewards in subsequent situations whereas experiencers of anxiety might be motivated to choose behaviors or options which minimize uncertainty in subsequent situations (Han et al., 2007).

Depth of Thought

Appraisals can also influence the depth of thought or, in other words, the person's cognitive processing (Han et al., 2007; Lerner & Keltner, 2000; Tiedens & Linton, 2001). Many cognitive dual-processing models posit that people either process information in a shallow, automatic, simple way (i.e., heuristic or *experiential* processing) or in an effortful, intentional, and analytic way (i.e., central or *rational* processing; Epstein et al., 1996; Petty & Cacioppo, 1986). Manipulating participants' emotions so that their emotional state related to different levels of certainty (anger and happiness for high certainty, fear and hope for low certainty), Tiedens and Linton (2001) found that participants who were experiencing emotions with high certainty appraisals used heuristic (i.e., shallow and automatic) cognitive processing for a subsequent task whereas participants who were experiencing emotions with low certainty appraisals used central (i.e., rational and effortful) cognitive processing on the same subsequent task. The authors posit that this was, in part, because the carryover effects of the high certainty appraisals influenced participants to have high certainty in the next situation and would

not need to systematically or effortfully evaluate the information they received and vice versa for the carryover effects of the low certainty appraisals (Han et al., 2007; Tiedens & Linton, 2001).

Matching Constraint

The fourth principle of the ATF is the matching constraint, or the idea that carryover effects of appraisals on future judgments and decisions in a novel situation will be in line with the appraisal dimensions and themes of the previous situation (i.e., domain specificity; Han et al., 2007; Lerner & Keltner, 2000). This principle is similar to the influence of appraisals on the content of though, such that appraisals should "match" judgments related to or following the emotion if there are similar aspects and features. For example, fear relates appraisals of uncertainty and lack of individual control. Therefore, carryover effects of fear in a previous situation should influence a person on subsequent decisions or judgments in which the dimensions of uncertainty or control are present or in question. However, the carryover effects of fear should not influence other appraisal dimensions that are present or in question, such as pleasantness or attentional activity (Han et al., 2007). This matching principle is similar to mood-congruent effects seen in cognitive attention, priming, and retrieval research in that emotion-related appraisals might relate to similar appraisals via an associative network (Lerner & Tiedens, 2006). If an emotion relates to appraisal dimensions of low control, low certainty, and low coping, then events or outcomes in subsequent situations that are low in control, certainty, and coping would be more easily accessible because of the cognitive associations (Han et al., 2007; Lerner & Tiedens, 2006). This principle also provides additional support for moving beyond a valence approach to emotions as well as

emphasizing the need to identify and establish appraisal dimensions and appraisal themes of distinct emotions (Han et al., 2007).

Deactivating Conditions

The final principle of the ATF is the deactivating conditions, or the conditions under which the emotional carryover effects decrease or are eliminated completely. There are two primary hypotheses posited by the ATF that determine deactivating conditions – the goal-attainment hypothesis and the cognitive-awareness hypothesis (Han et al., 2007). Under the assumption that emotions are relied upon for decision-making and judgments, the goal-attainment hypothesis suggests that carryover effects of the emotion will cease once the problem at hand is solved. The goal-attainment hypothesis allows for the presence of the emotion to continue, but the carryover effects from that emotion would be deactivated. However, this deactivating condition can be thwarted; if the person does not know that the goal has been attained or if the goal is never attained, the possibility of deactivating emotional carryover effects is removed (Han et al., 2007).

The cognitive-awareness hypothesis suggests that, because emotion-related appraisals are automatic, if a person were to become aware of the influence of these appraisals, the carryover effects would be negated and deactivated (Han et al., 2007). Incidental emotion carryover effects, such as the effects of poor weather on subsequent judgments, can be negated by reminding people about the weather; this brings the weather into a person's conscious awareness and can reduce the incidental carryover effects (Schwarz & Clore, 1983). Having people consciously monitor their decision-making processes and the mental steps they take to come to a conclusion can similarly nullify or deactivate emotional carryover effects (Lerner et al., 1998). However, this

deactivating condition can also be thwarted. If a person has insufficient motivation to self-monitor, the carryover effects might go unnoticed. Additionally, people might simply be inaccurate in their assessment of how the carryover effects might influence their decision-making or judgment (Han et al., 2007).

Appraisal-Tendency Framework and Decision-Making

As discussed throughout this review, the ATF has been tested in a multitude of situations and applied to a variety of decision-making studies including, but not limited to, economic choices, political and policy decision-making (Lerner et al., 2015), prediction of future events, argument evaluation (Tiedens & Linton, 2001), risk assessments (Lerner & Keltner, 2001), and commitment (Tsai & Young, 2009). However, little research could be found that implemented or referenced the ATF specifically related to legal decision-making. Some research was legal-adjacent, in that there were legal elements used in the study, but the study itself did not address or assess legal decision-making (e.g., crimes used as emotion manipulations; Canare et al., 2019; Goldberg et al., 1999). Of the two studies that could be found specifically pertaining to legal decision-making, one manipulated student participants to experience anger to examine how it related to punitiveness (Lerner et al., 1998) whereas the other manipulated police officer participants to experience anger and sadness to examine how these emotions relate to perceptions of the witnesses and the defendant's guilt (Ask & Granhag, 2007). No studies could be found that specifically examine how the principles and decision-making underpinnings of the ATF could be applied to juror decision-making, though some researchers believe that the principles of ATF should be effective in juror decision-making situations (e.g., Wiener et al., 2006).

The studies will focus on two emotions that are thematically related to low certainty, or uncertainty, appraisals – anxiety and fear (Han et al., 2007; Lerner & Keltner, 2001; Smith & Ellsworth, 1985). The ATF posits that people who experience uncertainty emotions will have increased depth of thought (i.e., rational cognitive processing) which will carry over to future decision-making tasks (Tiedens & Linton, 2001). This relationship was tested across two studies. In Study 1, an indirect emotional manipulation was used to evaluate the relationship between the emotional manipulation and participants' experiences of anxiety as well as how that anxiety relates to cognitive processing and legal decision-making tasks; specifically, participants read about incivility between an attorney and expert witness and witnessing incivility relates to increases in anxiety and stress (discussed further in Chapter 5). In Study 2, a direct emotional manipulation was used to evaluate the relationship between the emotional manipulation and participants' experiences of fear as well as how that fear relates to cognitive processing and legal decision-making tasks; specifically, participants were exposed to a fear appeal from an expert witness and fear appeals relate to increases in fear (discussed further in Chapter 6). Study 2 also tested "stealing thunder" as a legal tactic which might be effective at deactivating the influence of emotional appraisals and carryover effects (discussed further in Chapter 7).

Although there is extensive support for the relationship between emotion appraisals and their relationship to cognitive processing (e.g., Han et al., 2007; Lerner & Keltner, 2000; Tiedens & Linton, 2001), other cognitive processing theories suggest that emotions and cognitive processing have a different relationship. One of the most

prominent cognitive processing theories that pertains specifically to the relationship between emotions and cognitive processing is the Cognitive-Experiential Self-Theory.

Chapter 4: Cognitive-Experiential Self-Theory

When examining how a person uses (or does not use) presented information to make a decision or to enact a behavior, it is important to understand how that person cognitively processes the presented information. There is no single theory that is universally endorsed to explain how a person cognitively processes information, but there are many theories that attempt to answer this exact question. Some theories posit that there is a single pathway, or route, by which people process information (e.g., the Unimodel; Kruglanski & Thompson, 1999). However, a more commonly accepted family of theories regarding cognitive processing are the dual-processing theories. These theories posit that there are two distinct routes by which people process information – a higher-level order of processing (System I) and a lower-level order of processing (System II) – though the theories will differ on some of the specifics regarding likelihood or situations in which a person might use one of the routes as opposed to the other (Djulbegovic et al., 2012; Epstein et al., 1996; Petty & Cacioppo, 1986).

As previously discussed, the ATF posits that emotions can affect a person's content and depth of thought which can carry over into that person's decision-making. However, using a dual-processing theory framework, one theory through which to view emotions' relationship to information processing is the Cognitive-Experiential Self-Theory (CEST; Epstein et al., 1999). CEST posits that there are two information processing routes of persuasion—*rational* and *experiential* processing. The *rational* route is characterized by thoughts that are intentional and analytic, but also relatively affect free (Epstein et al., 1996). Conversely, the *experiential* route is characterized by thoughts that are automatic, associative, preconscious, holistic, and based off experience, but is

also intimately associated with affect (Denes-Raj & Epstein, 1994; Epstein et al., 1996). Because it is more automatic and less effortful to use, the *experiential* route is typically thought of as the default processing route (Denes-Raj & Epstein 1994; Lieberman, 2002), though people differ in their natural tendencies toward defaulting to either the *experiential* or *rational* routes. However, the two processing routes exist on separate continuums and are primarily independent of each other in that changes in one type of information processing does not necessarily relate to changes in the other type of information processing (e.g., an increase in *rational* processing does not require that there be a decrease in *experiential* processing; Lieberman, 2002). The relative levels and contributions of these two routes then influence behavior.

As a dual-processing theory, CEST has a particular focus on emotions and affect, with a specific set of assumptions on how affect relates to information processing (Lieberman, 2002). CEST posits that affect and increased emotional involvement is associated with the use of the *experiential* processing route (Lieberman, 2002). Pertaining to the focus of emotions and affect, CEST assumes that behavior is guided by a combination of the processing routes and the amount of influence each route has is dependent upon the situation and the amount of emotional involvement of the person (Denes-Raj & Epstein, 1994). Therefore, holding the situation constant, the amount of emotional involvement a person has will be a deciding factor in which processing route is more influential, with increased emotional involvement relating to increased reliance on the *experiential* route (Denes-Raj & Epstein, 1994; Lieberman, 2002).

Trait and State Cognitive Processing

The extent to which one processing route is utilized over the other route can either be measured as a trait or a state, meaning that people might generally prefer one processing route (trait) or might be more inclined to use a processing route in a given situation (state; Gunnell & Ceci, 2010; Miller et al., 2014). CEST suggests that people might have different preferences or tendencies in their usage of information processing routes (Gunnell & Ceci, 2010).

Trait Cognitive Processing

Although the *experiential* route is typically thought of as the default processing route, people differ on the extent to which they naturally rely on one processing route over the other (Lieberman, 2002). This long-lasting characteristic that persists over time is considered a person's trait cognitive processing. CEST can be measured as a trait using the Rational-Experiential Inventory (REI; Pacini & Epstein, 1999) The REI specifically assesses a participant's trait processing mode according to CEST and to what degree the participant is using that mode (i.e., strength) by measuring the participant's responses on a *Rationality* and *Experiential* scale (Appendix G; Pacini & Epstein, 1999). The *Rationality* scale measures the need to which a person engages and enjoys intellectual activities and is based heavily on Cacioppo and Petty's (1982) *Need for Cognition* scale whereas the *Experiential* scale measures a person's engagement and confidence in their own intuitive abilities (Epstein et al., 1996).

Scores on these two scales can be combined into a Processing Style Influence (PSI) Score which provides an overall trait cognitive processing score suggesting which processing style (i.e., *rational* or *experiential*) a person is more influenced by as well as

the extent to which they prefer that processing style (Gunnell & Ceci, 2010). A continuous PSI score can be calculated using the formula:

PSI Score = [(Median Rationality Score) – (Actual Rationality Score)] + [(Actual Experiential Score) – (Median Experiential Score)]

with median rationality and experiential scores representing the median scores for the dataset at hand. This score can then be dichotomized with participants scoring below 0 being more *rational* trait processors (R-processors) and participants scoring above 0 being more *experiential* trait processors (E-processors). Research suggests that E-processors are more influenced by extralegal factors and information than R-processors (Gunnell & Ceci, 2010).

State Cognitive Processing

Counter to trait cognitive processing, state cognitive processing refers to the processing route used by a person in a specific situation or in the immediate sense (Miller et al., 2014). CEST can be measured as a state using a series of logic problems (Miller et al., 2014). The logic problems discuss a short scenario in which two men experienced the same negative outcome in which the situation was outside of their control (e.g., stock market fluctuation, parking lot accident) but one of the men made a choice prior to the negative outcome whereas the other man's behavior was restricted. These logic problems assess the extent to which a person is cognitively processing information *rationally* at the current moment (e.g., responses that either man was more foolish than the other suggests less *rational* processing because neither man could know the future outcome; Miller et

al., 2014). So, although a person might be more inclined to favor the *rational* processing route over the *experiential* processing route, that person might be more influenced by the *experiential* processing route based on their current situation and circumstance.

CEST and Jury Decision-Making

The effects of cognitive processing preferences are also seen in jury decision-making studies. Specifically, E-processors are more influenced by information that is outside the scope of the trial testimony or evidence (i.e., extralegal information) than R-processors as E-processors are more likely to convict and recommend harsher sentences to defendants when presented with extralegal information (Gunnell & Ceci, 2010). This same trend appears in participants who are manipulated to think using the *experiential* state processing in that participants are more prone to relying on extralegal information in making their determinations of guilt and providing sentence recommendations when motivated to think *experientially* (Lieberman, 2002). Additionally, participants who are manipulated to process information with the *rational* route were more influenced by and preferred more scientifically valid evidence as compared to participants who were manipulated to process information with the *experiential* route (Krauss et al., 2004). Based on these findings, the proposed studies hypothesize that the relationships between each study's emotional manipulation (incivility in Study 1 and a fear appeal in Study 2) will be moderated by participants' trait cognitive processing – more specifically, their PSI score – such that E-processors will be more influenced by extralegal information (i.e., emotional manipulation information which are not case facts) than R-processors.

Because CEST posits that emotional involvement will lead to *experiential* state processing (Lieberman, 2002), it was hypothesized that the presence of emotional appeals

would lead to increases in emotional involvement and, therefore, increases in *experiential* state processing. These increases in *experiential* state processing would, in turn, relate to significant differences in trial outcomes, such as verdicts, awarded damages, and credibility ratings of attorneys and expert witnesses (i.e., mediate the relationship between the studies' manipulations and outcomes). Study 1 posited that incivility related to increased emotional involvement, as increases in witnessed incivility is associated with decreased psychological well-being and increased negative affect (Miner-Rubino & Cortina, 2007; Porath & Erez, 2009; Schilpzand et al., 2016) and, therefore, increased *experiential* state processing. Similarly, for stress, some psychologists have argued that stress should be viewed as a subset of emotion (Lazarus, 1993). Therefore, increases in stress would also relate to increased emotional involvement and *experiential* state processing. Study 2 implemented a fear appeal which is, by definition, an emotional appeal that attempts to increase the message recipient's emotional involvement (Tannenbaum et al., 2015), suggesting that the presence of a fear appeal should also relate to increased *experiential* state processing. This last hypothesis directly contradicts the predictions made by the ATF (i.e., that fear relates to uncertainty appraisals and will relate to more analytic or rational cognitive processing), so these hypotheses were formatted as competing hypotheses.

Chapter 5: Incivility

Incivility is traditionally defined as "low-intensity deviant behavior with ambiguous intent to harm the target, in violation of...norms for mutual respect. Uncivil behaviors are characteristically rude and discourteous, displaying a lack of regard for others" (Andersson & Pearson, 1999, p. 457). Incivility is also related primarily to behaviors that are performance-degrading as opposed to performance-enhancing (Cortina et al., 2017). The key component that differentiates uncivil behaviors from aggressive behaviors is the ambiguous intent or complete lack of intentionality (Lim & Cortina, 2005). Incivility requires that the intent be ambiguous to at least one of the parties involved in the uncivil behavior (i.e., instigator or victim). Therefore, there exists the possibility that the instigator of an uncivil behavior might intend for the behavior to be injurious but could still fall under the scope of incivility if the victim perceives the instigator's intent as ambiguous. Incivility is more often attributed to an instigator's ignorance, personality, or oversight, though (Lim & Cortina, 2005). Examples of incivility include, but are not limited to, interrupting others, using a demeaning tone of voice, belittling others, making jokes at others' expense, or addressing colleagues inappropriately (Miner & Cortina, 2016; Porath & Pearson, 2012). These acts of incivility can either be experienced directly or observed in other social interactions, such as witnessing another person be targeted by an incivility instigator (Cortina et al., 2017; Miner & Cortina, 2016; Miner & Eischeid, 2012). Witnesses of incivility might punish the incivility instigator, such as through negative work evaluations, but these punishments do not typically extend to the target of the incivility (Reich & Hershcovis,

2015). Incivility relates to stress levels, emotions, and individual differences as well as potentially affect behavior and outcomes in the courtroom.

Incivility and Stress

Incivility or uncivil conflict is related to increases in stress and this stress can occur in both directly in targets of incivility (i.e., victims) as well as indirectly in observers of uncivil behavior. There is a direct, positive relationship between number of instances of incivility and stress in victims of incivility—as instance rates of incivility increase, victims of incivility report increased levels of psychological distress (Cortina et al., 2001; Schilpzand et al., 2016). In addition, increased instances of incivility are related to increases in other negative attitudes toward many work-related aspects—less satisfaction with their job, coworkers, supervisors, pay & benefits, and promotion opportunities—which all could indirectly cause stress (Cortina et al., 2001). After experiencing incivility, the victim might take attentional resources away from their work or task at hand and apply those attentional resources to the uncivil incident (Porath & Erez, 2007). This is in line with the resource allocation model which posits that people have limited attentional resources and must choose what to put that attention towards or what to focus on. Porath and Erez (2007) suggest that the resource allocation model could potentially explain the results of their study which found that incivility led to worse task performance, creativity, and mental flexibility. In turn, it is possible that poorer task performance, creativity, and flexibility could lead to increased work-related stress from being less productive at work-related tasks or from having tighter deadlines caused by lack of production. The negative effects and outcomes associated with being a victim of

incivility occur after as few as one uncivil interaction instigated by either a superior or a third party, such as a co-worker (Porath & Erez, 2007).

Being a third-party observer of (i.e., witnessing) uncivil interactions is related to many of the same negative effects as being the victim of incivility. Specifically, witnessing or simply hearing about incivility that was directed at another person can create bystander stress (Hitlan et al., 2006). Bystander stress is related to increased levels of dissatisfaction with co-workers, lower life satisfaction, and similar outcomes to those who have experienced sexual harassment (Hitlan et al., 2006) whereas witnessing incivility additionally relates to increases in negative mood, poorer task performance, social and occupational withdrawal, and emotional exhaustion (Miner-Rubino & Cortina, 2004; Porath & Erez, 2009; Schilpzand et al., 2016). In one of the most comprehensive studies examining the effects and outcomes of observed incivility, Miner-Rubino and Cortina (2007) used a path analysis to assess the direct relationship between observed incivility and both psychological well-being and job satisfaction as well as the indirect relationship between observed incivility and four additional outcomes—physical well-being, job burnout, job withdrawal, and the observer's affective commitment to their job (i.e., how much employees like or want to stay at their current position). For both male and female observers, observed incivility negatively related to psychological well-being and, indirectly, higher job burnout. Additionally, observed incivility negatively related to job satisfaction which, in turn, related to increased job burnout, job withdrawal, and lower affective commitment to their job (Miner-Rubino & Cortina, 2007). Because job burnout is a measure of secondary stress (Flores et al., 2009), these results suggest that there is an indirect relationship between observed incivility and stress which is mediated

by psychological well-being and job satisfaction. Lastly, similar to being a victim of incivility, past research has suggested witnessing a single instance of incivility instigated by either an authority figure or peer related to a reduction in participants' performance on routine and creative tasks as well as reduced citizenship behaviors and increased dysfunctional ideation (i.e., thinking in aggressive terms; Porath & Erez, 2009).

Incivility and Emotions

Incivility also relates to differences in experienced emotion (Cho et al., 2016; Bunk & Magley, 2013; Miner & Eischeid, 2012). Specifically, as the amount of incivility increased, people who witnessed uncivil interactions reported significantly higher levels of anger, guilt, demoralization, fear, and anxiety (Bunk & Magley, 2013; Miner & Eischeid, 2012). These effects were more prominent when the recipient of the incivility was deemed to be similar to the observer (expanded upon in the following section). Employees who witness workplace incivility instigated by both coworkers and supervisors can have increased levels of emotional exhaustion – fatigue and depletion of emotional resources caused by continuous and excessive workplace strain (Cho et al., 2016). An important factor for examining emotions in relation to observing incivility is that emotions have typically been viewed as a mediating variable between incivility and various negative consequences (Cortina et al., 2017).

Incivility and Individual Differences

People might have different experiences or outcomes related to uncivil interactions based on their personal characteristics or individual differences. For instance, some people are more prone to perceive an interaction as uncivil (Cortina et al., 2017). People who have higher levels of trait anger, conscientiousness, and—somewhat

surprisingly and counterintuitively—positive affect have an increased likelihood of perceiving a situation as uncivil. Conversely, higher levels of openness relate to a decreased likelihood of perceiving a situation as uncivil (Cortina et al., 2017). Higher levels of psychological distress exist in employees with low core self-evaluations (i.e., self-reports of self-esteem, self-efficacy, emotional stability, and locus of control) who experienced familial incivility (Lim & Tai, 2014).

Demographic differences also relate to differences in the effects and perceptions of incivility; in particular, gender differences, with women experiencing higher rates of incivility in general and higher rates of incivility directly related to their gender (Cortina et al., 2002; Miner & Eischeid, 2012). The similarity-attraction paradigm suggests that that people feel more connected to those that are similar to themselves (Cunningham et al., 2012). Therefore, if women are more commonly the targets of incivility, women observers might feel a stronger sense of connectedness and empathy when witnessing other women be the victim of an uncivil interaction. Miner-Rubino and Cortina (2004) found that women were indeed negatively affected when observing other women be the victims of incivility, but men were similarly negatively affected. Specifically, women and men were equally affected by witnessing incivility directed toward women but only in male-skewed workplaces (i.e., workplaces in which there were more males than females; Miner-Rubino & Cortina, 2004). The content of uncivil interactions does not differ between males and females but, rather, only the frequency of victimization (Cortina et al., 2001). Incivility is also a downward phenomenon in that it most often comes from people of a higher or, at the very least, equal social power position (Porath & Pearson, 2012). Because men might have easier access to promotion opportunities in certain work

environments (Miner-Rubino & Cortina, 2004), it would follow that there is a higher likelihood of women being at a lower social power and, therefore, more likely to be the target of downward directed incivility.

Although men are less frequently the victims of incivility, they might be more affected by uncivil interactions. Cortina and colleagues (2001) found a gender interaction that, as rates of incivility increased, distress increased in both men and women, but the results were stronger in men. Similarly, both men and women report negative emotional states when witnessing incivility toward a same-gender target, in which men report more anger, fear, and anxiety as incivility toward other men increases whereas women report more anger, demoralization, fear, and anxiety as incivility toward other women increases (Miner & Eischeid, 2012). And, although women and men reported similar negative emotional states when witnessing high levels of incivility toward women, men reported significantly more negative emotions than women when witnessing high levels incivility toward men. This might also relate to power imbalances in the workplace in that men might not be used to having their power or superiority threatened and their increase in negative emotional states is in reactance to the threat of that power or superiority (Miner & Eischeid, 2012; Miner-Rubino & Cortina, 2004).

The contexts of studies involving incivility have been wide-ranging. Incivility studies have been conducted and findings have been replicated in sample populations from countries all over the world, including the United States, Australia, Canada, China, Korea, New Zealand, Singapore, the Philippines, and the United Kingdom (Schilpzand et al., 2016). The vast differences in geographic location between these countries suggests that incivility is a phenomenon that occurs worldwide and has the potential to affect

almost anyone. Especially of note is the fact that these countries vary in types of cultures of which they are traditionally associated (e.g., individualistic versus collectivistic) which, therefore, suggests that incivility is a phenomenon that is not confined to a specific culture (Schilpzand et al., 2016). The sample populations for incivility have also been quite diverse regarding the types of workplaces examined. Incivility research has been conducted using samples of manufacturing employees, university employees, retail employees, customer service employees, grocery store chain employees, and members of the United States military, to name a few. The consistent findings of workplace incivility across a wide array of occupations suggests that, beyond geographic location and culture, incivility is generalizable to different industries and organizations (Schilpzand et al., 2016) and the courtroom is no exception.

Incivility and the Law

Incivility in the courtroom is a widespread phenomenon that has myriad causes and takes myriad forms (Cortina et al., 2017). There are a wide variety of opinions regarding the causes of incivility in general as well as the perceived increase in incivility over the past few decades (Cortina et al., 2002); this includes increased financial stakes at trials (e.g., for attorneys via billable hours, for defendants via decisions to pay large fines or penalties), increased expectation of results and demands from clients, or heightened competition between firms and attorneys (Cortina et al., 2002; Omari & Paull, 2013). The nature of the occupation revolving around attorney-client interactions might also add to the levels of incivility, as occupations that include interactions with clients have higher rates of incivility (Omari & Paull, 2013).

Regardless of the cause of incivility, attorneys have been known to use uncivil tactics in and out of the courtroom. This includes refusing to comply with requests from opposing council, scheduling meetings and court appointments at unreasonable times, or using depositions as a forum to harass opposing parties and council (Cortina et al., 2002). Additionally, attorneys might use more interpersonal uncivil tactics, such as rudeness, hostility, intimidation, personal attacks, unnecessary combativeness, poor manners, and overzealous advocacy (Cortina et al., 2002; Fischer, 2011). The use of these uncivil tactics is meant to give the attorney an advantage in the trial and has become common enough that it has been given its own name—Rambo Litigation—because the attorney is always ready for a fight (Fischer, 2011). However, the use of these tactics harms the clients, the legal profession, the legal system, and the attorneys themselves by increasing attorneys' dissatisfaction with their work, decreasing clients' and professionals' respect for and trust in attorneys, and reducing societal confidence in the legal system (Fischer, 2011).

The effects of these uncivil interactions and incivility tactics can be seen throughout the workforce. More than 40% of the 1,300 attorneys and judges who completed an informal survey believed that the federal justice system faced a problem with incivility (Cortina et al., 2002). On a more individual level, approximately two-thirds of the 4,500 attorneys who responded to a survey reported experiencing incivility within the past five years; a closer examination reveals that approximately 50% of male respondents had experienced only general incivility in the workplace whereas nearly 75% of female respondents had experienced incivility in the workplace, but much of the incivility for female respondents was gender-related (e.g., receiving sexually suggestive

comments, being referred to in unprofessional terms or with unprofessional titles) or unwanted sexual harassment (Cortina et al., 2002). Additionally, judges believe that attorneys are a main source of incivility in the courtroom and that attorneys' displays of incivility increased judges' stress (Miller et al., 2021). This suggests that attorneys' displays of incivility might increase stress in other witnesses (e.g., jurors).

Based on the incivility literature and the prevalence of incivility in the courtroom, there is reason to believe that relationships between witnessing incivility and stress levels or emotions will replicate in a jury context. Study 1 had a single uncivil interaction between an attorney and an expert witness which was read by participants who were simulating jurors. Because participants read about an uncivil interaction rather than being the direct target of the incivility, incivility would act as an indirect emotion manipulation as there is extensive research to suggest that observing uncivil interactions is related to increased stress and increased negative emotions—such as anxiety—in observers (e.g., Cho et al., 2016; Hitlan et al., 2006; Miner & Eischeid, 2012; Miner-Rubino & Cortina, 2004, 2007; Porath & Erez, 2009). Building off the ATF, any emotions experienced from observing incivility would be incidental because emotions should not be used in a legal decision-making situation. Based on the research of Porath and Erez (2009), a single uncivil interaction is sufficient exposure for participants to report or experience negative outcomes. It is currently unknown whether participants who are simulating jurors would perceive the attorney and/or the expert witness as a peer or as an authority in the situation as no research could be found regarding this point; it is assumed, though, that both the attorney and expert witness would be viewed by participants as authorities. Regardless, if the instigator of the uncivil interaction has at least equal social power in the situation (i.e.,

is at least a peer, if not a superior or authority), then reports of negative emotions or stress associated with incivility could potentially be observed (Miner-Rubino & Cortina, 2004). However, because observers of incivility typically punish the *instigator* of the uncivil behavior but do not punish the *target* of the uncivil behavior (Reich & Hershcovis, 2015), it is important to examine the perceptions held by observers of incivility. This study also used emotions, such as anxiety, and stress as mediators when examining the relationship between incivility and various outcomes to comport with previous research (Cortina et al., 2017).

Chapter 6: Fear Appeals

Fear appeals are a type of persuasive message that attempts to elicit behaviors or thoughts from those who hear the appeal by emphasizing the potential negative consequences that could occur if the appeal's recommendations are not implemented (Dillard et al., 1996). Using an extended parallel process model framework, after a person is exposed to a fear appeal, that person will engage in two appraisals of the appeal – the threat contained in the appeal and the effectiveness of the recommended behavior (Witte & Allen, 2000). The first appraisal, regarding the threat contained in the appeal, will cause the person to evaluate whether the threat is serious and whether they are susceptible to the threat. If both of these factors are deemed to be true (i.e., the threat is serious and the person is susceptible to that threat), then the person will experience a heightened level of fear and proceed to the second appraisal regarding the effectiveness of the recommended behavior. The appraisal will examine whether the recommended behavior will effectively reduce or eliminate the experienced fear. If the recommended behavior is deemed to be effective in eliminating the experienced fear, then the person will more likely engage in that recommended behavior. If, however, the recommended behavior is deemed to be ineffective or the person cannot enact the recommended behavior, then the person is motivated to reduce or eliminate the experienced fear through a different means, such as denial (i.e., mentally rejecting or downplaying the risks posed by the threatening information), defensive avoidance (i.e., choosing not to think about the risks posed by the threatening information), or reactance (i.e., feeling that the message is manipulative and, therefore, choosing to ignore the fear appeal; Witte & Allen, 2000). Overall, the presence of a fear appeal is related to increased levels of fear in the message recipient as well as

higher acceptance levels of the message presented in the fear appeal (Dillard et al., 1996). The amount of experienced fear, the appraisal of threat, the efficacy of the recommended behavior, and the subsequent persuasion of the fear appeal can be dependent on specific components of the fear appeal (Tannenbaum et al., 2015; Witte & Allen, 2000).

Components of a Fear Appeal

Current theories and frameworks regarding fear appeals suggest that there are multiple, integral components of fear appeals that will affect the acceptance and persuasiveness of the fear appeal (Tannenbaum et al., 2015; Witte & Allen, 2000). However, many older studies and meta-analyses focus primarily on the effectiveness of one component of the fear appeal – the message. Using an amalgamation of multiple theories and frameworks, Tannenbaum and colleagues (2015) suggest that there are three different components that could each impact the effectiveness of the fear appeal—the content of the message, the recommended behavior, and the target audience.

Content

The content of a fear appeal itself is composed of three main aspects—the amount of fear intended to be elicited, the efficacy attached to the recommended behavior, and the susceptibility or severity of the negative outcome (Tannenbaum et al., 2015).

Amount of Fear. Fear is theorized to act as a source of motivation which would suggest that an increased amount of fear would increase a person's motivation to adopt a recommended behavior. However, there are somewhat competing hypotheses regarding the amount of fear: some researchers believe that the fear-motivation relationship is linear whereas other researchers believe it is curvilinear, meaning that, at a certain point,

increases in the amount of fear will have an adverse reaction and actually lead to less motivation for a person to adopt a new behavior (Tannenbaum et al., 2015).

Susceptibility and Severity. The fear appeal is also dependent on the message's depiction of susceptibility and severity. Having a message that contains high susceptibility—stating the negative outcome could directly affect the person hearing the message—and high severity (i.e., a severe negative outcome) is theorized to lead to improved attitudes, intentions, and behaviors surrounding the recommendation (Tannenbaum et al., 2015).

Efficacy. An efficacy message is a statement that ensures the recipient that action can be taken that will eliminate the threat induced by a fear appeal. The efficacy message could refer to both self-efficacy and response-efficacy (Tannenbaum et al., 2015). Self-efficacy is the ability of the person hearing the message to enact the recommended behavior whereas response-efficacy is the idea that, if the recommended behavior is enacted, the desired response will occur (e.g., the threat will be eliminated). For a fear appeal to be effective, these efficacy messages must be included so that recipients are more likely to adopt the recommended behavior (Tannenbaum et al., 2015; Witte & Allen, 2000).

Recommended Behavior

There are also multiple components of the recommended behaviors included in a fear appeal—number of times the behavior needs to occur to resolve emotional tension and whether there is any mention of death.

Number of Behaviors. For the number of times the recommended behavior needs to occur, the literature is broken up into two possibilities: one-time versus repeated

action. One-time behaviors are, as the name implies, a behavior that is only done once with no necessary follow-up action (e.g., getting vaccinated). Conversely, repeated actions are ones that need to be carried out multiple times in order to prevent the negative consequences presented in a fear appeal (e.g., exercising every day; Tannenbaum et al., 2015).

Mention of Death. The second component related to the recommended behavior (and somewhat related to content) is whether there is any mention of death. Mentions of death in fear appeals have been tied to Terror Management Theory (TMT) in that, when a person is reminded of their mortality, the person will engage in behaviors that increase self-esteem, ignore or refute information that reminds the person of their death in the short-term (proximal defense), and buffer self-esteem by engaging in long-term goals (distal defense; Tannenbaum et al., 2015). Therefore, the most effective fear appeal that deals with death, according to TMT, should include a recommended behavior that enhances the person's self-esteem as well as have a delay between the presentation of the fear appeal and the required behavior. The inclusion of both of these factors are predicted to improve the effectiveness of a fear appeal as compared to a fear appeal that included a recommended behavior that hindered self-esteem or a recommended behavior that occurs immediately after the fear appeal, respectively.

Audience

The third important characteristic of fear appeals is the audience. Individual characteristics such as gender of the audience member could potentially affect the effectiveness of a fear appeal based on how each characteristic is influenced by prevention- versus promotion-based messages. Prevention-based messages focus on

avoiding negative outcomes whereas promotion-based messages focus on attaining positive outcomes (Lockwood et al., 2005).

Empirical Evidence

Although current theories posit that each of these components and sub-components are integral in having an effective fear appeal and research supports each of these components in isolation, recent meta-analyses have provided an overview for what components are most important across a series of studies.

Content

Tannenbaum and colleagues' (2015) meta-analysis provides support for the linear hypothesis regarding the amount of fear in that there were no adverse effects found as levels of fear increased. This support is qualified, though: once a sufficient amount of fear is elicited via the fear appeal, the results of the meta-analysis suggest there are no additional benefits to increasing levels of fear (Tannenbaum et al., 2015). This would suggest that there is more of a plateau effect in that, once a necessary and sufficient level of fear is presented, there are no benefits or adverse effects to increasing amounts of fear.

Meta-analyses have additionally supported the inclusion of efficacy messages (de Hoog et al., 2007; Tannenbaum et al, 2015; Witte & Allen, 2000). Including efficacy messages related to more effective fear appeals. However, the lack of an efficacy message did not nullify the effectiveness of a fear appeal but, rather, reduced the effectiveness. Therefore, although efficacy messages are not required, they are recommended for creating more effective fear appeals (de Hoog et al., 2007; Tannenbaum et al, 2015; Witte & Allen, 2000).

There has also been support for the effectiveness of depictions of both high susceptibility and severity (de Hoog et al., 2007; Tannenbaum et al., 2015; Witte & Allen, 2000). Multiple meta-analyses have supported this prediction and suggested that having high susceptibility and severity significantly related to higher effectiveness at influencing attitudes, intentions, and behaviors for the fear appeal's recommendation (Tannenbaum et al., 2015; Witte & Allen, 2000). However, these studies suggest that *both* depictions of high susceptibility and severity are included because having only depictions of high susceptibility but not high severity, or vice versa, did not relate to increased effectiveness of influencing attitudes, intentions, and behaviors (i.e., depicting only high severity did not relate to influencing behaviors whereas depicting only high susceptibility did not relate to influencing attitudes; Tannenbaum et al., 2015).

Recommended Behavior

There is support for the notion that the number of times a recommended behavior needs to occur is related to the effectiveness of the fear appeal. Specifically, behavior recommendations that implore a person to perform a behavior one time are more likely to persuade that person to engage in the recommendation compared to behavior recommendations that require a person to repeatedly perform a given behavior (Tannenbaum et al., 2015).

The same meta-analysis, however, did not find support of increased effectiveness when a fear appeal included a self-esteem enhancing recommended behavior. Specifically, there were no significant differences between the effectiveness of fear appeals when the recommended behavior enhanced versus hindered self-esteem (Tannenbaum et al., 2015).

Even further, the meta-analysis did not support the hypothesis that a fear appeal which mentions death will be more effective at eliciting a recommended behavior if there is a delay, which would allow for a distal defense, compared to if there is no delay. Results found that fear appeals which mentioned death were equally effective at eliciting the recommended behavior when measured on the same day, between one day and two weeks after the presentation of a fear appeal, and more than two weeks after the presentation of a fear appeal (Tannenbaum et al., 2015). This lack of difference in effectiveness of a fear appeal after a delay was also found when the fear appeal did not mention death. This suggests that a delay between the presentation of a fear appeal and a recommended behavior is not a significantly important variable in relation to the effectiveness of fear appeals, regardless of whether the fear appeal mentions death.

Audience

Previous research suggests that females prefer more prevention-based messages than promotion-based ones when compared to their counterparts (i.e., males; Lockwood et al., 2005; Tannenbaum et al., 2015). Additionally, messages that match the recipient's preferred message type (i.e., prevention or promotion) are more effective for attaining a desired outcome than messages of the recipient's non-preferred message type (Cesario et al., 2008). As fear appeals are inherently prevention-based messages, it would then follow that people who are more influenced by prevention-based messages would be more influenced by fear appeals—primarily females.

Fear Appeals and Law

Fear appeals have been an effective and oft researched tool that has been used in public health (Peters et al., 2013; Witte & Allen, 2000), education (Buttussi & Chittaro,

2020), communication (Emery et al., 2014; Roser & Thompson, 1995), and marketing (Hastings et al., 2004; Ray & Wilkie, 1970). However, there is a distinct lack of research regarding the effects or decision-making outcomes related to the use of fear appeals in a legal context. The courtroom, in particular, is an area that is in dire need of research on fear appeals because of the possibility of an attorney or expert witness using a fear appeal which might influence or affect decisions rendered by the judge or jurors. For example, an expert witness might use a fear appeal during their testimony by stating that the defendant's company negligently dumped carcinogenic toxins into a water source that drains into public drinking water (i.e., fear message). The expert might then say that, if the jury (i.e., audience) does not find the defendant liable and force the company to pay millions in reparations (i.e., recommended behavior), the company might continue dumping these toxins in the water which could cause anyone—even the jurors—to contract cancer (i.e., continuation of the fear message). Additionally, if someone is on trial for a murder, a police officer or expert might suggest to the jury (i.e., audience) that the defendant would kill again (i.e., fear message) if the defendant is not convicted of murder (i.e., recommended behavior).

Based primarily on the results of the Tannenbaum and colleagues' (2015) meta-analysis, the most effective fear appeal elicits relatively high amounts of fear, includes an efficacy message, emphasizes the severity and susceptibility of the negative outcomes, includes a one-time recommended behavior, and targets audiences that are primarily female. Study 2 implemented all of these recommendations for the construction of a fear appeal manipulation, except for the target audience as participants were randomly assigned to conditions, although there was an analysis to determine the effectiveness of

the fear appeal as it relates to participant gender. Specifically, the fear appeal: 1) states that exposure to a common chemical is known to cause cancer and leads to skin lesions and deformities (fear and severity), 2) states that this chemical could affect millions of Americans because of how common it is (susceptibility), 3) informs participants that their decision could help protect others and, effectively, themselves from being harmed by this chemical in the future (efficacy statement) if participants 4) find the defendant—the chemical corporation—liable and be forced to pay the defendant compensatory damages which will deter the company from continuing to produce the chemical (one-time recommended behavior). Because the fear appeal was directed at participants as a way to influence their verdict, the fear appeal acted as a direct emotional manipulation.

Chapter 7: Stealing Thunder

Stealing thunder is a persuasion tactic that involves an entity disclosing negative information concerning the self before another entity is able to release or present that same negative information (Williams et al., 1993). The intent of this persuasion tactic is to lessen the impact this negative information would have if it were to be presented by an opposing entity who, therefore, can shape the meaning and importance of that negative information (Arpan & Roskos-Ewoldsen, 2005). In the courtroom, stealing thunder is the practice of one attorney presenting negative information about their client (i.e., information or evidence that helps the opposing side) to legal decision-makers, such as the judge or jury, in hopes of nullifying or reducing the impact that this information would have at a later point in time if presented by opposing counsel (Howard et al., 2006). The use of the stealing thunder tactic can be risky because it requires an attorney to correctly guess that the opposing side will eventually bring up a damaging piece of evidence. If the opposing side, however, never brings up the damaging piece of evidence, then the attorney has only provided the judge and jury with negative information about the client (Perry & Weimann-Saks, 2011). Beyond this tactical obstacle, there are also psychological principles that would suggest that stealing thunder should not be an effective persuasion tactic.

Defying Social Psychological Theories

Despite many attorneys recommending the use of stealing thunder (Williams et al., 1993), the practice goes against a variety of social psychological theories and principles which would predict that the tactic should not work; specifically, because of the negative schema(s) stealing thunder creates, the increased availability of negative

information, and the admission of the presented negative information as true (Dolnik et al., 2003; Howard et al., 2006; Williams & Dolnik, 2001).

Negative Schema

If the defense attorney steals thunder, it could create a negative schema of the defendant in that the defense attorney is volunteering negative information about the defendant which is likely to paint the defendant in a negative light (Dolnik et al., 2003; Williams et al., 1993). Also, because stealing thunder must occur relatively early in a trial by presenting information *before* an opposing side can present it, that would mean this negative schema would be developed by jurors early in the trial. This schema would then be a lens through which jurors interpret subsequent information and evidence presented at trial, potentially leading to more negative views about the defendant if the presentation of the negative information during the stealing thunder created a negative schema (Williams et al., 1993).

Availability of Negative Information

Repeating negative information increases the salience and availability of that negative information (Howard et al., 2006). Volunteering a piece of self-incriminating information first—and assuming the same piece of information will also be brought up by the opposing side at some point—means that the information has been or will be repeated at least twice, if not more times. This repetition makes it easier and more likely for jurors to recall that negative information at subsequent points in the trial as well as during deliberations (Dolnik et al., 2003; Howard et al., 2006; Williams & Dolnik, 2001).

Admitting Negative Information

Stealing thunder removes any doubt about the veracity of the information presented. If the defense attorney presents self-incriminating information as fact, then it will likely be believed by the jury and the defense attorney has removed the option of arguing that the information is not true, thereby removing a potential defense (Dolnik et al., 2003; Howard et al., 2006; Williams & Dolnik, 2001). This is additionally supported by findings which suggest that message recipients are more inclined to believe information if that information is against the self-interest of the presenter (Wood & Eagly, 1981). The question then becomes: why does it work?

Theoretical Foundation of Stealing Thunder

Researchers have posited that there are four potential mechanisms for stealing thunder's effectiveness in trial—by increasing attorney credibility, by discounting negative information, by reducing the importance of the information, and by changing the meaning of the information (Williams & Dolnik, 2001).

Increase Credibility

As with the previous discussion regarding expressions of emotions, one of the main reasons that stealing thunder is an effective trial tactic is that it increases the credibility of the person providing the information – usually the attorney (Howard et al., 2006; Williams & Dolnik, 2001). Jurors might believe that only an honest person would bring up information that is bad for their case. Additionally, people are perceived as more likable and honest when they reveal negative information earlier in a conversation as opposed to later (Williams et al., 1993) and research suggests that message sources high in credibility and likability are more persuasive to audiences (e.g., Brodsky et al., 2009; Smith et al., 2012; Williams et al., 1993). Therefore, jurors might be more apt to find the

attorney as credible and be more persuaded by their arguments if the attorney were to steal the opposing side's thunder. There is also the possibility that a witness or other party at the trial could implement the stealing thunder tactic, such as a witness testifying about negative personal information before the opposing attorney has the opportunity to bring up the same information during cross-examination. In this situation, the person delivering the stolen thunder would also be viewed as more credible and more persuasive (Williams et al., 1993).

Re-frame Negative Information

Because stealing thunder has to occur before the information is presented by the opposing side (i.e., "thunder"), the attorney who is stealing thunder can frame the evidence, such as by providing a positive spin or by discounting the information presented to the jury (Dolnik et al., 2003; Williams & Dolnik, 2001). This re-framing provides message recipients (i.e., judge and jury) a lens through which they can interpret the information when it is presented later in trial by the opposing side who would likely frame the information more negatively (Dolnik et al., 2003). In some cases, the attorney could even diminish the importance of the information to the point that the jury finds the information irrelevant or negligible to their decision.

Reduce Importance of Information

If only the "thunder" (i.e., negative information) is presented it might appear that the opposing side—who, in this case, chose not to steal thunder—is trying to hide information from the jury (Williams & Dolnik, 2001). Using a commodity theory framework, information can be viewed as a commodity and the more abundant or available a commodity is, the less value it holds (Wigley, 2011). In trials, information can

be scarce and is, therefore, highly coveted (i.e., information is a less available commodity). If both sides reveal the same information, though—even if it is negative information—the information might be considered less scarce and, therefore, less important or meaningful because of its lower value. This possibility is referred to as "old news is no news" (Wigley, 2011; Williams & Dolnik, 2001).

Change of Meaning

Finally, jurors who receive a stolen thunder message might mentally change the meaning or importance of the information (Dolnik et al., 2003; Howard et al., 2006; Williams & Dolnik, 2001). Presenting information that is counter to the interests of the defendant would force jurors to make sense of this newly presented information to be consistent with their expectations (Dolnik et al., 2003). If jurors believe that there is no logical reason for why an attorney would provide negative information about her own client, then that juror might change the meaning of the presented information to be neutral or might even remove any importance attached the information (Williams & Dolnik, 2001).

Empirical Evidence

The practice of stealing thunder is effective in a variety situations, including businesses and organizations (e.g., business managers publicly providing negative information after an accident, such as safety violations, before the news reports that information; Arpan & Roskos-Ewoldsen, 2005; Claeys et al., 2013; Fennis & Stroebe, 2014), politics (e.g., a politician disclosing negative information, such as a scandal, before news outlets or other reports surface) and interpersonal relationships (e.g., disclosing negative information upfront with potential sexual partners, such as having a

sexually transmitted disease; Williams & Dolnik, 2001). And, although there is some debate about the exact mechanisms that make stealing thunder effective, the practice is perceived as an effective tactic in the courtroom (Dolnik et al., 2003; Howard et al., 2006). Stealing thunder is seen as so effective that, in over forty interviews with attorneys across the United States, Williams and colleagues (1993) found that every attorney—100% of the sample—stated there is no instance in which an attorney should not steal thunder, if possible.

Stealing Thunder and Law

Although the tactic is widely recommended by attorneys, there is only limited research regarding the use of stealing thunder in a legal setting. Early research in this area found that stealing thunder during trial related to differences in verdicts and the tactic was effective across different types of trial (i.e., civil and criminal), across different parties (i.e., plaintiff, prosecution, and defense), and across different time points in trial (i.e., before or after the relevant testimony; Williams et al., 1993). A path analysis suggested that the change in verdicts was primarily driven by increases in participants' perceived credibility of the expert witness (who delivered the stolen thunder), providing support for the *Increase Credibility* hypothesis for stealing thunder's effectiveness (Williams et al., 1993).

Another study examining the tactic in the courtroom had a multitude of mixed findings regarding the hypothesized mechanisms behind stealing thunder's effectiveness. Dolnik and colleagues (2003) found evidence to suggest that the *Reduce Importance* hypothesis was ineffective and the *Re-frame* hypothesis, although effective at increasing the credibility of trial participants, was ineffective at creating differences in verdict. The

authors do not completely discount the *Re-frame* hypothesis, though, and suggest that it can be effective, but it might not be necessary for stealing thunder to be effective. Interestingly, the results also did not support the *Increase Credibility* hypothesis which contrasts with the results of Williams and colleagues (1993). Although there was an increase in credibility of trial participants when accompanied with a re-framed message, this increase did not mediate the relationship between stealing thunder's effectiveness and verdicts. Instead, the study provided support for the *Change of Meaning* hypothesis. Specifically, the results of Dolnik and colleagues' Study 2 suggest that participants who received a stolen thunder manipulation were significantly less likely to find the defendant guilty than participants who received a thunder manipulation. This occurred in part because participants in the stolen thunder condition perceived the evidence as weaker and less damaging (Dolnik et al., 2003).

Cognitive processing also relates to the use of the stealing thunder tactic in the courtroom. Howard and colleagues (2006) found that neither a stealing thunder only manipulation nor a cognitive processing only manipulation was effective in causing differences in verdict likelihood; however, there was an interaction between stealing thunder and cognitive processing. Specifically, participants who were in a state of low cognitive processing and received a stealing thunder manipulation had more positive perceptions of the defendant's credibility compared to participants who were in a state of high cognitive processing or did not receive a stealing thunder manipulation (Howard et al., 2006). This provides more support for the *Increase Credibility* hypothesis of stealing thunder.

Stealing Thunder and Emotions

There is a dearth of research regarding stealing thunder's effect specifically in relation to an emotional appeal, such as a fear appeal. Stealing thunder research has, however, focused on the effects of the practice in relation to the presentation of *information* (e.g., prior crimes, case facts; Dolnik et al., 2003; Howard et al., 2006) that is *intended* to be emotionally persuasive. Therefore, stealing thunder was included as a condition manipulation in Study 2 to evaluate the effectiveness of stealing thunder from an emotional appeal. Based on the results of previous research, though, it was expected that stealing thunder would be effective in combatting the persuasive effects of fear appeals. This was hypothesized to occur through three of the four stealing thunder mechanisms—increased attorney credibility, re-framing the fear appeal, and changed meaning of the information amongst jurors. Howard and colleagues' (2006) study of stealing thunder regarding the defendant's prior convictions found that, under low cognitive processing conditions, participants were significantly more likely to side with the defense and had significantly higher scores on the defense's credibility. It would follow, then, that an attorney who steals thunder from a fear appeal would be more persuasive than an attorney who does not steal thunder and will, subsequently, have higher credibility ratings. Stealing thunder would also allow the attorney to frame the information in a way that diminishes the importance of certain aspects of the fear appeal. One of the requirements for an effective fear appeal is the message recipient must perceive that they are highly susceptible to a highly severe consequence (Tannenbaum et al., 2015). If the attorney who is stealing thunder can re-frame the information to minimize the susceptibility or severity of the fear appeal, it could negate the appeal's effectiveness. Lastly, Dolnik and colleagues' (2003) study examining the effectiveness of

the defense attorney stealing thunder regarding a variety of negative information—the defendant's consumption of alcohol prior to driving, character evidence about the defendant's honesty and responsibility, and forensic evidence suggesting the defendant veered into a lane with oncoming traffic—suggests that stealing thunder was effective in changing the relevance and seriousness the negative information had on jurors' decisions of guilt, supporting the change of meaning mechanism of stolen thunder. Similar to re-framing, this change of meaning could lessen the severity or susceptibility of the fear appeal and, consequently, reduce or eliminate the effectiveness of the appeal.

Another possibility for why stealing thunder would be effective against a fear appeal is the cognitive-awareness hypothesis (Han et al., 2007). Relating back to the ATF, the emotional carryover effects can be negated by making the experiencer of the emotion cognitively aware of the presence of that emotion. In line with this, stealing thunder from a fear appeal by making a person aware of the fear appeal ahead of time might make the recipient of the fear appeal cognitively aware and, therefore, lessen or eliminate the effectiveness of the appeal.

Chapter 8: Mediating and Moderating Variables

Each of the theories discussed have predictions regarding the direct relationship between the manipulations and decision-making outcomes (discussed in the following chapter). However, these relationships can vary depending on the presence of other factors, such as mediating or moderating variables. When examining the relationship between an independent and dependent variable, a mediating variable is a third variable that intervenes and is intermediate in the relationship between the independent and dependent variable. By contrast, a moderating variable is a third variable that affects the strength and/or direction of the independent-dependent variable relationship (Fairchild & MacKinnon, 2009). The included studies collected data to assess relationships when including two mediating variables (state emotions/stress and state cognitive processing) as well as two moderating variables (trait cognitive processing and participant gender).

Emotions and Stress

Emotions and stress are hypothesized to mediate the independent-dependent variable (IV-DV) relationships in both proposed studies. As previously discussed, emotions can potentially affect decision-making (Feigenson, 2009; Feigenson & Park, 2006). In addition to emotions, stress might also affect decision-making, particularly when incivility is present. Stress is experienced when events are seen as either physically, physiologically, or emotionally challenging (Wemm & Wulfert, 2017); for the purpose of these studies, there will be a specific focus on the emotional challenges that engender stress. The previous chapters have outlined how different factors can influence or manipulate the presence of emotions and levels of stress. For Study 1, emotions and stress were hypothesized to mediate the relationship between incivility and cognitive

processing (based on principles of both the ATF and CEST) as well as mediate the relationship between incivility and all legal decision-making outcomes. For Study 2, emotions were hypothesized to mediate the relationship between fear appeals and cognitive processing (based on principles of both the ATF and CEST) as well as mediate the relationship between fear appeals and all legal decision-making outcomes.

State Cognitive Processing

Participants' state cognitive processing is also expected to mediate the IV-DV relationships in the proposed studies. As discussed in both Chapter 3 and Chapter 4, the emotions experienced by a person can affect their depth of thought and their cognitive processing in a presented situation (e.g., Han et al., 2007; Lerner & Keltner, 2000; Miller et al., 2014). These differences in state cognitive processing can also relate to differences on decision-making tasks (Ask & Granhag, 2007; Lerner et al., 1998; Miller et al., 2014). Therefore, both studies hypothesized that state cognitive processing would mediate the relationship between participants' emotions and/or stress and legal decision-making outcomes as well as mediate the relationship between the presence of an emotional manipulation (i.e., incivility in Study 1 and fear appeals in Study 2) and legal decision-making outcomes.

Trait Cognitive Processing

As opposed to participants' state cognitive processing, participants' trait cognitive processing was hypothesized to moderate IV-DV relationships in the proposed studies. As discussed in Chapter 4, trait cognitive processing is a long-lasting preference for a specific type of cognitive processing, with people having either a preference for the *rational* (R-processors) or *experiential* (E-processors) cognitive processing route which is

determined by a Processing Style Influence score (Gunnell & Ceci, 2010). E-processors are more influenced by information outside of case facts or the scope of a trial (i.e., extralegal information), and this increased influence relates to differences in legal decision-making outcomes (Gunnell & Ceci, 2010). Therefore, trait cognitive processing was collected as it was hypothesized in both studies that trait cognitive processing would moderate the relationship between manipulations and legal decision-making outcomes; specifically, E-processors in the incivility condition of Study 1 or the fear appeal condition of Study 2 would provide significantly different legal decision-making outcomes than R-processors in those same study conditions as these conditions present participants with extralegal appeals (i.e., indirect and direct emotional appeals).

Participant Gender

For decades, the gender of participants has been an important factor in relation to outcomes in decision-making studies as well as legal decision-making studies for which participants fill the role of jurors (for overview, see Livingston et al., 2019). The gender of participants, again acting as jurors, was assessed as a moderating variable in the presented studies.

Participant Gender and Incivility

The gender of the observer of incivility has repeatedly been related to differences in stress and negative emotions in the observer. Cunningham and colleagues (2012) found that women report higher stress levels when reading about an uncivil interaction compared to women who did not read about an uncivil interaction whereas there were no significant differences in reported stress for men, regardless of whether they read about an uncivil or civil interaction. As for emotions, observer gender does relate to differences

in negative emotions, but these differences can be dependent on the gender of the targets of incivility. Specifically, females report significantly more anger, demoralization, fear, and anxiety than males as incivility toward women in the workplace increases whereas males report significantly more anger, fear, and anxiety than females as incivility toward men increases (Miner & Eischeid, 2012). Somewhat surprisingly, at high levels of incivility toward females, both males and females report comparable negative emotions but, at high levels of incivility toward males, males report significantly more negative emotions compared to females (Miner & Eischeid, 2012).

Participant gender can also relate to differences in decision-making and perceptions in mock trial studies involving incivility. Specifically, male jurors who viewed an aggressive, or uncivil, defense attorney provided significantly lower guilt ratings as compared to females (Hahn & Clayton, 1996). This gender difference was especially strong when male jurors viewed an aggressive male defense attorney. This suggests that males are more persuaded by uncivil attorneys compared to females. Based on this, it was hypothesized that gender would moderate the IV-DV relationship in Study 1 such that males would provide significantly different legal decision-making outcomes than females when presented with an incivility manipulation.

Participant Gender and Fear Appeals

As previously discussed, females prefer more prevention-based messages than promotion-based ones when compared to males (Lockwood et al., 2005; Tannenbaum et al., 2015). With fear appeals being prevention-based messages and because messages that match preferred message type (i.e., prevention or promotion) are more effective, gender would likely moderate the effectiveness of a fear appeal in that females should be more

influenced by fear appeals than males (Cesario et al., 2008; Lockwood et al., 2005; Tannenbaum et al., 2015). Based on these findings, it was hypothesized that participant gender would moderate the IV-DV relationship in Study 2 such that females would provide significantly different legal decision-making outcomes than males when presented with a fear appeal manipulation.

These five variables (emotions, stress, state cognitive processing, trait cognitive processing, and participant gender) were all hypothesized to relate to the outcome variable measurements. Specifically, emotions, stress, and state cognitive processing will mediate the IV-DV relationship whereas trait cognitive processing and participant gender will moderate the IV-DV relationship. Having discussed the manipulations that were included in the studies, it is important, then, to establish the specific outcome variables that were measured to assess direct, moderated, or mediated relationships.

Chapter 9: Outcome Variables

Emotions in the courtroom can influence jurors' decision-making in multiple ways. To account for the ways in which jurors might be influenced by emotions, the present studies collected data on four primary outcome variables—verdict, expert witness credibility, attorney credibility, and perceptions of trial evidence.

Verdict and Damages

The primary outcome variable in many jury decision-making studies is the juror's or jury's verdict. Verdict will be operationalized as the side that jurors were most persuaded by in the case at hand regarding whether the burden of proof was met. Because the study will involve a civil trial, verdict was measured as a dichotomous Liable/Not Liable. There is a wealth of previous research that supports the use of a dichotomous verdict (e.g., Howard et al., 2006; Lieberman, 2002; Maeder et al., 2016; Miller et al., 2014) and the use of this dichotomy provides ecological validity in that it replicates what a juror in a civil case would need to provide. However, to allow for more variation and nuance in responses, a Likelihood of Causation score was also collected in which participants rated the likelihood that the defendant was the cause of the harm suffered by the plaintiff (Wood et al., 2019). This Likelihood of Causation score ranged from 0 (defendant definitely did not cause the harm) to 100 (defendant definitely did cause the harm) with any score above the midway point of 50 conceptually representing the score necessary to find the defendant liable, in accordance with a preponderance of the evidence standard (instructions relaying this information were provided; Wood et al., 2019). Lastly, participants were asked to provide a decision regarding the amount of money the plaintiff should be awarded for Compensatory Damages. Participants who

found the defendant Liable were asked to provide their response because they found the defendant Liable. Participants who did not find the defendant Liable were asked to imagine that the evidence presented was stronger and met the requirements to find the defendant Liable, and to also provide a decision about the amount of money the plaintiff should be awarded for Compensatory Damages. The plaintiff asked for $500,000 in Compensatory Damages. Responses ranged from 0 (the least amount allowed by law) to 100 (the highest amount allowed by law) with a midpoint of 50 representing the $500,000 requested (Wood et al., 2019).

Expert Witness Credibility

The credibility of the expert witness was be operationalized as the extent to which the juror believes the expert witness is confident, likeable, trustworthy, and knowledgeable. To measure this, the 20-question Witness Credibility Scale was administered (Appendix E; Brodsky et al., 2010). Each of the 20 questions are measured on a ten-point Likert scale and are anchored by opposing personality characteristics (e.g., a ten-point scale with “Uninformed” at one end and “Informed” at the other).

Attorney Credibility

Similar to witness credibility, attorney credibility was operationalized as the extent to which the juror believes the attorney is confident, likeable, trustworthy, and knowledgeable. Brodsky and colleagues (2010) mention that adapting the Witness Credibility Scale for attorneys would be a logical progression. Therefore, this study adapted the Witness Credibility Scale to relate to attorneys to assess the attorney credibility; specifically, the credibility of the defense attorney. This adaptation includes the same set of 20 questions measured with the same ten-point Likert scales but have

participants focus on the defense attorney for all responses rather than the expert witness (Appendix F).

Chapter 10: Study Materials

Based on the format of the studies (discussed further in Chapters 13 and 14) as well as to statistically evaluate the research questions and hypotheses for these studies (discussed in Chapter 11), the studies included materials beyond the outcome variable measurements. These materials included a set of study instructions, a trial transcript, and an array of scales and questions.

Jury Instructions

The jury instructions presented to participants included four sections: the Study Instructions, the Overview of Trial, the Burden of Proof, and the Strict Liability – Failure to Warn – Essential Factual Elements. The Study Instructions explained to participants that they were participating in an alternative dispute resolution technique—a summary trial—and would view a transcript of a court proceedings. They would then be asked to provide their impressions and decisions so that the attorneys and trial parties might have insight into how a jury could view the evidence. Additionally, the Study Instructions explained that the decisions are non-binding. The Overview of Trial explained the key elements of the case at hand. The Burden of Proof informed participants about the standard that must be met in a civil trial (i.e., preponderance of the evidence) to find a defendant liable. Lastly, the Strict Liability – Failure to Warn – Essential Factual Elements section outlined the specific elements in the case at hand that must be proven in order for participants to find the defendant Liable. All three sections of the jury instructions are based on the most recent approved California Civil Jury Instructions (Judicial Council of California Advisory Committee on Civil Jury Instructions, 2020).

Trial Transcript

The transcript provided to participants included written versions of both attorneys' opening statements, both the plaintiff's direct-examination and the defense's cross-examination of the plaintiff's expert witness, and both attorneys' closing statements. The questions posed to and answers given by the expert witness were modeled after depositions and trial testimony given by scientists and forensic toxicologists (Baum Hedlund Aristei & Goldman, PC, 2019; Law & Crime Network, 2018). The opening and closing statements for both attorneys were created by the researcher for the purpose of these studies.

Because of the study manipulations, the length of the trial transcript written materials differs across each study and study manipulation. For Study 1, the transcript for the control condition was 3,060 words whereas the transcript for the incivility condition was 3,210 words. For Study 2, the transcript for the control condition was 3,071 words, for the fear appeal condition was 3,245 words, and for the fear appeal and stealing thunder condition was 3,299 words.

Scales and Questions

Many variables of interest have been discussed throughout the previous chapters. The following scales and questions discuss how each of the moderating and mediating variables of interest were measured.

Cognitive Processing

CEST posits that cognitive processing can be measured as both a trait (e.g., Gunnell & Ceci, 2010) and a state (e.g., Miller et al., 2014). Therefore, there were different measures used to assess participants' trait and state cognitive processing.

Trait Cognitive Processing. To measure participants' long-lasting, trait cognitive processing, participants took the full Rational-Experiential Inventory which consists of two major sub-scales – the aptly named *Rationality* scale and *Experiential* scale – each with 20 questions (Pacini & Epstein, 1999). Participants responded to each question on a 5-point Likert-type scale with endpoints of "Definitely" to Definitely Not" or "True of myself" to "Not true of myself" depending on the wording of the question. Ten of the questions on the *Rationality* subscale and eight of the questions on the *Experiential* subscale were reverse coded prior to analysis. Once reverse coded, *Rationality* and *Experiential* scores were calculated by averaging responses on each subscale. These averages were then be used to calculate participants' PSI score.

Although there are multiple measures of CEST trait cognitive processing, some of which are significantly shorter than the REI (e.g., the REI, short form or REI-10; Norris et al., 1998), the full REI was chosen because it was the measurement used to develop the PSI measurement (Gunnell & Ceci, 2010). Additionally, the use of a shorter measurement scale, such as the REI-10, would provide less potential variability than the longer REI scale. The increased variability would be beneficial for differentiating participants along the *experiential* and *rational* spectrums (i.e., differentiating E-processors from R-processors) which would allow for more accurate determinations regarding which processing route more strongly influences each participant as well as the strength of that influence.

State Cognitive Processing. In addition to participants' long-lasting, trait cognitive processing, these studies require knowledge of participants' immediate, state cognitive processing. However, no state *experiential* processing measure currently exists.

Instead, researchers use lower levels of rational processing (i.e., "non-*rational*" processing) as a proxy measure for increased state *experiential* processing (e.g., Miller et al., 2014) as responses that are deemed non-*rational* suggest that the *experiential* processing route has a stronger influence on the decision at hand. The measure of state *rational* processing is the aforementioned logic problems which assess participants' level of *rational* or non-*rational* processing based on responses to two prompts regarding situations in which the subjects have the same outcome despite differing situations (Appendix H; Miller et al., 2014). The first prompt discusses a stock trading scenario in which two men miss out on large financial gains – either by trading the stock that becomes valuable or by not buying the stock right before it becomes valuable – and asks participants to rate which man is more foolish. The second prompt discusses a parking lot scenario in which two men are in a car accident – either after parking in the only available parking spot or after parking in an area where there were multiple parking spots – and, again, asks participants to rate which man is more foolish. Responses to both prompts are on a 9-point Likert scale ranging from 1 to 9 regarding who is more foolish with the end-point of 1 being Man A is much more foolish, the center-point of 5 being both men are equally foolish, and the end-point of 9 being Man B is much more foolish.

The scenarios are written in such a way that the most rational response is a 5, or that both men are equally foolish. Therefore, responses further from the center-point of 5 suggest higher levels of non-*rational* processing (i.e., *experiential* processing). Therefore, responses will be re-scored such that responses closer to the middle of the scale are lower in terms of non-*rational* processing: a response of 5 will be re-scored as a 1, responses of 4 and 6 will be re-scored as a 2, responses of 3 and 7 will be re-scored as a 3, and so on.

This will create a "non-*rational* processing" score with scores ranging from 1 to 5 and higher scores indicating higher non-*rational* processing (Miller et al., 2014).

Emotions

For the purpose of assessing both ATF and CEST, it is important to know what – if any – emotions are present, the strength of those emotions, and to what appraisals those emotions relate. To determine what emotions are elicited from our study manipulations, the proposed studies will measure participants' emotional states using the Discrete Emotions Questionnaire (DEQ; Appendix C; Harmon-Jones et al., 2016). The DEQ is composed of eight subscales with each subscale relating to a different emotional state: anger, disgust, fear, anxiety, sadness, desire, relaxation, and happiness. Each subscale is composed of four emotion-related items representing the nomological network for a given emotion (e.g., Terror, Scared, Panic, and Fear comprise the "Fear" subscale) and participants are asked to what extent they are or were experiencing that emotion-related item during the timeframe in question with responses on a 7-point Likert-type scale ranging from "Not at all" to "An extreme amount." Additionally, each scale has been validated multiple times and shown reliable internal consistency as suggested by Cronbach's α meeting or exceeding 0.82 (Harmon-Jones et al., 2016). The DEQ has been validated using multiple methods for emotion manipulation and report, including self-report of emotional states after recall of personal experience or after guided imagery. Developers of the scale have also advocated using the scale in its entirety or to simply use the appropriate subscales (Harmon-Jones et al., 2016). Even with the exploratory nature of some of the research questions, there is no theoretical rationale for the inclusion of the "desire" subscale and, therefore, that subscale will be removed to shorten and streamline

participant responses. The measurement of participants' emotions using the DEQ will be used to 1) verify that higher levels of fear are induced in participants who receive a fear appeal manipulation as well as to examine what other emotions co-occur with fear, 2) examine what emotions, if any, are induced in participants who receive an incivility manipulation, and 3) see what emotions are elicited during a "general" legal decision-making task (i.e., without the presence of emotion manipulations).

Stress

To determine the level of stress elicited from our study manipulations, the proposed studies will measure participants' self-reported stress using a single-item stress question (Appendix D). This single item is a combination of two separately validated single-item stress questions (Elo et al., 2003; Wemm & Wulfert, 2017) in which participants are asked how stressed they are at the moment with responses on a 10-point Likert-type scale ranging from "Not at all" to "Very much." Because the constructs of stress and anxiety can overlap and, at times, be complementary to one another (Bystritsky & Kronemyer, 2014), this single-item stress measure will be compared to the Anxiety subscale of the DEQ to verify participant response consistency (e.g., participants with higher DEQ-Anxiety scores will also have higher stress scores).

Participant Gender

Many of the study hypotheses were expected to be moderated by participant gender. Although these moderations were hypothesized to be based on a male/female dichotomy, the study allowed participants two additional category options to specify their gender. Specifically, when asked to provide their gender, participants were provided the options of "Male," "Female," "Transgender," and "A gender not listed here." This last

option included a text box for participants to write out the specific gender they identify with (Carian, 2019; Magliozzi et al., 2016). Participants who did not identify as male or female were removed from all analyses that included a gender variable as there were an insufficient number of participants who choose options outside of male or female to have sufficient statistical power to run the analyses with these additional two categories. However, there was no expectation that there would be a sufficient number of participants who selected an option other than male or female to make a separate variable group as results from some surveys suggest that less than 1% of respondents choose a non-binary gender option (Carian, 2019).

Chapter 11: Overview, Research Questions, and Hypotheses

Because the ATF posits that situations or events will elicit certain emotions which, in turn, might affect a person's content and depth of thought (i.e., cognitive processing) and then make decisions in line with the carryover effects of the associated emotional appraisals, the studies in this dissertation are formatted to this theoretical flow. Both studies are theoretically conceptualized as multiple moderated serial mediation models (see Figure 1 and 2).

The following hypotheses are drawn from integrating the findings from the ATF research, the CEST research, the incivility research, the fear appeal research, and the stealing thunder research to assess whether previous findings hold constant in the field of

Figure 1. Study 1 Theoretical Model

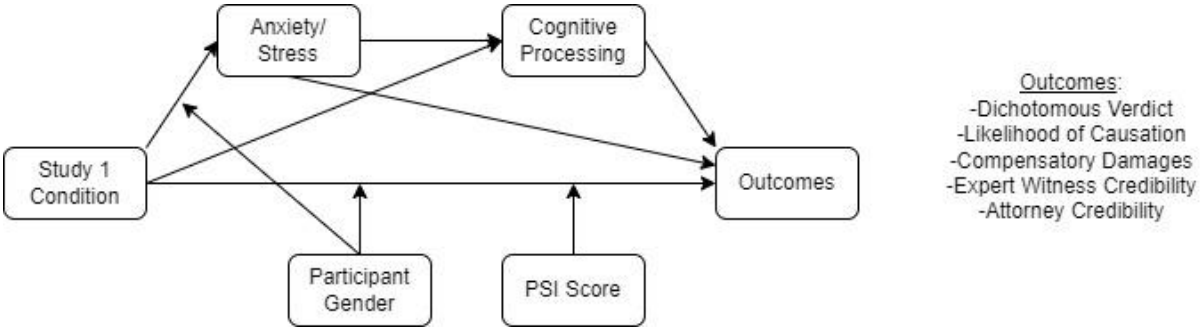
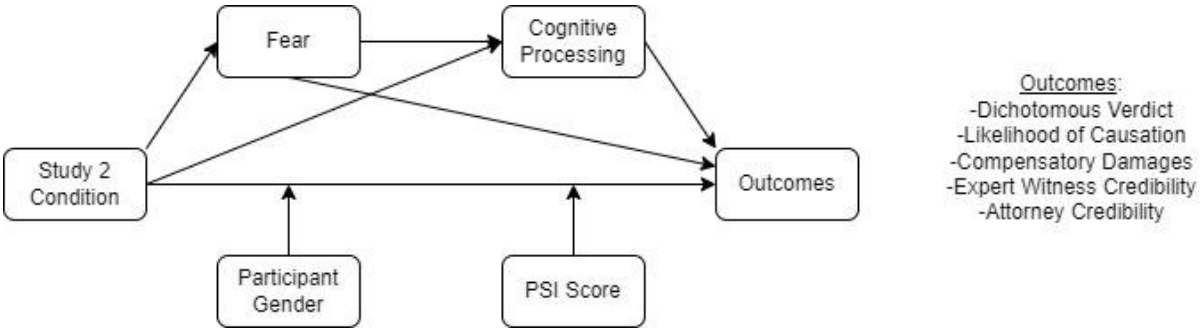


Figure 2. Study 2 Theoretical Model



legal decision-making as well as to test for relationships that might provide new insight to academics and legal practitioners (hypotheses tables for Study 1 and Study 2 can be found in Appendix J). Additionally, exploratory research questions are posed for relationships in which no hypothesis could be made based on previous research or to further expand the literature.

Study 1 – Incivility

Hypotheses

- H1: Participants who receive an incivility manipulation will be more likely to provide a Liable verdict than participants who do not receive an incivility manipulation. This relationship is expected because observers of incivility will punish the instigator of that incivility (Reich & Hershcovis, 2015). Because the instigator of the uncivil interaction is the defense attorney, it is hypothesized that jurors will "punish" the defense attorney by siding with/finding for the plaintiff (similar rationale applies to H2, H3, and H4).
    - H1b: This relationship will be moderated by participant gender in that the incivility manipulation will be weaker for males compared to females. Specifically, in the incivility condition males will be significantly less likely to provide a Liable verdict than females, as males are more persuaded by attorney incivility (similar rationale applies to H2b, H3b, and H4b; Hahn & Clayton, 1996). In the control (i.e., civility) condition, there is no difference in rates of Liable verdicts for males and females.

    - H1c: This relationship will be moderated by CEST Processing Style Influence (PSI) such that, in the incivility condition, E-processors will be significantly more likely to provide a Liable verdict than R-processors, as E-processors are more persuaded by extralegal information (similar rationale applies to H2c and H3c; Gunnell & Ceci, 2010). In the control condition there is no difference in Liable verdicts for E-processors and R-processors.
- H2: Participants who receive an incivility manipulation will have significantly higher Likelihood of Causation scores than participants who do not receive an incivility manipulation.
    - H2b: This relationship will be moderated by participant gender such that, in the incivility condition, males will provide significantly lower Likelihood of Causation scores than females. In the control condition, there is no difference in Likelihood of Causation scores for males and females.
    - H2c: This relationship will be moderated by PSI such that E-processors in the incivility condition will provide significantly higher Likelihood of Causation scores than R-processors. In the control condition, there is no difference in Likelihood of Causation scores for E-processors and R-processors.
- H3: Participants who receive an incivility manipulation will award significantly higher Compensatory Damages than participants who do not receive an incivility manipulation.

    - H3b: This relationship will be moderated by participant gender such that, in the incivility condition, males will award significantly lower Compensatory Damages than females. In the control condition, there is no difference in amounts of Compensatory Damages for males and females.
    - H3c: This relationship will be moderated by PSI such that, in the incivility condition, E-processors will award significantly higher Compensatory Damages than R-processors. In the control condition, there is no difference in amounts of Compensatory Damages for E-processors and R-processors.
- H4: Participants who receive an incivility manipulation will rate the defense attorney as significantly less credible than participants who do not receive an incivility manipulation.
    - H4b: This relationship will be moderated by participant gender such that, in the incivility condition, males will provide significantly higher scores on attorney credibility than females. In the control condition, there is no difference in attorney credibility for males and females.
- H5: Participants who receive an incivility manipulation will not rate the expert witness as significantly more credible than participants who do not receive an incivility manipulation. Although observers of incivility will “punish” the instigator, research suggests that perceptions of the target are relatively unaffected (Reich & Hershcovis, 2015).

- H6: Participants who receive an incivility manipulation will report significantly higher levels of stress than participants who do not receive an incivility manipulation.
    - H6b: This relationship will be moderated by participant gender such that, in the incivility condition, females will report significantly higher levels of stress than males. Negative emotions experienced by those who witness incivility can be exacerbated when the witness and the target of incivility are the same gender (Cortina et al., 2017; Miner & Eischeid, 2012). Because stress and anxiety are so closely related (Bystritsky & Kronemyer, 2014), stress can be perceived as a negative emotion similar to anxiety. In the control condition, there is no difference in stress levels for males and females.
- H7: Participants who receive an incivility manipulation will report significantly higher levels of anxiety than participants who do not receive an incivility manipulation.
    - H7b: This relationship will be moderated by participant gender such that, in the incivility condition, females will report significantly higher levels of anxiety than males. Again, negative emotions experienced by those who witness incivility can be exacerbated when the witness and the target of incivility are the same gender (Cortina et al., 2017; Miner & Eischeid, 2012). In the control condition, there is no difference in anxiety for males and females.
- H8a/b: Competing Hypotheses

- H8a (testing ATF): Participants who receive an incivility manipulation will score higher on state *rational* cognitive processing than participants who do not receive an incivility manipulation. Incivility relates to stress and anxiety (Bunk & Magley, 2013; Miner & Eischeid, 2012) and anxiety relates to an uncertainty appraisal, so the ATF would predict that a person experiencing anxiety would use more rational or analytic thought (Han et al., 2007; Lerner & Keltner, 2001).
- H8b (testing CEST): Participants who receive an incivility manipulation will score lower on state *rational* cognitive processing than participants who do not receive an incivility manipulation. Witnessing incivility relates to negative emotional states (Miner-Rubino & Cortina, 2007; Porath & Erez, 2009; Schilpzand et al., 2016) and increased stress, which some argue is a subset of emotion (Lazarus, 1993). Additionally, CEST posits that increased emotional involvement relates to *experiential* processing (Lieberman, 2002). Lower *rational* state processing scores will be used as a proxy for increased *experiential* state processing.

- H9: Because both ATF and CEST suggest the presence of emotions affects cognitive processing (Denes-Raj & Epstein, 1994; Han et al., 2007), stress/anxiety will mediate the relationship between incivility and state cognitive processing.
- H10: Because incivility is hypothesized to relate to state cognitive processing and cognitive processing relates to differences in decision-making behavior (Lerner et al., 2015; Miller et al., 2014; Tiedens & Linton, 2001), state cognitive processing will mediate the relationship between incivility and each trial outcome.

- H11: Because incivility is hypothesized to relate to higher levels of stress and anxiety, which, in turn, relates to cognitive processing (Denes-Raj & Epstein, 1994; Lieberman, 2002) which, as previously stated, relates to decision-making behavior, stress/anxiety and state cognitive processing will serially mediate the relationship between incivility and each trial outcome.

Exploratory Research Questions

- RQ1: What emotions from the DEQ, if any, do experiences of incivility relate to?
    - RQ1b: Assuming there are any emotions that significantly relate to incivility, what appraisals (e.g., certainty or uncertainty) are related to those emotions?
- RQ2: Does stress mediate the relationship between incivility and legal decision-making outcomes?
- RQ3: Do high uncertainty emotions (i.e., anxiety) mediate the relationship between incivility and legal decision-making outcomes?

Study 2 – Fear Appeal & Stealing Thunder

Hypotheses

- H12: Participants who receive a fear appeal manipulation will report significantly higher levels of fear on the DEQ than participants who do not receive a fear appeal manipulation (i.e., Manipulation Check).
    - H12b: Participants who receive a stealing thunder manipulation prior to a fear appeal will report significantly lower levels of fear on the DEQ than participants who receive only a fear appeal.

- H13: Participants who receive a fear appeal manipulation will be significantly more likely to render a Liable verdict compared to participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation with a fear appeal manipulation.
    - H13b: This relationship will be moderated by participant gender such that, in the fear appeal condition, females will be significantly more likely to render a Liable verdict than males. Previous research suggests that females prefer prevention-based messages compared to males (Cesario et al., 2008; Lockwood et al., 2005; Tannenbaum et al., 2015), so the fear appeal is hypothesized to be more effective for females as compared to males (similar rationale applies to H13b and H14b). In the control (i.e., no fear appeal/no stealing thunder) condition or the stealing thunder condition, there are no differences in rates of Liable verdicts for males and females.
    - H13c: This relationship will be moderated by PSI such that, in the fear appeal condition, E-processors will be significantly more likely to provide a Liable verdict than R-processors, as E-processors are more persuaded by extralegal information (similar rationale applies to H14c and H15c; Gunnell & Ceci, 2010). In the control condition or the stealing thunder condition, there are no differences in Liable verdicts for R- and E-processors.
- H14: Participants who receive a fear appeal manipulation will report significantly higher Likelihood of Causation scores than participants who do not receive a fear

appeal manipulation or who receive a stealing thunder manipulation in addition to a fear appeal manipulation.

- H14b: This relationship will be moderated by participant gender such that, in the fear appeal condition, females will report significantly higher Likelihood of Causation scores than males. In the control condition or the stealing thunder condition, there are no differences in Likelihood of Causation scores for males and females.
- H14c: This relationship will be moderated by PSI such that, in the fear appeal condition, E-processors will provide significantly higher Likelihood of Causation scores than R-processors. In the control condition or the stealing thunder condition, there are no differences in Likelihood of Causation scores for R- and E-processors.

- H15: Participants who receive a fear appeal manipulation will award significantly higher Compensatory Damages than participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation with a fear appeal manipulation.
  - H15b: This relationship will be moderated by participant gender such that, in the fear appeal condition, females will award significantly higher Compensatory Damages than males. In the control condition or the stealing thunder condition, there are no differences in Compensatory Damages awarded for males and females.
  - H15c: This relationship will be moderated by PSI such that, in the fear appeal condition, E-processors will provide significantly higher

Likelihood of Causation scores than R-processors. In the control condition or the stealing thunder condition, there are no differences in Compensatory Damages awarded for R- and E-processors.

- H16: Participants who receive a stealing thunder manipulation will rate the attorney as significantly more credible than participants who do not receive a stealing thunder manipulation (i.e., control condition and fear appeal only condition).
- H17: Participants who receive a fear appeal manipulation will rate the expert witness as significantly more credible than participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation in addition to a fear appeal manipulation.
- H18a/b: Competing Hypotheses
    - H18a (testing ATF): Participants who receive a fear manipulation will score higher on state *rational* cognitive processing than participants who do not receive a fear manipulation. Fear relates to uncertainty appraisal, so the ATF would predict that a person experiencing fear would use more rational or analytic thought (Han et al., 2007; Lerner & Keltner, 2001).
    - H18b (testing CEST): Participants who receive a fear manipulation will score lower on state *rational* cognitive processing than participants who do not receive a fear manipulation. CEST predicts that increased emotional involvement will relate to higher *experiential* processing (Lieberman, 2002). Lower *rational* state processing scores will be used as a proxy for increased *experiential* state processing.

- H19: Fear will mediate the relationship between fear appeals and cognitive processing. Participants who receive a fear appeal manipulation will report higher levels of fear on the DEQ and will, consequently, score lower on *rational* state cognitive processing via the CEST logic problems than participants who do not receive a fear appeal manipulation.
- H20: Because fear appeals are hypothesized to relate to state cognitive processing and cognitive processing relates to differences in decision-making behavior (Lerner et al., 2015; Tiedens & Linton, 2001; Miller et al., 2014), state cognitive processing will mediate the relationship between fear appeals and each trial outcome.
- H21: Because fear appeals are hypothesized to relate to higher levels of fear, which, in turn, relates to cognitive processing (i.e., negative emotionality; Denes-Raj & Epstein, 1994; Lieberman, 2002) which, as previously stated, relates to decision-making behavior, emotionality and state cognitive processing will serially mediate the relationship between fear appeals and each trial outcome.

Exploratory Research Questions

- RQ4: Do any emotions from the DEQ other than fear relate to the presence of fear appeals?
    - RQ4b: Are there differences in these relationships when stealing thunder is presented prior to the fear appeal?
- RQ5: Do high uncertainty emotions (i.e., fear) mediate the relationship between fear appeal and legal decision-making outcomes?

Chapter 12: Pilot Studies

The materials for both Study 1 and Study 2 were piloted to ensure that the materials served their intended purpose and that there were no issues with the study design or materials that might prevent statistical analysis of the hypotheses (e.g., floor or ceiling effects on verdict determinations). Specifically, the pilot studies were used to ensure that the trial scenario had a relatively even split across Liable and Not Liable verdicts and that each study's manipulation of emotion (i.e., incivility and fear appeal) were perceived and reported by participants.

Method

Participants

The pilot studies recruited participants from Amazon's Mechanical Turk using survey resources and technology from CloudResearch to assist with recruitment (Litman et al., 2017). Participants were compensated with $1.50 to complete the pilot study. The funds for the pilot study came from grant money received from the UNR Interdisciplinary Social Psychology Founders' Award for best research proposal submission. MTurk workers are more representative and are a better approximation of the US population in terms of demographic breakdowns than using a strictly undergraduate student sample (Dupuis et al., 2013; Paolacci & Chandler, 2014). Additionally, using CloudResearch's MTurk Toolkit technology, researchers can more easily and accurately screen participants to ensure survey eligibility (e.g., in the United States, 18 years old or older, not using location-altering tools, verify VPNs) as well as confirm that MTurk workers are providing quality responses (Litman et al., 2017). To avoid approving computer bots or non-English speakers, participants were required to write a short, two-sentence statement

regarding what they did the prior day to show that they can accurately read instructions as well as write in fluent English. A total of three pilot studies were conducted and participant recruitment numbers were 108, 59, and 56, respectively.

Procedure

The first pilot study attempted to assess the manipulations for Study 1 and Study 2 simultaneously because the control conditions for both studies are the same. Of the 108 participants recruited for the first pilot study, 50 participants received a shortened version of the shared control condition, 28 received a shortened version of the incivility condition, and 30 received a shortened version of the fear appeal condition. These shortened versions presented the same testimony but eliminated much of the jury instructions as well as the opening and closing arguments. Therefore, all participants were presented with a direct and cross-examination of the expert witness and jury instructions discussing the requirements for a liable or not liable verdict. Then, all participants were asked to render a dichotomous Liable/Not Liable verdict, give a continuous Likelihood of Causation score, provide a civility rating for the defense attorney's cross-examination, measured on an 11-point Likert-type scale with scores ranging from 0 (Completely Uncivil) to 10 (Completely Civil), and complete the Fear subscale (Terror, Scared, Panic, and Fear) from the Discrete Emotions Questionnaire (DEQ), measured on an 11-point Likert-type scale with scores ranging from 1 (Not at All) to 10 (An Extreme Amount).

As discussed next, the fear appeal manipulation did not work in the first and second pilot but was successful in the third pilot. The procedure for the second and third pilot study were the same as the first except there was no incivility condition and

participants were not asked to assess the civility of the defense attorney's cross-examination. Of the 59 participants in the second pilot study, 31 participants received the control condition and 28 participants received the fear appeal condition. Of the 56 participants in the third pilot study, 27 participants received the control condition and 29 participants received the fear appeal condition.

Data Analysis

Of the 50 control participants in the initial pilot study, 30 rendered a Liable verdict and 20 rendered a Not Liable verdict on the dichotomous verdict. A one-sample t-test of the continuous verdict measure (i.e., Likelihood of Causation scores) suggested that the mean continuous measure was not significantly different from 51 which represented the Burden of Proof ($p > 0.05$, $M = 58.98$, $SD = 31.40$).

Civility ratings of the defense attorney in the first pilot study was examined next to assess whether the incivility condition was perceived to be significantly more uncivil than the control condition. A one-way ANOVA comparing civility ratings of the defense attorney's cross-examination in the control condition ($M = 9.23$) to civility ratings of the same cross-examination in the incivility condition ($M = 5.48$) suggested the groups were significantly different ($F = 45.14$, $p < 0.001$).

Reported fear levels were examined to assess whether the fear appeal condition created increased levels of fear in participants—a necessity for an effective fear appeal. Two one-way ANOVAs were conducted: the first comparing reported fear levels on the single Fear question between control condition participants and fear appeal condition participants and a second comparing reported fear levels on the Fear subscale between control participants and fear appeal condition participants. Neither the single Fear

question ANOVA (Control $M = 2.34$, Fear Appeal $M = 2.57$; $F = 0.18$, $p > 0.05$) nor the Fear subscale ANOVA (Control $M = 2.19$, Fear Appeal $M = 2.31$; $F = 0.06$, $p > 0.05$) suggested significant differences between the groups. Therefore, data were collected for a second pilot study for only the control condition and the fear appeal condition with edits made to the fear appeal transcript to increase the salience of the fear appeal to elicit increased levels of fear. These edits included additional description of the side effects of the chemical (e.g., description of lesions, sores, and symptoms) to increase the amount of fear in the fear appeal. The same analyses assessing reported fear levels for the control condition versus the fear appeal condition but, again, neither the single Fear question ANOVA (Control $M = 2.52$, Fear Appeal $M = 3.64$; $F = 1.13$, $p > 0.05$) nor the Fear subscale ANOVA (Control $M = 2.35$, Fear Appeal $M = 3.41$; $F = 2.02$, $p > 0.05$) suggested significant differences. A third pilot study was then conducted which, again, only collected data for the control condition and the fear appeal condition with additional fear appeal salience edits made to increase reported fear. The edits made to the fear appeal primarily focused on the susceptibility of the negative outcomes; specifically, explaining that daily exposure to a relatively small amount of the chemical for anyone over 100 pounds (so as to accentuate that this could affect the vast majority of the American population) could also lead to the negative outcomes experienced by Jamie Smith (e.g., lesions, sores, ulcers, nodules). The same analyses assessing reported fear levels in the third pilot study were significant for both the single Fear question ANOVA (Control $M = 1.96$, Fear Appeal $M = 3.76$; $F = 4.83$, $p < 0.05$) and the Fear subscale ANOVA (Control $M = 1.75$, Fear Appeal $M = 3.61$; $F = 6.52$, $p < 0.05$).

Discussion

Based on control participants in the first pilot study having relatively split dichotomous verdicts (60% Liable, 40% Not Liable) and the continuous verdict measure not being significantly different from 51, the control condition was deemed to not have any negative floor or ceiling effects and was used as the control condition transcript in Study 1 and Study 2. Additionally, the incivility assessments in the first pilot study suggested that the incivility manipulation was adequately perceived by participants and, therefore, the incivility condition transcript was used for Study 1. Finally, after two rounds of edits and increases in the salience of the manipulation, the fear appeal manipulation was successful in eliciting increased levels of fear in participants who received a fear appeal transcript compared to participants who received a control transcript. The final version of the transcripts can be found in Appendix A (Study 1: Control and Incivility transcripts) and Appendix B (Study 2: Control, Fear Appeal, and Stealing Thunder transcripts). Because of the edits, the final Fear Appeal transcript was 3,437 words and the Stealing Thunder transcript was 3,495 words.

These pilot studies suggest that manipulations in the study materials are accurately identifiable by participants and elicit the intended emotional responses. Additionally, these pilot studies suggest that a written medium is effective both for participants to differentiate a civil from an uncivil interaction as well as to elicit a desired emotional response (i.e., fear). The studies discussed in the following chapters examine how these elicited emotional responses might relate to differences in cognitive processing and decision-making. Lastly, the stealing thunder manipulation was intentionally not piloted as the manipulation is exploratory.

Chapter 13: Study 1 – Incivility

Study 1 pertained to an indirect emotional manipulation and focused on the relationship between incivility and jurors' decision-making as well as incivility in the courtroom and jurors' emotional reactions. The study was partly exploratory in that the immediate effects of incivility in the courtroom have not previously been examined in empirical research. This study, therefore, attempted to further expand the body of jury decision-making research as well as create a foundation for future research as to whether incivility in the courtroom relates to a specific, incidental emotion (i.e., anxiety); whether incivility relates to higher levels of stress in jurors; whether incivility relates to differences in cognitive processing in jurors; and whether incivility relates to differences in legal decision-making.

Incivility in this study was operationalized as rude and discourteous behavior (Andersson & Pearson, 1999). In Study 1, the manipulation of incivility occurred during the defense attorney's cross-examination of the plaintiff's expert witness. Participants in Study 1 were randomly assigned to one of two trial conditions—a control condition in which the attorney-expert witness interaction is civil and an experimental condition in which the attorney-expert witness interaction is uncivil. The uncivil behaviors displayed by the defense attorney will include interrupting the expert witness consistently, belittling the expert, and using inappropriate descriptions when addressing the expert (e.g., intentionally referring to the expert as Miss rather than Doctor, even after being corrected; Miner & Cortina, 2016; Porath & Pearson, 2012).

Participants

Study 1 participants consisted of jury eligible workers on MTurk who were monetarily compensated $2.50 to complete the study. Like the pilot study, CloudResearch's MTurk Toolkit (Litman et al., 2017) was used to assist in the screening of participants and verification of quality responses. Participants who completed any of the three pilot studies were barred from participating in Study 1. Power calculations for a serial mediation containing two mediators and moderate correlation coefficients in a coefficient matrix suggested that approximately $N = 250$ participants were needed to reach a power of 0.80. However, when including the moderation and the use of latent variable mediators, the estimated necessary number of participants increases to $N = 350$ for adequate power (Schoemann et al., 2017; Thoemmes et al., 2010). A total of 414 participants completed some portion of Study 1. After eliminating participants who did not pass the initial screening questions or answered a sufficient number of questions as well as removing participants that CloudResearch's MTurk Toolkit deemed to not fulfill the study's requirements (e.g., IP Address suggested they were not from the U.S.), Study 1 included data collected from 342 participants. Participants were mostly between the ages of 25-34 (27.19%) and 35-44 (30.99%); relatively split on gender (45.32% Male, 52.34% Female); and primarily non-Hispanic (93.57%) and White (78.95%).

Materials and Procedure

All data collection for Study 1 occurred online via MTurk and was formatted as a single survey. Participants were first asked to answer screening questions that comprised the participants' demographic information and the REI. Collecting this information first had two purposes: 1) to verify that participants were jury-eligible (i.e., at least 18 years of

age and in the United States) and, 2) to collect trait processing information prior to the presentation of any information that might affect or bias cognitive processing.

Participants who indicated that they were at least 18 years old and were located in the United States were informed that they were able to continue the study and randomly assigned to the control or experimental condition and received the affiliated case vignette. The case vignette always described a civil summary jury trial in which the defendant, a chemical corporation, is being sued regarding the side-effects of one of their chemicals which is purported to cause cancer. Summary jury trials are used as a type of pre-trial advisory tactic to evaluate how jurors might react to certain pieces of evidence and arguments (Lambros, 1986). Therefore, participants acted as mock jurors and read a shortened, but substantive, civil trial in which testimony and arguments were presented and the mock jurors provided feedback regarding perceptions of the trial and decision recommendations. Participants were informed that their decisions were non-binding and the information they provided will be used to guide the parties as to whether the case, from either side, is worth continuing to pursue. In total, participants read the study instructions, an overview of the trial, definitions of "burden of proof" and "strict liability," opening statements, both direct- and cross-examination of the plaintiff's expert witness, and closing statements and were provided jury instructions on how to make their determinations. The only difference between the case vignettes is that one included an incivility manipulation which, for this study, occurred during the defense attorney's cross-examination of the expert witness.

Participants then answered the trial outcome measures—the dichotomous Liable/Not Liable verdict, the Likelihood of Causation, and the Compensatory Damages.

Next, participants completed the remaining scales and measures—the Expert Witness Credibility scale (EWC), and the Attorney Credibility scale (AC; Brodsky et al., 2010), the Discrete Emotions Questionnaire (DEQ; Harmon-Jones et al., 2016), the single-item stress question (Elo et al., 2003; Wemm & Wulfert, 2017), and the logic problems (i.e., State CEST cognitive processing measure; Miller et al., 2014). The order of presentation for this latter grouping of scales and measures was randomized.

Finally, to test that the incivility manipulation was effective, participants were asked two questions pertaining to the attorney's conduct (e.g., "The attorney who cross-examined the witness refrained from improper remarks and comments," and, "The attorney who cross-examined the witness treated others with respect."; Appendix I). This information allowed for an examination between the two conditions to ensure that the defense attorney is seen as more uncivil in the experimental condition as compared to the control condition.

Results

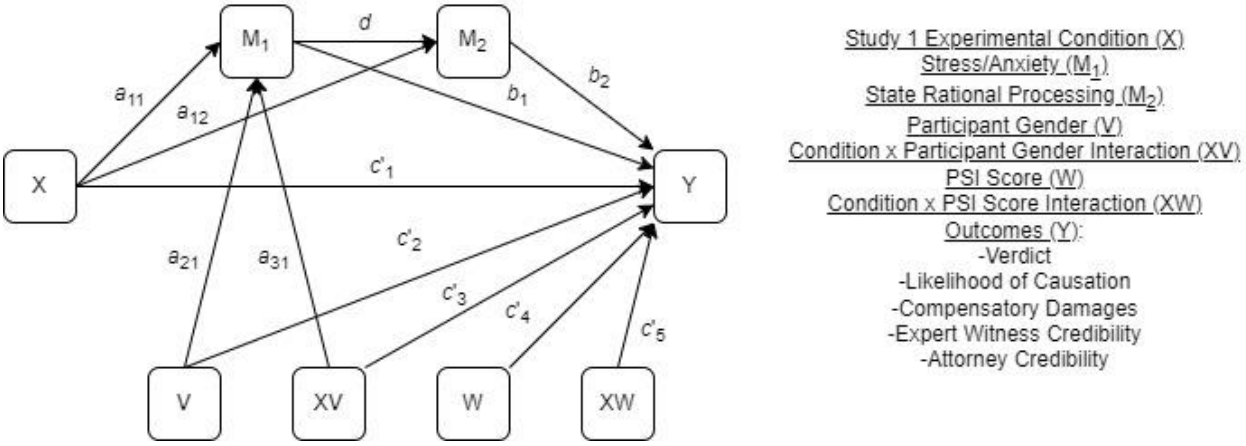
The data were first examined for accuracy and completeness. It was determined that there were no erroneous or impossible values in the dataset (e.g., a score of 6 on a 1-5 Likert scale) and there were only two missing values throughout the entire dataset, meaning nearly all participants completed 100% of the study. Next, the continuous dependent variables of interest in Study 1—Likelihood of Causation, Compensatory Damages, EWC, and AC—were examined for normality. All but EWC showed acceptable skew and kurtosis (i.e., below 1.0). EWC was transformed by cubing the scale totals which resulted in an acceptable skew and kurtosis (-0.53 and -0.64, respectively). Using these outcome variables, OLS regression assumptions (i.e., linearity of the data as

well as normality, homogeneity, and independence of residuals), were checked using all variables of interest as predictors and each regression was found to pass OLS regression assumptions. All scales of interest in Study 1 (i.e., REI, DEQ, Expert Witness Credibility, Attorney Credibility) showed reliable internal consistency (all Cronbach's $\alpha > 0.85$).

Responses for the two manipulation check questions were averaged to create a Manipulation Check Total (MCT) on an 11-point scale in which higher scores indicated more civility. An ANOVA comparing the control condition MCT to the incivility condition MCT suggested that participants perceived a significant difference in the attorney's displayed civility between the control and experimental condition ($p < 0.001$). Specifically, control condition participants found the attorney was quite civil ($M = 9.35$) whereas incivility condition participants found the attorney to be far less civil ($M = 5.06$).

For each grouping of hypotheses, an initial statistical examination—either a chi-square or ANOVA depending on the variable of interest—was conducted to examine the direct IV-DV relationship. Next, a single PROCESS moderated mediation model was tested using a bootstrapping approach to assess the significance of the indirect effects as well as differing levels of the moderator (Hayes, 2018). For each model, the experimental condition (i.e., Control or Incivility) was the IV, Stress or Anxiety was the first mediator, State CEST was the second, serial mediator, and the DV was the variable of interest (e.g., dichotomous liability, Likelihood of Causation) with PSI moderating the IV-DV relationship and Gender moderating the IV-DV relationship as well as the IV-Stress/Anxiety relationship. The "PROCESS" macro, modified version of model 86 (to add the PSI moderation on the IV-DV relationship), v4.0.1 in R with bootstrapped bias-corrected 95% confidence intervals ($n = 10{,}000$) was used to test the significance of the

Figure 3. Study 1 Statistical Model



direct and indirect (i.e., mediated) effects in addition to any moderating effects of Gender or PSI (Hayes, 2018; see Figure 3 for statistical model of PROCESS output). Because bootstrapping does not provide a *p*-value, significant effects are supported by the absence of zero within the 95% confidence intervals. Based on results of the initial PROCESS models, additional PROCESS models were formulated by removing certain elements of the initial PROCESS model that were found to not significantly relate to the outcome variables.

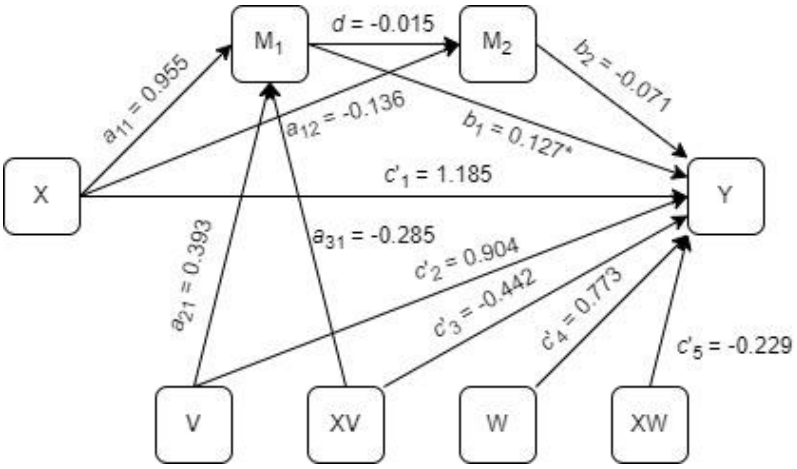
Dichotomous Liability Analysis

An initial chi-square analysis examined the relationship between experimental condition (Control vs. Incivility) and dichotomous liability outcome (Liable vs. Not Liable). The results suggested there were no significant differences between conditions on dichotomous liability outcome and did not support H1 ($\chi^2 = 0.866$, $p = 0.352$). An examination of the breakdown of dichotomous liability outcomes by condition shows that there were similar verdict splits regarding defendant liability across conditions (66.1%

Liable in control condition, 70.8% Liable in incivility condition). However, participants in the incivility condition did provide more Liable verdicts than the control condition. So, although not significant, the difference between the two conditions were in the hypothesized direction.

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to the dichotomous liability outcome simultaneously (H1, H1b, H1c, H6, H6b, H8, H9, H10, H11, RQ2; see Figure 4). Not Liable was made the outcome reference group, so positive relationships between variables relate to more punitive decisions (i.e., Liable verdicts). The logistic regression analysis of all predictor variables regressed onto dichotomous liability verdict was significant overall (Model LL(df = 7) = 14.75, p = 0.039). However, further examination of the results suggested that only stress significantly predicted dichotomous liability (b = 0.1271, se = 0.0623, CI95%[0.0170, 0.2643]), meaning there were no significant relationships between experimental condition and dichotomous liability (b = 1.1846, se = 1.0184, CI95%[-0.8078, 3.2249]; did not support H1).

Figure 4. PROCESS Model testing hypotheses related to Dichotomous Liability



Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between condition and stress (*b* = 0.9546, *se* = 0.7453, $CI_{95\%}$[-0.5345, 2.3879]; did not support H6), between condition and State CEST (*b* = -0.1356, *se* = 0.1127, $CI_{95\%}$[-0.3520, 0.0892]; did not support either competing hypothesis provided in H8), or between stress and State CEST (*b* = -0.0153, *se* = -0.0158, $CI_{95\%}$[-0.0688, 0.0360]). Although not significant, an analysis of stress and State CEST scores showed that participants in the control condition had higher State CEST scores (*M* = 2.07) and lower stress (*M* = 2.82) than participants in the incivility condition (State CEST *M* = 1.93; stress *M* = 3.32) suggesting that control participants had higher non-rational processing scores and lower stress scores, overall, than incivility participants.

Gender did not moderate the effect of the experimental conditions on stress, *b* = -0.2851, *se* = 0.4448, $CI_{95\%}$[-1.1306, 0.6147], or on dichotomous liability, *b* = -0.4420, *se* = 0.4394, $CI_{95\%}$[-1.3011, 0.4329]. PSI also did not moderate the effect of the experimental conditions on dichotomous liability, *b* = -0.2288, *se* = 0.5069, $CI_{95\%}$[-1.2400, 0.7418]. This is bolstered by the frequency counts of Liable verdicts compared to Not Liable verdicts based on experimental condition and Gender or experimental condition and PSI (see Table 1 and 2, respectively). These results suggest that H1b, H1c, and H6b were not supported.

Lastly, examining the mediated relationships predicted by the model, there were no significant mediations/indirect effects and, therefore, also no moderated mediations (experimental conditions → stress → dichotomous liability: Index of Moderated Mediation = -0.0362, $CI_{95\%}$[-0.1946, 0.0836]; experimental conditions → stress → State

Table 1. **–** Study 1 Liability Frequency and Percentages by Gender

Frequency and Percentages of Liability Verdicts – Condition x Gender

		Dichotomous Liability Verdict	
Condition	Gender	Liable	Not Liable
Control	Male	47 (59.49%)	32 (40.51%)
	Female	63 (63.64%)	26 (36.36%)
Incivility	Male	54 (71.05%)	22 (28.95%)
	Female	63 (70.00%)	27 (30.00%)

Note: Percentages reflect portion of row total

Table 2. **–** Study 1 Liability Frequency and Percentages by PSI

Frequency and Percentages of Liability Verdicts – Condition x PSI

		Dichotomous Liability Verdict	
Condition	PSI	Liable	Not Liable
Control	R-Processor	40 (56.34%)	31 (43.66%)
	E-Processor	70 (72.16%)	27 (27.84%)
Incivility	R-Processor	49 (65.33%)	26 (34.67%)
	E-Processor	68 (74.73%)	23 (25.27%)

Note: Percentages reflect portion of row total

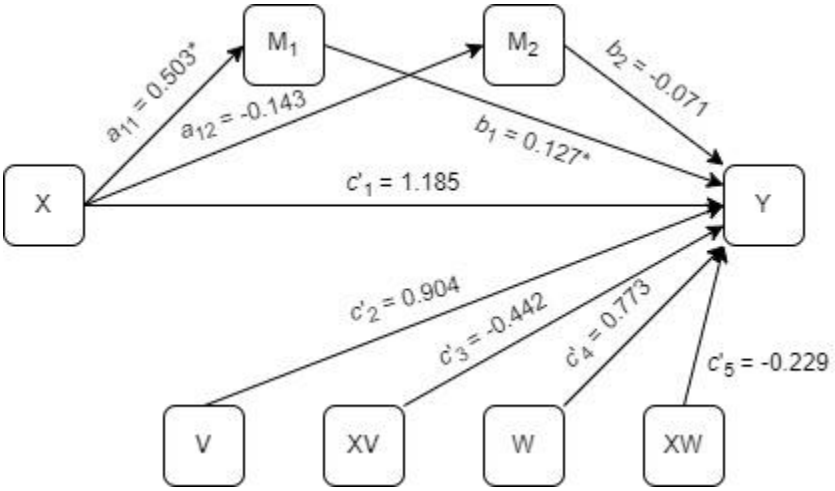
CEST: Index of Moderated Mediation = 0.0044, $CI_{95\%}$[-0.0237, 0.0433]; experimental conditions → State CEST → dichotomous liability: Effect = 0.0096, $CI_{95\%}$[-0.0268, 0.0682]; experimental conditions → stress → State CEST → dichotomous liability: Index of Moderated Mediation = -0.0003, $CI_{95\%}$[-0.0056, 0.0036]). This suggests that there were no significant mediations in the model and the results did not support H9, H10, H11, or RQ2.

Simplified PROCESS Model. Because research should strive to create the most simplistic models with the fewest parameters that best explains a given phenomenon (Raykov & Marcoulides, 1999), the initially hypothesized PROCESS model was reduced by removing some of the hypothesized indirect effects that were not significant; specifically, the model was reduced by 1) removing the gender moderator on the

experimental condition to stress relationship, and 2) removing the serial mediation of stress and State CEST, making both mediators parallel (i.e., removing a_{21}, a_{31}, and d from the original statistics model; see Figure 5).

In this new PROCESS model, experimental condition now significantly directly related to stress levels (b = 0.5029, se = 0.2463, $CI_{95\%}$[-0.0185, 1.0004]). This suggests that the removal of the gender moderation on the experimental condition to stress pathway and, thus, removing Gender and Condition x Gender interaction terms from this specific regression analysis increased the relationship between these variables in the model and provided support for H6. The only other relationship potentially affected by the removal of the specified pathways was State CEST (M2) but the removal of the serial mediation did not relate to any significant relationships.

Figure 5. PROCESS Model testing hypotheses related to Dichotomous Liability (Reduced)



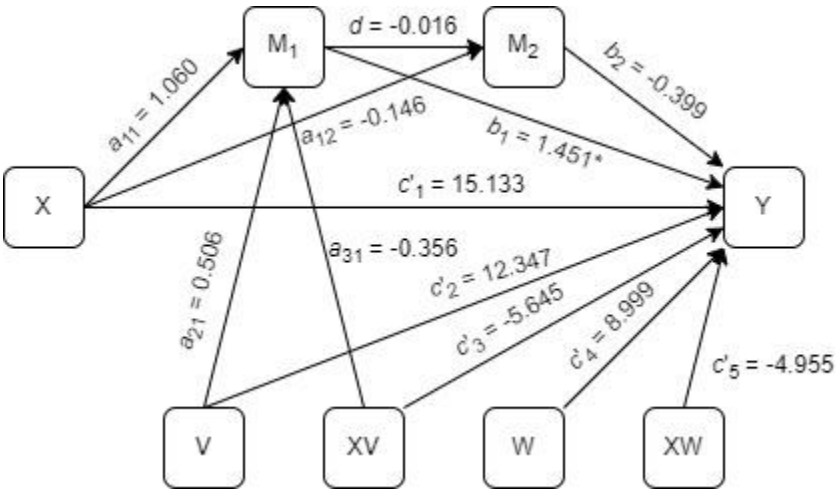
Likelihood of Causation Analysis

An initial examination of the data suggested that some participants' Likelihood of Causation scores conflicted with their dichotomous liability responses (e.g., participants who found the defendant Not Liable but provided a Likelihood of Causation score such as 80, suggesting that they believed the defendant was *Liable*). Participants who had a conflicting Likelihood of Causation score of 10 or more points from mid-point (e.g., chose Not Liable and had a 61+ Likelihood of Causation score or chose Liable and had a 41 or less Likelihood of Causation score) were removed from the dataset for only this analysis. This removed 3 participants from the Likelihood of Causation of analysis.

A one-way ANOVA with the remaining 339 participants examined the relationship between experimental condition (Control vs. Incivility) and continuous liability outcome. The results suggested there were no significant differences between conditions on continuous liability assessments and did not support H2, $F(1, 337) = 0.05$, $p = 0.821$, $\eta_P^2 < 0.001$. An examination of the breakdown of continuous liability scores by condition showed that there were nearly identical responses on continuous verdict across conditions (Control $M = 63.51$; Incivility $M = 62.89$).

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to Likelihood of Causation outcome simultaneously (H2, H2b, H2c, H6, H6b, H8, H9, H10, H11, RQ2; see Figure 6). The linear regression analysis of all predictor variables regressed onto Likelihood of Causation was not significant overall, $F(7, 331) = 1.66$, $p = 0.119$. However, further examination of the results suggested that stress significantly predicted Likelihood of Causation ($b = 1.4514$, $se = 0.5866$, $CI_{95\%}[-0.3100, 2.5879]$), but there was no significant

Figure 6. PROCESS Model testing hypotheses related to Continuous Liability



relationship between experimental condition and Likelihood of Causation (*b* = 15.1325, *se* = 11.0945, $CI_{95\%}$[-6.4752, 36.8098]; did not support H2).

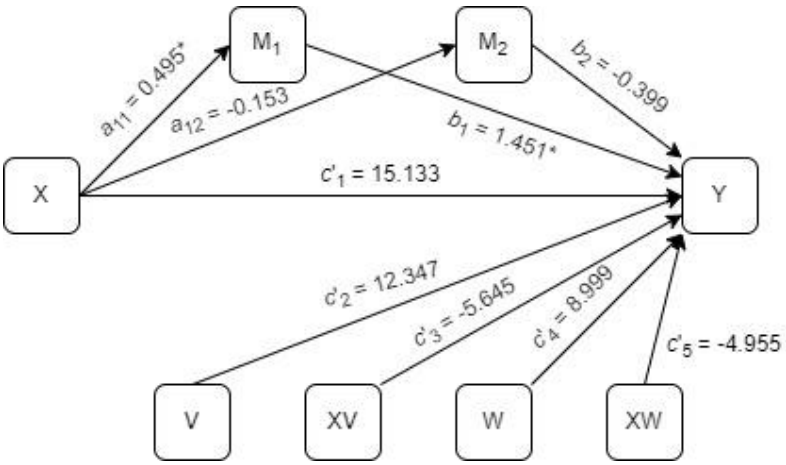
Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between condition and stress (*b* = 1.0599, *se* = 0.7523, $CI_{95\%}$[-0.4313, 2.5340]; did not support H6), between condition and State CEST (*b* = -0.1455, *se* = 0.1133, $CI_{95\%}$[-0.3653, 0.0794]; did not support either competing hypothesis provided in H8), or between stress and State CEST (*b* = -0.0160, *se* = 0.0270, $CI_{95\%}$[-0.0702, 0.0357]). Although not significant, an analysis of stress and State CEST scores in this reduced dataset showed that participants in the control condition had higher State CEST scores (*M* = 2.08) and lower stress (*M* = 2.80) than participants in the incivility condition (State CEST *M* = 1.93; stress *M* = 3.29) suggesting that control participants had higher non-rational processing scores and lower stress scores, overall, than incivility participants.

Gender did not moderate the effect of the experimental conditions on stress, *b* = -0.3564, *se* = 0.4448, $CI_{95\%}$[-1.1306, 0.6147], or on Likelihood of Causation, *b* = -5.6450, *se* = 4.7655, $CI_{95\%}$[-14.8445, 3.7373], as well as PSI did not moderate the effect of the experimental conditions on Likelihood of Causation, *b* = -4.9547, *se* = 5.7229, $CI_{95\%}$[-16.1987, 6.2055]. These results suggest that H2b, H2c, and H6b were not supported.

Lastly, examining the mediated relationships predicted in the model, there were no significant mediations/indirect effects and, therefore, no moderated mediations (experimental conditions → stress → Likelihood of Causation: Index of Moderated Mediation = -0.5173, $CI_{95\%}$[-2.2182, 0.8085]; experimental conditions → stress → State CEST: Index of Moderated Mediation = 0.0057, $CI_{95\%}$[-0.0240, 0.0482]; experimental conditions → State CEST → Likelihood of Causation: Effect = 0.0580, $CI_{95\%}$[-0.4659, 0.7582]; experimental conditions → stress → State CEST → Likelihood of Causation: Index of Moderated Mediation = -0.0023, $CI_{95\%}$[-0.0661, 0.0488]). This suggests that there were no significant mediations in the model and the results did not support H9, H10, H11, or RQ2.

Simplified PROCESS Model. Similar to the *Dichotomous Liability Analysis*, a second PROCESS model was created because results from the initially hypothesized PROCESS model suggested that some of the indirect relationships were not significant in this reduced dataset. The model was streamlined in the same way (i.e., by removing the gender moderator on the experimental condition to stress relationship and by making the serial mediation a parallel mediation; see Figure 7). In this new PROCESS model, experimental condition again had a significant direct effect on stress levels (*b* = 0.4953, *se* = 0.2466, $CI_{95\%}$[0.0088, 0.9786]). This suggests that the removal of the gender

Figure 7. PROCESS Model testing hypotheses related to Continuous Liability (Reduced)



moderation on the experimental condition to stress pathway increased the relationship between these variables in the model and provided support for H6 in this reduced dataset. However, no other relationship was affected by the removal of the specified pathways so as to be significant.

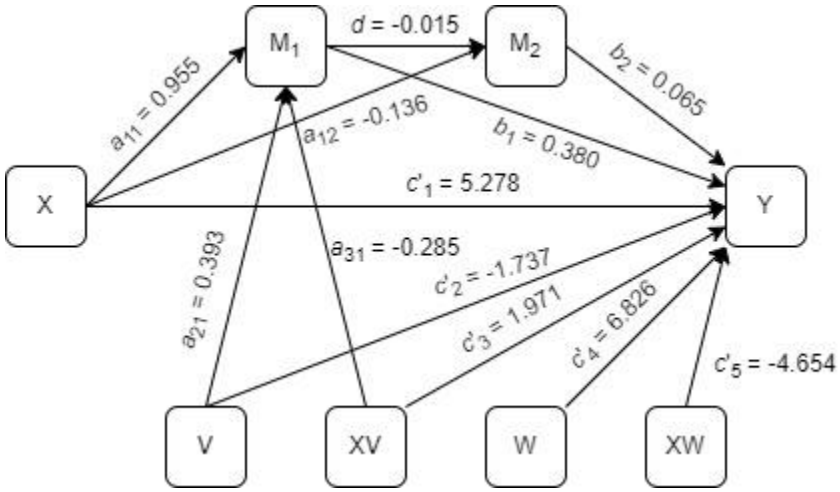
Compensatory Damages Analysis

An initial one-way ANOVA examined the relationship between experimental condition (Control vs. Incivility) and Compensatory Damages. The results suggested there were no significant differences between conditions on compensatory damages and did not support H3, $F(1, 340) = 0.21$, $p = 0.644$, $\eta_P^2 < 0.001$. An examination of the breakdown of Compensatory Damage awards by condition showed that there were nearly identical responses on awarded damages across conditions (Control $M = 51.75$; Incivility $M = 53.10$). Because the Compensatory Damages variable was a combination of two separate questions (i.e., participants who found the defendant Liable were asked to provide a compensatory damage assessment whereas participants who found the

defendant Not Liable were asked to imagine the evidence was sufficient and *then* provide a compensatory damage assessment), responses were separated by dichotomous liability responses to assess whether there were any group differences. Further analyses suggested there were no significant differences on Compensatory Damage awards within condition, regardless of whether the participant had found the defendant Liable ($F(1, 232) = 0.09$, $p > 0.05$, $\eta_P^2 < 0.001$) or Not Liable ($F(1, 106) = 0.18$, $p > 0.05$, $\eta_P^2 = 0.001$). However, the mean Compensatory Damage award did significantly differ across condition, depending on whether the participant had initially found the defendant Liable ($M = 60.87$) or Not Liable ($M = 34.12$; $F(1, 340) = 92.35$, $p < 0.001$).

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to Compensatory Damages outcome simultaneously (H3, H3b, H3c, H10, H11, and RQ2 [*Note*: H6, H6b, H8, and H9 are not tested because the results for those hypotheses are identical to the results found in the *Dichotomous Liability Analysis*]; see Figure 8).

***Figure 8*.** PROCESS Model testing hypotheses related to Compensatory Damages



The linear regression analysis of all predictor variables regressed onto Compensatory Damages was not significant overall, $F(7, 334) = 0.21$, $p = 0.983$. No variables of interest, including experimental condition ($b = 15.1325$, $se = 11.0945$, $CI_{95\%}$[-6.4752, 36.8098]), significantly predicted Compensatory Damages meaning H3 was not supported.

Gender again did not moderate the effect of experimental conditions on Compensatory Damages, $b = 1.9706$, $se = 5.2088$, $CI_{95\%}$[-7.6845, 12.7096]. PSI also did not moderate the effect of experimental conditions on Compensatory Damages, $b = -4.6539$, $se = 5.8640$, $CI_{95\%}$[-16.2511, 6.8156]. These results suggested that H3b and H3c were not supported.

Lastly, examining the mediated relationships predicted by the model, there were no significant mediations/indirect effects of the experimental conditions to Compensatory Damages as well as no moderated mediations (experimental conditions → stress → Compensatory Damages: Index of Moderated Mediation = -0.1083, $CI_{95\%}$[-1.3198, 0.4446]; experimental conditions → State CEST → Compensatory Damages: Effect = -0.0087, $CI_{95\%}$[-0.5611, 0.6222]; experimental conditions → stress → State CEST → Compensatory Damages: Index of Moderated Mediation = 0.0003, $CI_{95\%}$[-0.0531, 0.0541]). This suggests that there were no significant mediations in the model and the results did not support H10, H11, or RQ2.

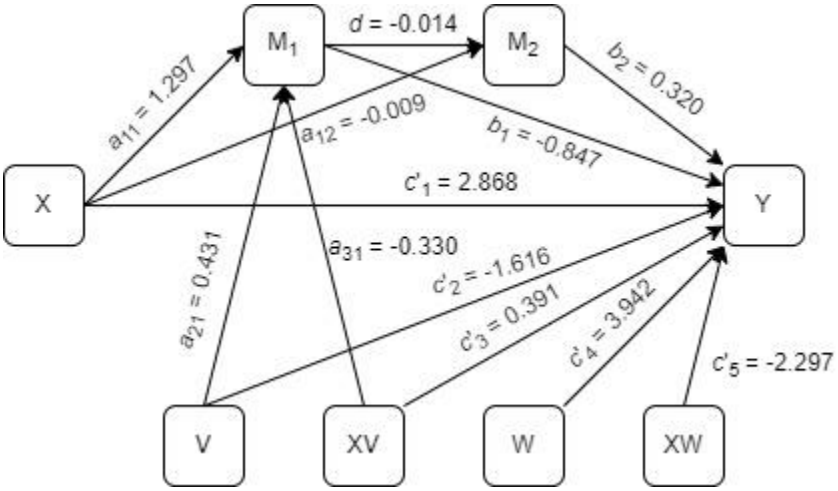
Follow-up PROCESS Models. A simplified PROCESS model similar to previous analyses was not created because paring down the model was pared down in the same way (i.e., by removing the gender moderator on the experimental condition to stress relationship and by making the serial mediation a parallel mediation) does not have any

relationship on outcome and, therefore, would be no different than the results of the Dichotomous Liability simplified PROCESS model (i.e., significant Condition-Stress relationship but no other differences). However, two additional PROCESS models were created that copied the original PROCESS model but used limited datasets—one containing only participants who found the defendant Liable and one containing only participants who found the defendant Not Liable (see Figure 9 and Figure 10, respectively).

Original PROCESS Model with Participants Who Found Defendant Liable.

The linear regression analysis of all predictor variables regressed onto Compensatory Damages in this reduced dataset was not significant overall, $F(7, 226) = 0.33$, $p = 0.9395$. No variables of interest, including experimental condition ($b = 2.8684$, $se = 15.5846$, $CI_{95\%}[-26.3475, 31.1475]$), significantly predicted Compensatory Damages meaning H3 was also not supported in this reduced dataset.

Figure 9. PROCESS Model testing hypotheses related to Compensatory Damages (Only Participants who Rendered Liable Verdicts)



Gender again did not moderate the effect of experimental conditions on Compensatory Damages, b = 0.3912, se = 8.5819, $CI_{95\%}$[-18.7945, 12.2356], and PSI also did not moderate the effect of experimental conditions on Compensatory Damages, b = -2.2965, se = 6.0636, $CI_{95\%}$[-14.4571, 9.4855]. These results suggested that H3b and H3c were, again, not supported.

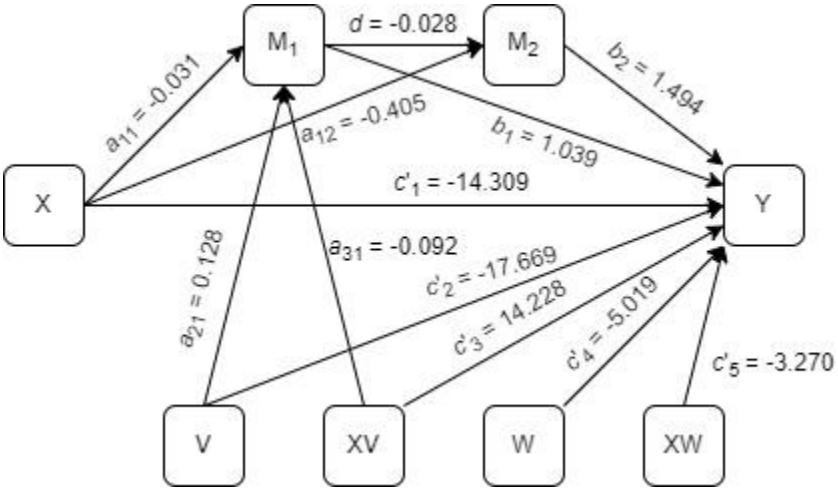
Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between condition and stress (b = 1.2965, se = 0.9849, $CI_{95\%}$[-0.6650, 3.1876]; did not support H6), condition and State CEST (b = -0.0090, se = 0.1338, $CI_{95\%}$[-0.2750, 0.2525]), or between stress and State CEST (b = -0.0137, se = 0.5789, $CI_{95\%}$[-0.0779, 0.0455]). Although not significant, an analysis of stress and State CEST scores in this reduced dataset showed that participants in the control condition had nearly identical State CEST scores (M = 1.98) yet lower stress (M = 2.89) as compared to participants in the incivility condition (State CEST M = 1.96; stress M = 3.66).

Examining the mediated relationships predicted by the model, there were no significant mediations/indirect effects between experimental conditions → stress → Compensatory Damages (Index of Moderated Mediation = 0.2791, $CI_{95\%}$[-1.1152, 1.5435]); between experimental conditions → State CEST → Compensatory Damages (Effect = -0.0029, $CI_{95\%}$[-0.5163, 0.4336]); or between experimental conditions → stress → State CEST → Compensatory Damages (Index of Moderated Mediation = 0.0014, $CI_{95\%}$[-0.0664, 0.0915]). This suggests that there were no significant mediations in the model and the results did not support H10, H11, or RQ2.

Original PROCESS Model with Participants Who Found Defendant Not Liable. The linear regression analysis of all predictor variables regressed onto Compensatory Damages in this reduced dataset was not significant overall, $F(7, 100) = 1.01$, $p = 0.4298$. No variables of interest, including experimental condition ($b = -14.3090$, $se = 17.9103$, $CI_{95\%}[-49.8925, 20.8099]$), significantly predicted Compensatory Damages meaning H3 was still not supported.

An examination of the moderating variables in this limited dataset suggested gender did not moderate the effect of experimental conditions on Compensatory Damages, $b = 14.2276$, $se = 9.0308$, $CI_{95\%}[-2.6965, 32.9251]$, as well as PSI did not moderate the effect of experimental conditions on Compensatory Damages, $b = -3.2701$, $se = 11.2190$, $CI_{95\%}[-25.4110, 18.4198]$. These results suggested that H3b and H3c were still not supported.

Figure 10. PROCESS Model testing hypotheses related to Compensatory Damages (Only Participants who Rendered Not Liable Verdicts)



Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between condition and stress (b = -0.0313, se = 1.0418, $CI_{95\%}$[-2.2004, 1.8754]; did not support H6) or between stress and State CEST (b = -0.0281, se = 0.0488, $CI_{95\%}$[-0.1310, 0.0639]). However, there was a significant relationship between condition and State CEST (b = -0.4048, se = 0.2048, $CI_{95\%}$[-0.8016, -0.0077]). Further examination of State CEST scores in this reduced dataset showed that participants in the control condition had higher State CEST scores (M = 2.25) than participants in the incivility condition (M = 1.85).

Examining the mediated relationships predicted by the model, there were no significant indirect effects between experimental conditions → stress → Compensatory Damages (Index of Moderated Mediation = -0.0952, $CI_{95\%}$[-4.2081, 1.5777]); between experimental conditions → State CEST → Compensatory Damages (Effect = -0.6049, $CI_{95\%}$[-2.8434, 2.2310]); or between experimental conditions → stress → State CEST → Compensatory Damages (Index of Moderated Mediation = 0.0038, $CI_{95\%}$[-0.2189, 0.3231]). This suggests that there were no significant mediations in the model and the results did not support H10, H11, or RQ2.

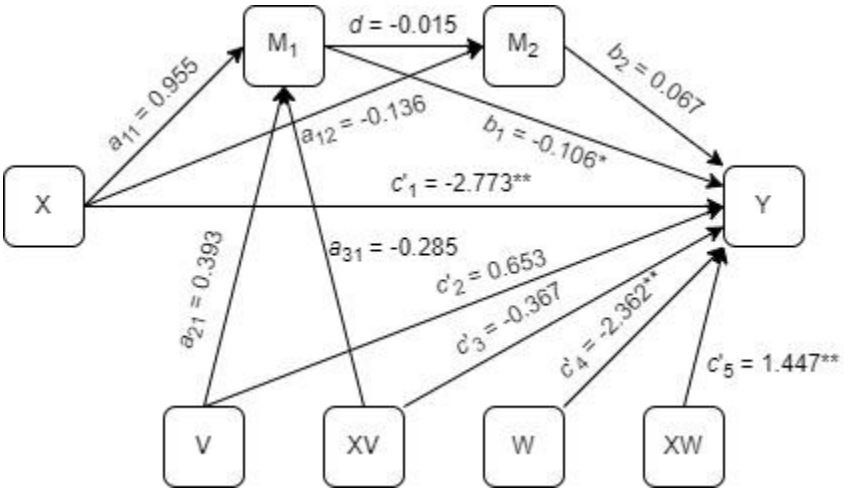
Attorney Credibility Analysis

An initial one-way ANOVA examined the relationship between experimental condition (Control vs. Incivility) and attorney credibility scores. The results suggested there were significant differences between conditions on attorney credibility scores, F(1, 340) = 26.64, $p < 0.001$, $\eta_P^2 = 0.073$. An examination of the breakdown of attorney credibility scores by condition showed that participants in the Incivility condition

provided significantly lower attorney credibility scores than participants in the Control condition (Control M = 7.69; Incivility M = 6.55), providing support for H4.

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to Attorney Credibility (AC) scores simultaneously (H4, H4b, H10, H11, and RQ2) but also examined possible, non-hypothesized relationships between AC and stress, Gender, and PSI (see Figure 11). The linear regression analysis of all predictor variables regressed onto AC was significant overall, $F(7, 334) = 6.19$, $p < 0.0001$. Further examination of the regression results suggested that experimental condition (b = -2.7729, se = 0.8592, $CI_{95\%}$[-4.4096, -1.0438) and stress (b = -0.1060, se = 0.0481, $CI_{95\%}$[-0.2040, -0.0145]) were both significant in predicting AC and suggested that the experimental condition group differences found in the one-way ANOVA also held when adding all the additional variables of interest in the PROCESS model, providing further support for H4.

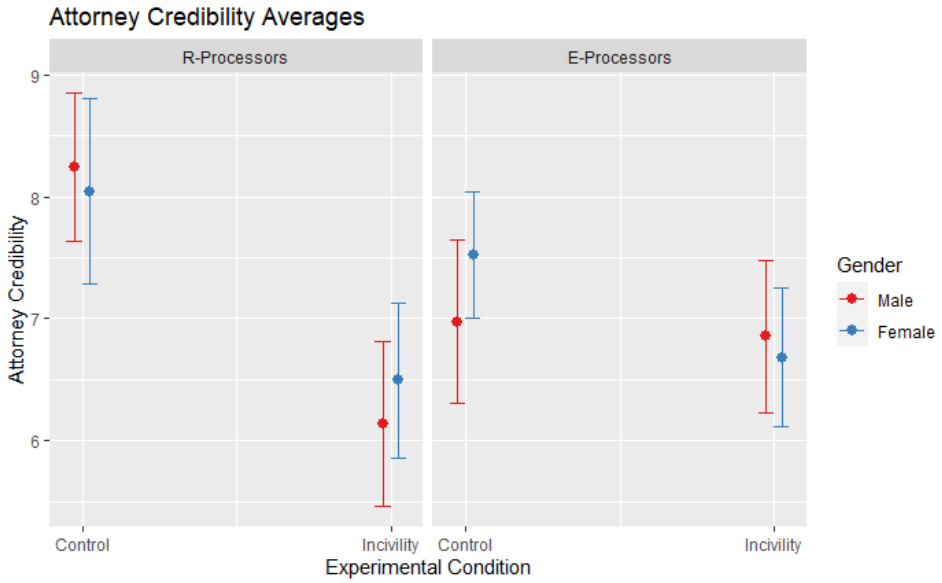
Figure 11. PROCESS Model testing hypotheses related to Attorney Credibility



Gender did not moderate the effect of the experimental conditions on stress, b = -0.2851, se = 0.4448, $CI_{95\%}$[-1.1306, 0.6147], nor on AC, b = -0.3665, se = 0.3710, $CI_{95\%}$[-1.0855, 0.3511, which did not support H4b. However, PSI did qualify the experimental effects on AC, b = 1.4468, se = 0.4437, $CI_{95\%}$[0.5704, = 2.2814]. In addition, there was a significant three-way Condition x Gender x PSI interaction for certain levels of the moderators. Specifically, male R-processors provided significantly higher AC scores in the control condition (M = 8.02) as compared to the incivility condition (M = 6.33; t = -4.4056, $p < 0.001$) and female R-processors provided significantly higher AC scores in the control condition (M = 8.31) as compared to the incivility condition (M = 6.25; t = -5.32, $p < 0.001$). Although male and female E-processors both provided higher AC scores in the control condition as compared to the incivility condition, neither comparison was significant at the p = 0.05 level. Female E-processors were marginally significantly different, though (M = 7.40 vs. 6.78; t = -0.6123, p = 0.060; see Figure 12). This suggests that only R-processors provided significantly different AC scores across conditions.

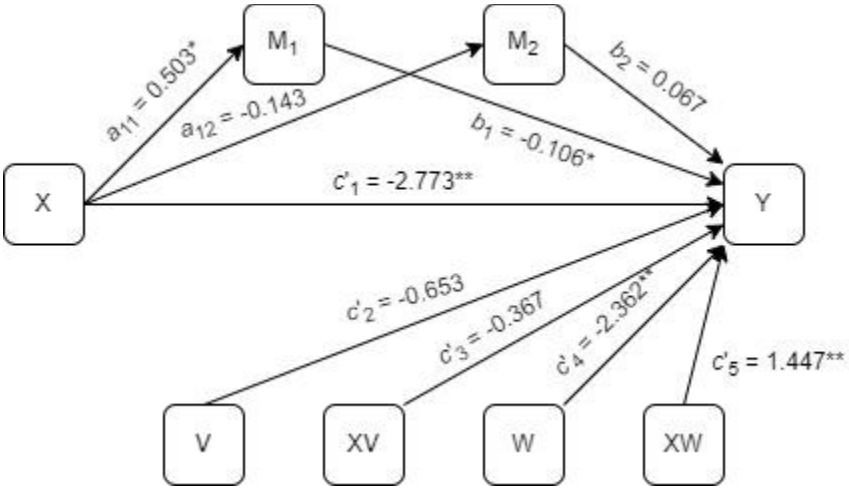
Lastly, examining the mediated relationships predicted by the model, there were no significant mediations/indirect effects and, therefore, no significant moderated mediations (experimental conditions → stress → AC: Index of Moderated Mediation = 0.0302, $CI_{95\%}$[-0.0740, 0.1457]; experimental conditions → State CEST → AC: Effect = -0.0090, $CI_{95\%}$[-0.0577, 0.0263]; experimental conditions → stress → State CEST → AC: Index of Moderated Mediation = 0.0003, $CI_{95\%}$[-0.0032, 0.0050]). This suggests that there were no significant mediations in the model and the results did not support H10, H11, or RQ2.

Figure 12. Three-way Interaction of Experimental Condition x Gender x PSI on Attorney Credibility



Simplified PROCESS Model. Similar to previous analyses, a second PROCESS model was created because results from the initially hypothesized PROCESS model suggested that some of the hypothesized indirect effects did not materialize. The model again was pared down by removing the gender moderator on the experimental condition to stress relationship and by making the serial mediation a parallel mediation (see Figure 13). In this new PROCESS model, experimental condition again had a significant direct relationship to stress levels (b = 0.4953, se = 0.2466, $CI_{95\%}$[0.0088, 0.9786]). This suggests that the removal of the gender moderation on the experimental condition to stress pathway increased the relationship between these variables in the model and provided support for H6. However, although the condition to stress pathway was significant (b = 0.4953, se = 0.2466, $CI_{95\%}$[0.0088, 0.9786]) and the stress to AC pathway remained significant (b = -0.1060, se = 0.0481, $CI_{95\%}$[-0.2040, -0.0145]), stress did not

Figure 13. PROCESS Model testing hypotheses related to Attorney Credibility (Reduced)



mediate the experimental condition to AC relationship (Effect = -0.0533, $CI_{95\%}$[-0.0593, 0.0270]) and no other relationship was affected by the removal of the specified pathways so as to be significant.

Expert Witness Credibility Analysis

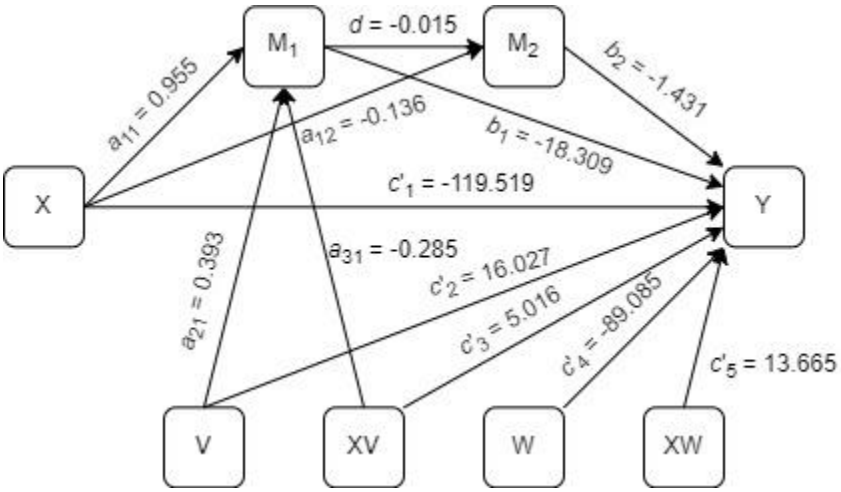
An initial one-way ANOVA examined the relationship between experimental condition (Control vs. Incivility) and expert witness credibility scores. The results suggested there were significant differences between conditions on expert witness credibility scores and did not support H5, $F(1, 340) = 4.94$, $p = 0.027$, $\eta_p^2 = 0.011$. Specifically, participants in the Incivility condition provided significantly lower expert witness credibility scores that participants in the Control condition (Control $M = 9.51$; Incivility $M = 9.12$).

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to Expert Witness Credibility

(EWC) scores simultaneously (H5, H10, H11, and RQ2) but also examined possible, non-hypothesized relationships between EWC and stress, State CEST, Gender, and PSI (see Figure 14). The linear regression analysis of all predictor variables regressed onto EWC was significant overall, $F(7, 334) = 2.41$, $p = 0.0203$. Further examination of the bootstrapped regression results suggested that no variables of interest, including experimental condition (b = -119.5192, se = 146.7326, $CI_{95\%}$[-409.8176, 169.2771]), were significant in predicting EWC, contradicting the results of the one-way ANOVA previously conducted and providing support for H5.

Gender did not moderate the effect of the experimental conditions on stress, b = -0.2851, se = 0.4448, $CI_{95\%}$[-1.1306, 0.6147], nor on EWC, b = 5.0160, se = 68.3499, $CI_{95\%}$[-120.6405, 147.9859]. PSI also did not moderate the effect of experimental conditions on EWC, b = 13.6651, se = 74.0653, $CI_{95\%}$[-132.3226, 159.3250].

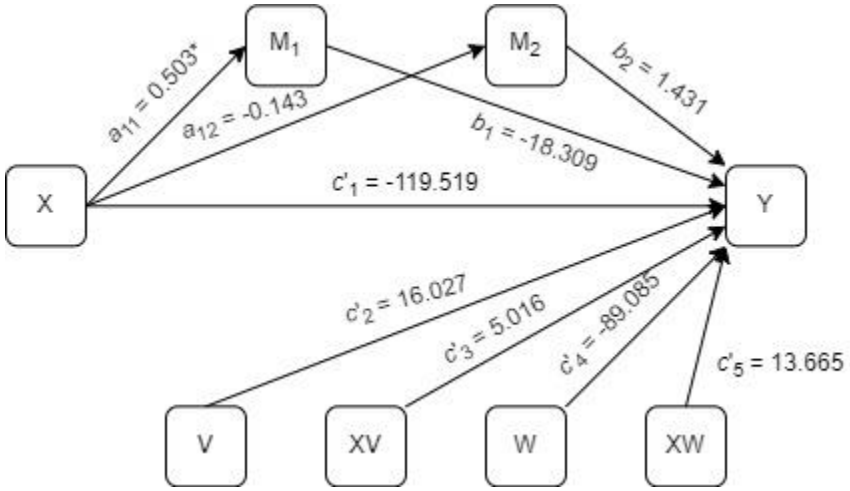
Figure 14. PROCESS Model testing hypotheses related to Expert Witness Credibility



Lastly, examining the mediated relationships predicted by the model, there were no significant mediation/indirect effects as well as no significant moderated mediations (experimental conditions → stress → EWC: Index of Moderated Mediation = 5.2190, $CI_{95\%}$[-13.3839, 24.6691]; experimental conditions → State CEST → EWC: (Effect = 0.1940, $CI_{95\%}$[-7.6820, 7.2885]; experimental conditions → stress → State CEST → EWC: Index of Moderated Mediation = -0.0063, $CI_{95\%}$[-0.6720, 0.6804]). This suggests that there were no significant mediations in the model and the results did not support H10, H11, or RQ2.

Simplified PROCESS Model. In this new PROCESS model (Figure 15), as with all the prior follow-up PROCESS models, experimental condition significantly related to stress levels (*b* = 0.5029, *se* = 0.2463, $CI_{95\%}$[0.0185, 1.0004]), providing support for H6. However, no other relationship was affected by the removal of the specified pathways so as to be significant (i.e., all 95% CI contained 0).

Figure 15. PROCESS Model testing hypotheses related to Expert Witness Credibility (Reduced)



Emotion Analyses

Additional hypotheses were presented and research questions posited regarding the relationships between experimental condition, other emotions on the DEQ, and the outcomes of interest. Therefore, stress was replaced in the original PROCESS model with each of the emotion subscale scores.

Anxiety. Experimental condition did not significantly relate to anxiety levels (*b* = 0.3946, *se* = 0.3344, $CI_{95\%}$[-0.2654, 1.0462]) but anxiety did significantly relate to dichotomous liability (*b* = 0.3381, *se* = 0.1489, $CI_{95\%}$[0.0964, 0.6880]), Likelihood of Causation (*b* = 4.2106, *se* = 1.1021, $CI_{95\%}$[1.9619, 6.3110]), and Compensatory Damages (*b* = 3.8990, *se* = 1.3915, $CI_{95\%}$[1.1200, 6.5371]). Anxiety did not significantly relate to AC or EWC scores (95% CIs contained 0). Gender did not moderate the effect of experimental conditions on anxiety (*b* = -0.2494, *se* = 0.1955, $CI_{95\%}$[-0.6266, 0.1124]) and anxiety did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0). Using anxiety in place of stress in the reduced, follow-up PROCESS models from previous analyses did not provide any additional significant findings. These results suggest the data do not support H7 or H7b.

Anger. Experimental condition did not significantly relate to anger levels (*b* = 0.5213, *se* = 0.3948, $CI_{95\%}$[-0.2589, 1.2923]) but anger did significantly relate to dichotomous liability (*b* = 0.8476, *se* = 0.2130, $CI_{95\%}$[0.5471, 1.3729]), Likelihood of Causation (*b* = 6.8291, *se* = 0.8441, $CI_{95\%}$[5.1891, 8.5073]), Compensatory Damages (*b* = 6.3006, *se* = 1.1065, $CI_{95\%}$[4.0280, 8.4089]), and AC scores (*b* = -0.4413, *se* = 0.1046, $CI_{95\%}$[-0.6445, -0.2322]). Anger did not significantly relate to EWC scores (95% CI contained 0). The experimental condition to anger path was not significantly moderated

by gender (*b* = -0.1876, *se* = 0.2256, $CI_{95\%}$[-0.6262, 0.2620]) and anger did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Disgust. Experimental condition did not significantly relate to disgust levels (*b* = 0.2743, *se* = 0.3191, $CI_{95\%}$[-0.3739, 0.8715]) but disgust did significantly relate to dichotomous liability (*b* = 0.6555, *se* = 0.3065, $CI_{95\%}$[0.2880, 1.4688]), Likelihood of Causation (*b* = 6.9929, *se* = 1.1242, $CI_{95\%}$[4.8505, 9.2523]), Compensatory Damages (*b* = 7.0599, *se* = 1.5003, $CI_{95\%}$[4.0750, 10.0267]), and AC scores (*b* = -0.2659, *se* = 0.1212, $CI_{95\%}$[-0.5058, -0.0330]). Disgust did not significantly relate to EWC scores (95% CI contained 0). Gender did not significantly moderate the effect of experimental conditions on disgust (*b* = -0.1746, *se* = 0.1843, $CI_{95\%}$[-0.5275, 0.1999]) and disgust did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Fear. Experimental condition did not significantly relate to fear levels (*b* = 0.1750, *se* = 0.2769, $CI_{95\%}$[-0.3785, 0.7210]) but fear did significantly relate to dichotomous liability (*b* = 0.3802, *se* = 0.2348, $CI_{95\%}$[0.0578, 0.9669]), Likelihood of Causation (*b* = 4.9461, *se* = 1.3351, $CI_{95\%}$[2.3545, 7.6224]), Compensatory Damages (*b* = 5.0449, *se* = 1.6569, $CI_{95\%}$[1.7863, 8.2156]), AC scores (*b* = -0.2185, *se* = 0.1259, $CI_{95\%}$[-0.4693, -0.0244]), and EWC scores (*b* = -58.5135, *se* = 25.9199, $CI_{95\%}$[-109.8210, -8.8859]). The experimental condition to fear path was not significantly moderated by gender (Condition*Gender Interaction → Fear: *b* = -0.1035, *se* = 0.1605, $CI_{95\%}$[-0.4119, 0.2166]) and fear did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Happiness. Experimental condition did not significantly relate to happiness levels (*b* = 0.3946, *se* = 0.3344, $CI_{95\%}$[-0.2654, 1.0462]) but happiness did significantly relate to AC scores (*b* = 0.1963, *se* = 0.0863, $CI_{95\%}$[0.0301, 0.3668]) and State CEST (*b* = 0.1204, *se* = 0.0466, $CI_{95\%}$[0.0272, 0.2116]). However, happiness did not significantly relate to any other trial outcome DV (95% CIs for happiness to dichotomous liability, Likelihood of Causation, Compensatory Damages, and EWC all contained 0). The experimental condition to happiness path was not significantly moderated by gender (*b* = -0.1400, *se* = 0.2435, $CI_{95\%}$[-0.6330, 0.3239]) and happiness did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Sadness. Experimental condition did not significantly relate to sadness levels (*b* = 0.3344, *se* = 0.3030, $CI_{95\%}$[-0.2686, 0.9257]) but sadness did significantly relate to Likelihood of Causation (*b* = 3.7868, *se* = 1.3071, $CI_{95\%}$[1.2341, 6.3367]) and Compensatory Damages (*b* = 4.3599, *se* = 1.5238, $CI_{95\%}$[1.2857, 7.2920]). Sadness did not significantly relate to dichotomous liability, AC scores, or EWC scores (95% CI contained 0). Gender did not moderate the effect of the experimental conditions on sadness (*b* = -0.1925, *se* = 0.1779, $CI_{95\%}$[-0.5388, 0.1619]) and sadness did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Relaxation. Experimental condition did not significantly relate to relaxation levels (*b* = -0.6525, *se* = 0.5138, $CI_{95\%}$[-1.6336, 0.3776]) but relaxation did significantly relate to dichotomous liability (*b* = -0.4175, *se* = 0.0820, $CI_{95\%}$[-0.5965, -0.2760]), Likelihood of Causation (*b* = -4.7354, *se* = 0.8621, $CI_{95\%}$[-6.3798, -3.0024]), Compensatory Damages (*b* = -2.8810, *se* = 0.9988, $CI_{95\%}$[-4.8251, -0.9157]), AC scores

(*b* = 0.3076, *se* = 0.0725, $CI_{95\%}$[0.1664, 0.4487]), and State CEST (*b* = 0.0799, *se* = 0.0344, $CI_{95\%}$[0.0114, 0.1463]). Relaxation did not significantly relate to EWC scores (95% CI contained 0). Gender did not moderate the effect of the experimental conditions on relaxation (*b* = 0.2320, *se* = 0.3064, $CI_{95\%}$[-0.3852, 0.8110]) and relaxation did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Discussion

Study 1 evaluated the influence of courtroom incivility on participants' emotional state, cognitive processing state, and trial perceptions (i.e., dichotomous verdict decisions, Likelihood of Causation, Compensatory Damage awards, Attorney Credibility, and Expert Witness Credibility) in a simulated jury trial. Although past research on incivility in the courtroom typically asks attorneys, judges, court personnel, or others working in the legal field about their previous experiences with incivility (e.g., Cortina et al., 2002; Fischer, 2011; Lonsway et al., 2002; Omari & Paull, 2013), this line of research aimed to provide insight into how incivility might affect a different population (i.e., jurors) as well as examine the more immediate issues that might surround *current* experiences incivility in the courtroom. The results of Study 1 were mixed (see Table 2 for the full hypothesis table). Results for the hypotheses for experimental variables were mixed.

Incivility. The manipulation checks suggested that participants perceived significantly different levels of incivility across the two experimental conditions, which allows for an examination of how those differing levels of incivility relate to trial outcomes. Seven hypotheses were formulated which predicted that the presence of

incivility—as compared to the absence of incivility—would relate to significant differences in participants' emotional states, cognitive states, and legal decision-making; specifically, participants who received an incivility manipulation would provide significantly more Liable verdicts (H1), higher Likelihood of Causation scores (H2), higher Compensatory Damages (H3), lower Attorney Credibility (H4), higher reported stress (H6), higher reported anxiety (H7), and either higher or lower State CEST (competing hypotheses of H8a/b). Additionally, incivility was hypothesized to *not* relate to significant differences in perceptions of Expert Witness Credibility (H5).

The results suggested that incivility only significantly related to lower perceived Attorney Credibility (supported H4) and higher reported stress (but only after removing the hypothesized gender moderation; supported H6). And, although an initial one-way ANOVA examining Expert Witness Credibility suggested that there were significant differences in Expert Witness Credibility scores across conditions, the PROCESS model using those variables suggested otherwise in that no significant differences were found across experimental conditions, which provided support for H5. These results suggest that incivility might relate to experiences of negative emotions and differing perceptions of trial participants, but incivility is insufficient to create differences in legal decision-making tasks based on the lack of a relationship between incivility and the three trial decision-making outcome measures (i.e., no differences on dichotomous verdict, Likelihood of Causation, and Compensatory Damages). Additionally, incivility in and of itself was insufficient to create differences in state cognitive processing for across the entire dataset (discussed further below).

It was also posited in H1 that part of the reason participants would be more likely to find the defendant liable is to punish the defense attorney's displays of incivility while not punishing the expert witness. The results suggest that perceptions of the attorney and expert witness certainly followed this pattern, although that did not relate to significant differences between the experimental conditions on rates of Liable verdicts. However, some participants did mention the defense attorney's behavior as a component that factored into their decision-making. Participants were prompted to elaborate on the rationale for their decision-making and asked, **"What were the most important factors in your determination of liability?"** Of the nineteen responses found from participants in the Incivility condition that referenced or alluded to displays of incivility (all of whom found the defendant Liable), two general themes appeared—beliefs that the defense attorney was attempting to hide or distort testimony (e.g., "*Also, the fact that the lawyer could not stop interrupting the doctor when she further tried to explain issues with past research designs, made me suspicious of why he would not want further explanations if there's nothing to hide*," and, "*The unwillingness of the defense attorney to let the doctor provide context to their answers. It made it look like they were hiding something*.") or information and beliefs that the defense attorney's general behavior was off-putting or rude (e.g., "*...the way the defense attorney kept trying to cherry pick testimony and generally behaved*," and, "*...defendant* [sic] *attorney's rough handling of expert back-fired in favor of plaintiff...*"). One response even combined both of these elements—"*I thought the way the defendant [sic] side during the cross-examination kept cutting off the Dr. I thought they were trying to prevent the Dr. from telling the whole truth. Also, they*

kept referring to the Dr. as Ms., which I felt was a way to devalue the Dr's response towards the jury, probably because the defendant side knew they were disadvantaged."

These examples align with previous literature and the notion that participants wanted to punish the defense attorney (Reich & Hershcovis, 2015) and provide limited support for H1. However, the lack of significant differences between the experimental conditions on dichotomous liability responses (and Likelihood of Causation as well) provides evidence to the contrary. It could be that some or most of the participants in the Incivility condition did not feel it was appropriate to predicate their liability decisions on the defense attorney's behavior and, instead, chose to "punish" the uncivil defense attorney by providing lower attorney credibility ratings.

Moderating Effects of Gender and PSI. Hypotheses 1 through 7 each had a sub-component in which Gender was hypothesized to moderate the relationship between incivility and the variable of interest (H1b-H7b). Additionally, Hypotheses 1 through 5 each had a sub-component in which PSI was hypothesized to moderate the relationship between incivility and the variable of interest (H1c-H5c). The only significant moderation found throughout all the analyses was that of PSI on the experimental condition to Attorney Credibility and was a strong enough relationship to create a three-way interaction in that the conditional effects of the combined Gender*PSI relationship found significant differences. Oddly, the relationship goes directly against what would be hypothesized using a CEST framework—R-processors, both male and female, were significantly affected by the presence of incivility in that the drop in Attorney Credibility scores for R-processors when exposed to incivility (as compared to when incivility was absent) was significant, but E-processors, both male and female, did not show a

significant difference between experimental conditions (female E-processors did have a marginally significant drop in Attorney Credibility when incivility was present, though). Because incivility related to levels of stress, CEST would expect that E-processors would be more affected by emotional extra-legal information.

And, although not significant, an analysis of the percentage of Liable/Not Liable responses separated by experimental condition and Gender as well as experimental condition and PSI showed incivility had a stronger (yet not significant) effect on males and R-processors, both of which had higher increases in percent of Liable responses rendered when incivility was present as compared to their counterparts (i.e., females and E-processors, respectively; see Tables 3a and 3b). These trends go directly against the hypotheses for how Gender and PSI would moderate the relationship between incivility and trial outcomes.

State Cognitive Processing. Hypothesis 8 proposed a competing hypothesis in which the principles of the ATF (H8a) and CEST (H8b) were used to create differing expectations regarding state cognitive processing. However, because the experimental condition did not significantly relate to State CEST scores, there was no direct evidence to support either H8a or H8b. Although incivility did not relate to State CEST scores across the entire dataset, there were significant differences of incivility when examining *only* participants who found the defendant Not Liable. Specifically, participants who found the defendant Not Liable and were in the Control condition had significantly *higher* non-rational processing scores than participants who found the defendant Not Liable and were in the Incivility condition. This suggests that, for participants who believed the evidence was insufficient to find the defendant Liable, the additional

presence of incivility related to more rational state cognitive processing, providing some evidence for H8a and the ATF.

Hypothesis 9 posited that anxiety would mediate the relationship between experimental condition and state cognitive processing and Hypothesis 10 posited that state cognitive processing would mediate the relationship between experimental condition and trial outcome variables. No mediation was found for either of those relationships, likely in part because experimental condition did not significantly relate to State CEST, which is a critical component for mediation (i.e., Path *c* in H9 and Path *a* in H10). Therefore, neither of these two hypotheses were supported.

The last hypothesis pertaining to state cognitive processing was H11 which posited that stress/anxiety and state cognitive processing would serially mediate the relationship between experimental condition and trial outcomes. Again, there were no significant mediations found in any of the PROCESS models, likely in part because neither stress nor anxiety related to State CEST in any of the models and State CEST did not relate to the vast majority of trial outcomes (only in the reduced dataset of participants who found the defendant Not Liable). Therefore, H11 was not supported.

Emotions. The remaining analyses assessed the proposed research questions (RQ1-RQ3) pertaining to the relationships of stress and emotions from the DEQ and their relationship to incivility and trial outcomes. RQ1 asked whether incivility relates to any emotions from the DEQ that were not previously address (i.e., Anger, Disgust, Fear, Happiness, Sadness, and Relaxation) and results suggest that, no, there were no significant relationships between experimental condition and any of these emotions. The final two research questions probed whether stress (RQ2) or any other emotion on the

DEQ (RQ3) mediate the relationship between incivility and trial outcomes. Although experimental condition did relate to stress levels and stress, in turn, related to various trial outcomes (e.g., increased punitiveness on dichotomous liability and Likelihood of Causation as well as decreased Attorney Credibility), stress did not mediate the experimental condition and trial outcome relationships. Similar to state cognitive processing, there were no mediations of other emotions from the DEQ—high uncertainty emotions or otherwise—between the experimental condition to trial outcomes relationships, in part because experimental condition did not significantly relate to any other emotion from the DEQ which is necessary for a mediation (RQ3 not supported).

Although these research questions were not supported, there were some interesting findings involving the other emotions. First, increases in four of the emotions—Anxiety, Anger, Disgust, and Fear—related to increases in punitive behaviors (i.e., increased rates of finding defendant Liable, increased Likelihood of Causation scores, and increased Compensatory Damages awarded). In addition, increases in Anger, Disgust, and Fear related to lower Attorney Credibility ratings. Interestingly, the ATF posits that these emotions differ along the spectrum of certainty with Anxiety and Fear being uncertainty emotions and Anger being a certainty emotion. The carryover effects of the appraisal tendencies associated with these emotions should, theoretically, lead participants to react to the situation differently and differ on decision-making (Han et al., 2007; Lerner & Keltner, 2000). The finding that all three emotions, in addition to Disgust, significantly related to the same variables in the same direction (i.e., all related to increased punitiveness) appears to provide more support for a CEST framework in that higher levels of emotionality in general related to similar outcomes because increased

emotional involvement, regardless of the specific emotional states present, should relate to increased reliance on the *experiential* processing route (Denes-Raj & Epstein, 1994; Lieberman, 2002). However, the lack of a significant relationship between increased emotionality and state cognitive processing or between state cognitive processing and decision-making outcomes limits the strength of this finding.

Examining other appraisal dimensions of these four emotions, the ATF suggests that Anxiety, Anger, Disgust, and Fear are all low in pleasantness (i.e., unpleasant) and medium to high anticipated effort (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). However, almost all of the research on the relationship of ATF principles to decision-making behavior focuses on the appraisal dimensions of certainty and control; no research could be found that examines how the appraisal dimensions of pleasantness and anticipated effort relate to decision-making. Based on the findings from Study 1, future research should focus on how emotions that differ along these appraisal dimensions relate to decision-making.

Lastly, increases in both Relaxation and Happiness related to increased State CEST scores, suggesting that increases in "positive" emotions on the DEQ relate to *increased* non-*rational* cognitive processing. Interestingly, these are the only two emotions that significantly related to state cognitive processing as opposed to any of the hypothesized, "negative" emotions that were predicted to relate to state cognitive processing. From a CEST standpoint, increased emotional involvement, regardless of the emotion, would be expected to relate to reliance on *experiential* processing (Denes-Raj & Epstein 1994; Lieberman, 2002). This does not appear to be the case. This might be, in part, a failure of measurement. No method has been developed to measure *experiential*

processing and previous research (e.g., Miller et al., 2014) has used decreases in *rational* processing as a proxy variable for increases in *experiential* processing. However, CEST posits that these two processing routes exist on their own continuum and do not necessarily relate to one another. Therefore, the measurement of state cognitive processing might not have been sufficient to accurately identify levels of *experiential* processing.

The ATF, however, might provide some insight to this finding. There is little overlap between appraisal dimensions of Relaxation and Happiness other than these emotions would be classified as low anticipated effort (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). Interestingly, none of the other emotions measured on the DEQ are also low anticipated effort emotions and, as previously mentioned, the "negative" emotions on the DEQ (i.e., Anxiety, Anger, Disgust, Fear) are all medium to high anticipated effort emotions (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). This means that the carryover effects of low anticipated effort emotions might have led to increased non-*rational* processing on the state cognitive processing questions.

Both Relaxation and Happiness also significantly related to *increased* Attorney Credibility. This, again, could be a carryover effect of low anticipated effort emotions (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). However, further testing would be necessary to determine whether it is strictly increased Relaxation and Happiness predict increased Attorney Credibility, whether other low anticipated effort emotions relate to increased Attorney Credibility, or whether a lack of other, "negative" emotions on the DEQ (e.g., Anger, Fear, Anxiety) drive the significant relationship.

Chapter 14: Study 2 – Fear Appeals and Stealing Thunder

Study 2 pertained to a direct emotional manipulation and focused on the relationship between a fear appeal, stealing thunder from that fear appeal, and jurors' decision-making. The study was partly exploratory in that the presence and potential impact of fear appeals in the courtroom have not previously been examined in empirical research. Therefore, this study attempted to further expand the body of jury decision-making research and create a foundation upon which future research could build regarding the relationship of fear appeals to specific, incidental emotions; whether any emotions experienced would be categorized as certainty or uncertainty emotions by the ATF; whether fear appeals relate to cognitive processing in jurors; and whether any effects of fear appeals can be mitigated by stealing the fear appeals' thunder.

Fear appeals in this study were operationalized as the presentation of a persuasive message that induces compliance with the recommended behavior by increasing the message recipient's emotional response via fear and threat if the recommended behavior is not done (Dillard et al., 1996). Stealing thunder was operationalized as the presentation of negative information before the opposing party can present that same negative information to reduce the effectiveness of a fear appeal (Dolnik et al., 2003; Williams & Dolnik, 2001). In Study 2, the manipulation of the fear appeal occurred during the plaintiff's expert witness's testimony on direct examination whereas the stealing thunder manipulation occurred during the defense attorney's opening statement (i.e., temporally before the expert witness's testimony). As previously mentioned, the fear appeal included details about the negative consequences of exposure to a chemical product (fear and severity), mentioned that millions of Americans could be affected (susceptibility), and

told participants that they can help stop this possibility by finding the defendant liable and require the defendant pay compensatory damages (efficacy statement and one-time recommended behavior).

Participants in Study 2 were randomly assigned to one of three trial conditions—a control condition in which there was no fear appeal nor stealing thunder, a fear appeal only experimental condition in which the expert witness used a fear appeal but there is no stolen thunder (hereafter "Fear Appeal"), and a fear appeal and stealing thunder experimental condition in which the expert witness used a fear appeal and the defense attorney tried to steal the expert witness's thunder (hereafter "Stealing Thunder"). This three-condition study is in line with previous legal decision-making research pertaining to stealing thunder (e.g., Howard et al., 2006).

Participants

Study 2 participants consisted of MTurk workers who were compensated $2.50 to complete the study, just as in Study 1. As with the previous studies, CloudResearch's MTurk Toolkit (Litman et al., 2017) was used to assist in the screening of participants and verification of quality responses. Participants who completed any of the pilot studies or Study 1 were barred from participating in Study 2. Because Study 2 was formatted in the same moderated serial mediation format as Study 1 but has three conditions for the independent variable (rather than the two conditions for the independent variable from Study 1), the necessary number of participants to achieve adequate power would be higher for Study 2 than Study 1. Therefore, Study 2 aimed to collect data from $N = 425$. A total of 491 participants completed some portion of Study 2. After eliminating participants that did not pass the initial screening questions or answer a sufficient number

of questions as well as removing participants that CloudResearch's MTurk Toolkit deemed to not fulfill the study's requirements (e.g., IP Address suggested they were not from the U.S.), Study 2 included data collected from 407 participants. These participants were relatively evenly split across conditions (Control: 134 participants; Fear Appeal: 138 participants; Stealing Thunder: 135 participants). Participants were mostly between the ages of 25-34 (26.04%) and 35-44 (27.27%) and mostly female (63.39%).

Materials and Procedure

The materials and procedure were generally the same as Study 1 except, after completing the demographics and REI, participants who qualified for the study were randomly assigned to one of three conditions for which they received the affiliated case vignette: the control condition, the fear appeal only experimental condition, or the fear appeal and stealing thunder experimental condition. The case vignette described the same civil summary jury trial as Study 1, with participants reading the study instructions, an overview of the trial, definitions of "burden of proof" and "strict liability," opening statements, both direct and cross-examination of the plaintiff's expert witness, and closing statements as well as provided jury instructions on how to make their determinations. The only differences between the case vignettes were that the fear appeal present only vignette included a fear appeal manipulation during the expert witness's direct examination and plaintiff's closing argument; the fear appeal and stealing thunder present vignette included a stealing thunder manipulation during the defense attorney's opening statement as well a fear appeal manipulation during the expert witness's direct examination and plaintiff's closing argument; and the control condition vignette had no manipulations.

Similar to Study 1, participants then completed the trial outcome measures and the remaining scales and measures, with the latter presented in a randomized order. Finally, Study 2 will also use manipulation checks to ensure that the manipulations were effective (Appendix I). Using a similar design to that of Howard and colleagues (2006), participants answered one or two manipulation checks depending on the condition to which they were randomly assigned. All participants were asked whether the information used as a fear appeal was presented. If participants respond yes to the first question, they were asked whether the information was first presented by the defense or the plaintiff. Therefore, to correctly answer the manipulation checks, participants in the control condition should answer no to the first question, participants in the fear appeal condition should answer yes to the first questions and indicate the expert witness first presented the information (during direct examination), and participants in the stealing thunder condition should also respond yes to the first question and indicate that the defense first presented the information (during opening statements). In a study conducted by Howard and colleagues (2006) participants correctly responded to the first question over 95% of the time and nearly 70% of participants correctly answered the second manipulation check.

Results

The data were first examined for accuracy and completeness. It was determined that there were no erroneous or impossible values in the dataset (e.g., a score of 6 on a 1-5 Likert scale) and there was only one missing value throughout the entire dataset, meaning there was nearly all participants completed 100% of the study. Next, the continuous dependent variables of interest in Study 2—Likelihood of Causation,

Compensatory Damages, EWC, and AC—were examined for normality. All but EWC showed acceptable skew and kurtosis (i.e., below 1.0). EWC was transformed by cubing the scale totals which resulted in an acceptable skew and kurtosis (-0.56 and -0.59, respectively). Using these outcome variables, OLS regression assumptions (i.e., linearity of the data as well as normality, homogeneity, and independence of residuals), were checked using all variables of interest as predictors and each regression was found to pass OLS regression assumptions. All scales of interest in Study 2 (i.e., REI, DEQ, Expert Witness Credibility, Attorney Credibility) showed reliable internal consistency (all Cronbach's $\alpha > 0.85$).

A total of five people in the dataset identified as either "Non-binary" (2) or "Prefer not to answer" (3). Because these groups were too small, even if combined, would account for less than 5% of the dataset, they were considered too small to provide adequate power in an analysis and these five participants were removed from any analysis that included the Gender variable (e.g., PROCESS models).

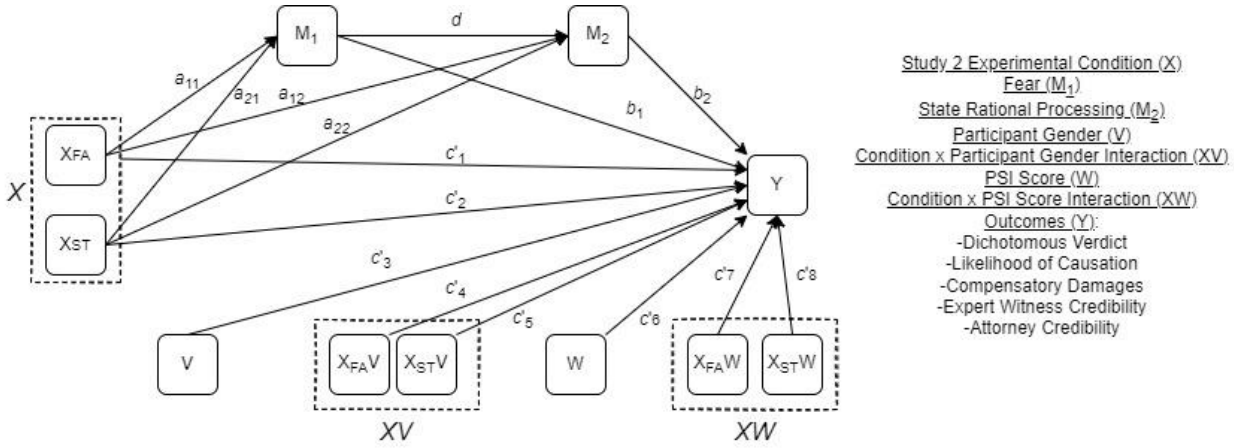
An examination of the manipulation checks suggested that, overall, participants did not accurately recall the fear appeal manipulation. The question specifically asked, "Do you recall any mention of thousands or millions of Americans becoming sick and dying from exposure to Green Grass Grows?" and response options were a dichotomous Yes/No. In total, only 67.57% of participants answered the first manipulation check correctly. Although participants in the control condition were highly accurate in recalling that they had not heard any mention of this statement (96.27% correct), participants in the Fear Appeal and Stealing Thunder conditions were far less accurate at recalling that they had heard the statement (44.20% correct and 62.96% correct, respectively). Participants

in the Fear Appeal and Stealing Thunder conditions who correctly answered Yes to the first manipulation check were then asked to identify who was the first person to mention the information regarding thousands or millions of Americans becoming sick and dying. Participants in the Fear Appeal condition were generally correct in that 73.77% correctly identified the expert witness, Dr. Johnson, as having been the first person to state the information and an additional 22.95% of participants identified the plaintiff's attorney as having been the first person to state the information; although technically incorrect, a total of 96.72% of Fear Appeal participants correctly identified the plaintiff as having put forth the information. Conversely, only 15.29% of participants in the Stealing Thunder condition correctly identified the defense attorney as having been the first person to present the information.

Just as with Study 1, for each grouping of hypotheses, an initial statistical examination—either a chi-square or ANOVA depending on the variable of interest—was conducted to examine the direct IV-DV relationship. Next, a single PROCESS moderated mediation model was tested using a bootstrapping approach to assess the significance of the indirect effects as well as differing levels of the moderator (aside from the Fear analysis; Hayes, 2018). For each model, the experimental condition was the IV (i.e., Control vs. Fear Appeal vs. Stealing Thunder), Stress or Anxiety was the first mediator, State CEST was the second, serial mediator, and the DV was the variable of interest (e.g., dichotomous liability, Likelihood of Causation) with PSI moderating the IV-DV relationship and Gender moderating the IV-DV relationship as well as the IV-Stress/Anxiety relationship. The "PROCESS" macro, modified version of model 86 (to remove the Gender moderation on the IV-Stress relationship and add the PSI moderation

of the IV-DV relationship), v4.0.1 in R with bootstrapped bias-corrected 95% confidence intervals (n = 10000) was used to test the significance of the indirect (i.e., mediated) effects in addition to any moderating effects of Gender or PSI (Hayes, 2018). Because Study 2 has three experimental conditions, the lowest numbered experimental condition is used as a reference category. In Study 2, that is the Control condition. A second PROCESS model was created for each analysis using the Stealing Thunder condition as the reference group which allows for examination of Fear Appeal (FA) and Stealing Thunder (ST) condition participants (see Figure 16 for statistical model of PROCESS output with the Control condition as the reference group). Because bootstrapping does not provide a *p*-value, significant effects are supported by the absence of zero within the 95% confidence intervals.

Figure 16. Study 2 Statistical Model with Control Condition as the Reference Group



Fear Analysis

As an additional form of manipulation check, participants' reported levels of fear were assessed across conditions (i.e., H12, H12b). A one-way ANOVA was formatted with experimental condition as the IV and Fear subscale on the DEQ as the DV. This analysis suggested that fear levels did not significantly differ across experimental conditions, $F(2, 404) = 1.203$, $p = 0.3015$, $\eta_P^2 = 0.006$ (Control $M = 1.41$; Fear Appeal $M = 1.46$; Stealing Thunder $M = 1.52$). An additional one-way ANOVA assessed whether there were any significant differences on Question 22 on the DEQ which asks specifically about respondents' feelings of fear. Again, this analysis suggested that fear levels did not significantly differ across experimental conditions, $F(2, 404) = 0.738$, $p = 0.479$, $\eta_P^2 = 0.003$ (Control $M = 1.50$; Fear Appeal $M = 1.62$; Stealing Thunder $M = 1.67$). Therefore, H12 and H12b were not supported. So, although the fear manipulation was effective in the pilot test, it does not appear that the fear appeal was effective in Study 2 at evoking differing levels of fear.

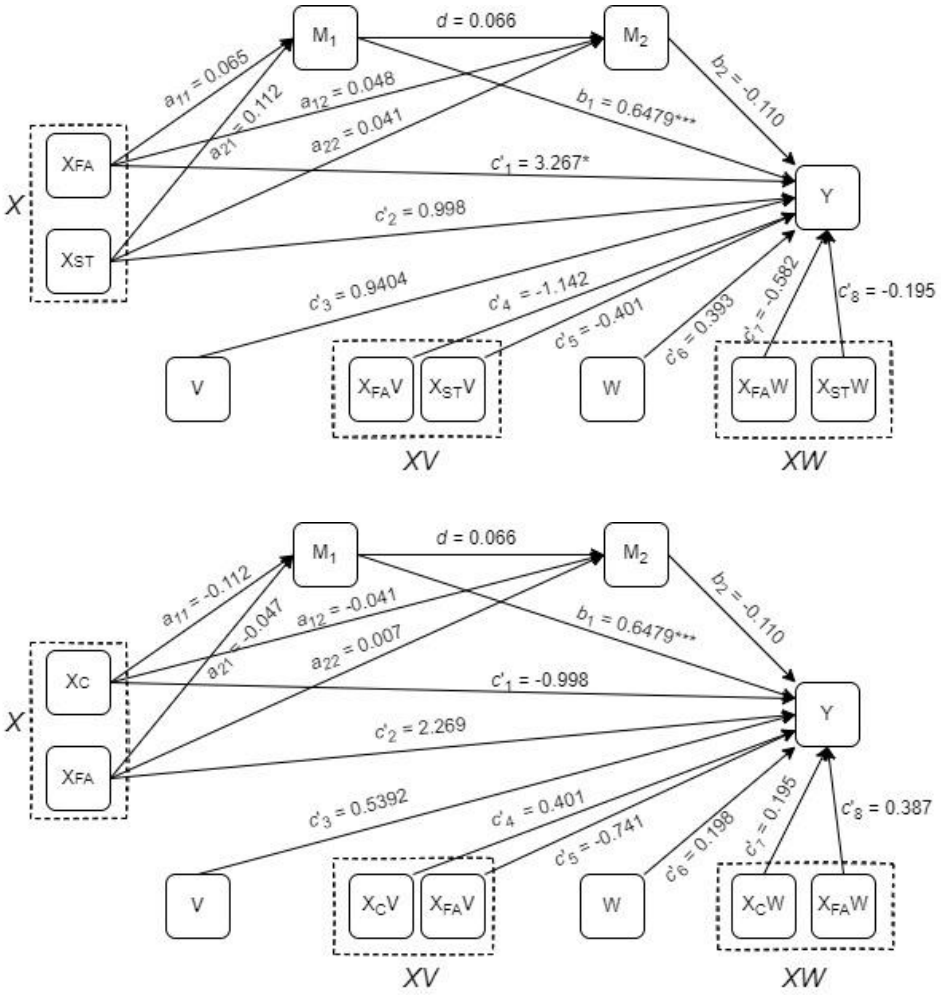
Dichotomous Liability Analysis

An initial chi-square analysis examined the relationship between experimental conditions (Control vs. Fear Appeal vs. Stealing Thunder) and dichotomous liability outcome (Liable vs. Not Liable). The results suggested there were no significant differences overall on dichotomous liability outcome and did not support H13 ($\chi^2 = 4.429$, $p = 0.109$). An examination of the breakdown of dichotomous liability outcomes by condition, however, shows a general trend similar to what was expected—there were similar verdict splits regarding defendant liability between the control and Stealing Thunder conditions (64.9% Liable in control condition, 67.4% Liable in Stealing Thunder

condition) whereas participants in the Fear Appeal condition (76.1% Liable) had a higher rate of returning a liable verdict as compared to the control and Stealing Thunder conditions.

A single PROCESS model (modified Model 86) analyzed all hypotheses related to the dichotomous liability outcome simultaneously (H12, H12b, H13, H13b, H13c, H18, H19, H20, H21; see Figure 17).

Figure 17. PROCESS Model testing hypotheses related to Dichotomous Liability



Not Liable was made the outcome reference group, so positive coefficients indicate more punitive behavior. The logistic regression analysis of all predictor variables regressed onto dichotomous liability was significant overall (Model LL(df = 10) = 30.83, p < 0.001). Further examination of the results suggested that fear (b = 0.6479, se = 0.2475, $CI_{95\%}$[0.3512, 1.3053]), gender (b = 0.9404, se = 0.4250, $CI_{95\%}$[0.1379, 1.8158]), and experimental condition (specifically, Fear Appeal as compared to control; b = 3.2665, se = 1.2501, $CI_{95\%}$[0.9908, 5.9275]), significantly predicted dichotomous liability, suggesting that the presence of a fear appeal did relate to increases in Liable decisions as compared to control participants but the presence of stealing thunder did not significantly reduce Liable decisions, providing partial support for H13. Additionally, these results suggest that females were more likely to render a Liable verdict as compared to males which provides partial support for H13b.

Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between condition and fear, between condition and State CEST, or between fear and State CEST (i.e., all 95% CIs contained 0), suggesting that the results of the PROCESS model provided additional evidence that the data do not support H12 and H12b as well as suggesting that neither competing hypothesis in H18 is supported. Although not significant, an analysis of State CEST scores showed that participants in all three conditions had nearly identical State CEST scores (Control M = 1.93; Fear Appeal M = 1.98; Stealing Thunder M = 1.97). Because the relationship between experimental condition and mediators are the same for every PROCESS model that uses this same

dataset, these relationships will not be tested unless the dataset is modified (e.g., participants removed).

An examination of the results for the moderating variables suggested that, although gender was a significant predictor of dichotomous liability, neither gender nor PSI moderated the effect of experimental conditions on dichotomous liability (all 95% CIs contained 0). Looking at the trends for rendered verdicts, males' rates of Liable verdicts went from 54.17% in the Control condition up to 78.88% in the Fear Appeal condition but dropped to 60.87% in the Stealing Thunder condition. Similarly, E-processors' rates of Liable verdicts went from 50.00% in the Control condition up to 78.79% in the Fear Appeal condition but dropped to 64.38% in the Stealing Thunder condition (see Tables 5 and 6).

The results did suggest, however, that there were significant conditional direct effects for certain demographic groups; specifically, male R-processors in the Fear Appeal condition were significantly more likely to return a Liable verdict as compared to male R-processors in the control condition (b = 1.5424, se = 0.5174, p = 0.003) or as compared to male R-processors in the Stealing Thunder condition (b = 1.1406, se = 0.5255, p = 0.030). These results, however, do not support H13b or H13c.

Lastly, examining the mediated relationships predicted by the model, there were no significant mediation/indirect effects and no significant moderated mediations (experimental conditions→ fear → dichotomous liability; experimental conditions → fear → State CEST; experimental conditions → State CEST → dichotomous liability;

Table 3. – Study 2 Liability Frequency and Percentages by Gender

Frequency and Percentages of Liability Verdicts – Condition x Gender

		Dichotomous Liability Verdict	
Condition	Gender	Liable	Not Liable
Control	Male	26 (54.17%)	22 (45.83%)
	Female	61 (70.93%)	25 (29.07%)
Fear Appeal	Male	39 (78.88%)	11 (22.00%)
	Female	62 (73.81%)	22 (26.19%)
Stealing Thunder	Male	28 (60.87%)	18 (39.13%)
	Female	62 (70.45%)	26 (29.55%)

Note: Percentages reflect row percent

Table 4. – Study 2 Liability Frequency and Percentages by PSI

Frequency and Percentages of Liability Verdicts – Condition x PSI

		Dichotomous Liability Verdict	
Condition	PSI	Liable	Not Liable
Control	R-Processor	56 (77.78%)	16 (22.22%)
	E-Processor	31 (50.00%)	31 (50.00%)
Fear Appeal	R-Processor	49 (72.06%)	19 (27.94%)
	E-Processor	52 (78.79%)	14 (21.21%)
Stealing Thunder	R-Processor	43 (70.49%)	18 (29.51%)
	E-Processor	47 (64.38%)	26 (35.62%)

Note: Percentages reflect row percent

experimental conditions → fear → State CEST → dichotomous liability [all 95% CIs contained 0]). This suggests that there were no significant mediations in the model and the results did not support H19, H20, or H21.

Likelihood of Causation Analysis

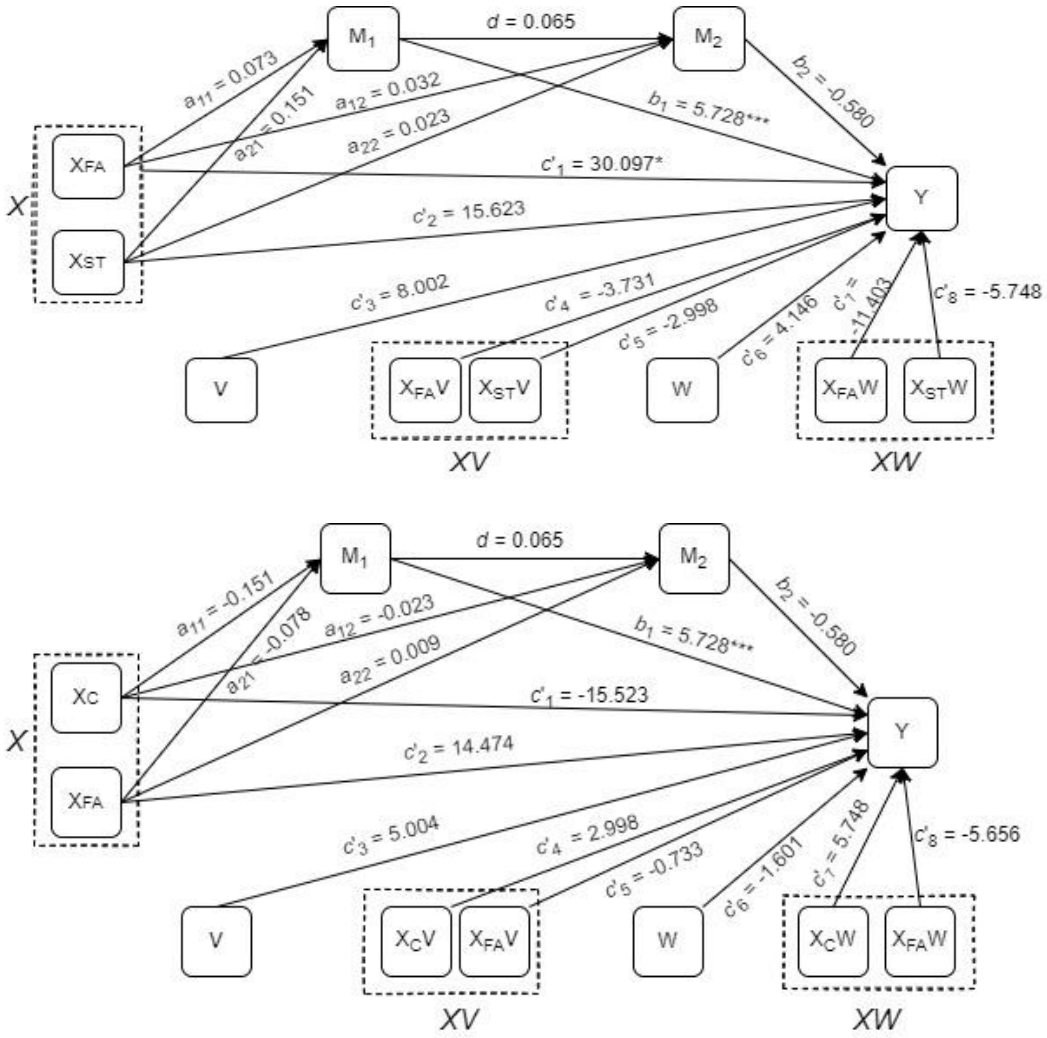
An initial examination of the data suggested that some participants' Likelihood of Causation scores conflicted with their dichotomous liability responses (e.g., participants who found the defendant Not Liable but provided a Likelihood of Causation score such

as 80, suggesting that they believed the defendant was *Liable*). Participants who had a conflicting Likelihood of Causation score of 10 or more points from mid-point (e.g., chose Not Liable and had a 61+ Likelihood of Causation score or chose Liable and had a 41 or less Likelihood of Causation score) were removed from the dataset for only this analysis. This removed 11 participants from the Likelihood of Causation of analysis.

A one-way ANOVA with the remaining 396 participants examined the relationship between experimental conditions (Control vs. Fear Appeal vs. Stealing Thunder) and Likelihood of Causation outcome. The results suggested that, although the overall ANOVA was non-significant ($F(2, 393) = 2.09$, $p = 0.125$, $\eta_P^2 = 0.002$), there was a significant difference between Fear Appeal participants and control participants ($t = 2.044$, $p = 0.042$) but no differences between control and Stealing Thunder participants or Fear Appeal and Stealing Thunder participants ($ps > 0.05$). An examination of the breakdown of Likelihood of Causation scores by condition showed that Fear Appeal participants ($M = 69.38$) had significantly higher scores as compared to Control participants ($M = 62.74$) with Stealing Thunder participants' scores falling between Fear Appeal and Control participants but not significantly differing ($M = 65.92$). These results provided partial support for H14.

A single PROCESS model (modified Model 86) analyzed all hypotheses related to Likelihood of Causation outcome in the reduced dataset simultaneously (H14, H14b, H14c, H18, H19, H20, and H21; see Figure 18).

Figure 18. PROCESS Model testing hypotheses related to Continuous Liability



The linear regression analysis of all predictor variables regressed onto Likelihood of Causation was significant overall, $F(10, 380) = 2.71$, $p = 0.0032$. Further examination of the results provided support for the previously conducted one-way ANOVA in that the PROCESS results suggested that Fear Appeal participants had significantly higher Likelihood of Causation scores compared to control participants ($b = 30.0966$, $se = 14.1136$, $CI_{95\%}[2.7513, 57.8124]$; partially supported H14) and fear significantly related to Likelihood of Causation scores ($b = 5.7275$, $se = 0.9632$, $CI_{95\%}[3.9004, 7.7317]$).

Examining the direct relationships between predictor variables and each mediator in the model for this reduced dataset, results suggested that there were no significant relationships between condition and fear, between condition and State CEST, or between fear and State CEST (i.e., all 95% CIs contained 0), suggesting that the results of the PROCESS model—even in a reduced dataset—provided evidence that the data do not support H12 and H12b as well as suggesting that neither competing hypothesis in H18 is supported. Although not significant, an analysis of State CEST scores showed that participants in all three conditions still had nearly identical State CEST scores (Control *M* = 1.94; Fear Appeal *M* = 1.98; Stealing Thunder *M* = 1.97).

Neither gender nor PSI moderated the effect of experimental conditions on Likelihood of Causation (all 95% CIs contained 0). However, there were significant conditional direct effects for certain demographic groups; specifically, male R-processors in the Fear Appeal condition had significantly higher Likelihood of Causation scores as compared to male R-processors in the control condition (*b* = 14.9625, *se* = 6.0651, *p* = 0.0141) and female R-processors in the Fear Appeal condition had marginally significantly higher Likelihood of Causation scores as compared to female R-processors in the control condition (*b* = 11.2318, *se* = 5.9035, *p* = 0.0579). These results, however, do not support H14b or H14c.

Lastly, examining the mediated relationships predicted by the model, there were no significant indirect effects of experimental conditions → fear → dichotomous liability; of experimental conditions → fear → State CEST; of experimental conditions → State CEST → dichotomous liability; or of experimental conditions → fear → State CEST → dichotomous liability (all 95% CIs contained 0). This suggests that, even in a reduced

dataset, there were no significant mediations in the model and the results did not support H19, H20, or H21.

Compensatory Damages Analysis

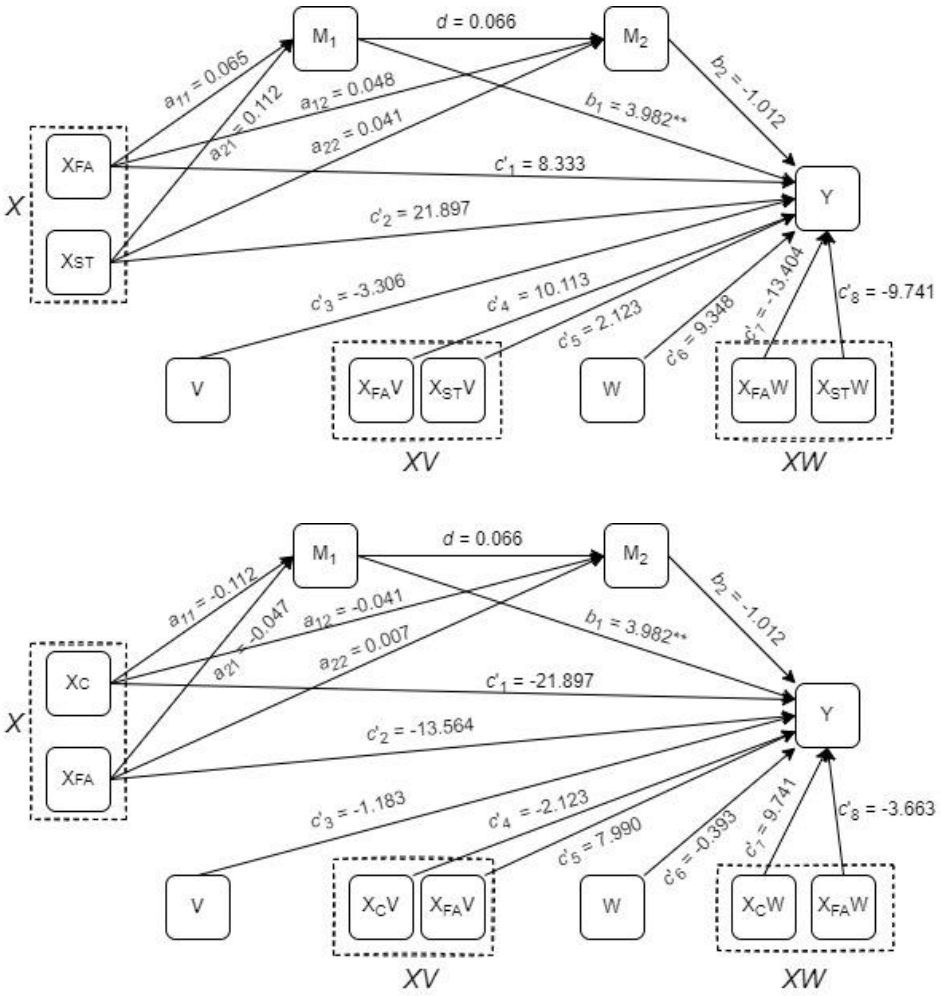
An initial one-way ANOVA examined the relationship between experimental conditions (Control vs. Fear Appeal vs. Stealing Thunder) and Compensatory Damages. The results suggested there were significant differences between conditions on Compensatory Damages and provided support for H15, $F(2, 404) = 4.651$, $p = 0.010$, $\eta_P^2 = 0.022$. However, an examination of the breakdown of compensatory damage awards by condition showed that Stealing Thunder participants awarded the highest Compensatory Damages, followed by Fear Appeal participants, then control participants (Control $M = 53.81$; Fear Appeal $M = 57.93$; Stealing Thunder $M = 64.57$). Additional analyses suggested that the difference between control and Stealing Thunder participants was significant ($t = 3.021$, $p = 0.003$) whereas the difference between Fear Appeal and Stealing Thunder participants was only marginally significant ($t = 1.877$, $p = 0.061$). So, although there were significant differences between the groups, H15 was not supported.

Because the Compensatory Damages variable was a combination of two separate questions (i.e., participants who found the defendant Liable were asked to provide a compensatory damage assessment whereas participants who found the defendant Not Liable were asked to imagine the evidence was sufficient and *then* provide a compensatory damage assessment), responses were separated by dichotomous liability verdict to assess whether there were any group differences. Further analyses using these smaller datasets suggested a similar, but stronger, pattern of significant differences on Compensatory Damages awards by condition as the initial one-way ANOVA.

Participants who initially found the defense Liable significantly differed on Compensatory Damages awards ($F(2, 280) = 3.62$, $p = 0.021$, $\eta_P^2 = 0.023$) with participants in the Stealing Thunder condition providing significantly higher compensatory damages than control ($t = 2.315$, $p = 0.061$) or Fear Appeal participants ($t = 2.363$, $p = 0.019$). Participants who initially found the defense Not Liable did not significantly differ by condition on Compensatory Damages awards overall ($F(2, 121) = 2.39$, $p = 0.096$, $\eta_P^2 = 0.038$). However, participants in the control condition ($M = 33.85$) did provide significantly lower Compensatory Damages than participants in the Stealing Thunder Condition ($M = 47.70$; $t = 2.073$, $p = 0.040$), but there were no differences between participants in the Fear Appeal condition ($M = 36.09$) and either control or Stealing Thunder participants regarding compensatory damages. And, similar to Study 1, the mean Compensatory Damages award did significantly differ depending on whether the participant had initially found the defendant Liable ($M = 67.29$) or Not Liable ($M = 39.26$; $F(1, 405) = 95.48$, $p < 0.001$).

Originally Hypothesized PROCESS Model. A single PROCESS model (modified Model 86) analyzed all hypotheses related to Compensatory Damages outcome simultaneously (H15, H15b, H15c, H20, H21; see Figure 19). The linear regression analysis of all predictor variables regressed onto Compensatory Damages was significant overall, $F(10, 391) = 2.29$, $p = 0.0128$. Further examination of the results, however, did not provided support for the previously conducted one-way ANOVA in that the PROCESS results suggested that Stealing Thunder participants did not significantly differ on Compensatory Damage scores compared to control participants ($b = 21.8973$,

Figure 19. PROCESS Model testing hypotheses related to Compensatory Damages



se = 15.9016, $CI_{95\%}$[-8.7011, 54.1333]; did not support H15). In this analysis, however, fear significantly related to Compensatory Damages (*b* = 3.9816, *se* = 1.3404, $CI_{95\%}$[1.2400, 6.5267]).

Gender and PSI both did not moderate the effect of the experimental conditions on Compensatory Damages (all 95% CIs contained 0). However, there were significant conditional direct effects for certain demographic groups; specifically, female R-processors in the Fear Appeal condition awarded significantly higher Compensatory Damages as compared to female R-processors in the control condition (*b* = 15.1550, *se* =

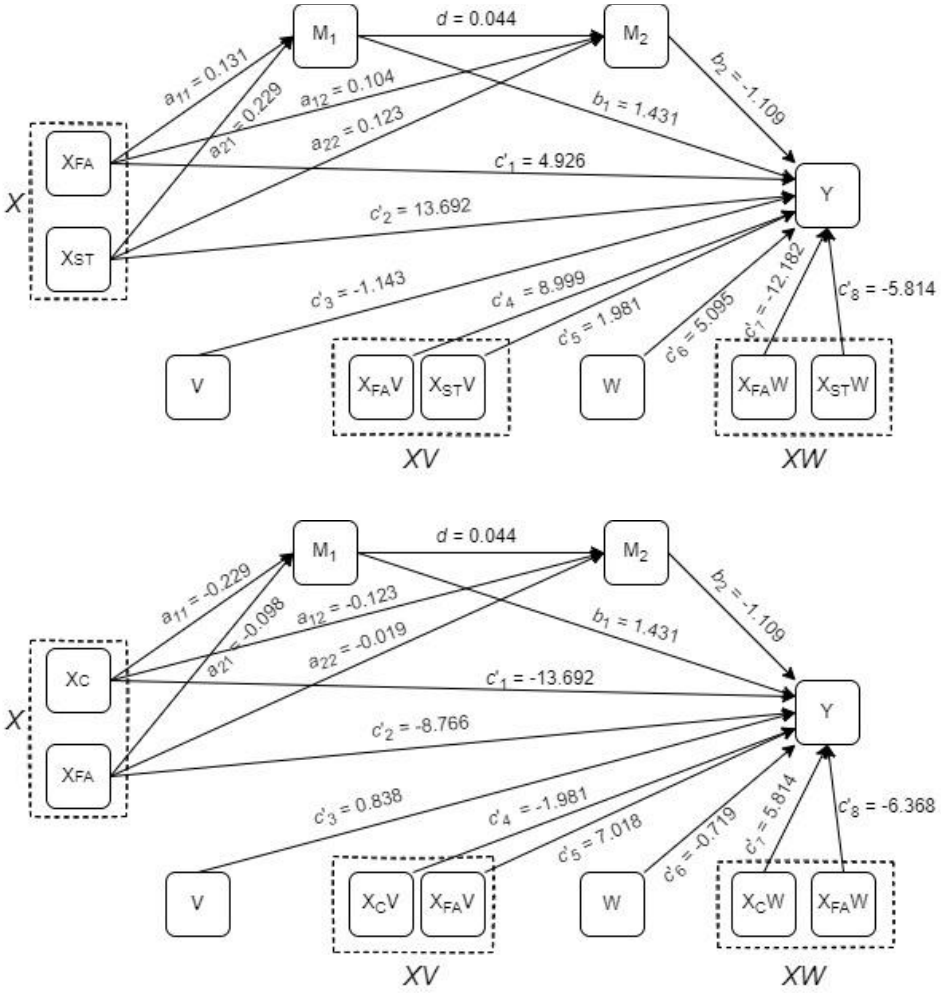
6.4923, $p = 0.0201$) and male R-processors in the Stealing Thunder condition had significantly higher Compensatory Damage scores as compared to male R-processors in the control condition ($b = 14.2790$, $se = 6.8918$, $p = 0.0389$). These results, however, do not support H15b or H15c.

Lastly, examining the mediations pathways predicted in the model, there were no significant mediations/indirect effects of experimental conditions → fear → Compensatory Damages; of experimental conditions → State CEST → Compensatory Damages; or of experimental conditions → fear → State CEST → Compensatory Damages (all 95% CIs contained 0). This suggests that there were no significant mediations in the model and the results did not support H20 or H21.

Follow-up PROCESS Models. Two additional PROCESS models were created that copied the original PROCESS model but used limited datasets—one containing only participants who found the defendant Liable and one containing only participants who found the defendant Not Liable (see Figure 20 and Figure 21, respectively).

***Original PROCESS Model with Participants who Found Defendant Liable*.** The linear regression analysis of all predictor variables regressed onto Compensatory Damages in this reduced dataset was not significant overall, $F(10, 267) = 1.20$, $p = 0.2627$. No variables of interest, including experimental condition (all 95% CIs contained 0), significantly predicted Compensatory Damages meaning H15 was also not supported in this reduced dataset.

Figure 20. PROCESS Model testing hypotheses related to Compensatory Damages (Only Participants who Rendered Liable Verdicts)



An examination of the moderating variables in this reduced dataset suggested there were no significant moderating effect of gender on the experimental condition to Compensatory Damages relationship as well as no significant moderating effect of PSI on the experimental condition to Compensatory Damages relationship (all 95% CIs contained 0). These results suggested that H15b and H15c were, again, not supported.

Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between

experimental condition and fear, between experimental condition and State CEST, or between fear and State CEST (all 95% CIs contained 0). Although not significant, an analysis of State CEST and fear scores in this reduced dataset showed that participants in the control condition had the lowest State CEST (*M* = 1.85) and Fear scores (*M* = 1.46) whereas Stealing Thunder participants had the highest State CEST (*M* = 1.98) and middle Fear scores (*M* = 1.59) and Fear Appeal participants fell between the other two conditions in State CEST (*M* = 1.96) but had the highest Fear (*M* = 1.69).

Examining the mediated pathways predicted by the model, there were no significant mediations/indirect effects of experimental conditions → fear → Compensatory Damages; of experimental conditions → fear → State CEST; of experimental conditions → State CEST → Compensatory Damages; or of experimental conditions → fear → State CEST → Compensatory Damages (all 95% CIs contained 0). This suggests that there were no significant mediations in the model and the results did not support H19, H20, or H21.

***Original PROCESS Model with Participants who Found Defendant Not Liable*.** The linear regression analysis of all predictor variables regressed onto Compensatory Damages in this reduced dataset was not significant overall, $F(10, 113) = 1.65$, $p = 0.1026$. Analyses suggested that Fear Appeal participants (*M* = 36.091) provided significantly *lower* Compensatory Damages as compared to Stealing Thunder participants (*M* = 47.705; *b* = -18.000, *se* = 30.122, $CI_{95\%}$[-128.211, -8.657]). However, because no other variables of interest significantly predicted Compensatory Damages (all 95% CIs contained 0) and because the significant relationship between Fear Appeal and Stealing

Thunder participants was not in the hypothesized direction, H15 was also not supported in this reduced dataset.

Although PSI did not moderate the effect of the experimental conditions on Compensatory Damages in this reduced dataset (95% CI contained 0), gender did relate to Compensatory Damages (*b* = -21.936, *se* = 9.469, $CI_{95\%}$[-40.212, -3.213]) and gender

Figure 21. PROCESS Model testing hypotheses related to Compensatory Damages (Only Participants who Rendered Not Liable Verdicts)

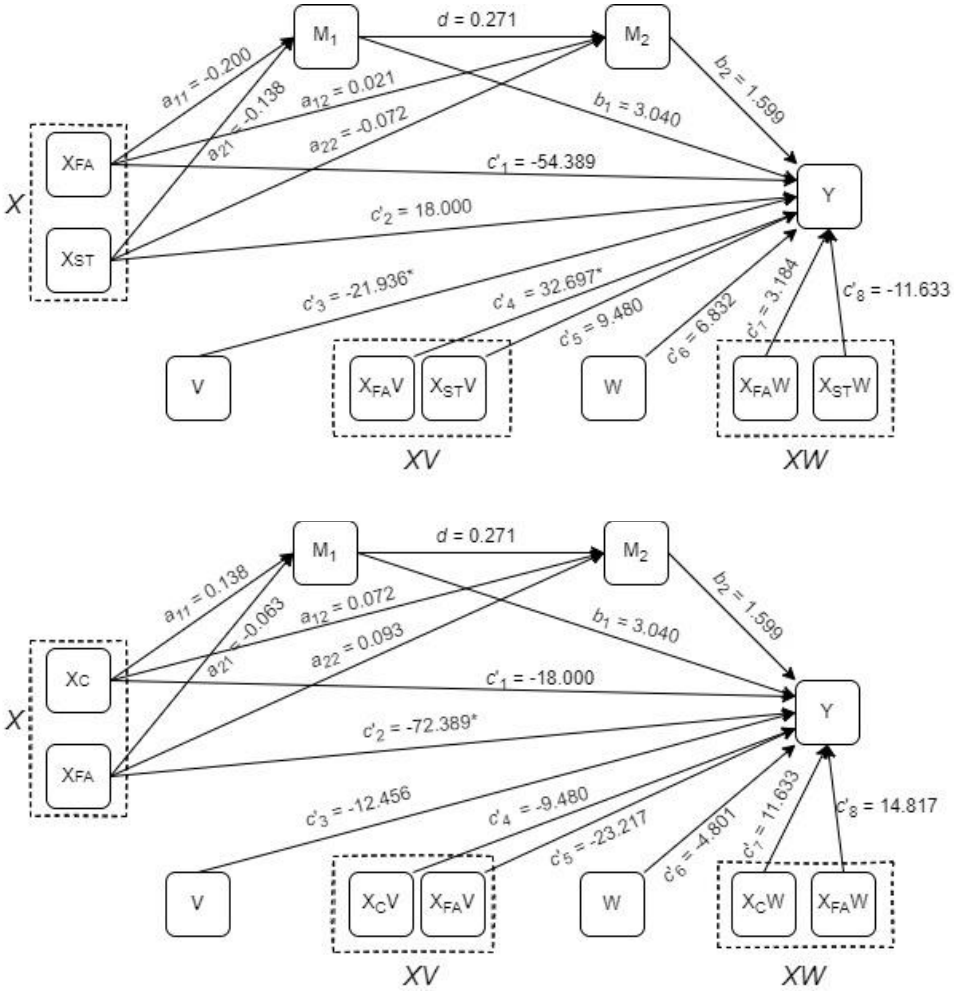
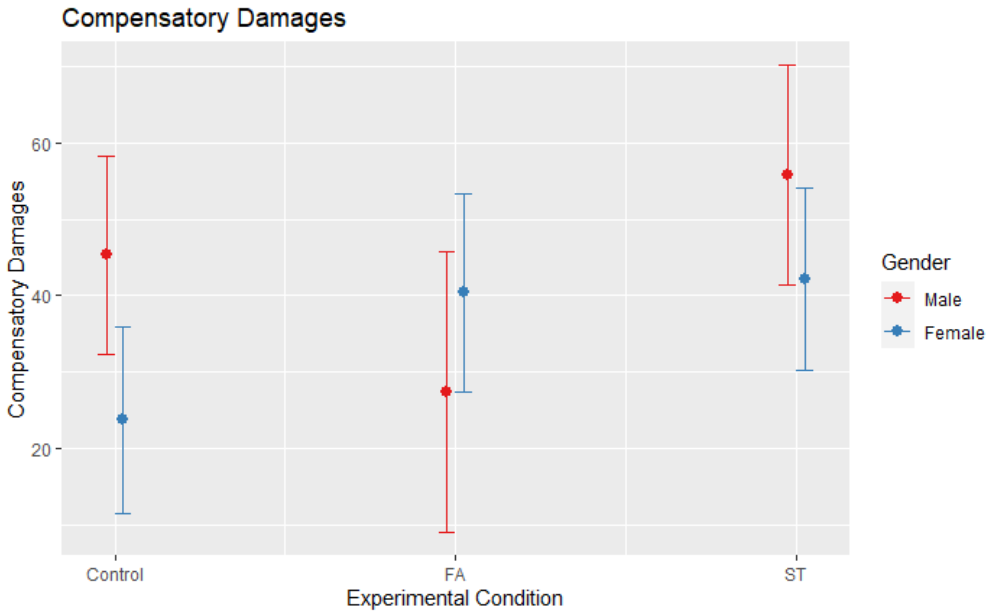


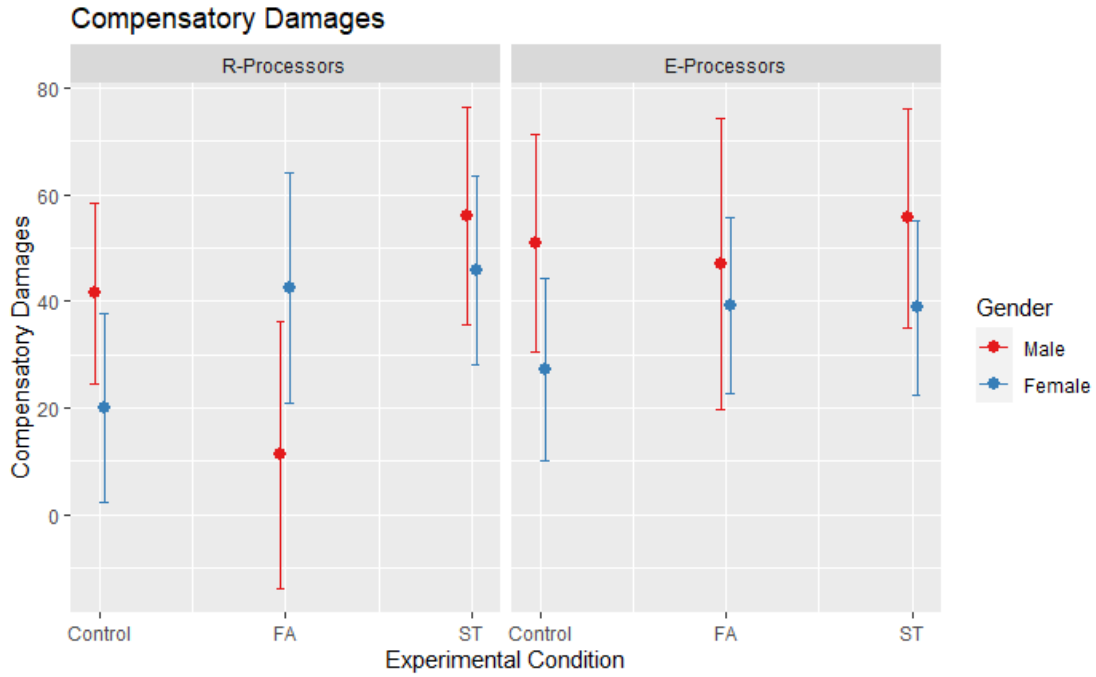
Figure 22. Moderating Effect of Gender on Compensatory Damages among participants who found defendant Not Liable



also qualified the relationship between Fear Appeal participants (as compared to Control participants) and Compensatory Damages (*b* = 32.697, *se* = 15.564, $CI_{95\%}$[1.626, 62.912]; Figure 22).

Further examination suggested there were significant conditional direct effects for certain demographic groups; specifically, female R-processors in the Stealing Thunder condition awarded significantly *higher* Compensatory Damages as compared to female R-processors in the control condition (*b* = 25.3266, *se* = 11.3857, *p* = 0.0281) and male R-processors in the Stealing Thunder condition had significantly *higher* Compensatory Damage scores as compared to male R-processors in the Fear Appeal condition (*b* = 34.3553, *se* = 13.9695, *p* = 0.0154; Figure 23). These results suggested that H15b and H15c were, again, not supported.

Figure 23. Conditional Effects of Experimental Condition x Gender x PSI on Compensatory Damages among participants who found defendant Not Liable



Examining the direct relationships between predictor variables and each mediator in the model, results suggested that there were no significant relationships between experimental condition and fear, between experimental condition and State CEST, or between fear and State CEST (all 95% CIs contained 0). Although not significant, an analysis of State CEST and fear scores in this reduced dataset showed that participants in the control condition had the highest State CEST (M = 2.06) and fear scores (M = 1.31) whereas Stealing Thunder participants had the middle State CEST score (M = 2.03) but the lowest fear scores (M = 1.11) and Fear Appeal participants had the lowest State CEST (M = 1.95) but fell between the other two conditions on fear (M = 1.69).

Examining the mediated pathways predicted by the model, there were no significant indirect effects of experimental conditions → fear → Compensatory Damages; of experimental conditions → fear → State CEST; of experimental conditions

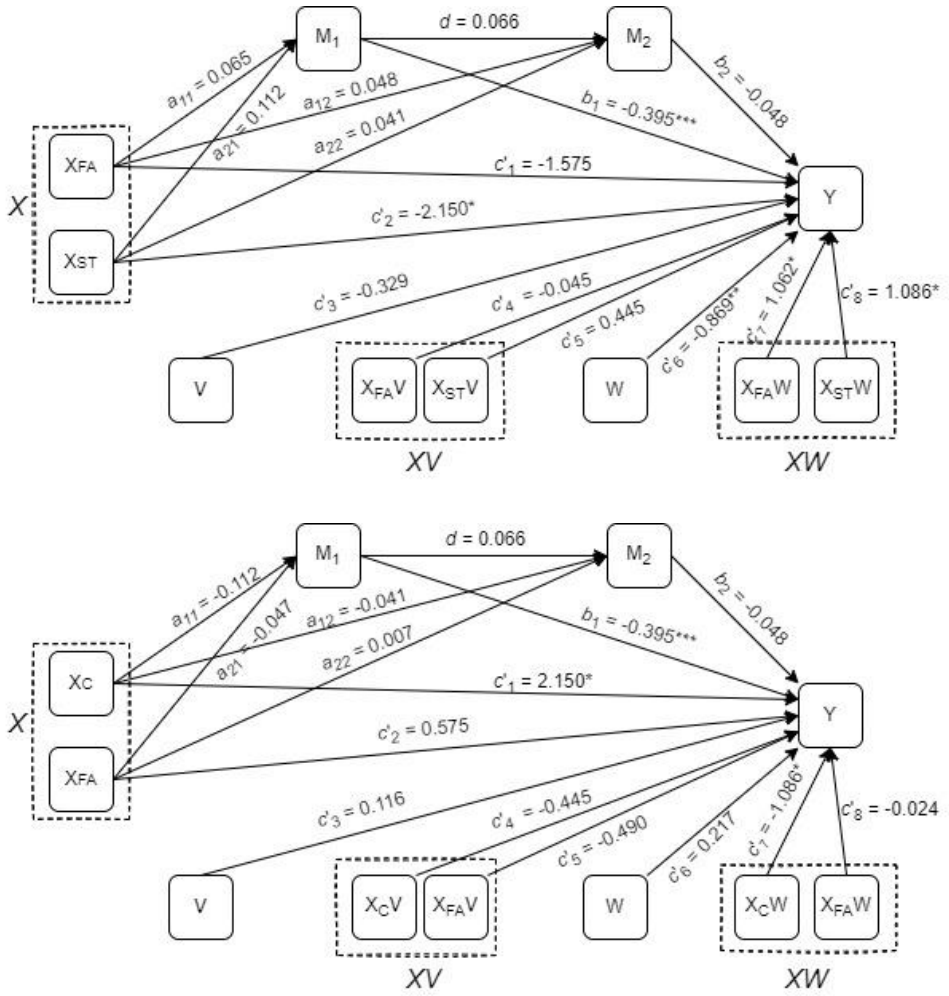
→ State CEST → Compensatory Damages; or of experimental conditions → fear → State CEST → Compensatory Damages (all 95% CIs contained 0). This suggests that there were no significant mediations in the model and the results did not support H19, H20, or H21.

Attorney Credibility Analysis

An initial one-way ANOVA examined the relationship between experimental conditions (Control vs. Fear Appeal vs. Stealing Thunder) and AC scores. The results suggested there were no significant differences between conditions on AC scores, $F(2, 404) = 0.91$, $p = 0.405$, $\eta_P^2 = 0.004$. An examination of the breakdown of AC scores by condition showed that participants across all three conditions provided extremely similar AC ratings (Control $M = 7.57$; Fear Appeal $M = 7.50$; Stealing Thunder $M = 7.80$), suggesting that H16 was not supported.

A single PROCESS model (modified Model 86) analyzed all hypotheses related to AC outcome simultaneously (H16, H20, H21) but also examined possible, non-hypothesized relationships between AC and fear, State CEST, Gender, and PSI (see Figure 24). The linear regression analysis of all predictor variables regressed onto AC was significant overall, $F(10, 391) = 3.10$, $p = 0.0008$. Further examination of the results suggested that Stealing Thunder participants had significantly lower AC scores compared to control participants ($b = -2.1501$, $se = 1.0109$, $CI_{95\%}[-4.0772, -0.1163]$; did not support H16). Additionally, fear ($b = -0.3947$, $se = 0.1003$, $CI_{95\%}[-0.5877, -0.1967]$) and dichotomous PSI categories ($b = -0.8686$, $se = 0.3520$, $CI_{95\%}[-1.5364, -0.1540]$) significantly related to AC.

Figure 24. PROCESS Model testing hypotheses related to Attorney Credibility



Gender did not moderate the effect of the experimental conditions and AC (95% CIs contained 0) but PSI did qualify the relationship between the experimental conditions on AC; specifically, when comparing the control to the Fear Appeal conditions (b = 1.0618, se = 0.4859, $CI_{95\%}$[0.1043, 2.0187]) as well as when comparing the control to the Stealing Thunder conditions (b = 1.0858, se = 0.4858, $CI_{95\%}$[0.0942, 1.9972]). However, PSI did not moderate the effect of experimental conditions on AC when examining the Fear Appeal compared to the Stealing Thunder conditions (b = -0.0240, se = 0.4709,

$CI_{95\%}$[-0.9245, 0.8976]). Examining mean AC for each experimental condition broken down by PSI, results suggest that R-processors had the *highest* AC scores in the control condition (*M* = 8.13), followed by the Stealing Thunder condition (*M* = 7.69), and had the lowest AC scores in the Fear Appeal condition (*M* = 7.57). Conversely, E-processors had the highest AC scores in the Stealing Thunder condition (*M* = 7.89), followed by the Fear Appeal condition (*M* = 7.54), and the *lowest* AC scores in the control condition (*M* = 7.14; see Figure 25).

There were also significant conditional direct effects for certain demographic groups; specifically, female E-processors in the Stealing Thunder condition provided significantly higher AC as compared to female E-processors in the control condition (*b* = 0.9113, *se* = 0.3319, *p* = 0.0063; see Figure 26).

Figure 25. Moderating Effect of PSI on Attorney Credibility

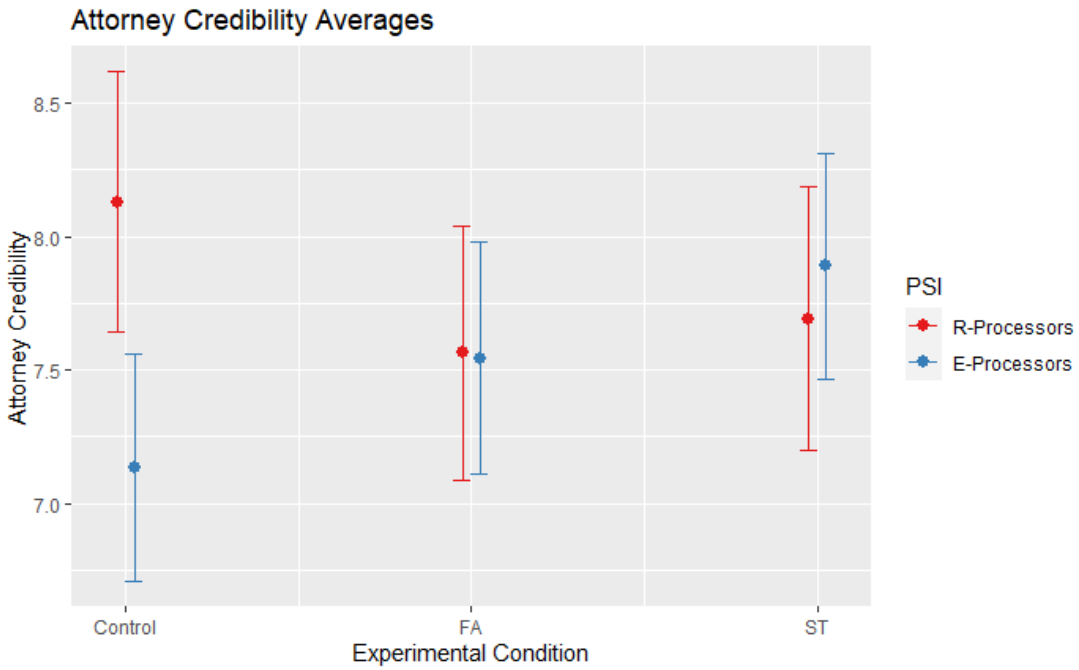
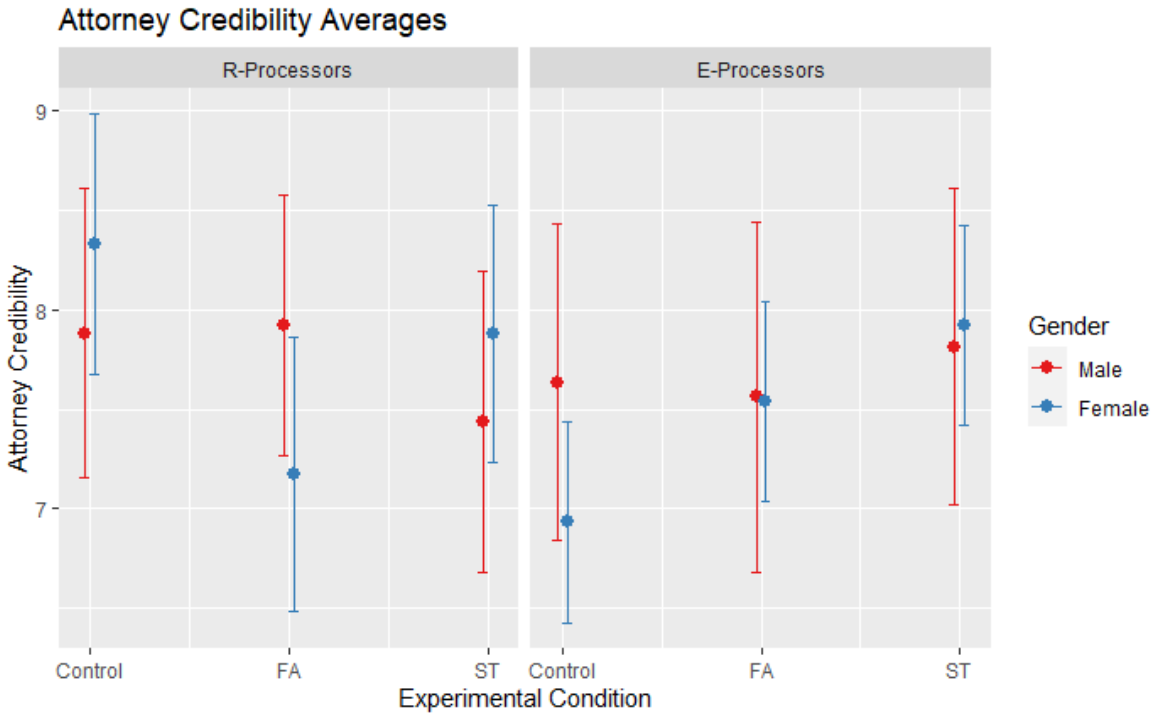


Figure 26. Conditional Effects of Experimental Condition x Gender x PSI on Attorney Credibility



Lastly, examining the mediated relationships predicted by the model, there were no significant mediation/indirect effects or moderated mediations of experimental conditions → fear → AC; of experimental conditions → State CEST → AC; or of experimental conditions → fear → State CEST → AC (all 95% CIs contained 0). This suggests that there were no significant mediations in the model and the results did not support H20 or H21.

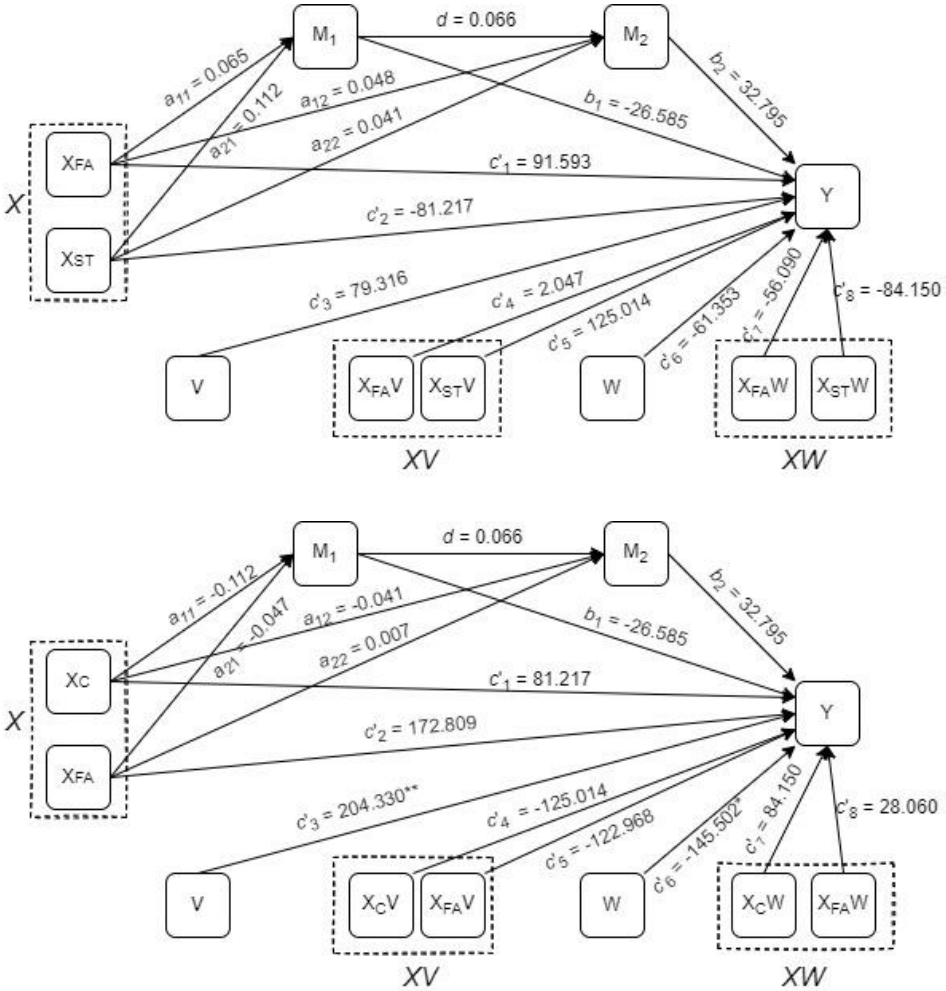
Expert Witness Credibility Analysis

An initial one-way ANOVA examined the relationship between experimental conditions (Control vs. Fear Appeal vs. Stealing Thunder) and expert witness credibility scores. The results suggested there were no significant differences between conditions on expert witness credibility scores and did not support H17, $F(2, 404) = 0.123$, $p = 0.885$,

$\eta_P^2 < 0.001$. Participants across all three conditions were nearly identical in their ratings of EWC (Control *M* = 9.35; Fear Appeal *M* = 9.38; Stealing Thunder *M* = 9.34).

A single PROCESS model (modified Model 86) analyzed all hypotheses related to EWC outcome simultaneously (H17, H20, H21) but also examined possible, non-hypothesized relationships between EWC and fear, State CEST, Gender, and PSI (see Figure 27).

Figure 27. PROCESS Model testing hypotheses related to Expert Witness Credibility



The linear regression analysis of all predictor variables regressed onto EWC was significant overall, $F(10, 391) = 2.88$, $p = 0.0018$. No hypothesized predictor variables, including any experimental condition comparison, significantly related to EWC (all 95% CIs contained 0). However, both Gender ($b = 204.330$, $se = 61.234$, $CI_{95\%}$[84.066, 326.768]) and PSI ($b = -145.502$, $se = 56.351$, $CI_{95\%}$[-253.957, -33.808]) directly related to significant differences in EWC when the Stealing Thunder condition was the reference group but not when the Control condition was the reference group. Further examination of the differences in these variables across conditions suggests that, only for participants in the Stealing Thunder condition, Females and E-processors provided significantly higher EWC scores than their Male and R-processor counterparts, respectively.

An examination of the moderating variables suggested that both gender ($b = 204.330$, $se = 61.234$, $CI_{95\%}$[84.066, 326.768]) and PSI ($b = -145.502$, $se = 56.351$, $CI_{95\%}$[-253.957, -33.808]) related to differences in EWC when Stealing Thunder was the reference category, with females ($M = 930.61$) having higher EWC than males ($M = 825.37$) and R-processors ($M = 944.94$) having higher EWC than E-processors ($M = 852.40$). However, neither gender nor PSI qualified the relationships between experimental conditions and EWC (all 95% CIs contained 0). Additionally, there were no significant conditional direct effects for specific demographic groups.

Lastly, examining the mediated relationships predicted by the model, there were no significant mediation/indirect effects or moderated mediations of experimental conditions → fear → EWC; of experimental conditions → State CEST → EWC; or of experimental conditions → fear → State CEST → EWC (all 95% CIs contained 0). This

suggests that there were no significant mediations in the model and the results did not support H20 or H21.

Emotion Analyses

Additional research questions aimed to assess any potential relationships between experimental condition, other emotions on the DEQ, and the outcomes of interest. Therefore, fear was replaced in the original PROCESS model with stress scores as well as each of the DEQ emotion subscale scores.

Stress. Experimental condition did not significantly relate to stress levels ($F(2,399) = 0.74$, $p > 0.05$; individual condition 95% CIs contained 0) but stress did significantly relate to AC scores ($b = -0.1847$, $se = 0.0443$, $CI_{95\%}[-0.2721, -0.0982]$), and EWC scores ($b = -27.2255$, $se = 7.3495$, $CI_{95\%}[-41.5476, -12.9546]$; stress did not significantly relate to dichotomous liability, Likelihood of Causation, and Compensatory Damages). Additionally, stress did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Anxiety. Experimental condition did not significantly relate to anxiety levels ($F(2,399) = 0.89$, $p > 0.05$; individual condition 95% CIs contained 0) but anxiety did significantly relate to dichotomous liability ($b = 0.4497$, $se = 0.1282$, $CI_{95\%}[0.2477, 0.7547]$), Likelihood of Causation ($b = 5.3166$, $se = 0.9215$, $CI_{95\%}[3.4854, 7.1157]$), Compensatory Damages ($b = 3.1119$, $se = 1.1607$, $CI_{95\%}[0.7251, 5.3114]$), and AC ($b = -0.4056$, $se = 0.0884$, $CI_{95\%}[-0.5770, -0.2361]$). Anxiety did not significantly relate to EWC scores (95% CI contained 0). Additionally, anxiety significantly related to State CEST ($b = 0.0969$, $se = 0.0490$, $CI_{95\%}[0.0010, 0.1932]$). Anxiety did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Anger. Experimental condition did not significantly relate to anger levels ($F(2,399) = 1.00$, $p > 0.05$; individual condition 95% CIs contained 0) but anger did significantly relate to dichotomous liability ($b = 0.8874$, $se = 0.2088$, $CI_{95\%}[0.6133, 1.4307]$), Likelihood of Causation ($b = 6.4364$, $se = 0.7248$, $CI_{95\%}[5.0518, 7.8907]$), Compensatory Damages ($b = 4.8589$, $se = 0.9180$, $CI_{95\%}[2.9982, 6.6163]$), and AC scores ($b = -0.4203$, $se = 0.0751$, $CI_{95\%}[-0.5640, -0.2726]$). Anger did not significantly relate to EWC scores (95% CI contained 0). Anger also did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Disgust. Experimental condition did not significantly relate to disgust levels ($F(2,399) = 0.38$, $p > 0.05$; individual condition 95% CIs contained 0) but disgust did significantly relate to dichotomous liability ($b = 0.8572$, $se = 0.2653$, $CI_{95\%}[0.5236, 1.5484]$), Likelihood of Causation ($b = 6.7447$, $se = 0.9815$, $CI_{95\%}[4.9017, 8.7781]$), Compensatory Damages ($b = 6.3575$, $se = 1.2408$, $CI_{95\%}[3.8886, 8.7783]$), and AC scores ($b = -0.5660$, $se = 0.0980$, $CI_{95\%}[-0.7628, -0.3778]$). Disgust did not significantly relate to EWC scores (95% CI contained 0). Disgust also did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Happiness. Experimental condition did not significantly relate to happiness levels ($F(2,399) = 0.43$, $p > 0.05$; individual condition 95% CIs contained 0) and happiness did not significantly relate to any trial outcome DV (95% CIs for happiness to dichotomous liability, Likelihood of Causation, Compensatory Damages, AC, and EWC all contained 0). Happiness did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Sadness. Experimental condition did not significantly relate to sadness levels ($F(2,399) = 0.43$, $p > 0.05$; individual condition 95% CIs contained 0) but sadness did significantly relate to dichotomous liability ($b = 0.5403$, $se = 0.1533$, $CI_{95\%}[0.3021, 0.9058]$), Likelihood of Causation ($b = 5.3904$, $se = 1.1025$, $CI_{95\%}[3.1805, 7.5634]$) Compensatory Damages ($b = 4.8271$, $se = 1.3230$, $CI_{95\%}[2.2332, 7.4403]$), and AC scores ($b = -0.3981$, $se = 0.0966$, $CI_{95\%}[-0.5817, -0.2034]$). Sadness did not significantly relate to EWC scores (95% CI contained 0). Sadness also significantly predicted State CEST ($b = 0.1056$, $se = 0.0553$, $CI_{95\%}[0.0019, 0.2177]$) but did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Relaxation. Experimental condition did not significantly relate to relaxation levels ($F(2,399) = 1.70$, $p > 0.05$; individual condition 95% CIs contained 0) but relaxation did significantly relate to dichotomous liability ($b = -0.1863$, $se = 0.0765$, $CI_{95\%}[-0.3430, -0.0423]$), Likelihood of Causation ($b = -2.3184$, $se = 0.9105$, $CI_{95\%}[-4.0935, -0.5275]$), Compensatory Damages ($b = -2.1687$, $se = 1.0282$, $CI_{95\%}[-4.1459, -0.1454]$), and AC scores ($b = 0.2986$, $se = 0.0711$, $CI_{95\%}[0.1550, 0.4332]$). Relaxation did not significantly relate to EWC scores (95% CI contained 0) and relaxation did not mediate the experimental condition to DV relationship (all Index of Mediation 95% CIs contained 0).

Discussion

Study 2 evaluated the influence of fear appeals and stealing thunder from fear appeals on participants' emotional state, cognitive processing state, and trial perceptions (i.e., dichotomous verdict decisions, Likelihood of Causation, Compensatory Damage awards, Attorney Credibility, and Expert Witness Credibility) in a simulated jury trial.

No research could be found that investigated the use of fear appeals in the context of a trial nor could any research be found that used stealing thunder as a tactic to combat emotional appeals. Therefore, this study is exploratory in nature and was intended to serve as the basis for which future research could build. Just as with Study 1, the results of Study 2 were mixed (see Table 2 for the full hypothesis table).

Fear, Fear Appeals, and Stealing Thunder. The manipulation checks were examined to ensure that participants could accurately recall the first person to present the information that formed the basis of the fear appeal and both H12 and H12b posited that there would be significant differences between experimental conditions on reported levels of fear. Unfortunately, the results suggested that participants outside of the Control condition had a difficult time recalling who was the first person in the trial transcript to present the information that formed the basis of the fear appeal and this showed in the fear analysis—there were no significant differences on reported fear between any of the three experimental conditions (i.e., Control, Fear Appeal, and Stealing Thunder). It could also be that participants in the experimental condition did not believe that the criteria necessary for a fear appeal was met, such as the presented threat was insufficiently serious or that they were not susceptible to the threat. So, although the pilot study found that there were significant differences between experimental conditions on reported fear, these results did not translate to Study 2.

In addition to fear, the experimental condition was hypothesized to directly relate to all of the trial outcomes of interest (i.e., dichotomous liability, Likelihood of Causation, Compensatory Damages, Attorney Credibility, Expert Witness Credibility) as well as state cognitive processing (H13-H18). Despite the lack of differences on reported

fear, experimental condition significantly related to dichotomous liability, Likelihood of Causation scores, and Attorney Credibility. However, these relationships were not as hypothesized and, therefore, did not fully support any of the associated hypotheses (H13, H14, and H16, respectively). For H13 and dichotomous liability, Fear Appeal participants provided significantly more Liable verdicts as compared to Control participants, which supported H13, but there was no significant difference between Fear Appeal and Stealing Thunder participants, which did not support H13. H14 had a similar result in that Fear Appeal participants had significantly higher Likelihood of Causation scores compared to Control participants, which supported H14, but, again, there was no significant difference between Fear Appeal and Stealing Thunder participants, which did not support H14.

This series of findings suggests that, although fear did not significantly increase in the Fear Appeal condition compared to the control condition, there was some other factor that drove the significant differences between conditions. One possibility is that the Fear Appeal condition contained more detail and information than the control condition. However, the Stealing Thunder condition *also* contained the additional information presented in the Fear Appeal condition yet there were no significant differences between these the Stealing Thunder and control conditions on dichotomous liability or Likelihood of Causation scores. Another possibility is that the fear appeal increased an emotion that was not measured on the DEQ or the DEQ did not accurately measure an emotion that was manipulated between conditions. According to the ATF, fear closely aligns with other emotions on various appraisal dimensions, such as with contempt on responsibility and attention or with shame on anticipated effort and pleasantness (Lerner & Keltner, 2000; Smith & Ellsworth, 1985). Therefore, the fear appeal might have actually

manipulated one of these other emotions which drove the differences between conditions on decision-making outcomes.

For Attorney Credibility and H16, it was hypothesized that Stealing Thunder participants would have significantly higher Attorney Credibility scores than either Fear Appeal or Control participants. The results suggest that Stealing Thunder participants actually had significantly *lower* Attorney Credibility scores as compared to Control participants and did not significantly differ compared to Fear Appeal participants, meaning H16 was not supported. This reversal goes against the predictions of the Stealing Thunder literature because one of the theory's underpinnings is that stealing thunder by presenting negative information early should increase the presenter's credibility (Howard et al., 2006; Williams & Dolnik, 2001). There are multiple reasons to explain why the Stealing Thunder-Attorney Credibility relationship was not as hypothesized, such as the defense attorney creating a negative schema of the defendant (Williams et al., 1993) as well as admitting to and increasing the availability of negative information regarding the defendant (Dolnik et al., 2003; Howard et al., 2006; Williams & Dolnik, 2001).

Additionally, participants in the Stealing Thunder condition might have experienced a Boomerang Effect (Hovland et al., 1953). When a person believes that their agency or freedom is restricted, especially after being exposed to a persuasion tactic, an unintended consequence might be a sense of anti-conformity in that the person decides *against* the desired outcome of the persuader (Byrne & Hart, 2009). Because the Stealing Thunder message stated that the opposing side would try to scare jurors and the only rational decision was to side with the defense (i.e., the side presenting the Stealing

Thunder message), participants might have felt this was an attempt by the attorney to remove their freedom to choose which, inadvertently, created a Boomerang Effect and led more participants to side with the plaintiff (i.e., the side who did not present the Stealing Thunder message).

Fear was also hypothesized to mediate the relationship between experimental condition and state cognitive processing (H19). Because there was no direct effect of experimental condition on either Fear or State CEST (i.e., state cognitive processing) there was no mediation for fear.

Moderating Effects of Gender and PSI. Hypotheses 13 through 15 each had two sub-components in which Gender was hypothesized to moderate the relationship between experimental condition and the outcome of interest (H13b-H15b) or in which PSI was hypothesized to moderate the relationship between experimental condition and the outcome of interest (H13c-H15c). Neither Gender nor PSI were significant as sole moderators in any of the three PROCESS models that assessed these hypotheses, but there were significant conditional effects for all three PROCESS when combining the moderating effects of Gender and PSI. Male R-processors had 1) significantly higher rates of rendering Liable verdicts in the Fear Appeal condition as compared to the Control or Stealing Thunder conditions, 2) significantly higher Likelihood of Causation scores in the Fear Appeal condition as compared to the Control condition, and 3) significantly higher Compensatory Damages awarded in the Stealing Thunder condition as compared to the Control condition (both across the entire dataset as well as the reduced dataset of only participants who found the defendant Not Liable). Additionally, female R-processors had 1) marginally significantly higher Likelihood of Causation

scores in the Fear Appeal condition as compared to the Control condition, and 2) significantly higher Compensatory Damages awarded in the Fear Appeal condition as compared to the Control condition (again, in both the whole dataset and the reduced dataset of only participants who found the defendant Not Liable). Despite these significant findings, none of the six hypotheses were supported because the categories that differed and/or the direction of those differences were not hypothesized. These results also suggest that, under some conditions, R-processors' decision-making is significantly influenced by the presence of emotional manipulations (or even tactics to mitigate the effects of emotional manipulations) which is directly counter to previous research (e.g., Gunnell & Ceci, 2010). R-processors are, theoretically, more inclined to use the *rational* cognitive processing route and be less influenced by extra-legal information (e.g., emotional testimony; Gunnell & Ceci, 2010), yet only R-processors were found to have significantly different decision-making across experimental conditions.

Even though E-processors' rates of Liable verdicts were not significantly different compared to R-processors, it is important to note that the E-processors followed the hypothesized trend—E-processors had the lowest rates of Liable verdicts in the Control condition, the highest rates of Liable verdicts in the Fear Appeal condition, and a drop in rates of Liable verdicts when a Stealing Thunder manipulation was added to the Fear Appeal. This trend is precisely how the presence of a fear appeal and stealing thunder were hypothesized to relate to the dataset. This trend supports previous research (Gunnell & Ceci, 2010) in that E-processors are influenced by extra-legal information to provide harsher penalties but also extends the literature by providing (limited) support that certain

tactics (e.g., Stealing Thunder) might suppress some of the biasing effects of the extra-legal information.

Surprisingly, males followed a very similar pattern to that of E-processors which is counter to how gender was hypothesized to relate to liability verdicts. Males were hypothesized to be unaffected by the emotional manipulations because previous research suggests that fear appeals are more likely to influence or affect females (Tannenbaum et al., 2015). In fact, Tannenbaum and colleagues (2015) found that as the percent of females in the sample population increases, there should be a similar increase in the effectiveness of the fear appeal. Despite the sample in Study 2 being nearly two-thirds female, the effectiveness for the fear appeal was not present. So, although the differences were not significant, it is surprising and interesting to see that males were, to some extent, influenced by the emotional manipulations whereas females had relatively consistent rates of Liable verdicts across all three conditions.

Although not hypothesized, the same moderators were assessed to examine whether there were any interactions pertaining to experimental condition and Attorney or Expert Witness Credibility. The results suggested that there were significant direct effects of Gender and PSI but no significant moderations for Expert Witness Credibility. However, Attorney Credibility was moderated by participant PSI. This moderation was driven by the fact that, out of the three experimental conditions, Control R-processors provided the *highest* Attorney Credibility scores whereas Control E-processors provided the *lowest* Attorney Credibility scores. Additionally, female E-processors provided significantly higher Attorney Credibility scores in the Stealing Thunder condition as compared to the Control condition. This is interesting to note because these results are

how Gender and PSI were hypothesized to relate to the entire dataset (i.e., higher Attorney Credibility in the Stealing Thunder condition), so it is interesting to see that the hypothesis appears to find support when limiting the dataset to specific demographic variables.

State Cognitive Processing. Hypothesis 18 was formatted as a competing hypothesis in which the principles of the ATF (H18a) and CEST (H18b) were used to create differing expectations regarding state cognitive processing. However, because none of the experimental conditions significantly related to State CEST scores, there was no direct evidence to support either H18a or H18b. In fact, State CEST was nearly identical across all three experimental conditions (Control M = 1.925; Fear Appeal M = 1.978; Stealing Thunder M = 1.974). Hypothesis 20 also posited that State CEST would mediate the relationship between experimental condition and trial outcomes. No significant mediation was found, again, in part because there was no significant relationship between experimental condition and State CEST.

Emotions. The remaining analyses assessed the proposed research questions (RQ4 & RQ5) pertaining to the relationships of stress and emotions from the DEQ and their relationship to incivility and trial outcomes. RQ3 asked whether Fear Appeals relates to any emotions from the DEQ that were not previously address (i.e., Anger, Disgust, Fear, Happiness, Sadness, and Relaxation) and results suggest that, no, there were no significant relationships between experimental condition and any of these emotions. The final research question probed whether any other emotion on the DEQ (RQ5) mediated the relationship between experimental condition and trial outcomes. Similar to other analyses (e.g., state cognitive processing), there were no mediations of

other emotions from the DEQ—high uncertainty emotions or otherwise—between the experimental condition to trial outcomes relationships, in part because experimental condition did not significantly relate to any other emotion from the DEQ which is necessary for a mediation (RQ5 not supported).

Although these research questions were not supported, there were some interesting findings involving the other emotions. First, increases in four of the emotions—Anxiety, Anger, Disgust, and Sadness—related to increases in punitive decision-making (i.e., increased rates of finding defendant Liable, increased Likelihood of Causation scores, and increased Compensatory Damages awarded) and lower Attorney Credibility ratings. Interestingly, the ATF posits that these emotions differ along various spectrums, such as Sadness being an emotion that relates to situational control where Anger relates to personal control. The finding that such diametrically opposed emotions, in addition to Anxiety and Disgust, significantly related to the same variables in the same direction (i.e., all related to increased punitiveness) appears to provide more support for a CEST framework in that higher levels of emotionality created similar outcomes.

Increases in both Anxiety and Sadness also related to increased State CEST scores. This is an opposite finding from Study 1 in that Study 2 results suggest that increases in specific "negative" emotions on the DEQ (as opposed to increases in specific "positive" emotions in Study 1) related to increased non-rational cognitive processing. These are the only two emotions that significantly related to state cognitive processing as opposed to the hypothesized, "negative" emotion of Fear that was predicted to relate to state cognitive processing. It is also somewhat surprising that Anxiety significantly related to State CEST in Study 2 but not in Study 1 when it was hypothesized to be

related. Unlike the results of Study 1, no relationship could be found between Anxiety and Sadness on appraisal dimensions that might explain why these two emotions related to increased state cognitive processing whereas no other emotion did.

Stress was also found to significantly relate to lower Attorney Credibility scores *and* lower Expert Witness Credibility scores. Although somewhat surprising, this finding does fit with some of the past research on stress. Increased levels of bystander stress (i.e., stress from observing another situation) has been related to dissatisfaction with coworkers (Hitlan et al., 2006). If jurors perceive the courtroom and trial to be their workplace and job, respectively, then increases in bystander stress might increase negative perceptions of others in this "workplace" which would manifest as lower credibility ratings. As opposed to Study 1 in which there was a specific person creating stress and was, therefore, a target to which jurors could direct negative attitudes toward (e.g., uncivil attorney), Study 2 had no specific target and participants might have lower perceptions of *all* trial participants. Because perceptions of other trial participants were not collected this potential explanation cannot be confirmed.

Another interesting finding regarding emotion is that Relaxation significantly related to the same four trial outcomes as Anxiety, Anger, Disgust, and Sadness (i.e., dichotomous liability, Likelihood of Causation, Compensatory Damages, and Attorney Credibility) but in the exact opposite way. Increases in Relaxation related to *less* punitive decision-making and increases in Attorney Credibility.

Chapter 15: General Discussion

The purpose of these two studies was fourfold: 1) to investigate the relationship of an indirect (i.e., observed incivility) and a direct (i.e., Fear Appeal) emotional manipulation of mock jurors to their perceptions and decision-making, 2) examine the relationship between attempted emotional manipulations, experienced emotions, state cognitive processing and decision-making, 3) explore how gender and trait cognitive processing moderate decision-making across various emotional manipulations, and 4) investigate whether Stealing Thunder can be an effective tactic to combat a direct emotional manipulation. Additional findings from both of these studies illustrate how reported emotional states relate to perceptions of trial parties and legal decision-making outcomes. The results of these studies provide insight for both the legal and academic community.

Emotional Manipulations

The two studies investigated the relationship between indirect and direct emotional manipulations of jurors to evaluate the resultant effects of these manipulations. The results suggest that the direct emotional manipulation (i.e., Fear Appeal) significantly related to more predicted differences in trial decision-making outcomes and perceptions than the indirect emotional manipulation (i.e., observed incivility). Specifically, the presence of a Fear Appeal related to increased rates of Liable verdicts, increased perceptions of defendant liability (i.e., Likelihood of Causation), and lower Attorney credibility compared to a control condition whereas observed incivility only related to lower Attorney Credibility and increased reported Stress compared to a control condition. This would suggest that a direct emotional manipulation would be more effective at

influencing potential jurors on important legal decision-making (i.e., determinations of liability). However, this relationship might only be related to the specific emotional manipulations used.

Although not significantly related to trial decision-making outcomes, the open-ended responses from participants did provide some support for the notion that incivility related to more punitive behavior toward the uncivil defense attorney. Participants who received an incivility manipulation mentioned the attorney's uncivil behavior as part of their rationale for finding the defendant Liable which points to intent to punish the uncivil attorney by not siding with that attorney in mock jurors' determination of liability. This supports past research which posits that witnesses to incivility will punish the instigator of the uncivil behavior (Reich & Hershcovis, 2015). The same line of research also posits that witnesses to the incivility will *not* punish the target of incivility which was supported by the lack of significant differences between the Control and Incivility conditions on Expert Witness Credibility (i.e., the target of the incivility).

The addition of the Stealing Thunder condition in Study 2 aimed to assess whether the tactic was effective at eliminating the effects of a fear appeal on decision-making directly related to trial outcomes. Although there were no significant differences between the Stealing Thunder and Fear Appeal conditions on dichotomous liability or Likelihood of Causation scores, Stealing Thunder participants did have a lower percentage of Liability responses than Fear Appeal participants (67.4% Liable compared to 76.1%, respectively) and a lower average Likelihood of Causation score (65.92 vs. 69.38). So, although there were no significant differences, the simple addition of a statement by the defense attorney related to lower punitiveness on these two measures.

A rather surprising finding, though, was that Stealing Thunder related to *higher* Compensatory Damages awarded compared to both Control and Fear Appeal participants. This increased score was completely counter to what was hypothesized. Stealing Thunder participants had to receive a fear appeal in addition to the stealing thunder, so there exists the possibility that the emotional manipulation led (or, at the very least, party led) to the increased Compensatory Damages award. This explanation, though, does not replicate with the findings of lower dichotomous liability and Likelihood of Causation scores. Future research should examine the relationship of the stealing thunder tactic to see if this trend replicates.

Beyond trial decision-making outcomes, however, both studies found very little evidence to suggest that these emotional manipulations related to participants' emotional states or their state cognitive processing. The lack of differences on both of these measures goes against much of the literature which would posit that emotional manipulations (as the name implies) would engender specific emotions (Miner-Rubino & Cortina, 2004; Porath & Erez, 2009; Tannenbaum et al., 2015) and differences in state cognitive processing (Han et al., 2007; Lerner & Keltner, 2000; Lieberman, 2002). Albeit the ATF and CEST have opposing viewpoints on what the predicted changes in state cognitive processing would be based on the engendered emotion (Denes-Raj & Epstein, 1994; Epstein et al., 1996; Lerner et al., 2015), but some reported differences were expected. The lack of significant differences on reported emotions (outside of Stress in Study 1) is both surprising and curious.

There are a variety of reasons for the lack of significant relationships between the studies' emotional manipulations and participants' emotional states or state cognitive

processing. The first and most straightforward is that these emotional manipulations simply do not have any bearing on participants' emotional or cognitive states. A second possibility entails the proximity of the emotional manipulation to the reporting of emotional and cognitive states. The incivility manipulation in Study 1 and Fear Appeal manipulation in Study 2 both occurred near the mid-way point of the trial transcript. Many studies examining the effects of emotional or cognitive manipulations (e.g., Lerner et al., 1998; Lerner & Keltner, 2000, 2001; Lieberman, 2002) present the manipulation close to or immediately before the decision-making task. Even studies examining legal decision-making (e.g., Lieberman, 2002) presented the emotional manipulation immediately prior to decision-making tasks. The two studies presented in this dissertation examined effects of emotional manipulations primarily during testimony and were formatted to increase external validity by holding true to the temporal order of the legal process. The length of time, however, between when the manipulation was presented and when participants were asked to report emotional and cognitive states might have reduced or eliminated the effects of the manipulations. Third, due to the nature of the study (i.e., legal decision-making), participants might have refrained from reporting elevated emotional states so as to not appear biased and increase their social desirability (i.e., emotionless juror; Chung & Monroe, 2003).

There were also multiple hypotheses throughout both studies relating to the mediating effects of either emotional states or state cognitive processing states on the relationship between emotional manipulations and trial outcomes. However, both studies failed to find a single mediation. This could be in part due to the lack of significant relationships between many of the emotional manipulations and trial outcomes as well as

the lack of significant relationships between those same emotional manipulations and reported emotional states and state cognitive processing. Overall, the results from both studies do not support the notion that emotional states or state cognitive processing mediate the decision-making process. There exists the possibility that the instruments used to measure emotional states and state cognitive processing were not sufficiently sensitive or effective at accurately probing those cognitive processes. However, because these same scales and measures *did* relate to significant differences in other analyses, it lends credence to the idea that there is no mediation.

State Cognitive Processing

In both studies, the emotion manipulation was hypothesized to relate to state cognitive processing and, as previously mentioned, there were no significant relationships found in either study with the entire dataset. There was, however, one significant relationship found in Study 1—Control participants who found the defendant Not Liable had significantly higher non-rational state cognitive processing compared to Incivility participants who found the defendant Not Liable. This trend was also found across all Study 1 participants in the dataset despite there being no significant differences (Control State CEST $M = 2.07$; Incivility State CEST $M = 1.93$). Taking into account the results that the presence of incivility related to increased levels of reported stress and stress is linked to anxiety—an uncertainty emotion (Lerner et al., 2007)—this would provide evidence to support the ATF.

Conversely, some of the findings across both studies provide evidence against the ATF. The primary example is that multiple emotions that are diametrically opposed in their appraisal dimensions, most notably in Study 1 in which Anxiety, Fear, and Anger.

Anxiety and Fear (both uncertainty emotions) significantly related to more punitive responses on dichotomous liability, Likelihood of Causation, and Compensatory Damages but Anger (a certainty emotion) *also* related to more punitive behaviors on the same trial decision-making outcomes. Although all three of these emotions would typically be considered "negative" emotions, the ATF—going beyond simple emotional valence—suggests that uncertainty emotions would lead to different appraisal tendencies than certainty emotions; specifically, uncertainty emotions would relate to deeper thought (i.e., rational cognitive processing) whereas certainty emotions would lead to less deep thought (i.e., non-rational cognitive processing) and the resulting decision-making would differ between participants that experienced these varying emotional states because of carryover effects (Ask & Granhag, 2006; Lerner et al., 1998). Although there were different emotions on the certainty spectrum, increased levels of both certainty and uncertainty emotions led to the same decision-making outcomes—increased punitiveness.

Because there were no consistent significant relationships between emotional states and state cognitive processing in both studies, no definitive claims can be made regarding which cognitive processing theory was more supported.

Individual Differences

The two individual differences that were assessed in these two studies were gender and trait cognitive processing (i.e., PSI). Based on previous literature it was expected that E-processors (Gunnell & Ceci, 2010) and females (Cesario et al., 2008; Hahn & Clayton, 1996; Lockwood et al., 2005; Tannenbaum et al., 2015) would be more influenced by emotional manipulations than R-processors and males, respectively. Although there were limited findings that supported previous literature, most significant

interactions related to gender and PSI were counter to the studies' hypotheses. In Study 1, males and R-processors had the largest increases between the Control and Incivility conditions regarding the percent of Liable responses rendered and R-processors (both male and female) had significantly lower Attorney Credibility scores in the Incivility condition compared to the Control condition whereas E-processors did not differ.

Study 2 had even more stark contrasts—male R-processors in the Fear Appeal condition had significantly higher rates of Liable verdicts and higher Likelihood of Causation scores compared to the Control condition and male R-processors in the Stealing Thunder condition awarded significantly higher Compensatory Damages compared to the Control condition. Female R-processors in the Fear Appeal condition also had marginally significantly higher Likelihood of Causation scores and significantly higher Compensatory Damages awarded compared to the Control condition.

The only significance found for E-processors was that female E-processors provided significantly higher Attorney Credibility scores in the Stealing Thunder condition as compared to the Control condition. This finding stood out because this pattern of results is how gender and PSI were hypothesized to relate to the entire dataset (i.e., higher Attorney Credibility in the Stealing Thunder condition), so the hypothesis appears to find support when limiting the dataset to the two demographics that were hypothesized to be *most* affected by emotional manipulations.

These patterns of findings would suggest that, not only were the hypotheses not supported, but the trends go against much of what previous research has found. Part of the discrepancy between the findings from these studies and what previous literature posits could be the self-report nature of the measure and the calculation of the variable.

PSI is calculated off the REI-40 which is a self-report assessment of trait cognitive processing, so participants might respond differently to what they actually believe to increase social desirability (Chung & Monroe, 2003). Additionally, using the method established by Gunnell and Ceci (2010), PSI scores will differ from sample to sample because PSI is calculated using the sample's median Rationality and median Experiential score from the REI-40. This means there exists the possibility that a sample is highly Rational and half of the participants being labeled as E-processors are only more inclined to use the Experiential processing route compared to others in the study, or vice versa.

One consideration for future research might be to use a continuous PSI score rather than a dichotomized PSI. Dichotomization removes variability in the data and will group participants together who vary quite drastically on their continuous scores. Being that this was the method used in previous research that found significant findings (Gunnel & Ceci, 2010) it was also implemented in both studies, but modifications to future research could investigate the suitability of a continuous PSI measure. As mentioned, PSI is also calculated based on the current sample which might change from study to study. Therefore, a more standardized measure, such as using the actual Rationality and Experiential scores, might provide further insight into the relationships between emotional manipulations and trial decision-making outcomes that can also be standardized across studies.

Emotions

The only hypotheses pertaining to emotions were for Stress and Anxiety in Study 1 and fear in Study 2. Multiple research questions were formulated to probe whether emotional manipulations related to additional emotions on the DEQ, whether those

emotions related to significant differences on trial decision-making outcomes, and whether emotions mediated the relationships between emotional manipulations and trial decision-making outcomes. Only Stress was found to be significantly related to an incivility manipulation, meaning no support was found for significant relationships between any of the emotional manipulations and any of the emotions on the DEQ. Emotions were also not significant mediators of any relationship between emotional manipulations and trial outcomes. However, multiple emotional states significantly related to trial decision-making outcomes in both studies.

One of the most interesting findings was that increases in certain emotional states related to the same trial decision-making outcomes across both studies. Specifically, Anxiety, Anger, Disgust, and Fear *all* had a significant, positive relationship with punitive behaviors (i.e., more Liable verdicts, higher Likelihood of Causation scores, higher Compensatory Damages) in both Study 1 and Study 2 as well as increases in Anger, Disgust, and Fear all relating to significantly lower Attorney Credibility scores in both studies. These emotions were not hypothesized to relate to decision-making in the studies, so it is interesting to see the consistent relationships between emotional states and decision-making in different samples with different attempted emotional manipulations.

From a psychological standpoint, the findings of anger, disgust, and fear all relating to increased punitiveness supports previous research (Goldberg et al., 1999; Lerner et al., 1998; Litvak et al., 2006; Nuñez et al., 2015; Stevenson et al., 2015). Very little research was found regarding anxiety and how it relates to punitive decision-making. Interestingly, of the research that could be found, Clark and colleagues (2017) found a relationship between anxiety and punitive decision-making, but had a different

temporal rationale; specifically, the decision to punish another person induces stress. Participants were asked to reflect and provide their emotional experience while reading the transcript but, because emotional states were measured after participants rendered their verdicts and answered all decision-making questions (e.g., Likelihood of Causation, Compensatory Damages), those decisions might have led to the emotional states rather than the emotional states leading to decisions. This is something to examine or to control for in future research.

From a legal standpoint, these emotions would be considered extra-legal integral emotions as they relate to dichotomous liability and Likelihood of Causation because, although the emotional states might relate to the trial at hand, these legal decision-making outcomes should be free from the influence of emotion (Feigenson, 2009). The law does allow for emotion to factor into moral judgments and assessments of credibility of attorneys, meaning these same emotions are legal integral emotions as they pertain to Compensatory Damages and Attorney Credibility (Bandes & Blumenthal, 2012; Hastie, 2001; Karstedt, 2002; Pettys, 2007). This creates a difficult position for the legal system because jurors who are experiencing heightened emotions are expected to not allow those emotional states to influence certain decisions but are allowed to let the *same* emotional states influence other decisions.

Implications for Psychology

Results from this line of research have implications for psychological research. Taken together, the results from these studies suggest that future research should examine the relationship of these specific indirect and direct emotional manipulations as well as how other emotional manipulations relate to legal decision-making outcomes in a

courtroom setting. In a comparison of Study 1 and Study 2 results, it appears that direct emotional manipulations were more effective than indirect emotional manipulations at relating to significant differences in decision-making outcomes. This difference in effectiveness needs to be probed further, using other direct and indirect emotional manipulations to see if the trend holds.

For psychology and law research, these results also suggest that emotional manipulations in trial scenarios are effective at creating some differences in mock jurors' decision-making. Additionally, although not significant, Stealing Thunder did reduce participants' rates of Liable verdicts and Likelihood of Causation scores, suggesting that there could be benefits of stealing thunder from an emotional manipulation. Future psychology and law research should assess whether stealing thunder from other attempted emotional manipulations provides any changes in mock jurors' decision-making.

These studies also intended to provide insight regarding which cognitive processing theory (i.e., ATF or CEST) is more appropriate for research that is examining emotional states. Unfortunately, the results did not provide any definitive results to support one cognitive processing theory over the other and further research into the differences between these theories is necessary. The results did, however, suggest that decision-maker's emotional states significantly relate to multiple outcomes throughout the trial process, including Study 1 finding that emotions with similar appraisal dimensions (i.e., pleasantness and anticipated effort) significantly related to outcomes. Moving forward, psychological decision-making research would benefit from the inclusion of emotional state measures (even if emotion is not being manipulated) to

assess how emotional states relate to decision-making outcomes. At the very least, future research could control for emotional states in their analyses to verify that any differences in decision-making is not related to differences in emotions rather than any other manipulation.

Implications for the Legal System

The results from this line of research have implications for the legal system, attorneys in particular. Study 1 and Study 2 both support the notion that emotional manipulations—whether direct or indirect—can influence jurors' perceptions and decision-making. Recommendations for attorneys regarding the specific implementation of either of these emotional manipulations are completely opposed. Study 1 results suggested that the use of incivility as an indirect emotional manipulation and increased levels of stress and/or anxiety related to worse outcomes for the defense (i.e., the side that displayed incivility). This suggests that jurors believe it is improper for attorneys to display aggressive emotions and uncivil behaviors toward expert witnesses and, therefore, it is recommended that attorneys avoid displays of incivility while in the courtroom.

The results of Study 2, though, would lead to recommendations of actively implementing rather than avoiding trial tactics; fear appeals provided by the plaintiff's expert witness related to more punitive decision-making toward the defendant and the defense attorney's use of stealing thunder did limit the increases in punitiveness for some legal decision-making outcomes. These recommendations are not universal, though. The use of fear appeals is only recommended for the plaintiff (or, potentially, prosecution) because increases in emotions typically associated with fear appeals relate to increases in

punitiveness, meaning the defense would likely benefit from avoiding the use of fear appeals. Similarly, stealing thunder limited some displays of punitiveness, which makes it ideal for the defense to use, but there is no evidence to suggest that stealing thunder could be used by the plaintiff to *increase* displays of punitiveness toward the defense.

As just mentioned, one of the most important recommendations for attorneys based on the results of these two studies is that jurors' emotional states were the strongest predictors of punitiveness, regardless of emotional manipulation. In both Study 1 and Study 2, increased Stress, Anxiety, Fear, Anger, and Disgust all related to increased punitiveness. For plaintiff (or, presumably, prosecution) attorneys, increases in these emotions would theoretically relate to increased punitiveness toward the defense, suggesting that presentations of testimony and evidence that amplify these emotions would be beneficial. Conversely, defense attorneys should aim to limit or eliminate jurors' negative emotionality to reduce jurors' punitiveness.

From an administrative perspective, it would behoove the judicial system to examine whether certain types of emotion-eliciting or emotion-manipulating testimony (e.g., fear appeals) would be inadmissible based on Rule 403 of the Federal Rules of Evidence. The results of these two studies suggest that heightened levels of certain emotional states related to increased punitiveness. Therefore, testimony that aims to create a desired emotional state in jurors might be deemed to have an excessive emotional impact compared to the probative value of the evidence and render the testimony inadmissible. However, the results of these studies also provide evidence against this argument in that, excluding the incivility and stress relationship, neither direct nor indirect emotional manipulations significant related differing emotional states in jurors.

So, although emotions relate to different legal decision-making, attempts to manipulate jurors to experience a desired emotion were, for the most part, ineffective.

There are also implications for jury selection and case theory. If plaintiff attorneys know in advance that they will be using a fear appeal, then the results of these studies suggest that knowing jurors' trait cognitive processing preferences and having more R-processors will relate to increases in punitive trial outcomes. A similar trend would suggest that plaintiff attorneys should also focus on including as many males on the jury as possible but, because of potential challenges to exclusion of jurors based on gender (*J.E.B. v. Alabama*, 1994), it would not be legal to exclude jurors based solely on their gender. Therefore, knowing the makeup of the jury regarding gender and PSI (i.e., how many jurors are male/female and R-processors/E-processors) could help guide attorneys on the most effective case theory. If the jury is composed of mostly male R-processors, the use of a fear appeal by the plaintiff would be expected to be more effective than if the jury was composed of mainly female E-processors.

Limitations

As with all studies, there are weaknesses and limitations associated with the design and methodological choices of the studies; some are related to jury decision-making research in general whereas others apply only to these specific studies. Jury decision-making research has been critiqued as lacking in verisimilitude because of a lack of consequences regarding participants' decisions, inadequate or non-representative sampling, and a lack of verisimilitude (Bornstein et al., 2017; Wiener et al., 2011) which, in turn, limits the external validity of these studies (Wiener et al., 2011). Essentially, the lack of a realistic courtroom and trial setting decreases the likelihood that any significant

results of jury decision-making research would translate to an actual trial. To address the consequentiality component, the studies were formatted as a summary jury trial which, inherently, has a lower level of consequentiality and the decisions and outcomes are more in-line with what would actually occur (i.e., because jurors are not providing a verdict to which the courts are bound but, rather, jurors are providing insight and recommendations for future court proceedings). The study was also limited to jury-eligible participants who self-select into participating in and completing MTurk surveys and the demographics of these participants might not reflect the U.S. population as a whole. For example, some canvasses of MTurk workers have found that, compared to the general working public, MTurk workers have lower yearly household earnings, are younger, are less ethnically diverse, and are more educated (Pew Research Center, 2016). However, some argue that using samples other than university or college students is still an improvement in jury verisimilitude (Pew Research Center, 2016).

An additional critique of many jury decision-making studies is the lack of verisimilitude, or the accuracy of the study in reflecting what really occurs in trial and what is asked of jurors (Bornstein et al., 2017). For example, studies that have individual participants make judgments and render verdicts, as is the case in both studies, lack jury deliberations which might affect participants' responses and, therefore, affect the external validity of any subsequent findings (Bornstein et al., 2017; Devine et al., 2001). During jury deliberations, jurors must discuss facts of the trial and defend their position to other jurors to reach one agreed-upon conclusion. Deliberations, therefore, might act as a mechanism to limit or eliminate the influence and bias created by emotional manipulations, regardless of whether the manipulations were direct or indirect. Without

these deliberations, participants might provide more polarized decisions (e.g., more harsh or more lenient than would have occurred had there been deliberations). Although some summary jury trials might ask for jurors to render their own, individualized verdicts (Lambros, 1986), deliberation amongst jurors regarding the facts of the case is still the norm and, therefore, having only individualized verdicts is still a departure from typical trials.

Another lack of verisimilitude in this study is the presentation format. Jurors do not read trial transcripts and then make determinations about verdicts, perceptions of trial, and respond to numerous questionnaires or scales. Rather, jurors observe the presentation of evidence and arguments at trial and are only asked to make specific decisions (i.e., verdicts) pertaining to the trial. Again, formatting the study as a summary jury trial does allow for some deviation from that of a normal trial that still reflect what might happen in real life – for example, some summary jury trials will have attorneys ask jurors questions about their perceptions of the trial after the verdicts are rendered (Lambros, 1986) – but this process is still not in line with the more consequential trials where jurors will watch the trial and only be asked to render a binding verdict, not respond to questionnaires and scales. Along these same lines, the written presentation of the study materials, rather than a taped audio and visual recording or a live presentation, means that key components of a trial were not included and is another limitation of the study. For example, participants could not observe trial participants' non-verbal behavior or other jurors' reactions to the presentation of evidence which might have influenced their perceptions and decision-making.

The length of the trial transcripts presents another potential limitation. All of the transcripts are over 3,000 words long and are extensive so as to more accurately represent a trial scenario and an expert witness's testimony. Also, because of the manipulations presented in both studies, the length of the trial transcripts varies between 3,060 and 3,495 words. This presents the possibility that participants' responses might have differed because of the difference in amount of information they receive.

There are also weaknesses associated with the measurement of processing and length of the study. As previously mentioned, there are no scales to assess levels of state *experiential* processing, so analyses were focused solely on levels of state *rational* processing. Additionally, the length of the study was rather long with participants completing a "screener," reading through the majority of a trial transcript, and then completing various scales and questionnaires. On average, participants took approximately 26 minutes to complete Study 1 and slightly less than 29 minutes to complete Study 2. This might have affected participants' attention and information retention. Future research will need to address these limitations to build upon the foundation of research created by these studies.

In addition to the length of the study, the temporal order and timing of the questions limit the ability to draw conclusions regarding causality. After the presentation of the emotional manipulation, participants were *first* asked to render their verdict, Likelihood of Causation, and Compensatory Damages and *then* provide their emotional states. Therefore, similar to the findings of Clark and colleagues (2017) in that punitive decisions related to increased levels of anxiety, it could be that rendering a punitive decision relates to higher emotional states rather than higher emotional states relate to

more punitive decision-making. The wording of the question did ask participants to think back and provide their emotional states during the emotional manipulation, but that does not ensure participants' responses were not influenced by emotions engendered from rendering punitive decisions.

Future Directions

These two studies examined emotional manipulations that have been extensively studied but applied them to a novel scenario—the effects of emotional manipulations on mock jurors in a trial setting. One of the primary aims of future studies should be to further probe the relationships between incivility and fear appeals on jurors' decision-making. This includes replication studies to verify the results presented are accurate as well as modifications to the current studies to improve validity and generalizability of results. Based on some of the limitations previously mentioned, these future studies could increase generalizability making the trial experience more realistic. This could be accomplished by creating study materials that present the trial information via some audio/visual method, such as videotapes or a live presentation. Adding group deliberations to mimic jury deliberations would also increase generalizability, especially the generalizability of results to a non-summary trial scenario.

The materials themselves could also be modified in the future. One of the biggest faults with Study 2 was that, despite the findings of the pilot study, the fear appeal did not relate to significant differences in reported fear among participants. Strengthening the fear appeal might provide additional and new insight about the relationship between fear appeals and trial decision-making. Along the same lines, researchers could assess whether there are more appropriate or more sensitive scales to measure emotions and

state cognitive processing which, again, might provide new insight and information. The temporal order of the questions could also be modified so that participants are providing feedback regarding their emotional states immediately after an emotional manipulation rather than later in the study when other decision-making tasks might cloud or affect participants' self-reported emotional states.

Lastly, variations of the trial scenario and study materials could provide additional insight. Future research could examine how decision-making varies based on the target of incivility (e.g., vary by gender, social status, or different trial participants) or based on who delivers the fear appeals (e.g., from a non-expert versus an expert witness, from a defendant, from an attorney). The case information could also be changed to see whether there are effects of emotional manipulations in civil trials that do not pertain to cancer or in criminal trials. And, finally, researchers could substitute other indirect or direct emotional appeals to further expand the knowledge of the field of psychology and law.

Chapter 16: Conclusion

Emotions in the courtroom have the potential to influence and affect how jurors perceive trial information and could have some bearing on the outcome of a trial. More thoroughly understanding these effects and influences can assist legal professionals and psychology researchers on ways to limit any biasing effects of emotions that might lead to sub-optimal juror decision-making, such as unjust verdicts. The two studies aimed to shed light on the role of specific emotional manipulation tactics—both indirect (i.e., incivility) and direct (i.e., fear appeal)—regarding the specific emotions that are engendered, cognitive processing, and the resultant relationship with trial outcomes. The results suggest that both indirect and direct emotional manipulations can relate to differences in mock juror decision-making. These studies also suggest that knowing the emotional states of jurors is of the utmost importance for predicting jurors' decisions.

These studies provide information regarding only a small piece of the proverbial puzzle, but each piece is important in putting together the full picture. The results advance psychological science's understanding of the relationship between emotional appeals, emotional states, and mock jurors' trial decision-making outcomes. The results also provide attorneys and legal professionals with insights as to how and when emotional appeals might be effective tools as well as information to better understand the relationship of emotional appeals and jurors' potential decision-making. The results from these studies can serve as a framework for approaching new lines of research regarding emotional appeals in the courtroom that will ideally address some of the limitations mentioned.

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Appendix A – Study 1 Materials

Both conditions received the following instructions and information:

Study Instructions

Thank you for choosing to participate. As a new, alternative dispute resolution technique being implemented by certain courts across the country, you are going to be asked to review the transcript of a summary jury trial. These trials are conducted as a kind of mock trial to inform parties and attorneys about whether their case is worth pursuing or whether it is best for one or both parties to settle out of court.

The attorneys in this case have asked for an external review of the transcript to gather feedback, impressions, and decisions regarding their evidence and trial approaches. None of the decisions you provide are legally binding in any way, but we ask that you be as open and honest as possible – the information you provide will help guide attorneys in their future decisions regarding this case.

To protect the identities of all parties involved, no video was taken of the proceedings and only a transcript will be provided. Again, to protect identities, all identifiable information, such as party names, have been changed.

In the ensuing pages you will find case information in the following order:

- An overview of the trial
- A definition of the burden of proof
- The facts that must be proved in this case
- Opening statements
- Testimony from an expert witness
- Closing statements
- Jury instructions
- Trial decisions and case impressions

Please carefully read the entire transcript and all accompanying information before responding to the questions at the end. Please answer all questions to the best of your abilities.

Overview of Trial

To assist you in your tasks as jurors, I will now explain how the trial will proceed. I will begin by identifying the parties to the case. Jamie Smith filed this lawsuit. They are called a plaintiff. They seek damages from CSE Corp, who is called a defendant.

Jamie Smith claims he contracted skin cancer because of his consistent contact with CSE Corp's chemical product, Green Grass Grows. CSE Corp denies those claims.

First, each side may make an opening statement, but neither side is required to do so. An opening statement is not evidence. It is simply an outline to help you understand what that party expects the evidence will show.

Next, the jury will hear the evidence. The only evidence presented at today's proceedings will be expert witness testimony from Dr. Sylvia Johnson. The witness will first be

questioned by the side that asked the witness to testify. This is called direct examination. Then the other side is permitted to question the witness. This is called cross-examination. After the evidence has been presented, I will instruct you on the law that applies to the case and the attorneys will make closing arguments. What the parties say in closing argument is not evidence. The arguments are offered to help you understand the evidence and how the law applies to it.

Burden of Proof

The parties must persuade you, by the evidence presented, that what they are required to prove is more likely to be true than not true. This is referred to as "the burden of proof." After weighing all of the evidence, if you cannot decide that something is more likely to be true than not true, you must conclude that the party did not prove it. You should consider all the evidence, no matter which party produced the evidence.
In criminal trials, the prosecution must prove that the defendant is guilty beyond a reasonable doubt. But in civil trials, such as this one, the party who is required to prove something need prove only that it is more likely to be true than not true.

Strict Liability – Failure to Warn – Essential Factual Elements

Jamie Smith claims that the product – Green Grass Grows – lacked sufficient warning of potential risks. Both parties agree to specific facts of the case, such as that CSE Corp manufactures and distributes Green Grass Grows and that the plaintiff has been accurately diagnosed with skin cancer. To establish this claim, Jamie Smith must prove the following:

1. That Green Grass Grows had potential risks that were knowable in light of the scientific knowledge that was generally accepted in the scientific community at the time of manufacture and distribution; and
2. That CSE Corp failed to adequately warn of the potential risks

Opening Statements

Plaintiff

The evidence presented here will prove that Jamie Smith's illness was a direct cause of contact with CSE Corp's product Green Grass Grows and that CSE Corp should have known that Green Grass Grows posed a threat to consumers, yet failed to warn them of this danger.

Good morning. My name is Richard Maroney and I am here on behalf of my client, Jamie Smith. Mr. Smith is a 47-year-old man who has worked for the past ten years as a landscaper. In his capacity as a landscaper, Mr. Smith was exposed to CSE Corp's product Green Grass Grows – a chemical spray used as a combination of weed killer and grass seed fertilizer. He would spray this chemical on commercial and private properties on an almost daily basis, breathing fumes and sometimes getting the chemical on his

clothes and skin. This exposure has been linked to Mr. Smith's skin cancer diagnosis in 2020, a disease from which he has suffered physically, emotionally, and monetarily, having already spent countless hours and tens of thousands of dollars on medical care. However, CSE Corp does not, and has never, warned the public about this severe risk associated with using their product.

That is what this case is all about. A happy, healthy, 47-year-old man whose life has totally changed as a direct result of the defendant's failure to warn. I look forward to presenting that evidence to you. At the end of this proceeding, I will come back up here and ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Good morning. My name is Steven Lee and I represent the defendant, CSE Corp. My client sympathizes with Mr. Smith and the difficulty he has been through.

However, the burden of proof is on the plaintiff to show that my client knew of research suggesting the chemicals in Green Grass Grows causes skin cancer and that it failed to warn consumers. Based on the extensive research conducted by CSE Corp and what was known to the company at the time that Green Grass Grows was manufactured, we will show that CSE Corp followed all the industry's guidelines and regulations regarding warnings.

Throughout the course of this case we will show the extent that CSE Corp went to and the precautions they took to ensure the safety of their products and the accurate reporting of all warnings. These precautions even went above and beyond every industry-standard regarding health warnings. I look forward to presenting that evidence to you and will ask, at the end this proceeding, to come back with the only reasonable decision – a judgment in favor of CSE Corp by returning a finding of Not Liable. Thank you.

Expert Witness Testimony

Direct Examination

MR. RICHARD MALONEY (plaintiff's attorney): Good morning. Please introduce yourself and tell the jury where you are currently employed.

DR. SYLVIA JOHNSON: My name is Dr. Sylvia Johnson. I am currently employed as a cancer epidemiologist at the International Agency for Research on Cancer, or the IARC, and have been with the IARC for 15 years.

MR. MARONEY: Could you tell us about your educational background?

DR. JOHNSON: Absolutely. I receive a Bachelor of Science in Chemistry from the University of Illinois-Chicago and a dual M.D.-Ph.D. from the University of Rochester with an emphasis in Toxicology.

MR. MARONEY: And what does it mean to be a cancer epidemiologist at IARC?

DR. JOHNSON: The IARC is part of the World Health Organization, or the WHO. In my lab, we test chemicals to determine whether the presence or absence of a specific chemical relates to increases or decreases in the likelihood of a person developing cancer. The IARC is one of the largest and most well-renown cancer research centers in the world. We also work with organizations as health advocates to help them stay up-to-date and informed about our research.

MR. MARONEY: Now, Dr. Johnson, are you familiar with CSE Corp's product Green Grass Grows?

DR. JOHNSON: Yes, I am.

MR. MARONEY: Could you tell us about the chemical composition of the product?

DR. JOHNSON: Green Grass Grows is an herbicide which has a primary chemical ingredient called glyphosate.

MR. MARONEY: Have you ever conducted research on the effects of glyphosate?

DR. JOHNSON: Yes, I have. In 2015, my lab at the IARC conducted studies into the carcinogenic nature of glyphosate and found that the chemical, by our standards, is "probably carcinogenic in humans" making it a Class 2A agent. In other terms, we found that consistent exposure to glyphosate poses a risk of causing cancer.

MR. MARONEY: And what would be considered "consistent exposure" by the IARC?

DR. JOHNSON: We found that the daily maximum intake level of glyphosate to be 1 milligram per kilogram of body weight per day. Anything over that level would be considered toxic and could lead to health risks.

MR. MARONEY: So, if a 175-pound man were to use this chemical on a daily basis, would breathing in Green Grass Grows and sometimes having it contact his skin be sufficient to hit this daily maximum?

DR. JOHNSON: There is more than enough glyphosate in Green Grass Grows for a person to intake more than the 1 milligram per kilogram of body weight per day maximum I just mentioned, yes.

MR. MARONEY: And Dr. Johnson, is the IARC alone in their findings regarding the effects of glyphosate?

DR. JOHNSON: No. The IARC, the Cancer Research Institute, the Food and Agriculture Organization of the United Nations, and the European Chemicals Agency have all issued similar reports regarding the risks of cancer related to glyphosate.

MR. MARONEY: And when were these reports issued?

DR. JOHNSON: All of the organizations released a report in 2015, so a little over 5 years ago.

MR. MARONEY: Would it be safe to say, then, that the negative effects related to glyphosate, the primary chemical ingredient in Green Grass Grows, has been knowable and accepted in the scientific community for approximately 5 years?

DR. JOHNSON: I would say so, yes.

MR. MARONEY: Dr. Johnson, do you know whether CSE Corp currently or has ever included warnings regarding the use of glyphosate in Green Grass Grows?

DR. JOHNSON: I know that CSE Corp has never included any warnings regarding glyphosate on Green Grass Grows.

MR. MARONEY: And how do you know that?

DR. JOHNSON: My lab has personally reached out to CSE Corp about this issue in our professional capacity as IARC health advocates.

MR. MARONEY: And how did CSE Corp respond when you reached out to them?

DR. JOHNSON: I received an email from one of the heads of CSE Corp stating they did not need to include a warning because, based on their in-house research and the research they were familiar with, glyphosate does not pose a threat of cancer.

MR. MARONEY: Thank you Dr. Johnson. No further questions.

Control Condition Materials:

Expert Witness Testimony

Cross-Examination

MR. STEVEN LEE (defendant's attorney): Good morning Dr. Johnson. You mentioned that CSE Corp informed you that they had conducted their own research in-house

regarding glyphosate. CSE Corp's research found that glyphosate does not pose a threat of cancer. Have you reviewed that research?

DR. SLYVIA JOHNSON: Yes, I have.

MR. LEE: Based on the standards and practices in your field, are there methodological errors in their research?

DR. JOHNSON: Errors? No, not that I could find.

MR. LEE: Are there statistical errors in their research?

DR. JOHNSON: Not that I found, no.

MR. LEE: So, is there any issue or error you could find that would suggest, based on the way CSE Corp conducted their research, that their conclusions – glyphosate does not pose a threat of cancer – is inaccurate?

DR. JOHNSON: No, there were no errors. But I noted that their study observed effects in lab animals for only half the amount of time as our studies.

MR. LEE: Is it a requirement that all studies examine effects for the same amount of time as your study?

DR. JOHNSON: No, it is not.

MR. LEE: In fact, CSE Corp informed you in their email that they had actually conducted studies that were three times longer than the U. S. Environmental Protection Agency, or the EPA, required, isn't that correct?

DR. JOHNSON: Yes, that is correct.

MR. LEE: So, no issues with how the CSE Corp study was conducted and it was more rigorous than the EPA required. Now, you mentioned a few organizations that had similar findings as the IARC regarding glyphosate. Dr. Johnson, are you aware of the 2015 report from the European Food Safety Authority regarding glyphosate?

DR. JOHNSON: I am, yes.

MR. LEE: And this EFSA report found that glyphosate is unlikely to pose a carcinogenic threat to humans. Is that correct?

DR. JOHNSON: From my memory of the report, yes.

MR. LEE: And even your own organization, the World Health Organization, released a report in 2016 with a clarification that health risks might exist for chemical formulas that contain glyphosate, but studies that look solely at glyphosate as the only active substance did not show health risks. Is that correct?

DR. JOHNSON: That clarification was issued because all our studies had included chemical formulas that contained glyphosate in addition to other chemical compounds but none of our studies were conducted using solely glyphosate.

MR. LEE: But the studies that looked solely at glyphosate did not show health risks, correct?

DR. JOHNSON: That's correct, but those studies were conducted by other organizations years ago and have methodological issues.

MR. LEE: Ok, let's move on. Are you familiar with the Federal Institute for Risk Assessment's toxicology review from 2013 pertaining to glyphosate?

DR. JOHNSON: Yes, I am familiar with it.

MR. LEE: And this review found that the data and results regarding glyphosate were contradictory and far from convincing. Is that an accurate representation of that review's findings?

DR. JOHNSON: From what I recall, yes, those were their findings. But that review looked at data and results over the prior 30 years when some of the current forms of analysis were unknown and some chemical tests had not been invented yet.

MR. LEE: Still, Dr. Johnson, based on all these reports that have contradictory findings, how can you say that any health risks associated with glyphosate have been knowable and accepted in the scientific community?

DR. JOHNSON: The IARC and the Cancer Research Institute comprise the foremost experts in the field of cancer epidemiology – we have the most cutting-edge technology and advanced scientific assessment tools. The fact that the two most prominent cancer research institutes came to a similar conclusion regarding a chemical should hold sufficient weight in the scientific community to be generally accepted.

MR. LEE: Regardless of the fact that other organizations, including the company on trial, have conducted extensive research and found no link between glyphosate and cancer?

DR. JOHNSON: As I said, the research conducted by IARC and the Cancer Research Institute are of the highest quality and consistent findings between those two organizations should qualify as acceptance in the scientific community.

MR. LEE: No further questions.

Incivility Condition Materials:

Expert Witness Testimony

Cross-Examination

MR. STEVEN LEE (defendant's attorney): Ms. Johnson, you mentioned that CSE Corp informed you that they had conducted their own research in-house regarding glyphosate. CSE Corp's research found that glyphosate does not pose a threat of cancer. Have you reviewed that research?

DR. SYLVIA JOHNSON: Yes, I have.

MR. LEE: Based on the standards and practices in your field, are there methodological errors in their research?

DR. JOHNSON: Errors? No, not that I could find.

MR. LEE: Are there statistical errors in their research?

DR. JOHNSON: Not that I found, no.

MR. LEE: So, is there any issue or error you could find that would suggest, based on the way CSE Corp conducted their research, that their conclusions – glyphosate does not pose a threat of cancer – is inaccurate?

DR. JOHNSON: No, there were no errors. But I noted that their study...

MR. LEE: [Interrupting] Ms. Johnson, please only answer the question asked. So that is a no? There were no errors?

DR. JOHNSON: Again, no, but their study observed effects in lab animals for only half the amount of time as our studies.

MR. LEE: Is it a requirement that all studies examine effects for the same amount of time as your study?

DR. JOHNSON: No, it is not.

MR. LEE: In fact, CSE Corp informed you in their email that they had actually conducted studies that were three times longer than the U.S. Environmental Protection Agency, or the EPA, required, isn't that correct?

DR. JOHNSON: Yes, that is correct.

MR. LEE: So, no issues with how the CSE Corp study was conducted and it was more rigorous than the EPA required. Now, you mentioned a few organizations that had similar findings as the IARC regarding glyphosate. Ms. Johnson, are you aware of the 2015 report from the European Food Safety Authority regarding glyphosate?

DR. JOHNSON: I am, yes.

MR. LEE: And this EFSA report found that glyphosate is unlikely to pose a carcinogenic threat to humans. Is that correct?

DR. JOHNSON: From my memory of the report, yes.

MR. LEE: And even your own organization, the World Health Organization, released a report in 2016 with a clarification that health risks might exist for chemical formulas that contain glyphosate, but studies that look solely at glyphosate as the only active substance did not show health risks. Is that correct?

DR. JOHNSON: That clarification was issued because...

MR. LEE: [Interrupting] Again, Ms. Johnson, is that correct? Yes or no, please.

DR. JOHNSON: Yes, but...

MR. LEE: [Interrupting] So, yes, the WHO issued a release?

DR. JOHNSON: ...all of our studies had included chemical formulas that contained glyphosate in addition to other chemical compounds but none of our studies were conducted using solely glyphosate.

MR. LEE: But the studies that looked solely at glyphosate did not show health risks, correct?

DR. JOHNSON: That is correct, but those studies were conducted by other organizations years ago and have methodological issues.

MR. LEE: I guess I need to repeat myself. Ms. Johnson, please refrain from answering anything other than the question asked with a yes or no. Ok, let's move on. Are you familiar with the Federal Institute for Risk Assessment's toxicology review from 2013 pertaining to glyphosate?

DR. JOHNSON: Yes, I am familiar with it. And please refer to me as "Dr. Johnson."

MR. LEE: And this review found that data and results regarding glyphosate were contradictory and far from convincing. Is that an accurate representation of the review's findings?

DR. JOHNSON: From what I recall, yes, those were their findings. But that review...

MR. LEE: [Interrupting] So that is a "yes." Moving on...

DR. JOHNSON: ...looked at data and results over the prior 30 years when some of the current forms of analysis...

MR. LEE: [Interrupting] Moving on, Ms. Johnson.

DR. JOHNSON: ...were unknown and some chemical tests had not been invented yet.

MR. LEE: Your honor, I would like the end of Ms. Johnson's response to be stricken from the record.

JUDGE: Overruled.

MR. LEE: Still, Ms. Johnson, based on all these reports that have contradictory findings, how can you say that any health risks associated with glyphosate have been knowable and accepted in the scientific community? How can we trust anything you've said when it is clear you are trying to mislead the jury with your false claims?

DR. JOHNSON: The IARC and the Cancer Research Institute comprise the foremost experts in the field of cancer epidemiology – we have the most cutting-edge technology and advanced scientific assessment tools. The fact that the two most prominent cancer research institutes came to a similar conclusion regarding a chemical should hold sufficient weight in the scientific community to be generally accepted.

MR. LEE: Regardless of the fact that other organizations, including the company on trial, have conducted extensive research and found no link between glyphosate and cancer?

DR. JOHNSON: As I said, the research conducted by IARC and the Cancer Research Institute are of the highest quality and consistent findings between those two organizations should qualify as acceptance in the scientific community.

MR. LEE: No further questions.

Both conditions received the following instructions and information:

Closing Statements

Plaintiff

Based on the testimony of Dr. Johnson, it is clear that research existed suggesting the main chemical compound in Green Grass Grows posed a risk of causing skin cancer. CSE Corp's failure to include that information on their warnings directly led to Mr. Smith's diagnosis of skin cancer; an ailment that will continue to affect him for the rest of his life. Because of these facts, I ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Again, our deepest sympathies go out to Mr. Smith and we hope for his full recovery. But, unfortunately, it appears that Mr. Smith and his counsel are targeting my client in an attempt to pitch a fantastical story: an evil corporation that had no regard for the health and well-being of the public. This simply is not the case, though. CSE Corp used research to inform their warning labels and went beyond everything the industry requires. Based on the evidence presented, I ask that you return the only logical decision by finding CSE Corp Not Liable. Thank you.

Jury Instructions

As previously stated, the plaintiff—Jamie Smith— claims he contracted skin cancer because of his consistent contact with CSE Corp's chemical product, Green Grass Grows. CSE Corp denies those claims.

Jamie Smith claims that the product – Green Grass Grows – lacked sufficient warning of potential risks. Both parties agree that CSE Corp manufactures and distributes Green Grass Grows and that the plaintiff has been accurately diagnosed with skin cancer. To establish this claim, Jamie Smith must prove the following:

1. That Green Grass Grows had potential risks that were knowable in light of the scientific knowledge that was generally accepted in the scientific community at the time of manufacture and distribution; and
2. That CSE Corp failed to adequately warn of the potential risks

The plaintiff must persuade you, by the evidence presented, that that these elements which they are required to prove are more likely to be true than not true. This is referred to as "the burden of proof."

After weighing all of the evidence, if you cannot decide that something is more likely to be true than not true, you must conclude that the party did not prove it. You should consider all the evidence, no matter which party produced the evidence.

Again, the standard in civil trials is that the party who is required to prove something only needs prove that it is more likely to be true than not true. If you believe all three

elements listed are more likely to be true than not true, you must find the defendant liable. If *do not* believe any of the three elements listed are more likely to be true than not true, you must find the defendant not liable.

Trial Decisions

Based on the evidence presented and the burden of proof necessary, do you find CSE Corp *Liable* or *Not Liable* for the harm that Jamie Smith has suffered?

- ○ Liable
- ○ Not Liable

On a scale of 0-100, with:

- 0 being "The defendant *definitely did not* cause the harm;"
- Anything over 50 meeting the "burden of proof" (i.e., more likely than not), and;
- 100 being "The defendant *definitely did* cause the harm"

What is the likelihood that CSE Corp caused Jamie Smith's harm?

0	50	100
CSE Corp *definitely did not* cause Jamie Smith's harm	Burden of Proof	CSE Corp *definitely did* cause Jamie Smith's harm

Follow-up for participants who found the defendant Liable:

Jamie Smith is currently requesting $500,000 in compensatory damages, or money to compensate for his injuries and incurred losses. Because you found CSE Corp liable, how much would you award Jamie Smith in compensatory damages?

0	50	100
Least amount allowed by law	Amount Requested ($500,000)	Highest amount allowed by law

Follow-up for participants who did not find the defendant Liable:

Jamie Smith is currently requesting $500,000 in compensatory damages, or money to compensate for his injuries and incurred losses. Imagine that the remaining evidence presented at trial was strong enough that you CSE Corp liable – how much would you award Jamie Smith in compensatory damages?

0	50	100
Least amount allowed by law	Amount Requested ($500,000)	Highest amount allowed by law

Appendix B – Study 2 Materials

All conditions received the following instructions and information:

Study Instructions

Thank you for choosing to participate. As a new, alternative dispute resolution technique being implemented by certain courts across the country, you are going to be asked to review the transcript of a summary jury trial. These trials are conducted as a kind of mock trial to inform parties and attorneys about whether their case is worth pursuing or whether it is best for one or both parties to settle out of court.

The attorneys in this case have asked for an external review of the transcript to gather feedback, impressions, and decisions regarding their evidence and trial approaches. None of the decisions you provide are legally binding in any way, but we ask that you be as open and honest as possible – the information you provide will help guide attorneys in their future decisions regarding this case.

To protect the identities of all parties involved, no video was taken of the proceedings and only a transcript will be provided. Again, to protect identities, all identifiable information, such as party names, have been changed.

In the ensuing pages you will find case information in the following order:

- An overview of the trial
- A definition of the burden of proof
- The facts that must be proved in this case
- Opening statements
- Testimony from an expert witness
- Closing statements
- Jury instructions
- Trial decisions and case impressions

Please carefully read the entire transcript and all accompanying information before responding to the questions at the end. Please answer all questions to the best of your abilities.

Overview of Trial

To assist you in your tasks as jurors, I will now explain how the trial will proceed. I will begin by identifying the parties to the case. Jamie Smith filed this lawsuit. They are called a plaintiff. They seek damages from CSE Corp, who is called a defendant.

Jamie Smith claims he contracted skin cancer because of his consistent contact with CSE Corp's chemical product, Green Grass Grows. CSE Corp denies those claims.

First, each side may make an opening statement, but neither side is required to do so. An opening statement is not evidence. It is simply an outline to help you understand what that party expects the evidence will show.

Next, the jury will hear the evidence. The only evidence presented at today's proceedings will be expert witness testimony from Dr. Sylvia Johnson. The witness will first be

questioned by the side that asked the witness to testify. This is called direct examination. Then the other side is permitted to question the witness. This is called cross-examination. After the evidence has been presented, I will instruct you on the law that applies to the case and the attorneys will make closing arguments. What the parties say in closing argument is not evidence. The arguments are offered to help you understand the evidence and how the law applies to it.

Burden of Proof

The parties must persuade you, by the evidence presented, that what they are required to prove is more likely to be true than not true. This is referred to as "the burden of proof." After weighing all of the evidence, if you cannot decide that something is more likely to be true than not true, you must conclude that the party did not prove it. You should consider all the evidence, no matter which party produced the evidence.

In criminal trials, the prosecution must prove that the defendant is guilty beyond a reasonable doubt. But in civil trials, such as this one, the party who is required to prove something need prove only that it is more likely to be true than not true.

Strict Liability – Failure to Warn – Essential Factual Elements

Jamie Smith claims that the product – Green Grass Grows – lacked sufficient warning of potential risks. Both parties agree to specific facts of the case, such as that CSE Corp manufactures and distributes Green Grass Grows and that the plaintiff has been accurately diagnosed with skin cancer. To establish this claim, Jamie Smith must prove the following:

3. That Green Grass Grows had potential risks that were knowable in light of the scientific knowledge that was generally accepted in the scientific community at the time of manufacture and distribution; and
4. That CSE Corp failed to adequately warn of the potential risks

Control Condition Materials:

Opening Statements

Plaintiff

The evidence presented here will prove that Jamie Smith's illness was a direct cause of contact with CSE Corp's product Green Grass Grows and that CSE Corp should have known that Green Grass Grows posed a threat to consumers, yet failed to warn them of this danger.

Good morning. My name is Richard Maroney and I am here on behalf of my client, Jamie Smith. Mr. Smith is a 47-year-old man who has worked for the past ten years as a landscaper. In his capacity as a landscaper, Mr. Smith was exposed to CSE Corp's product Green Grass Grows – a chemical spray used as a combination of weed killer and grass seed fertilizer. He would spray this chemical on commercial and private properties on an almost daily basis, breathing fumes and sometimes getting the chemical on his clothes and skin. This exposure has been linked to Mr. Smith's skin cancer diagnosis in

2020, a disease from which he has suffered physically, emotionally, and monetarily, having already spent countless hours and tens of thousands of dollars on medical care. However, CSE Corp does not, and has never, warned the public about this severe risk associated with using their product.

That is what this case is all about. A happy, healthy, 47-year-old man whose life has totally changed as a direct result of the defendant's failure to warn. I look forward to presenting that evidence to you. At the end of this proceeding, I will come back up here and ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Good morning. My name is Steven Lee and I represent the defendant, CSE Corp. My client sympathizes with Mr. Smith and the difficulty he has been through.

However, the burden of proof is on the plaintiff to show that my client knew of research suggesting the chemicals in Green Grass Grows causes skin cancer and that it failed to warn consumers. Based on the extensive research conducted by CSE Corp and what was known to the company at the time that Green Grass Grows was manufactured, we will show that CSE Corp followed all the industry's guidelines and regulations regarding warnings.

Throughout the course of this case we will show the extent that CSE Corp went to and the precautions they took to ensure the safety of their products and the accurate reporting of all warnings. These precautions even went above and beyond every industry-standard regarding health warnings. I look forward to presenting that evidence to you and will ask, at the end this proceeding, to come back with the only reasonable decision – a judgment in favor of CSE Corp by returning a finding of Not Liable. Thank you.

Expert Witness Testimony

Direct Examination

MR. RICHARD MALONEY (plaintiff's attorney): Good morning. Please introduce yourself and tell the jury where you are currently employed.

DR. SYLVIA JOHNSON: My name is Dr. Sylvia Johnson. I am currently employed as a cancer epidemiologist at the International Agency for Research on Cancer, or the IARC, and have been with the IARC for 15 years.

MR. MARONEY: Could you tell us about your educational background?

DR. JOHNSON: Absolutely. I receive a Bachelor of Science in Chemistry from the University of Illinois-Chicago and a dual M.D.-Ph.D. from the University of Rochester with an emphasis in Toxicology.

MR. MARONEY: And what does it mean to be a cancer epidemiologist at IARC?

DR. JOHNSON: The IARC is part of the World Health Organization, or the WHO. In my lab, we test chemicals to determine whether the presence or absence of a specific chemical relates to increases or decreases in the likelihood of a person developing cancer. The IARC is one of the largest and most well-renown cancer research centers in the world. We also work with organizations as health advocates to help them stay up-to-date and informed about our research.

MR. MARONEY: Now, Dr. Johnson, are you familiar with CSE Corp's product Green Grass Grows?

DR. JOHNSON: Yes, I am.

MR. MARONEY: Could you tell us about the chemical composition of the product?

DR. JOHNSON: Green Grass Grows is an herbicide which has a primary chemical ingredient called glyphosate.

MR. MARONEY: Have you ever conducted research on the effects of glyphosate?

DR. JOHNSON: Yes, I have. In 2015, my lab at the IARC conducted studies into the carcinogenic nature of glyphosate and found that the chemical, by our standards, is "probably carcinogenic in humans" making it a Class 2A agent. In other terms, we found that consistent exposure to glyphosate poses a risk of causing cancer.

MR. MARONEY: And what would be considered "consistent exposure" by the IARC?

DR. JOHNSON: We found that the daily maximum intake level of glyphosate to be 1 milligram per kilogram of body weight per day. Anything over that level would be considered toxic and could lead to health risks.

MR. MARONEY: So, if a 175-pound man were to use this chemical on a daily basis, would breathing in Green Grass Grows and sometimes having it contact his skin be sufficient to hit this daily maximum?

DR. JOHNSON: There is more than enough glyphosate in Green Grass Grows for a person to intake more than the 1 milligram per kilogram of body weight per day maximum I just mentioned, yes.

MR. MARONEY: And Dr. Johnson, is the IARC alone in their findings regarding the effects of glyphosate?

DR. JOHNSON: No. The IARC, the Cancer Research Institute, the Food and Agriculture Organization of the United Nations, and the European Chemicals Agency have all issued similar reports regarding the risks of cancer related to glyphosate.

MR. MARONEY: And when were these reports issued?

DR. JOHNSON: All of the organizations released a report in 2015, so a little over 5 years ago.

MR. MARONEY: Would it be safe to say, then, that the negative effects related to glyphosate, the primary chemical ingredient in Green Grass Grows, has been knowable and accepted in the scientific community for approximately 5 years?

DR. JOHNSON: I would say so, yes.

MR. MARONEY: Dr. Johnson, do you know whether CSE Corp currently or has ever included warnings regarding the use of glyphosate in Green Grass Grows?

DR. JOHNSON: I know that CSE Corp has never included any warnings regarding glyphosate on Green Grass Grows.

MR. MARONEY: And how do you know that?

DR. JOHNSON: My lab has personally reached out to CSE Corp about this issue in our professional capacity as IARC health advocates.

MR. MARONEY: And how did CSE Corp respond when you reached out to them?

DR. JOHNSON: I received an email from one of the heads of CSE Corp stating they did not need to include a warning because, based on their in-house research and the research they were familiar with, glyphosate does not pose a threat of cancer.

MR. MARONEY: Thank you Dr. Johnson. No further questions.

Expert Witness Testimony

Cross-Examination

MR. STEVEN LEE (defendant's attorney): Good morning Dr. Johnson. You mentioned that CSE Corp informed you that they had conducted their own research in-house regarding glyphosate. CSE Corp's research found that glyphosate does not pose a threat of cancer. Have you reviewed that research?

DR. SLYVIA JOHNSON: Yes, I have.

MR. LEE: Based on the standards and practices in your field, are there methodological errors in their research?

DR. JOHNSON: Errors? No, not that I could find.

MR. LEE: Are there statistical errors in their research?

DR. JOHNSON: Not that I found, no.

MR. LEE: So, is there any issue or error you could find that would suggest, based on the way CSE Corp conducted their research, that their conclusions – glyphosate does not pose a threat of cancer – is inaccurate?

DR. JOHNSON: No, there were no errors. But I noted that their study observed effects in lab animals for only half the amount of time as our studies.

MR. LEE: Is it a requirement that all studies examine effects for the same amount of time as your study?

DR. JOHNSON: No, it is not.

MR. LEE: In fact, CSE Corp informed you in their email that they had actually conducted studies that were three times longer than the U. S. Environmental Protection Agency – or the EPA – required. Isn't that correct?

DR. JOHNSON: Yes, that is correct.

MR. LEE: So, no issues with how the CSE Corp study was conducted and it was more rigorous than the EPA required. Now, you mentioned a few organizations that had similar findings as the IARC regarding glyphosate. Dr. Johnson, are you aware of the 2015 report from the European Food Safety Authority regarding glyphosate?

DR. JOHNSON: I am, yes.

MR. LEE: And this EFSA report found that glyphosate is unlikely to pose a carcinogenic threat to humans. Is that correct?

DR. JOHNSON: From my memory of the report, yes.

MR. LEE: And even your own organization, the World Health Organization, released a report in 2016 with a clarification that health risks might exist for chemical formulas that

contain glyphosate, but studies that look solely at glyphosate as the only active substance did not show health risks. Is that correct?

DR. JOHNSON: That clarification was issued because all our studies had included chemical formulas that contained glyphosate in addition to other chemical compounds but none of our studies were conducted using solely glyphosate.

MR. LEE: But the studies that looked solely at glyphosate did not show health risks, correct?

DR. JOHNSON: That's correct, but those studies were conducted by other organizations years ago and have methodological issues.

MR. LEE: Ok, let's move on. Are you familiar with the Federal Institute for Risk Assessment's toxicology review from 2013 pertaining to glyphosate?

DR. JOHNSON: Yes, I am familiar with it.

MR. LEE: And this review found that the data and results regarding glyphosate were contradictory and far from convincing. Is that an accurate representation of that review's findings?

DR. JOHNSON: From what I recall, yes, those were their findings. But that review looked at data and results over the prior 30 years when some of the current forms of analysis were unknown and some chemical tests had not been invented yet.

MR. LEE: Still, Dr. Johnson, based on all these reports that have contradictory findings, how can you say that any health risks associated with glyphosate have been knowable and accepted in the scientific community?

DR. JOHNSON: The IARC and the Cancer Research Institute comprise the foremost experts in the field of cancer epidemiology – we have the most cutting-edge technology and advanced scientific assessment tools. The fact that the two most prominent cancer research institutes came to a similar conclusion regarding a chemical should hold sufficient weight in the scientific community to be generally accepted.

MR. LEE: Regardless of the fact that other organizations, including the company on trial, have conducted extensive research and found no link between glyphosate and cancer?

DR. JOHNSON: As I said, the research conducted by IARC and the Cancer Research Institute are of the highest quality and consistent findings between those two organizations should qualify as acceptance in the scientific community.

MR. LEE: No further questions.

Closing Statements

Plaintiff

Based on the testimony of Dr. Johnson, it is clear that research existed suggesting the main chemical compound in Green Grass Grows posed a risk of causing skin cancer. CSE Corp's failure to include that information on their warnings directly led to Mr. Smith's diagnosis of skin cancer; an ailment that will continue to affect him for the rest of his life. Because of these facts, I ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Again, our deepest sympathies go out to Mr. Smith and we hope for his full recovery. But, unfortunately, it appears that Mr. Smith and his counsel are targeting my client in an attempt to pitch a fantastical story: an evil corporation that had no regard for the health and well-being of the public. This simply is not the case, though. CSE Corp used research to inform their warning labels and went beyond everything the industry requires. Based on the evidence presented, I ask that you return the only logical decision by finding CSE Corp Not Liable. Thank you.

Fear Appeal Condition Materials:

Opening Statements

Plaintiff

The evidence presented here will prove that Jamie Smith's illness was a direct cause of contact with CSE Corp's product Green Grass Grows and that CSE Corp should have known that Green Grass Grows posed a threat to consumers, yet failed to warn them of this danger.

Good morning. My name is Richard Maroney and I am here on behalf of my client, Jamie Smith. Mr. Smith is a 47-year-old man who has worked for the past ten years as a landscaper. In his capacity as a landscaper, Mr. Smith was exposed to CSE Corp's product Green Grass Grows – a chemical spray used as a combination of weed killer and grass seed fertilizer. He would spray this chemical on commercial and private properties on an almost daily basis, breathing fumes and sometimes getting the chemical on his clothes and skin. This exposure has been linked to Mr. Smith's skin cancer diagnosis in 2020, a disease from which he has suffered physically, emotionally, and monetarily, having already spent countless hours and tens of thousands of dollars on medical care. However, CSE Corp does not, and has never, warned the public about this severe risk associated with using their product.

That is what this case is all about. A happy, healthy, 47-year-old man whose life has totally changed as a direct result of the defendant's failure to warn. I look forward to

presenting that evidence to you. At the end of this proceeding, I will come back up here and ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Good morning. My name is Steven Lee and I represent the defendant, CSE Corp. My client sympathizes with Mr. Smith and the difficulty he has been through.

However, the burden of proof is on the plaintiff to show that my client knew of research suggesting the chemicals in Green Grass Grows causes skin cancer and that it failed to warn consumers. Based on the extensive research conducted by CSE Corp and what was known to the company at the time that Green Grass Grows was manufactured, we will show that CSE Corp followed all the industry's guidelines and regulations regarding warnings.

Throughout the course of this case we will show the extent that CSE Corp went to and the precautions they took to ensure the safety of their products and the accurate reporting of all warnings. These precautions even went above and beyond every industry-standard regarding health warnings. I look forward to presenting that evidence to you and will ask, at the end this proceeding, to come back with the only reasonable decision – a judgment in favor of CSE Corp by returning a finding of Not Liable. Thank you.

Expert Witness Testimony

Direct Examination

MR. RICHARD MALONEY (plaintiff's attorney): Good morning. Please introduce yourself and tell the jury where you are currently employed.

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MR. MARONEY: Could you tell us about your educational background?

DR. JOHNSON: Absolutely. I receive a Bachelor of Science in Chemistry from the University of Illinois-Chicago and a dual M.D.-Ph.D. from the University of Rochester with an emphasis in Toxicology.

MR. MARONEY: And what does it mean to be a cancer epidemiologist at IARC?

DR. JOHNSON: The IARC is part of the World Health Organization, or the WHO. In my lab, we test chemicals to determine whether the presence or absence of a specific chemical relates to increases or decreases in the likelihood of a person developing cancer. The IARC is one of the largest and most well-renown cancer research centers in the

world. We also work with organizations as health advocates to help them stay up-to-date and informed about our research.

MR. MARONEY: Now, Dr. Johnson, are you familiar with CSE Corp's product Green Grass Grows?

DR. JOHNSON: Yes, I am.

MR. MARONEY: Could you tell us about the chemical composition of the product?

DR. JOHNSON: Green Grass Grows is an herbicide which has a primary chemical ingredient called glyphosate.

MR. MARONEY: Have you ever conducted research on the effects of glyphosate?

DR. JOHNSON: Yes, I have. In 2015, my lab at the IARC conducted studies into the carcinogenic nature of glyphosate and found that the chemical, by our standards, is "probably carcinogenic in humans" making it a Class 2A agent. In other terms, we found that consistent exposure to glyphosate poses a risk of causing cancer.

MR. MARONEY: And what would be considered "consistent exposure" by the IARC?

DR. JOHNSON: We found that the daily maximum intake level of glyphosate to be 1 milligram per kilogram of body weight per day. Anything over that level would be considered toxic and could lead to health risks.

MR. MARONEY: So, if a 175-pound man were to use this chemical on a daily basis, would breathing in Green Grass Grows and sometimes having it contact his skin be sufficient to hit or exceed this daily maximum?

DR. JOHNSON: There is more than enough glyphosate in Green Grass Grows for any adult over 100 pounds and sprays it every few days to intake more than the 1 milligram per kilogram of body weight per day maximum I just mentioned, yes. As a common herbicide that is available at any garden or home improvement store, Green Grass Grows could potentially be creating health risks for millions of Americans. Anyone who does even basic landscaping work will be exposed consistently enough to be at risk for skin cancer; a disease that kills hundreds of thousands of people every year. Because Green Grass Grows is a spray, simply walking through areas where Green Grass Grows is consistently sprayed could be enough to meet the toxic threshold and cause skin cancer.

MR. MARONEY: That's quite a significant portion of the population. Could you describe the sorts of symptoms that might coincide with a chemical-related skin cancer diagnosis?

DR. JOHNSON: Symptoms of exposure could manifest as scaly and crusty skin nodules, burning and itching sensations on any skin exposed to the chemical, and pussing and

bleeding lesions -- all of which Mr. Smith has experienced. In some severe cases, such as Mr. Smith's case, the skin cancer can also cause skin ulcers which are open sores on the skin that are easily infected.

MR. MARONEY: So, you're saying that the health risks are pretty widespread?

DR. JOHNSON: I'm saying that based on how common and prevalent Green Grass Grows is used, the health and wellbeing of nearly every adult and child in the United States is at risk and the continued use of Green Grass Grows will cause people to die. This is on top of the painful and expensive treatment procedures necessary to treat skin cancer, such as skin grafts.

MR. MARONEY: And Dr. Johnson, is the IARC alone in their findings regarding the effects of glyphosate?

DR. JOHNSON: No. The IARC, the Cancer Research Institute, the Food and Agriculture Organization of the United Nations, and the European Chemicals Agency have all issued similar reports regarding the risks of cancer related to glyphosate.

MR. MARONEY: And when were these reports issued?

DR. JOHNSON: All of the organizations released a report in 2015, so a little over 5 years ago.

MR. MARONEY: Would it be safe to say, then, that the negative effects related to glyphosate, the primary chemical ingredient in Green Grass Grows, has been knowable and accepted in the scientific community for approximately 5 years?

DR. JOHNSON: I would say so, yes.

MR. MARONEY: Dr. Johnson, do you know whether CSE Corp currently or has ever included warnings regarding the use of glyphosate in Green Grass Grows?

DR. JOHNSON: I know that CSE Corp has never included any warnings regarding glyphosate on Green Grass Grows.

MR. MARONEY: And how do you know that?

DR. JOHNSON: My lab has personally reached out to CSE Corp about this issue in our professional capacity as IARC health advocates.

MR. MARONEY: And how did CSE Corp respond when you reached out to them?

DR. JOHNSON: I received an email from one of the heads of CSE Corp stating they did not need to include a warning because, based on their in-house research and the research

they were familiar with, glyphosate does not pose a threat of cancer.

MR. MARONEY: To summarize, Dr. Johnson, you're testimony here suggests that CSE Corp is publicly selling a product that contains a toxic chemical, that this chemical has been shown to cause cancer -- such as the skin cancer Mr. Smith has been diagnosed with -- and, yet, this product includes no warning labels about the toxic chemical?

DR. JOHNSON: That is correct. This product is too readily available and too toxic to not have warning labels. Its continued use is going to cause health problems and even death for far too many people.

MR. MARONEY: Thank you Dr. Johnson. No further questions.

Expert Witness Testimony

Cross-Examination

MR. STEVEN LEE (defendant's attorney): Good morning Dr. Johnson. You mentioned that CSE Corp informed you that they had conducted their own research in-house regarding glyphosate. CSE Corp's research found that glyphosate does not pose a threat of cancer. Have you reviewed that research?

DR. SLYVIA JOHNSON: Yes, I have.

MR. LEE: Based on the standards and practices in your field, are there methodological errors in their research?

DR. JOHNSON: Errors? No, not that I could find.

MR. LEE: Are there statistical errors in their research?

DR. JOHNSON: Not that I found, no.

MR. LEE: So, is there any issue or error you could find that would suggest, based on the way CSE Corp conducted their research, that their conclusions – glyphosate does not pose a threat of cancer – is inaccurate?

DR. JOHNSON: No, there were no errors. But I noted that their study observed effects in lab animals for only half the amount of time as our studies.

MR. LEE: Is it a requirement that all studies examine effects for the same amount of time as your study?

DR. JOHNSON: No, it is not.

MR. LEE: In fact, CSE Corp informed you in their email that they had actually conducted studies that were three times longer than the U. S. Environmental Protection Agency – or the EPA – required. Isn't that correct?

DR. JOHNSON: Yes, that is correct.

MR. LEE: So, no issues with how the CSE Corp study was conducted and it was more rigorous than the EPA required. Now, you mentioned a few organizations that had similar findings as the IARC regarding glyphosate. Dr. Johnson, are you aware of the 2015 report from the European Food Safety Authority regarding glyphosate?

DR. JOHNSON: I am, yes.

MR. LEE: And this EFSA report found that glyphosate is unlikely to pose a carcinogenic threat to humans. Is that correct?

DR. JOHNSON: From my memory of the report, yes.

MR. LEE: And even your own organization, the World Health Organization, released a report in 2016 with a clarification that health risks might exist for chemical formulas that contain glyphosate, but studies that look solely at glyphosate as the only active substance did not show health risks. Is that correct?

DR. JOHNSON: That clarification was issued because all our studies had included chemical formulas that contained glyphosate in addition to other chemical compounds but none of our studies were conducted using solely glyphosate.

MR. LEE: But the studies that looked solely at glyphosate did not show health risks, correct?

DR. JOHNSON: That's correct, but those studies were conducted by other organizations years ago and have methodological issues.

MR. LEE: Ok, let's move on. Are you familiar with the Federal Institute for Risk Assessment's toxicology review from 2013 pertaining to glyphosate?

DR. JOHNSON: Yes, I am familiar with it.

MR. LEE: And this review found that the data and results regarding glyphosate were contradictory and far from convincing. Is that an accurate representation of that review's findings?

DR. JOHNSON: From what I recall, yes, those were their findings. But that review looked at data and results over the prior 30 years when some of the current forms of analysis were unknown and some chemical tests had not been invented yet.

MR. LEE: Still, Dr. Johnson, based on all these reports that have contradictory findings, how can you say that any health risks associated with glyphosate have been knowable and accepted in the scientific community?

DR. JOHNSON: The IARC and the Cancer Research Institute comprise the foremost experts in the field of cancer epidemiology – we have the most cutting-edge technology and advanced scientific assessment tools. The fact that the two most prominent cancer research institutes came to a similar conclusion regarding a chemical should hold sufficient weight in the scientific community to be generally accepted.

MR. LEE: Regardless of the fact that other organizations, including the company on trial, have conducted extensive research and found no link between glyphosate and cancer?

DR. JOHNSON: As I said, the research conducted by IARC and the Cancer Research Institute are of the highest quality and consistent findings between those two organizations should qualify as acceptance in the scientific community.

MR. LEE: No further questions.

Closing Statements

Plaintiff

Based on the testimony of Dr. Johnson, it is clear that research existed suggesting the main chemical compound in Green Grass Grows posed a risk of causing skin cancer. CSE Corp's failure to include that information on their warnings directly led to Mr. Smith's diagnosis of skin cancer; an ailment that will continue to affect him for the rest of his life. There is only one way you can help stop CSE Corp from hurting millions of Americans in the future, and that is by finding CSE Corp Liable and hitting them where it hurts the most – in the wallet. Please do not let CSE Corp continue hurting innocent people. Thank you.

Defense

Again, our deepest sympathies go out to Mr. Smith and we hope for his full recovery. But, unfortunately, it appears that Mr. Smith and his counsel are targeting my client in an attempt to pitch a fantastical story: an evil corporation that had no regard for the health and well-being of the public. This simply is not the case, though. CSE Corp used research to inform their warning labels and went beyond everything the industry requires. Based on the evidence presented, I ask that you return the only logical decision by finding CSE Corp Not Liable. Thank you.

Stealing Thunder Condition Materials:

Opening Statements

Plaintiff

The evidence presented here will prove that Jamie Smith's illness was a direct cause of contact with CSE Corp's product Green Grass Grows and that CSE Corp should have known that Green Grass Grows posed a threat to consumers, yet failed to warn them of this danger.

Good morning. My name is Richard Maroney and I am here on behalf of my client, Jamie Smith. Mr. Smith is a 47-year-old man who has worked for the past ten years as a landscaper. In his capacity as a landscaper, Mr. Smith was exposed to CSE Corp's product Green Grass Grows – a chemical spray used as a combination of weed killer and grass seed fertilizer. He would spray this chemical on commercial and private properties on an almost daily basis, breathing fumes and sometimes getting the chemical on his clothes and skin. This exposure has been linked to Mr. Smith's skin cancer diagnosis in 2020, a disease from which he has suffered physically, emotionally, and monetarily, having already spent countless hours and tens of thousands of dollars on medical care. However, CSE Corp does not, and has never, warned the public about this severe risk associated with using their product.

That is what this case is all about. A happy, healthy, 47-year-old man whose life has totally changed as a direct result of the defendant's failure to warn. I look forward to presenting that evidence to you. At the end of this proceeding, I will come back up here and ask that you find in favor of Mr. Smith by finding the defendant Liable and award fair damages for the pain and disability he has suffered. Thank you.

Defense

Good morning. My name is Steven Lee and I represent the defendant, CSE Corp. My client sympathizes with Mr. Smith and the difficulty he has been through.

However, the burden of proof is on the plaintiff to show that my client knew of research suggesting the chemicals in Green Grass Grows causes skin cancer and that it failed to warn consumers. My opposing counsel, Mr. Maroney, is going to have his expert witness testify about how terrible the chemicals in Green Grass Grows are and that, unless CSE Corp is taken down, their product will continue to harm and potentially kill thousands, or even millions, of Americans. This simply is not true and is a ploy to scare you. Based on the extensive research conducted by CSE Corp and what was known to the company at the time that Green Grass Grows was manufactured, we will show that CSE Corp followed all the industry's guidelines and regulations regarding warnings.

Throughout the course of this case we will show the extent that CSE Corp went to and the precautions they took to ensure the safety of their products and the accurate reporting of all warnings. These precautions even went above and beyond every industry-standard

regarding health warnings. I look forward to presenting that evidence to you and will ask, at the end this proceeding, to come back with the only reasonable decision – a judgment in favor of CSE Corp by returning a finding of Not Liable. Thank you.

Expert Witness Testimony

Direct Examination

MR. RICHARD MALONEY (plaintiff's attorney): Good morning. Please introduce yourself and tell the jury where you are currently employed.

DR. SYLVIA JOHNSON: My name is Dr. Sylvia Johnson. I am currently employed as a cancer epidemiologist at the International Agency for Research on Cancer, or the IARC, and have been with the IARC for 15 years.

MR. MARONEY: Could you tell us about your educational background?

DR. JOHNSON: Absolutely. I receive a Bachelor of Science in Chemistry from the University of Illinois-Chicago and a dual M.D.-Ph.D. from the University of Rochester with an emphasis in Toxicology.

MR. MARONEY: And what does it mean to be a cancer epidemiologist at IARC?

DR. JOHNSON: The IARC is part of the World Health Organization, or the WHO. In my lab, we test chemicals to determine whether the presence or absence of a specific chemical relates to increases or decreases in the likelihood of a person developing cancer. The IARC is one of the largest and most well-renown cancer research centers in the world. We also work with organizations as health advocates to help them stay up-to-date and informed about our research.

MR. MARONEY: Now, Dr. Johnson, are you familiar with CSE Corp's product Green Grass Grows?

DR. JOHNSON: Yes, I am.

MR. MARONEY: Could you tell us about the chemical composition of the product?

DR. JOHNSON: Green Grass Grows is an herbicide which has a primary chemical ingredient called glyphosate.

MR. MARONEY: Have you ever conducted research on the effects of glyphosate?

DR. JOHNSON: Yes, I have. In 2015, my lab at the IARC conducted studies into the carcinogenic nature of glyphosate and found that the chemical, by our standards, is

“probably carcinogenic in humans” making it a Class 2A agent. In other terms, we found that consistent exposure to glyphosate poses a risk of causing cancer.

MR. MARONEY: And what would be considered “consistent exposure” by the IARC?

DR. JOHNSON: We found that the daily maximum intake level of glyphosate to be 1 milligram per kilogram of body weight per day. Anything over that level would be considered toxic and could lead to health risks.

MR. MARONEY: So, if a 175-pound man were to use this chemical on a daily basis, would breathing in Green Grass Grows and sometimes having it contact his skin be sufficient to hit or exceed this daily maximum?

DR. JOHNSON: There is more than enough glyphosate in Green Grass Grows for any adult over 100 pounds and sprays it every few days to intake more than the 1 milligram per kilogram of body weight per day maximum I just mentioned, yes. As a common herbicide that is available at any garden or home improvement store, Green Grass Grows could potentially be creating health risks for millions of Americans. Anyone who does even basic landscaping work will be exposed consistently enough to be at risk for skin cancer; a disease that kills hundreds of thousands of people every year. Because Green Grass Grows is a spray, simply walking through areas where Green Grass Grows is consistently sprayed could be enough to meet the toxic threshold and cause skin cancer.

MR. MARONEY: That's quite a significant portion of the population. Could you describe the sorts of symptoms that might coincide with a chemical-related skin cancer diagnosis?

DR. JOHNSON: Symptoms of exposure could manifest as scaly and crusty skin nodules, burning and itching sensations on any skin exposed to the chemical, and pussing and bleeding lesions -- all of which Mr. Smith has experienced. In some severe cases, such as Mr. Smith's case, the skin cancer can also cause skin ulcers which are open sores on the skin that are easily infected.

MR. MARONEY: So, you're saying that the health risks are pretty widespread?

DR. JOHNSON: I'm saying that based on how common and prevalent Green Grass Grows is used, the health and wellbeing of nearly every adult and child in the United States is at risk and the continued use of Green Grass Grows will cause people to die. This is on top of the painful and expensive treatment procedures necessary to treat skin cancer, such as skin grafts.

MR. MARONEY: And Dr. Johnson, is the IARC alone in their findings regarding the effects of glyphosate?

DR. JOHNSON: No. The IARC, the Cancer Research Institute, the Food and Agriculture Organization of the United Nations, and the European Chemicals Agency have all issued similar reports regarding the risks of cancer related to glyphosate.

MR. MARONEY: And when were these reports issued?

DR. JOHNSON: All of the organizations released a report in 2015, so a little over 5 years ago.

MR. MARONEY: Would it be safe to say, then, that the negative effects related to glyphosate, the primary chemical ingredient in Green Grass Grows, has been knowable and accepted in the scientific community for approximately 5 years?

DR. JOHNSON: I would say so, yes.

MR. MARONEY: Dr. Johnson, do you know whether CSE Corp currently or has ever included warnings regarding the use of glyphosate in Green Grass Grows?

DR. JOHNSON: I know that CSE Corp has never included any warnings regarding glyphosate on Green Grass Grows.

MR. MARONEY: And how do you know that?

DR. JOHNSON: My lab has personally reached out to CSE Corp about this issue in our professional capacity as IARC health advocates.

MR. MARONEY: And how did CSE Corp respond when you reached out to them?

DR. JOHNSON: I received an email from one of the heads of CSE Corp stating they did not need to include a warning because, based on their in-house research and the research they were familiar with, glyphosate does not pose a threat of cancer.

MR. MARONEY: To summarize, Dr. Johnson, you're testimony here suggests that CSE Corp is publicly selling a product that contains a toxic chemical, that this chemical has been shown to cause cancer -- such as the skin cancer Mr. Smith has been diagnosed with -- and, yet, this product includes no warning labels about the toxic chemical?

DR. JOHNSON: That is correct. This product is too readily available and too toxic to not have warning labels. Its continued use is going to cause health problems and even death for far too many people.

MR. MARONEY: Thank you Dr. Johnson. No further questions.

Cross-Examination

MR. STEVEN LEE (defendant's attorney): Good morning Dr. Johnson. You mentioned that CSE Corp informed you that they had conducted their own research in-house regarding glyphosate. CSE Corp's research found that glyphosate does not pose a threat of cancer. Have you reviewed that research?

DR. SLYVIA JOHNSON: Yes, I have.

MR. LEE: Based on the standards and practices in your field, are there methodological errors in their research?

DR. JOHNSON: Errors? No, not that I could find.

MR. LEE: Are there statistical errors in their research?

DR. JOHNSON: Not that I found, no.

MR. LEE: So, is there any issue or error you could find that would suggest, based on the way CSE Corp conducted their research, that their conclusions – glyphosate does not pose a threat of cancer – is inaccurate?

DR. JOHNSON: No, there were no errors. But I noted that their study observed effects in lab animals for only half the amount of time as our studies.

MR. LEE: Is it a requirement that all studies examine effects for the same amount of time as your study?

DR. JOHNSON: No, it is not.

MR. LEE: In fact, CSE Corp informed you in their email that they had actually conducted studies that were three times longer than the U. S. Environmental Protection Agency – or the EPA – required. Isn't that correct?

DR. JOHNSON: Yes, that is correct.

MR. LEE: So, no issues with how the CSE Corp study was conducted and it was more rigorous than the EPA required. Now, you mentioned a few organizations that had similar findings as the IARC regarding glyphosate. Dr. Johnson, are you aware of the 2015 report from the European Food Safety Authority regarding glyphosate?

DR. JOHNSON: I am, yes.

MR. LEE: And this EFSA report found that glyphosate is unlikely to pose a carcinogenic threat to humans. Is that correct?

DR. JOHNSON: From my memory of the report, yes.

MR. LEE: And even your own organization, the World Health Organization, released a report in 2016 with a clarification that health risks might exist for chemical formulas that contain glyphosate, but studies that look solely at glyphosate as the only active substance did not show health risks. Is that correct?

DR. JOHNSON: That clarification was issued because all our studies had included chemical formulas that contained glyphosate in addition to other chemical compounds but none of our studies were conducted using solely glyphosate.

MR. LEE: But the studies that looked solely at glyphosate did not show health risks, correct?

DR. JOHNSON: That's correct, but those studies were conducted by other organizations years ago and have methodological issues.

MR. LEE: Ok, let's move on. Are you familiar with the Federal Institute for Risk Assessment's toxicology review from 2013 pertaining to glyphosate?

DR. JOHNSON: Yes, I am familiar with it.

MR. LEE: And this review found that the data and results regarding glyphosate were contradictory and far from convincing. Is that an accurate representation of that review's findings?

DR. JOHNSON: From what I recall, yes, those were their findings. But that review looked at data and results over the prior 30 years when some of the current forms of analysis were unknown and some chemical tests had not been invented yet.

MR. LEE: Still, Dr. Johnson, based on all these reports that have contradictory findings, how can you say that any health risks associated with glyphosate have been knowable and accepted in the scientific community?

DR. JOHNSON: The IARC and the Cancer Research Institute comprise the foremost experts in the field of cancer epidemiology – we have the most cutting-edge technology and advanced scientific assessment tools. The fact that the two most prominent cancer research institutes came to a similar conclusion regarding a chemical should hold sufficient weight in the scientific community to be generally accepted.

MR. LEE: Regardless of the fact that other organizations, including the company on trial, have conducted extensive research and found no link between glyphosate and cancer?

DR. JOHNSON: As I said, the research conducted by IARC and the Cancer Research Institute are of the highest quality and consistent findings between those two organizations should qualify as acceptance in the scientific community.

MR. LEE: No further questions.

Closing Statements

Plaintiff

Based on the testimony of Dr. Johnson, it is clear that research existed suggesting the main chemical compound in Green Grass Grows posed a risk of causing skin cancer. CSE Corp's failure to include that information on their warnings directly led to Mr. Smith's diagnosis of skin cancer; an ailment that will continue to affect him for the rest of his life. There is only one way you can help stop CSE Corp from hurting millions of Americans in the future, and that is by finding CSE Corp Liable and hitting them where it hurts the most – in the wallet. Please do not let CSE Corp continue hurting innocent people. Thank you.

Defense

Again, our deepest sympathies go out to Mr. Smith and we hope for his full recovery. But, unfortunately, it appears that Mr. Smith and his counsel are targeting my client in an attempt to pitch a fantastical story: an evil corporation that had no regard for the health and well-being of the public. This simply is not the case, though. CSE Corp used research to inform their warning labels and went beyond everything the industry requires. Based on the evidence presented, I ask that you return the only logical decision by finding CSE Corp Not Liable. Thank you.

All conditions received the following instructions and information:

Jury Instructions

As previously stated, the plaintiff—Jamie Smith— claims he contracted skin cancer because of his consistent contact with CSE Corp's chemical product, Green Grass Grows. CSE Corp denies those claims.

Jamie Smith claims that the product – Green Grass Grows – lacked sufficient warning of potential risks. Both parties agree that CSE Corp manufactures and distributes Green Grass Grows and that the plaintiff has been accurately diagnosed with skin cancer. To establish this claim, Jamie Smith must prove the following:

3. That Green Grass Grows had potential risks that were knowable in light of the scientific knowledge that was generally accepted in the scientific community at the time of manufacture and distribution; and
4. That CSE Corp failed to adequately warn of the potential risks

The plaintiff must persuade you, by the evidence presented, that that these elements which they are required to prove are more likely to be true than not true. This is referred to as "the burden of proof."

After weighing all of the evidence, if you cannot decide that something is more likely to be true than not true, you must conclude that the party did not prove it. You should consider all the evidence, no matter which party produced the evidence.

Again, the standard in civil trials is that the party who is required to prove something only needs prove that it is more likely to be true than not true. If you believe all three elements listed are more likely to be true than not true, you must find the defendant liable. If *do not* believe any of the three elements listed are more likely to be true than not true, you must find the defendant not liable.

Trial Decisions

Based on the evidence presented and the burden of proof necessary, do you find CSE Corp *Liable* or *Not Liable* for the harm that Jamie Smith has suffered?

○ Liable

○ Not Liable

On a scale of 0-100, with:

- 0 being "The defendant *definitely did not* cause the harm;"
- Anything over 50 meeting the "burden of proof" (i.e., more likely than not), and;
- 100 being "The defendant *definitely did* cause the harm"

What is the likelihood that CSE Corp caused Jamie Smith's harm?

0	50	100
CSE Corp *definitely did not* cause Jamie Smith's harm	Burden of Proof	CSE Corp *definitely did* cause Jamie Smith's harm

Follow-up for participants who found the defendant Liable:

Jamie Smith is currently requesting $500,000 in compensatory damages, or money to compensate for his injuries and incurred losses. Because you found CSE Corp liable, how much would you award Jamie Smith in compensatory damages?

0	50	100
Least amount allowed by law	Amount Requested ($500,000)	Highest amount allowed by law

Follow-up for participants who did not find the defendant Liable:

Jamie Smith is currently requesting $500,000 in compensatory damages, or money to compensate for his injuries and incurred losses. Imagine that the remaining evidence presented at trial was strong enough that you CSE Corp liable – how much would you award Jamie Smith in compensatory damages?

0	50	100
Least amount allowed by law	Amount Requested ($500,000)	Highest amount allowed by law

Appendix C – Scale #1 Discrete Emotions Questionnaire

Harmon-Jones et al., 2016

Please indicate your response using the scale provided.
While *(undergoing the emotional experience, e. g., viewing the photographs, reading the story, etc.)* to what extent did you experience these emotions?

1	2	3	4	5	6	7
Not at all	Slightly	Somewhat	Moderately	Quite a bit	Very much	An extreme amount

Anger (Ag)	Scared (F)
Wanting (Dr)*	Mad (Ag)
Dread (Ax)	Satisfaction (H)
Sad (S)	Sickened (Dg)
Easygoing (R)	Empty (S)
Grossed out (Dg)	Craving (Dr)*
Happy (H)	Panic (F)
Terror (F)	Longing (Dr)*
Rage (Ag)	Calm (R)
Grief (S)	Fear (F)
Nausea (Dg)	Relaxation (R)
Anxiety (Ax)	Revulsion (Dg)
Chilled out (R)	Worry (Ax)
Desire (Dr)*	Enjoyment (H)
Nervous (Ax)	Pissed off (Ag)
Lonely (S)	Liking (H)

Ag = Anger items, Dg = Disgust items, F = Fear items, Ax = Anxiety items, S = Sadness items, Dr = Desire items*, R = Relaxation items, H = Happiness items.

* = Not included in the current studies

Appendix D – Scale #2 Single Item Stress Scale

Elo et al., 2003; Wemm & Wulfert, 2017

Instructions: Please indicate how stressed you are at the moment:

0	1	2	3	4	5	6	7	8	9	10
Not at all										Very much

Appendix E – Scale #3 Witness Credibility Scale

Brodsky et al., 2010

Instructions: Please rate the **Expert Witness** for the following items on the scale provided.
If you are unsure, please take your BEST GUESS.

_____

0	1	2	3	4	5	6	7	8	9	10
Unfriendly										Friendly

0	1	2	3	4	5	6	7	8	9	10
Disrespectful										Respectful

0	1	2	3	4	5	6	7	8	9	10
Unkind										Kind

0	1	2	3	4	5	6	7	8	9	10
Ill-mannered										Well-mannered

0	1	2	3	4	5	6	7	8	9	10
Unpleasant										Pleasant

0	1	2	3	4	5	6	7	8	9	10
Untrustworthy										Trustworthy

0	1	2	3	4	5	6	7	8	9	10
Untruthful										Truthful

0	1	2	3	4	5	6	7	8	9	10
Undependable										Dependable

0	1	2	3	4	5	6	7	8	9	10
Dishonest										Honest

0	1	2	3	4	5	6	7	8	9	10
Unreliable										Reliable

0	1	2	3	4	5	6	7	8	9	10
Not confident										Confident

0	1	2	3	4	5	6	7	8	9	10

Inarticulate Well-spoken

0	1	2	3	4	5	6	7	8	9	10

Tense Relaxed

0	1	2	3	4	5	6	7	8	9	10

Shaken Poised

0	1	2	3	4	5	6	7	8	9	10

Not self-assured Self-assured

0	1	2	3	4	5	6	7	8	9	10

Uninformed Informed

0	1	2	3	4	5	6	7	8	9	10

Illogical Logical

0	1	2	3	4	5	6	7	8	9	10

Uneducated Educated

0	1	2	3	4	5	6	7	8	9	10

Unwise Wise

0	1	2	3	4	5	6	7	8	9	10

Unscientific Scientific

Appendix F – Scale #4 Attorney Credibility Scale

Brodsky et al., 2010 [modified]

Instructions: Please rate the **Defense Attorney** for the following items on the scale provided.
If you are unsure, please take your BEST GUESS.

_____

0	1	2	3	4	5	6	7	8	9	10
Unfriendly										Friendly

0	1	2	3	4	5	6	7	8	9	10
Disrespectful										Respectful

0	1	2	3	4	5	6	7	8	9	10
Unkind										Kind

0	1	2	3	4	5	6	7	8	9	10
Ill-mannered										Well-mannered

0	1	2	3	4	5	6	7	8	9	10
Unpleasant										Pleasant

0	1	2	3	4	5	6	7	8	9	10
Untrustworthy										Trustworthy

0	1	2	3	4	5	6	7	8	9	10
Untruthful										Truthful

0	1	2	3	4	5	6	7	8	9	10
Undependable										Dependable

0	1	2	3	4	5	6	7	8	9	10
Dishonest										Honest

0	1	2	3	4	5	6	7	8	9	10
Unreliable										Reliable

0	1	2	3	4	5	6	7	8	9	10
Not confident										Confident

0	1	2	3	4	5	6	7	8	9	10

Inarticulate Well-spoken

0	1	2	3	4	5	6	7	8	9	10

Tense Relaxed

0	1	2	3	4	5	6	7	8	9	10

Shaken Poised

0	1	2	3	4	5	6	7	8	9	10

Not self-assured Self-assured

0	1	2	3	4	5	6	7	8	9	10

Uninformed Informed

0	1	2	3	4	5	6	7	8	9	10

Illogical Logical

0	1	2	3	4	5	6	7	8	9	10

Uneducated Educated

0	1	2	3	4	5	6	7	8	9	10

Unwise Wise

0	1	2	3	4	5	6	7	8	9	10

Unscientific Scientific

Appendix G – Scale #5 Rational-Experiential Inventory

Pacini & Epstein, 1999

Rational-Experiential Inventory–40
Instructions: Using the following scale, please rate the extent that these items refer to you.

1	2	3	4	5
"Definitely"				"Definitely not"
"True of myself"				"Not true of myself"

RATIONALITY SCALE

Rational Ability

1) I'm not that good at figuring out complicated problems*
2) I am not very good at solving problems that require careful logical analysis*
3) I am not a very analytical thinker*
4) Reasoning things out carefully is not one of my strong points*
5) I don't reason well under pressure*
6) I am much better at figuring things out logically than most people
7) I have a logical mind
8) I have no problem thinking things through carefully
9) Using logic usually works well for me in figuring out problems in my life
10) I usually have clear, explainable reasons for my decisions

Rational Engagement

11) I try to avoid situations that require thinking in depth about something*
12) I enjoy intellectual challenges
13) I don't like to have to do a lot of thinking*
14) I enjoy solving problems that require hard thinking
15) Thinking is not my idea of an enjoyable activity*
16) I prefer complex problems to simple problems
17) Thinking hard and for a long time about something gives me little satisfaction*
18) I enjoy thinking in abstract terms
19) Knowing the answer without having to understand the reasoning behind it is good enough for me*
20) Learning new ways to think would be very appealing to me

EXPERIENTIAL SCALE

Experiential Ability

21) I don't have a very good sense of intuition*
22) Using my gut feelings usually works well for me in figuring out problems in my life.
23) I believe in trusting my hunches
24) I trust my initial feelings about people

25) When it comes to trusting people, I can usually rely on my gut feelings
26) If I were to rely on my gut feelings, I would often make mistakes*
27) I hardly ever go wrong when I listen to my deepest gut feelings to find an answer
28) My snap judgments are probably not as good as most people's*
29) I can usually feel when a person is right or wrong, even if I can't explain how I know
30) I suspect my hunches are inaccurate as often as they are accurate*

Experiential Engagement

31) I like to rely on my intuitive impressions
32) Intuition can be a very useful way to solve problems
33) I often go by my instincts when deciding on a course of action
34) I don't like situations in which I have to rely on intuition*
35) I think there are times when one should rely on one's intuition
36) I think it is foolish to make important decisions based on feelings*
37) I don't think it is a good idea to rely on one's intuition for important decisions*
38) I generally don't depend on my feelings to help me make decisions*
39) I would not want to depend on anyone who described himself or herself as intuitive (-)
40) I tend to use my heart as a guide for my actions

Note: Labels should be removed and items randomized prior to administration. Items marked with an asterisk (*) should be reverse coding prior to scoring. Subscale scores are computed by averaging the 10 composite items.

Appendix H – CEST Logic Problems

Stock-Trading Problem

Mr. Paul, who has an average income, owned shares in Company A. During the past year he switched to stock in Company B., He has just learned that the stock in Company A has skyrocketed, and he would now be $100,000 ahead if he had kept his stock in Company A.

Mr. George, who also has an average income, owns shares in Company B. During the past year he considered switching stock to Company A but decided against it. He has just learned that stock in Company A skyrocketed and he would now be $100,000 ahead if he had made the switch.

Who do you think was more foolish, Mr. Paul or Mr. George?

1	2	3	4	5	6	7	8	9
Mr. Paul is much more foolish			Mr. Paul and Mr. George are equally foolish				Mr. George is much more foolish	

Parking-Lot Problem

Tom parked his new car in a parking lot that was half empty. His wife asked him to park in a spot where she wanted to shop, but he parked, instead, in a spot closer to where he wanted to shop. As luck would have it, when he backed out after shopping, another car opposite to him backed out at the same time and both cars sustained damage over $1,000.

Robert parked his new car in the same parking lot when there was only one parking place, so he took it. As luck would have it, when he backed out after shopping, another car opposite to him backed out at the same time and both cars sustained damage over $1,000.

Who do you think contributed more to the likelihood of the accident, and therefore is more foolish, Tom or Robert?

1	2	3	4	5	6	7	8	9
Tom is much more foolish			Tom and Robert are equally foolish				Robert is much more foolish	

Appendix I – Manipulation Checks

Study 1

The attorney who cross-examined the witness refrained from improper remarks and comments.

0	1	2	3	4	5	6	7	8	9	10

Not at all true Extremely true

The attorney who cross-examined the witness treated others with respect.

0	1	2	3	4	5	6	7	8	9	10

Not at all true Extremely true

Study 2

Do you recall any mention of thousands or millions of Americans becoming sick and dying from exposure to Green Grass Grows?

- ○ Yes
- ○ No

If yes, who was the first person to state this information?

- ○ Plaintiff Attorney, Richard Maroney
- ○ Defense Attorney, Steven Lee
- ○ Expert Witness, Dr. Sylvia Johnson

Appendix J – Hypothesis Tables

Study 1 Hypothesis Table

H#	Hypothesis	Type	Supported?
H1	Participants who receive an incivility manipulation will be more likely to provide a Liable verdict than participants who do not receive an incivility manipulation.	Main Effect	**No**
H1b	H1 will be moderated by participant gender such that males in the incivility condition will be significantly less likely to provide a liable verdict than females (no difference for control condition).	Two-way Interaction	**No**
H1c	H1 will be moderated by CEST Processing Style Influence (PSI) such that E-processors in the incivility condition will be significantly more likely to provide a liable verdict than R-processors (no differences for control condition).	Two-way Interaction	**No**
H2	Participants who receive an incivility manipulation will have significantly higher Likelihood of Causation scores than participants who do not receive an incivility manipulation.	Main Effect	**No**
H2b	H2 will be moderated by participant gender such that males in the incivility condition will provide significantly lower Likelihood of Causation scores than females (no moderation for control condition).	Two-way Interaction	**No**
H2c	H2 will be moderated by PSI such that E-processors in the incivility condition will provide significantly higher Likelihood of Causation scores than R-processors (no differences for control condition).	Two-way Interaction	**No**
H3	Participants who receive an incivility manipulation will award significantly higher Compensatory Damages than participants who do not receive an incivility manipulation.	Main Effect	**No**
H3b	H3 will be moderated by participant gender such that males in the incivility condition will award significantly lower Compensatory Damages than females (no differences for control condition).	Two-way Interaction	**No**
H3c	H3 will be moderated by PSI such that E-processors in the incivility condition will award significantly higher Compensatory Damages than R-processors (no differences for control condition).	Two-way Interaction	**No**
H4	Participants who receive an incivility manipulation will rate the defense attorney as significantly less credible than participants who do not receive an incivility manipulation.	Main Effect	**Yes**
H4b	H4 will be moderated by participant gender such that males in the incivility condition will provide significantly higher scores on attorney credibility than females (no differences for control condition).	Two-way Interaction	**No**
H5	Participants who receive an incivility manipulation will not rate the expert witness as significantly more credible than participants who do not receive an incivility manipulation.	Main Effect	**Yes**
H6	Participants who receive an incivility manipulation will report significantly higher levels of stress than participants who do not receive an incivility manipulation.	Main Effect	**Yes**
H6b	H6 will be moderated by participant gender such that females in the incivility condition will report significantly higher levels of stress than males (no differences for control condition).	Two-way Interaction	**No**
H7	Participants who receive an incivility manipulation will report significantly higher levels of anxiety than participants who do not receive an incivility manipulation.	Main Effect	**No**
H7b	H7 will be moderated by participant gender such that females in the incivility condition will report significantly higher levels of anxiety than males (no differences for control condition).	Two-way Interaction	**No**

H8a	(Competing Hypothesis testing ATF) Participants who receive an incivility manipulation will score higher on state *rational* cognitive processing than participants who do not receive an incivility manipulation.	Main Effect	**Partial**
H8b	(Competing Hypothesis testing CEST) Participants who receive an incivility manipulation will score lower on state *rational* cognitive processing than participants who do not receive an incivility manipulation.	Main Effect	**No**
H9	Anxiety will mediate the relationship between incivility and state cognitive processing.	Mediation	**No**
H10	State cognitive processing will mediate the relationship between incivility and each trial outcome.	Mediation	**No**
H11	Emotionality and state cognitive processing will serially mediate the relationship between incivility and each trial outcome.	Serial Mediation	**No**

Study 2 Hypothesis Table

H#	Hypothesis	Type	Supported?
H12	Participants who receive a fear appeal manipulation will report significantly higher levels of fear on the DEQ than participants who do not receive a fear appeal manipulation.	Main Effect	**No**
H12b	Participants who receive a stealing thunder manipulation prior to a fear appeal will report significantly lower levels of fear on the DEQ than participants who receive only a fear appeal.	Main Effect	**No**
H13	Participants who receive a fear appeal manipulation will be significantly more likely to render a Liable verdict compared to participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation with a fear appeal manipulation.	Main Effect	**Partial**
H13b	H13 will be moderated by participant gender such that females in the fear appeal condition will be significantly more likely to render a Liable verdict than males (no differences for control or stealing thunder conditions).	Two-way Interaction	**Partial**
H13c	H13 will be moderated by PSI such that E-processors in the fear appeal condition will be significantly more likely to render a Liable verdict than R-processors (no differences for control or stealing thunder conditions).	Two-way Interaction	**No**
H14	Participants who receive a fear appeal manipulation will report significantly higher Likelihood of Causation scores than participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation in addition to a fear appeal manipulation.	Main Effect	**Partial**
H14b	H14 will be moderated by participant gender such that females in the fear appeal condition will report significantly higher Likelihood of Causation scores than males (no differences for control or stealing thunder conditions).	Two-way Interaction	**No**
H14c	H14 will be moderated by PSI such that E-processors in the fear appeal condition will report significantly higher Likelihood of Causation scores than R-processors (no differences for control or stealing thunder conditions).	Two-way Interaction	**No**
H15	Participants who receive a fear appeal manipulation will award significantly higher Compensatory Damages than participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation with a fear appeal manipulation.	Main Effect	**No**
H15b	H15 will be moderated by participant gender such that females in the fear appeal condition will award significantly higher Compensatory Damages than males (no differences for control or stealing thunder conditions).	Two-way Interaction	**No**
H15c	H15 will be moderated by PSI such that E-processors in the fear appeal condition will award significantly higher Compensatory Damages than R-processors (no differences for control or stealing thunder conditions).	Two-way Interaction	**No**
H16	Participants who receive a stealing thunder manipulation will rate the attorney as significantly more credible than participants who do not receive a stealing thunder manipulation.	Main Effect	**No**
H17	Participants who receive a fear appeal manipulation will rate the expert witness as significantly more credible than participants who do not receive a fear appeal manipulation or who receive a stealing thunder manipulation in addition to a fear appeal manipulation.	Main Effect	**No**
H18a	(Competing Hypothesis testing ATF) Participants who receive a fear manipulation will score higher on state *rational* cognitive processing than participants who do not receive a fear manipulation.	Main Effect	**No**
H18b	(Competing Hypothesis testing CEST) Participants who receive a fear manipulation will score lower on state *rational* cognitive processing than participants who do not receive a fear manipulation.	Main Effect	**No**
H19	Emotionality will mediate the relationship between fear appeals and cognitive processing.	Mediation	**No**

H20	State cognitive processing will mediate the relationship between fear appeals and each trial outcome.	Mediation	**No**
H21	Emotionality and state cognitive processing will serially mediate the relationship between fear appeals and each trial outcome.	Serial Mediation	**No**