FIRST IMPRESSIONS FROM THE JURY BOX: HOW THE LENGTH OF EXPERT WITNESS TESTIMONY INFLUENCES MOCK TRIAL DELIBERATIONS

by

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A THESIS

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ABSTRACT

The present study examined the influence that a juror's first impressions of an expert witness might have on two outcomes: judgments of the witness' credibility, and verdict decisions in a criminal case involving a Not Guilty by Insanity (NGRI) defense. This was the first study to use "thin slice" methodology to manipulate time exposed to expert testimony and assess reliability of witness credibility ratings over time. This study also examined the degree to which these impressions influence the relationship between juror opinions and jury decision-making. A 2 (non-deliberating vs. deliberating jury) X 3 (observing 30 seconds, 5 minutes, or 10 minutes of expert witness testimony) between subjects design was implemented. Participants (N = 188, 30 mock juries) viewed a videotaped presentation of testimony from an actor portraying a forensic mental health professional called on by the defense. Mock juror characteristics, responses to a thought listing measure, and transcriptions from the videotaped jury deliberations were coded for exploratory analysis. Primary results, obtained via Hierarchical Linear Mixed Modeling to account for the random effect of group, were supported by jury-level analysis. Despite support for the accuracy of "thin slice" judgments in the literature, results found that jurors in the 30 second condition judged the expert as significantly less credible in this study. Results did not support the anticipated leniency shift in juries post-deliberation, and instead, yielded a significant two-way interaction on verdict for the 30 second group, such that non-deliberating jurors were more lenient than deliberating jurors. Implications for understanding how impressions of expert witness testimony translate from the juror to the deliberation room are discussed, with particular attention to cases with an increased likelihood of bias against the NGRI defense.

DEDICATION

This thesis is dedicated to my mentor, Stanley L. Brodsky, PhD., whose passion for research, and talent for turning all of life's moments into teachable ones, has guided me through this process. Thanks to Stan's mentoring, I emerged from this intensive project even more enthusiastic about forensic psychology research, and equipped with the knowledge and confidence necessary to continue and succeed in the field.

LIST OF ABBREVIATIONS AND SYMBOLS

α	Chronbach's alpha coefficient (degree of internal consistency)
ANCOVA	Analysis of Covariance
b or *B*	Computed value of the unstandardized regression coefficient (parameter estimate)
b/se	Effect size (coefficient/ computed standardized error for each parameter estimate)
Cramer's V	Effect size for Pearson's chi-square tests of independence (for contingency tables greater than 2 x 2)
d	Cohen's d (measure of effect size, strength of relationship)
F	Fisher's *F* Ratio
GLM	General Linear Modeling
HLM	Hierarchical Linear Modeling
K	Cohen's Kappa coefficient (measure of inter-rater reliability)
LMM	Linear Mixed Modeling
LSD	Least significant difference
M	Mean (arithmetic average)
N	Number of participants
η_p^2	Partial eta squared (strength of observed power)
NGRI	Not Guilty by Reason of Insanity defense
p	Probability
p.	Page number
r	Pearson's correlation (measure of association between variables)

SD	Standard deviation
x^2	Pearson's chi-square statistic
z	Standardized residual
<	Less than
=	Equal to

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1. Introduction

Social order relies on the human capacity to make judgments about the world (e.g., what is considered polite and rude, who is qualified and who is not, who is telling the truth and who is being dishonest). The legal system is one of the most established social arenas that operates under this basic assumption. In the courtroom, jurors are asked to make a fair judgment, based on the evidence presented to them. Unfortunately, these judgments are not impervious to the preconceptions, subjectivity, and information processing biases that influence decision-making. Almost a century of social psychology research has concluded that first impressions provide a predictive mechanism for how social judgments are made (Allport, 1937; Ambady & Rosenthal, 1992; Funder, 1987; Kenny & Albright, 1987; Kruglanski, 1989; Swann, 1984). Mental heuristics are often used during judgment formation to simplify individuals' cognitive processing while perceiving the world around them (Tversky & Kahneman, 1974). These cognitive shortcuts commonly lead to erroneous conclusions and biased decision-making. Impression formation is particularly relevant to understanding how jurors evaluate the evidence and make decisions regarding witness credibility and defendant guilt (Greene & Ellis, 2007).

Expert Witness Testimony and Jury Decision-Making

Story model of jury decision-making. The story model of jury decision-making provides a framework for how evidence interpretation affects trial outcomes (Koski, 2003). Framing the evidence within a story helps jurors analyze, organize, and understand the vast amount of information presented during the trial. As Bennett and Feldman (2003) explain, "Stories are

systematic means of storing, bringing up to date, rearranging, comparing, testing, and interpreting available information about social behavior," (p. 284). A story provides the juror with a context for interpreting the evidence (Pennington & Hastie, 2003).

How does expert witness testimony fit into the story? While jurors actively incorporate information presented during the trial into their story, they simultaneously form inferences about the individuals presenting that evidence; a prime example is established in the expert witness literature (Koski, 2003). Jurors are active interpreters of evidence (Diamond & Casper, 1992; see review by Nietzel, McCarthy, & Kerr, 1999; Pennington & Hastie, 2003). The law seems to assert the juror as a "blank slate" upon which only the attorneys and witnesses can write (Vidmar & Hans, 2007, p. 129). However, jurors' previously established traits, attitudes, and worldviews aid in determining each juror's narrative of the evidence based on how he or she interprets the expert witness' presentation of the evidence (Koski, 2003). Jurors do not simply absorb the information presented by expert witnesses: they make inferences about the witness' credibility, which then influences their interpretation of the evidence. In this way, the impact of the witness' testimony becomes based on the witness' subjective believability (i.e., credibility) (Brodsky, Griffin, & Cramer, 2010).

Quantifying expert witness credibility. A series of studies has resulted in a witness credibility measure, anchored by four sub-facets: confidence, likeability, trustworthiness, and knowledge (Brodsky et al., 2010; Brodsky, Neal, Cramer, & Ziemke, 2009; Cramer, Brodsky, & DeCoster, 2009). Although all four facets significantly load onto the witness credibility scale developed by Brodsky and colleagues (2010), the confidence subscale has shown to account for 49.76% of the variance in witness credibility – while trustworthiness, likeability, and general (not case-specific) knowledge explained 9.20%, 6.56%, and 5.10% of the variance, respectively.

The low factor loading for knowledge suggests that jurors highly value a witness' personal attributes (e.g., confidence) more than his or her knowledge when evaluating witness credibility. Given the strong influence of subjective factors attributed to witness credibility, it is plausible that these judgments or impressions are made early in the testimony, influencing how juror's weigh the evidence that follows. Thus, impression formation could be influencing jurors' focus while evaluating testimony, leading to more emphasis, at least initially, on *how* the evidence is presented versus *what* evidence is presented.

A social cognitive perspective on expert witness credibility. To explain how credibility judgments impact the evaluation and persuasiveness of expert testimony, researchers interested in the social cognitive aspects of expert witness persuasiveness have turned to the Elaboration Likelihood Model (ELM) (Brodsky et al., 2010; Chaiken, 1980; Heesacker, Petty, & Caccioppo, 1983; Petty, Cacioppo, & Schumann, 1983; Petty, Kasmer, Haugtvedt, & Cacioppo, 1987). The ELM contends that a juror takes a *peripheral route* to persuasion by relying on the credibility of the expert and/or the style of presentation of the evidence to assess the persuasive impact of the testimony. A peripheral, as opposed to a central, route to persuasion primarily relies on tangential, simple cues that demand significantly less cognitive effort on the juror's behalf. Personal relevance of the testimony, witness attractiveness, age, gender, ethnicity, speech style, eye contact, witness confidence, and body language are reliable encoder variables that affect the juror's evaluation of the expert witness' credibility (Arnold-Tetterton, 2006; Brodsky et al., 2010; Cramer, 2006; DeBono & Harnish, 1988; Griffin, 1976; Maddux & Rogers, 1980; Miller & Burgoon, 1982; Neal & Brodsky, 2008).

Initial empirical support for the story model in jury decision-making has found that jurors actively engage in the "constructive comprehension process," to make sense of the evidence

(Pennington & Hastie, 2003, pp. 293-294). However, the legal context in which the evidence is presented (i.e., the trial) is not optimally conducive to story construction. Trial presentations of evidence are often sporadic, disconnected, not in temporal or causal order, cognitively overwhelming, and often overestimate the jurors' ability to maintain adequate attention and remain unbiased (Ellsworth, 2003; Greene & Ellis, 2007; Pennington & Hastie, 2003). A wealth of evidence in the jury decision-making research and the social cognitive literature (see review by Aronson, 2008) indicates jurors use heuristics while processing information to combat cognitive overload (see review by Greene & Ellis, 2007; Pennington & Hastie, 2003; Sherman, Judd, & Park, 1989). Six heuristic thinking strategies have been identified in the jury decision-making literature: the availability heuristic, the representativeness heuristic, hindsight bias, overconfidence, anchoring-and-adjustment, and the simulation heuristic (Green & Ellis, 2007). Thus, jurors form credibility judgments based on hard facts presented in evidence, but also on inferences made from that information that fit into that juror's worldview (Kioski, 2003, p. 271).

Expert Witness Testimony within a Thin Slices Framework

Heuristic impressions of expert witness testimony. Traditionally heuristic-like information processing (e.g., impression formation) is considered an automatic and often undetectable "reflexive process" (Bargh & Chartrand, 1999; Greene & Ellis, 2007, p. 185; Tversky & Kahneman, 1974). Recently, Greene and Ellis (2007) made the assertion that heuristic processes include conscious decisions and interpersonal inferences. Thus, jurors may use heuristics, purposefully or not, to simplify their evaluation of the expert witness' evidence into a framework that best fits their story of the events and their pre-existing notions about the case-related variables (Fiske & Taylor, 1991; Kioski, 2003).

While heuristics can help the juror make decisions in the face of uncertain information or when under an extremely high cognitive load, it leads to erroneous and biased conclusions in a number of ways (e.g., Greene & Ellis, 2007; Kamin & Rachlinski, 1995; Kelman, Rottenstreich, & Tversky, 1996; Moore, 1989). Jurors occasionally focus on irrelevant, inadmissible evidence during a trial (i.e., the availability heuristic), or ignore relevant evidence in favor of more characteristic evidence (i.e., the representativeness heuristic). Similarly, jurors may also unjustly judge expert witness credibility based on snap judgments based primarily on an individual juror's worldview. As a result, a juror's interpretation of the evidence could be influenced and potentially biased by his or her first impression of a witness' credibility.

First impressions as thin slices. A number of almost imperceptible interpersonal cues (from speech, facial expressions, body language) have been linked to impression formation, with the least controllable channels (e.g., non-vocal) providing the most telling and accurate informational cues (Ambady & Rosenthal,1992; Brown, 1986; DePaulo, Zuckerman, & Rosenthal, 1980; Zuckerman, DePaulo, & Rosenthal, 1981). The innate ability to correctly judge characteristics of others based on only minimal information or cognitive processing leads to surprisingly accurate impression formations (Allport, 1937; Ambady & Rosenthal, 1992; Funder, 1987; Kenny & Albright, 1987; Kruglanski, 1898; Swann, 1984). A body of research (see review by Ambady & Rosenthal, 1992) has substantiated this phenomenon by investigating the accuracy of judgments based on only *thin slices* of exposure to the individual being rated.

Across thin slices, defined in the literature as anywhere from 30 seconds to five minutes of exposure, observations have accounted for significantly accurate predictions and judgments of the stimulus (r = .39) (Ambady & Rosenthal, 2003). Not only are judgments rendered with only 30 seconds of observation as accurate as those made with five minutes of observation, but

research has found that predictions from thin slices of behavior do not significantly differ from longer behavioral observations (Ambady & Rosenthal, 2003; Funder & Ozer, 1983). Ratings based on thin slice observations have been shown to accurately predict a wide range of social psychological characteristics in others, ranging from personality characteristics, to interpersonal expectancies and biases, to psychopathology and deception (Ambady & Rosenthal, 1992; Fowler, Lilienfeld, & Patrick, 2009; Funder & Colvin, 1988).

Accuracy in the thin slices research is either defined as a correspondence between a judgment and a criterion value or as the level of consensus and agreement among individuals judging a particular attribute of a third party (Ambady & Rosenthal, 1992). For instance, the following judgments have been examined and found to be accurate based on only thin slice observations: Perceivers' impressions of personality traits; judges' expectations of trial outcomes; a defendant's criminal history; clinical outcomes in observed therapeutic interactions; socioeconomic status; degree of psychopathy; and deception detection (Ambady, Krabbenhoft, Hogan, 2006; Ambady & Rosenthal, 1992; Funder, 1995; Kenny, 1991; Kraus & Keltner, 2009; Kruglaski, 1989). The latter definition is applicable to how jurors perceive expert witness testimony and juror decision-making. As Amady and colleagues (1995) emphasize, "…the importance of first impression[s] cannot be overestimated… Whereas judgments of others may be formed very quickly and often unwittingly, they may also be consequential and long-lasting" (p. 4). Although contradictory to commonsense notions that more information leads to more accurate judgments and evaluations of evidence, additional information is often neglected, redundant, or counterproductive in some situations (Ambady & Rosenthal, 1992; Wilson & Schooler, 1991). The thin slices phenomenon and supporting empirical evidence provide a social

cognitive framework for further understanding jurors' impressions of experts and potential effects such impressions may have on decision-making.

From the Jury Box to the Deliberation Room

Expert witness credibility and trial outcomes. Jurors' heuristic processing does not stop after hearing all the evidence and witnesses in a trial. While jurors often do rely on probative evidence to inform their decision-making, they also continue to rely on "cognitive shortcuts" while decoding information during the second phase of a trial – the jury deliberation (Greene & Ellis, 2007, p. 184; Miller & Burgoon, 1982). Deliberations are what lead to decisions regarding the evidence and trial outcomes in jury trials. The pre- and post-deliberation aspects of any jury trial are linked by a substantial body of literature that connects expert witness testimony and subsequent credibility judgments with jury decision-making (see reviews by Diamond & Casper, 1992; Devine, Clayton, Dunford, Seying, & Pryce 2001; Greene, et al., 2002; Nietzel et al., 1999). Nonetheless, deliberations have been historically underrepresented in the literature (Diamond, 1997; Greene et al., 2002; Nietzel et al., 1999). By the deliberation phase of the trial, jurors' have likely maximized their cognitive loads and are under immense pressure, as they are instructed to make legal sense out of a series of discrete, often ambiguous forms of evidence (Greene & Ellis, 2007). Thus, it would follow that if individual jurors base their credibility judgments on heuristic first impressions of the expert witness, jurors would continue to rely on these judgments during deliberations.

The deliberation effect. Research involving jury deliberations has yielded a number of deliberation effects in certain kinds of cases. Empirical evidence exists that deliberation leads to greater comprehension of trial information and instructions, and less attention to inadmissible testimony. Deliberations have also been found to have a group polarization effect, commonly

viewed as a punitively oriented. However, deliberative discussion often reduces the use of juror bias and leads to a leniency shift in certain types of criminal cases (i.e., when the defendant enters a plea of NGRI) (see reviews by Diamond, 1997; Devine et al., 2001; Greene et al., 2002).

Of additional importance is the strong predictive relationship between jurors' initial verdict preferences and the trial outcome. At the outset, this finding might run counter to the modifying effects described above by nullifying the deliberation effects and crediting the weight of the evidence for verdict decisions independently. However, further evaluation of what constitutes an *initial* verdict preference helps explain why the route from *individual* juror preference to *jury* outcome might not be so parsimonious (Davis, Kameda, Parks, Stasson, & Zimmerman, 1989; Greene et al., 2002; Sandys & Dillehay, 1995). The first ballot vote is sometimes polled after a deliberation period. Thus, while predictive of the trial outcome, the initial ballot vote should not necessarily be interpreted as indicative of the individual juror's preference pre-deliberation (Davis, Kameda, Parks, Stasson, & Zimmerman, 1989; Greene et al., 2002; Salerno & Diamond, 2010; Sandys & Dillehay, 1995). When a jury begins deliberations with a voting poll, it adopts the "verdict-driven" approach to deliberation. Conversely, when a jury begins deliberations with a discussion of the evidence and relevant story construction elements of the trial, they are initiating an "evidence-driven" decision-making process (Devine et al., 2001; Greene et al., 2002, p. 239; Hastie, Penrod, & Pennington, 1983). When taking deliberation style into account in the decision-making process evaluation, first ballot votes are rarely unanimous. In addition, in 10% of the jury trials presented in the research, deliberations reversed the majority preference initially held by the jury (Devine et al., 2001).

In short, instead of assuming the strength of the evidence as the foremost factor contributing to verdict, research suggests that individual *interpretations* of the evidence play a

role. As such, it is likely that discussions of these interpretations during deliberations also affect jury decision-making (Diamond, 1997; Ellsworth, 2003; Sandys & Dillehay, 1995). Since jurors may interpret the evidence differently from one another, the importance of examining the variance among jurors' potentially modifying roles in decision-making should not be overlooked.

Accounting for individual differences in decision-making. Much of the jury decision-making research focuses on how individual differences within the juror predict verdict decisions. However, as Ellsworth (2003) emphasizes, relying solely on research typified by individual differences commits the fundamental attribution error (i.e., attributing behavior to person-specific causes only, while neglecting the impact of the situation). Thus, it is imperative to include deliberation characteristics (e.g., jury size, decision rule, verdict/sentencing options, trial structure, group discussion) in a study of juror decision-making. Including analysis of deliberation effects in legal decision-making studies improves ecological validity of the findings and is consistent with the field's recent efforts to expound on current comprehension regarding the cognitive facets of jury decision-making (Salerno & Diamond, 2010). Moreover, such an inclusion is essential if one hopes to explicate information on how individual juror preferences translate to jury decision-making (Salerno & Diamond, 2010).

It is also important to investigate the interaction of juror characteristics with the deliberation process. A defining feature of the story model is the central assertion that jurors' decisions regarding the case are determined by the story the jurors construct to explain the events according to their worldview and individual character (Ellsworth, 2003; Koski, 2003). For example, juror extraversion has been linked to criminal case verdicts favoring the defendant, as well as to an increased likelihood that the juror will have a more influential role during the deliberation (Clark, Boccaccini, Callouet, & Chaplin, 2007).

On the other hand, authoritarianism, particularly legal authoritarianism, has been positively correlated with conviction proneness, bias against the insanity defense, and lower credibility ratings of expert witnesses in cases involving not guilty by reason of insanity (NGRI) defenses (Clark et al., 2007; Cutler, Moran, & Narby, 1992; Narby, Cutler, & Moran, 1993). Narby et al. (1993) found that authoritarian attitudes result in bias that is negatively correlated with the strength of evidence presented, directly affecting the deliberation phase of the trial. Thus, more evidence leads to less bias and shorter deliberations among jurors with high authoritarianism (Narby et. al, 1993). Furthermore, authoritarianism has also been found to moderate the relationship between need for cognition and punitive decisions. High authoritarianism increases the likelihood of punitive decision-making in individuals with a high need for cognition (Tam, Leung, & Chiu, 2008).

Compared to individuals low in need for cognition, high need for cognition individuals are more resistant to persuasion against their pre-established attitudes. Jurors high in this attribute are more active participants in decision-making processes (Haugtvedt & Petty, 1992; Shestowsky & Horowitz, 2004). High need for cognition individuals are also more favorable and evaluative of expert witness evidence when the internal validity is high. Thus, high need for cognition jurors are persuaded by the quality of the evidence more than tangential factors, such as the expert's qualifications or length of testimony (Caccioppo, Petty, Feinstein, & Jarvis, 1996; Clark et al., 2007; McAuliff & Kovera, 2008).

Purpose and Proposed Hypotheses

The present study's purpose was to investigate the potential influences of jurors' first impressions of expert witnesses on credibility judgments and verdict decisions in a criminal case involving a Not Guilty by Reason of Insanity (NGRI) defense. This particular defense was

selected because of the intrinsic reliance on expert psychological testimony in such cases and the documented biases in such cases (Louden & Skeem, 2007; Melton et. al, 2007). Substantial research indicates that jurors' negative attitudes towards the insanity defense strongly and obstinately bias criminal case judgments over that of the legal definitions or case evidence, particularly in mock jury research (Louden & Skeem, 2007; see also Skeem & Golding, 2001; Skeem, Louden, & Evans, 2004). Additionally, an NGRI defense provided a prime opportunity for jurors to exert heuristic-like processing over their evaluation of the evidence and legal decisions, given the inherently stereotyped context of this defense (Perlin, 1994).

Evaluating evidence based on heurisitic-like impressions founded on biased attitudes introduces the potential for injustice (Perlin, 1994). The jurors' task is to base their decision purely on the objective evidence, not on how that evidence fits into their subjective story of the case events (Pennington & Hastie, 2003). As noted by Pennington and Hastie (2003), investigating at what particular points during the trial jurors make certain inferences about the evidence presented is vital to understanding the most influential aspects of the trial. The present study aimed to explore if an expert witness' testimony differentially impacted the juror's judgments as a function of time exposed to the witness by examining first impressions of expert testimony. This study additionally sought to examine how varying the amount of exposure to the witness (i.e., manipulating the amount of time jurors have to form an impression of the witness' credibility) may impact the relationship between *juror* opinions and *jury* decision-making.

Thin slice methodology was implemented to study the extent to which jurors rely on first impressions when judging expert witness credibility, as well as how differences in exposure to the witness affects decision-making. This study was the first to manipulate the time exposed to expert witness testimony in order to gauge the impact of witness perception on trial outcomes.

The time slices were selected to include the full range of what constitutes a "thin slice" of behavior in the literature (30 seconds to 5 minutes), as well as a comparable "fuller" slice of testimony (10 minutes) that is often used in mock-jury research (Ambady & Rosenthal, 1992; Bornstein, 1999). As reviewed above, this study sought to gain a fuller, more ecologically valid understanding of the processes behind witness impression formation and its relation to trial outcome by assessing differences between pre- and post-deliberation ratings of witness credibility and verdict. Thus, this study aimed to investigate potential differences in jury research based on the addition of the deliberation phase of the trial that may not otherwise be evident.

The proposed hypotheses were as follows:

H1: *Thin Slices Hypothesis*. A significant positive correlation would be evident across all three time slices on witness credibility (WC) ratings and on verdict, given the stability of thin slice judgments.

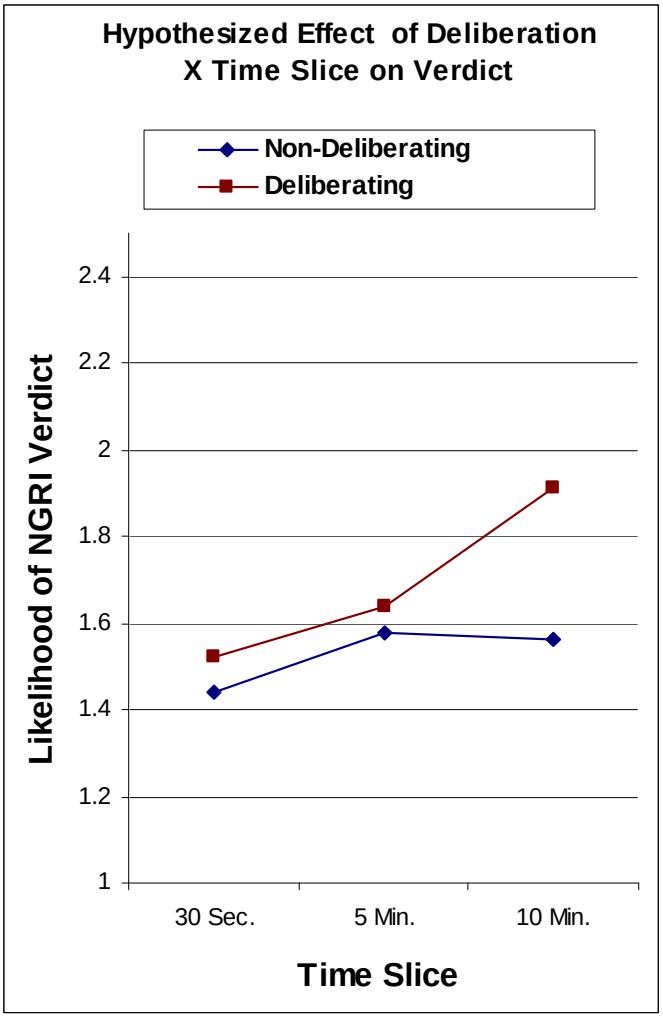
H2: *Deliberation Hypothesis*. Deliberating mock jurors would be significantly more likely to enter a verdict of NGRI than non-deliberating jurors, given the leniency shift expected in deliberating juries.

H3: *Interaction of Deliberation and Thin Slice Hypothesis*. The comparison between non-deliberating and deliberating mock jurors' verdicts would result in a significant positive correlation for the 30 second condition and 5 minute condition; but would yield a significant negative correlation for the 30 second and 10 minute condition (See Figure 1). In short, researcher hypothesized that the stability of judgments based on thin slice observations would be replicated in the current study for pre-deliberating jurors only if the thin slice phenomenon was not supported fully in the current study.

Figure 1

Hypothesized two-way interaction of deliberation and time slice on verdict

(Verdict assessed as 1 = Guilty, 2 = NGRI, and 3 = Not Guilty)



H4: *Interaction of Witness Credibility and Verdict*. A significant, positive correlation between witness credibility ratings and verdict scores would be found across all three time slices and juror conditions (i.e., non-deliberating and deliberating conditions).

H5: *Bias Hypothesis*. (5a) Bias against the insanity defense would predict significantly fewer NGRI verdicts and scores. (5b) NGRI verdicts and scores would be significantly more

frequent and higher in the post-deliberation versus the pre-deliberation condition when bias against the insanity defense is reported.

H6: *Subject Variable Hypothesis*. It was hypothesized that differences in juror characteristics (i.e., authoritarianism, need for cognition, extraversion) would moderate the effect of first impressions on witness credibility and verdict ratings, (6a) with the interaction effects exhibiting significant differences between the pre- and post-deliberation conditions. The following hypotheses were investigated within an exploratory framework, (6b) juror extraversion would positively correlate with NGRI verdicts; (6c) legal authoritarianism would be negatively correlated with NGRI verdict and witness credibility ratings; and (6d) need for cognition would be positively correlated with NGRI verdict and credibility ratings.

Overall the hypotheses posit that initial impressions of witness credibility would account for some of the variance in verdict decisions pre-deliberation, irrespective of the amount of evidence presented. In addition, post hoc exploratory quantitative and qualitative analyses would investigate the differences between the non-deliberating and deliberating conditions within each time slice on ratings of witness credibility and verdict. Since personality variables, the need for authoritarianism and cognition, and case-specific biases have all been empirically linked to jury deliberations and decisions, these moderators were explored as secondary aims in the present study (see reviews by Cacioppo et al., 1996; Devine et al., 2001; Louden & Skeem, 2007; Narby et al., 1993). Furthermore, deliberations were postulated not to override first impression effects, but to potentially help diminish bias as more evidence was evaluated. More specifically, as longer exposure to the witness was provided, deliberative effects would explain more of the final decision and help overcome biases against the insanity defense

2. Method

Design

The present study was a 2 X 3 between-subjects factorial design. The independent variables were jury condition (individual juror vs. jury deliberation) and the length of time exposed to expert witness testimony (30 seconds, 5 minutes, or 10 minutes). The dependent variables of primary interest were witness credibility ratings and verdict decisions. Participants were randomly assigned to either the *individual juror* condition (N = 92), in which ratings were made independent of case-relevant deliberations, or the *jury deliberation* condition (N = 96), in which ratings were made post case-specific deliberations. In effect, manipulating deliberation condition as an independent variable allowed for a between subjects analysis of pre- and pos-deliberation outcomes. Participants were also randomly assigned to one of the three *length of testimony* conditions: 30 seconds (N = 60), five minutes (N = 65), and ten minutes (N = 63). A total of five mock juries and at least 30 participants were collected for each of the six conditions.

A six-member jury was chosen instead of a 12-member jury because of its acceptance in the legal system (*Williams v. Florida*, 1970), the increased frequency and preference for smaller juries (Melton et al., 2007), and the fact that overall only small differences exist in the research between 6 and 12-member juries (Devine, Clayton, Dunford, Seying, & Pryce, 2001). Smaller juries also allowed for more efficient deliberations due to logistical constraints of the study. All participants were assigned to a mock jury of between five and eight jurors (M = 6.27, SD = 0.87). The plurality of the juries were comprised of six jurors, with 20% five-member (N = 6), 40% six-member (N = 12), 33.3% seven-member (N = 10), and 6.7% eight-member mock juries (N = 2).

Participants

Participants consisted of 188 undergraduates recruited from the University of Alabama's online Psychology Subject Pool. All participants volunteered to complete the one-hour research session in exchange for a partial course credit. All participants were at least 18 years of age (M = 18.88, SD = 1.12). The sample was 35.1% male (N = 66) and 64.9% female (N = 122), 84% of whom were Caucasian, 13.8% of whom were African American, and 2.2% of whom were from a different racial background. The sample was skewed towards a conservative political orientation, as the majority (84.9%) of participants rated their political views as "Moderate" to "Very conservative." Fifteen participants (8%) endorsed prior indirect or direct personal experience with mental illness. Distributions of the above demographics were approximately even across experimental conditions, including *individual juror* and *deliberation* conditions.

Participant demographics across each of the 30 juries were also approximately evenly distributed for age, gender, race, political orientation, and mental illness exposure, with several exceptions. First, two of the non-deliberating juries were composed of all females. Second, twelve mock juries were comprised of only Caucasian participants, evenly distributed across deliberation condition. Four jurors had previous jury experience (2.1%) and one juror had previous experience on a jury for a case involving an NGRI defense (0.5%), both of whom were randomly assigned to the *individual juror* condition.

Procedure

Each jury took part in its own research session, for a total of 30 sessions until the data were collected. Each one to one-and-a-half hour experimental session took place in a classroom at the University of Alabama's psychology department. Participants were randomly assigned mock juror numbers and instructed to sit in the corresponding juror seat in the jury box set up by

the investigator. The mock jury box consisted of six chairs organized by two rows of three chairs, positioned in a clear view of the testimony. During deliberations, participants were seated in a semi-circle amenable to group discussion and video recording. All participants were given a participant information sheet (see Appendix A) describing the experiment as a study assessing juror decision-making, as well as their role as a participant. The key aspects of the information sheet were read aloud and participants were provided an opportunity to ask questions.

All participants first received the same case description outlining the nature of the case and the charges against the defendant, the defendant's plea of NGRI, and the judge's instructions (*Case Information Sheet*; see Appendix B). The investigator also oriented the jurors to the phase of the trial being investigated. Mock jurors were informed that they were about to view "a short segment" of expert witness testimony for the defense, emphasizing the importance of treating the material as they would if they were an actual juror in this case. The researcher also educated the participants regarding the burden and standard of proof in the case. The present study used the standard adopted by most states in the U.S., which places the burden of proof on the defendant to demonstrate with a preponderance of the evidence (i.e., the degree of certainty should be more certain than uncertain) that he was insane at the time of the offense (Melton et al., 2007).

Next, participants watched the expert witness testimony via pre-recorded video. Each jury of participants watched one of three videos (i.e., 30 seconds – Appendix C, 5 minutes – Appendix D, or 10 minutes – Appendix E). To ensure that the only manipulated variable was the length of time exposed to the testimony, the same person recorded all three testimony segments. The University of Alabama Witness Research Lab recruited a doctoral level clinical and forensic psychologist, with experience as an expert witness for both the state and the defense in criminal proceedings across Alabama, to record the testimony videos. Although individual characteristics

of the witness could potentially influence jurors' responses, it was necessary to have as much control as possible over confounding variables (e.g., personal characteristics between actors) as this is the first study assessing first impressions of witnesses.

The testimony was extracted from the expert witness testimony called on by the defense in the New York Supreme Court case *People v. Goldstein* (2004). This case was already in the public domain and has been used in ongoing mock jury research in the field (C. Crocker, personal communication, February 16, 2009). In this case, the defendant, who was diagnosed with schizophrenia, pled NGRI to the charge of second-degree murder for pushing a woman onto subway track, killing her instantly. The location of the crime was moved from a New York City rail station to a rail station in Atlanta, Georgia in an effort to enhance the applicability to southern participants. All three testimony conditions included an unequivocal assessment from the expert called on by the defense, affirming the defendant's mental state at the time of the offense as significantly impaired due to a mental disorder. The inclusion of case-specific mental state at the time of the offense opinions in all conditions allows for the optimal influence of witness testimony on verdict decision-making (Greene et al., 2002; Nietzel et al., 1999).

Once participants watched the testimony, each participant received a *Case Fact Sheet* with basic facts presented by both the prosecution and defense (see Appendix F). Next, the researcher reminded the participants regarding the standard of proof and their duty as jurors. Then, each jury was instructed to meet as a group prior to completing any assessments. The researcher allowed 15 minutes for deliberations, to control for differences between groups and for logistical purposes. Participants in the *jury deliberation* condition were informed that they had 15 minutes to deliberate regarding witness credibility and verdict, at the end of which they were to vote on these judgments. Thus, theoretically, juries deliberated based on an "evidence

driven" approach (versus a "verdict driven" approach), which has been shown to maximize the influence of the deliberation on the outcome of the initial verdict distributions (Davis et al., 1989; Devine et al., 2001; Greene et al., 2002).

Juries were also told that the basis for their verdict is by unanimous vote, which was chosen because of its use in criminal cases (Melton et al., 2007). Juries unable to reach a unanimous decision (i.e., deadlocked or hung juries) were instructed to deliberate for a final 15-minute time period with the aim of reaching a unanimous decision (i.e., given an "Allen Charge," *Allen v. United States*, 1896). After 30-minutes, deliberations were concluded, partly due to the logistical restraints of the current study, as well as evidence that differences in decision rule do not significantly affect trial outcome independently of other factors (Bove, 2008; Devine et al., 2001; see Greene et al., 2002, for noteworthy exceptions).

Participants in the *individual juror* condition did not deliberate. However, to ensure statistical uniformity across the two conditions (i.e., that the deliberating juries were not the only condition fully nested within a group activity), those in the individual juror condition also participated in a 15-minute discussion prior to completing the assessments. The participants were prohibited from discussing any case-relevant information during this time (e.g., case-specific information, the testimony, mental illness, the legal system) and instead, were instructed to each share and discuss their earliest memories of smell and taste with the other mock jurors. This discussion topic has been cited as a nonintrusive, neutral tool in generating group discussions among strangers in the literature on the Group Conversation Method (Brodsky, in press; Dubois & Li, 1963, 1971). The researcher prompted participants in the individual juror condition to discuss only non-case related information by informing mock-jurors that they were investigating the effects of irrelevant jury deliberations.

All participants were debriefed regarding the true nature of the study after all assessments are completed. The researcher sat in on all group discussions across conditions to ensure that the participants followed instructions (i.e., that the deliberation condition only discussed case-relevant information and that the individual juror condition did not discuss any case-relevant information). If a mock jury failed to follow instructions, the researcher reminded the participants of the instructions and made a record of the reminder.

After 15 minutes, each participant received a packet containing the witness credibility scale (WCS), verdict ratings, a Thought Listing Measure (TLM), the Big Five Mini-Marker personality scale (BFMM), the Need for Cognition Scale (NCS) short form, the Revised Legal Attitudes Questionnaire (RLAQ-23), and the Insanity Defense Attitudes-Revised (IDA-R) scale. These measures were counterbalanced such that half the participants in both conditions received the BFMM, NCS, RLAQ-23, and the IDA-R prior to viewing the expert testimony. Due to the fact that the Participant Reaction Form (PRF) is in part a procedural manipulation check and because the Demographic questionnaire's personal nature may hinder openness on further assessments, mock-jurors completed these two assessments last.

Measures

Witness credibility scale (WCS). The WCS was used to assess expert witness believability and perceived effectiveness. The WCS is composed of four subscales (i.e., knowledge, likeability, trustworthiness, and confidence) represented by five items each (Brodsky et al, 2010). Participants rated the expert witness on 20 items that each present a ten-point sliding Likert-type scale with an adjective and its antonym (e.g., *uninformed* to *informed*, *unfriendly* to *friendly*, *untrustworthy* to *trustworthy*, and *not confident* to *confident*) (see Appendix G). Chronbach's alpha coefficients for each subscale were all in the excellent range, as follows: .92

for confidence, .91 for likeability, .98 for trustworthiness, and .95 for knowledge. All four subscales were then totaled to achieve an overall credibility score ($\alpha = .90$), also demonstrating excellent internal consistency (George and Mallery, 2003).

Verdict ratings. Verdict ratings were collected on a dichotomous and continuous measure (see Appendix H), adapted from previous mock juror research (Brodsky & Cannon, 2006). In the dichotomous rating, participants voted either *guilty* or *not guilty by reason of insanity* (NGRI). In an effort to further investigate the basis for participants' verdicts, each participant also rated the probability of the defendant's guilt on a 7-step Likert-type scale, with 7 as the maximum confidence of guilt. Participants were also asked to rate the level of punishment on a similar Likert-type scale. Measuring judgments along a continuum has been noted as a key component of group decision-making research that is commonly understudied (Davis et al, 1993).

Thought listing measure. After viewing the testimony video, participants also completed a thought-listing task (see Appendix I). Participants retrospectively listed a maximum of eight thoughts that came to mind while viewing the testimony from the expert witness. The thought-listings allowed investigators to measure mock jurors' attitudes toward the expert witness stimulus and the quality of thoughts while viewing the testimony (Cacioppo & Petty, 1981; Wegener, Downing, Krosnick, & Petty, 1995).

Big five mini-marker personality measure. Saucier's (1994) Big Five Mini-Marker scale was administered as a brief measure of the Big Five personality factors (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience). The current study assessed all five markers, with a particular interest in extraversion, which denotes sociability and propensity towards action in individuals (Clark et al., 2007). The mini-marker measure allowed for self-reporting on 40 trait-descriptive adjectives on a nine-point Likert-type scale ranging from

extremely inaccurate (1) to *extremely accurate* (9) (see Appendix K). Large sample normative ratings are available for non-student, student, and peer student samples. The Chronbach's alpha coefficients for each subscale ranged from acceptable to good, as follows: .74 for emotional stability, .77 for agreeableness, .80 for openness, .83 for extraversion, and .84 for conscientiousness (George and Mallery, 2003).

Need for cognition scale (NCS) short form. Participants were administered the 18-item NCS as a measure of each participant's need for cognition (i.e., their enjoyment of and tendency towards effortful cognitive processing of information) (Shestowsky and Horowitz, 2004). Items are rated on a self-reported Likert-type scale ranging from *extremely uncharacteristic of me* (1) to *extremely characteristic of me* (5) (see Appendix L). Chronbach's alpha coefficient for the total need for cognition was .91, demonstrating excellent internal consistency (George and Mallery, 2003).

Revised legal attitudes questionnaire-23 (RLAQ-23). Accepted as one of the most effective predictors of mock jurors' criminal case judgments, the RLAQ-23 was used to assess biased attitudes toward the legal system and the defendant. Within this context, bias was operationally defined as mock jurors' need for authoritarianism (Devine et al., 2001; Kravitz, Cutler, Brock, 1993; Narby, et al., 1993). It was also intended to be used in an attempt to further substantiate the relationship between beliefs that due process is secondary to crime control and attitudes regarding the insanity defense in the literature (Skeem, Louden, & Evans, 2004).

The scale is a 23 item Likert-type response scale in which participants indicate their level of agreement with each item that is mapped onto one of three subscales: authoritarianism (A), anti-authoritarianism (AA), and equalitarianism (E) that combine to form one score. Responses are rated on a 6-point Likert-type scale (see Appendix M). The RLAQ-23 provides greater

internal consistency (r = .71), better concurrent, similar discriminate, and higher internal validity than the previous measures, with a lower likelihood of completion error (Kravitz et al., 1993). Despite these advantages, the Chronbach alpha coefficients for the RLAQ-23 in the present study ranged from unacceptable to poor (α = .54 for A, α = .43 for AA, and α = .46 for E), with a total score alpha of .55 (George and Mallery, 2003).

Insanity defense attitudes-revised (IDA-R). Potential for bias against the insanity defense in the present study was assessed as a covariate using the IDA-R developed by Skeem and colleagues (2004). Participants rated 22 statements related to the insanity defense on a seven-point Likert-type scale, ranging from *strongly disagree* (1) to *strongly agree* (7) (see Appendix N). The measure evaluates attitudes towards the insanity defense by assessing two factors: 1) Strict Liability, which asses the extent to which a juror believes mental illness is germane to criminal responsibility, and 2) Perceived Injustice and Danger, which measures juror perceptions of misuse of the insanity defense and subsequent threats to public safety. The Chronbach's alpha coefficient for total score of bias against the insanity defense was .85, descriptively classified as good internal consistency (George and Mallery, 2003).

Participant reaction form. The Participant Reaction Form was used as a manipulation check and to collect information for exploratory analysis. This form (see Appendix O) consisted of forced-choice and open-ended questions regarding the following areas: if participants believed they formed a first impression of the witness, and if so, a description of their impression; perceived characteristics of the witness that influenced credibility; how much the jurors' judgment of witness credibility affected their subsequent verdict decision; and the degree of influence from other jurors on judgments of witness credibility and verdict. To evaluate the empirical manipulations, the jurors were also asked to explain the standard of proof used in this

case and if they fully understood the case instructions. The responses were reviewed and coded by an independent rater blinded to the conditions and subjected to quantitative exploratory analysis, primarily for the purposes of providing a manipulation check.

Demographics questionnaire. A survey of demographic information was distributed that collected participant information regarding their age, gender, education level of parents, political affiliation, and ethnicity (see Appendix P). Information regarding previous jury participation, as well as their degree of indirect and direct exposure to mental illness was also collected. These data were used for descriptive purposes when defining the experimental groups.

Data Analysis Plan.

Linear mixed modeling. Data were entered into SPSS for analysis. Two different models of quantitative analysis were implemented. In the present study, there is a chance that participants did not independently form their observations because of the group dynamics involved in a mock jury. Previous research shows that group decisions and ratings may bear increased similarity because conclusions are drawn from within a group setting (Field, 2009). Therefore, the primary investigator conducted a linear mixed model analysis for all analyses involving individual level juror data to test the random effect the groups might have had on participant ratings.

Hierarchical linear modeling (HLM) was the most appropriate multi-level modeling procedure to conduct the present analyses. Hierarchical linear modeling allowed for analysis of data that were collected at different levels of analysis (e.g., individual juror versus deliberating jury) without violating the assumption of independence that leads to an increase in the probability in Type I errors (Tabachnick & Fidell, 2007). Thus, LMM accounted for the fact that data nested within a certain jury may be more similar than data not dependent on membership in

that particular group by estimating the variance of individual differences associated with each jury group (Field, 2009). Hypothesis-testing was conducted using HLM procedures, which measure predictor variables at multiple levels. In the current two-level mixed model, individual jurors constitute the predictor variable at the base layer (layer one) who are clustered within jury groups that are affected by the upper layer (layer two). Thus, layer one involves the time slice manipulation and that layer two involves the deliberation manipulation (i.e., forming a hierarchy).

The fact that jurors are clustered into thirty separate groups warrants further scrutiny. Designating a level one (juror) variable as a being *randomly assigned* to the level two variable (jury), assumes its coefficient varies *randomly across* the jury grouping. Designating a level two (jury) variable as a *random factor* allows for procedures similar to those used in GLM, except that the parameters are allowed to vary (i.e., the random effect of group) (Field, 2009). Subject groupings were used to define the clusters for which the random effects model is estimated. In summary, HLM examines the differences between groups at layer two (i.e., how they are grouped) to explain variation in the individual-level dependent variables. Deliberation condition and time exposed to testimony, as well as their interaction term, were designated as *fixed factors* given that they are variables assigned randomly to represent *all levels* of the both independent predictor variable (i.e., 30 second, 5 minutes, or 10 minutes; and *individual juror* versus *deliberating jury* conditions). The HLM equivalents of ANCOVA and regression analysis were conducted. Effect sizes were comparable to Cohen's *d* and were calculated using the equation *b*/se when appropriate, where *b* is the regression coefficient (parameter estimate) and *se* is the standard error of the coefficient.

Regarding subject variables, bias against the insanity defense as measured by the total IDA-R score was included as a covariate, or continuous predictor variable, in all models. Due to the low alpha coefficients for the RLAQ-23 scale, authoritarianism was not included in any statistical analyses. Mock juror variables such as scores on the Five Factor Model of personality and need for cognition were examined in supplementary analyses using the dependent measures that were found to be significant during the primary analyses. All continuous subject variables were centered in order to protect against possible multicollinearity resulting from interactions that may cross levels in the data hierarchy (i.e., cross-level interactions). Furthermore, all moderator variables were assessed by creating interaction terms to test if there was variability in the potential moderators (i.e., personality and need for cognition) across the level two variables as a function of time exposed to the witness testimony.

General linear modeling. Procedures in the General Linear Modeling (GLM) family were alternatively used to investigate all secondary research questions involving only jury level analysis. These analyses included only jury level characteristics, constructed from aggregated means from within each jury group. Due to the insufficient sample size (N = 30 juries; 15 deliberation and 15 non-deliberation) for conducting most analyses in GLM, jury level analyses were conducted primarily for exploratory purposes and to elucidate any large effects.

Thought listing responses. Two independent judges coded each thought listed by mock jurors on the TLM (See Appendix J for full coding scheme). Thoughts were coded for degree of thought elaboration, degree of stimulus derived thoughts, and thought valence. The total number of thoughts obtained for each mock juror was summed to assess overall thought elaboration (i.e., the amount of thoughts generated by each juror). Stimulus derivation was evaluated by coding each thought as either central (i.e., message relevant), or as peripheral or unrelated (i.e., both

message irrelevant) to the expert witness' message (K = .96). The ratio of each participant's total message focused thoughts to the total number of thoughts (i.e., central thoughts/ total elaboration) was calculated to assess degree of central processing of the testimony (Guadagno & Cialdini, 2002).

The judges also categorized the valence of the thoughts as positive, negative, or neutral/irrelevant to the witness' argument (K = .94). Thought valence provides a measure of overall persuasiveness of the expert's testimony (i.e., positive thoughts yield more agreement with the expert's message). The overall agreement rating of each mock juror's thoughts was calculated by subtracting the number of negative thoughts from the number of positive thoughts and dividing this number by the total number of thoughts listed (i.e., [positive valence thoughts – negative valence thoughts]/total elaboration) (Guadagno & Cialdini, 2002).

Given that the ratings for the two judges were highly consistent for these above ratings, they were averaged to form a single, more reliable measure of thought elaboration, stimulus driven elaboration, and agreement (Cohen, 1960; Guadagno & Cialdini, 2002). Additionally, the primary researcher selected the most appropriate rating to resolve coding discrepancies, in order to provide a purely categorical data set for selected analyses. Similar procedures were also performed for the remaining, supplemental ratings of the following: thought content (K = .98), thoughts regarding the defendant's medication non-compliance (K = .96), thoughts regarding culpability (K = .96), and thoughts regarding defendant punishment or sentencing (K = .93).

Lastly, all deliberations were videotaped and transcribed. For the present study's purposes, the researcher conducted preliminary qualitative evaluation of this data through exploratory thematic analysis (Boyatzis, 1998; Braun & Clarke, 2006; Kovera et al., 1997). The results of this analysis were used to develop the coding scheme for the TLM. In particular, the

areas of discussion that were conferred about the most during the deliberations served as the basis for coding the cognitive responses provided by each juror (e.g., assessing the focus on the witness' credibility/testimony; sentencing and culpability; medication non-compliance; potentially biased views and the insanity defense; etc.). By using themes identified at the jury-level to inform the basis of evaluating juror level cognitive processing, the researcher aimed to examine the connection (or lack thereof) between individual juror and group jury decision-making. Furthermore, the jury transcription data were archived for more in-depth, qualitative analysis regarding group dynamics and the cognitive process of jury decision-making that are beyond the scope of this manuscript.

3. Results

Pilot Testing

After approximately 30% of the data were collected (N = 12 juries; two from each of the six conditions), the participant reaction forms and researcher notes were reviewed to assess the study's manipulation. Because participants were serving as mock jurors, it was important to ensure that participants understood their role as mock jurors in order to test accurately the study manipulation (i.e., time exposed to the expert witness testimony and deliberation). After reviewing the data collected at this initial time-point, the researcher identified the following five areas of mock juror uncertainty: 1) Who is the Witness Credibility Scale asking about?, 2) What thoughts are we supposed to list on the Thought Listing Measure?, 3) What will happen to the defendant if we find him Not Guilty by Reason of Insanity?, 4) What do we do if our group's discussion is over prior to the full 15 minutes being done?, and 5) Can you explain the verdict options again? Based on this manipulation check, the researcher modified the judge's instructions and the researcher script to clarify these areas.

The researcher additionally noticed that participants were not attending to the testimony video to a degree sufficient enough to test the time manipulation, nor were they discussing the witness or the testimony during the deliberations. This study's primary research question asks whether the amount of time exposed to the expert witness testimony (i.e., 30 seconds, 5 minutes, or 10 minutes) has a differential impact on mock juror decision making. However, the original lengthy, detailed Case Information Sheet allowed participants to make up their mind regarding the case prior to viewing the testimony video, invalidating this manipulation. Consequently, the

researcher shortened and reformatted the Case Information Sheet (Appendix B) and developed the Case Fact Sheet (Appendix F) so that participants would have less to read and would place more weight on the expert testimony when making mock juror decisions. The subsequent shortened information sheet explained the mock jurors' role in the study, which was read prior to viewing the testimony. A new sheet labeled the Case Fact Sheet was then distributed after viewing the testimony, providing the jurors with a one-page description of the case facts. Information underscoring the importance of the testimony in the case was also added throughout the instructions and case fact sheet. Due to the significant changes in study procedure and materials, no data collected during the study's pilot phase were included in the final analysis. Data from an additional thirty juries were collected to constitute the post-pilot phase of the study, detailed below:

Statistical Analyses

Before conducting any analyses, the parametric assumptions, including equal variance and normal distribution were checked to ensure that these assumptions were not violated. The additional LLM assumption that the intercepts in groups (juries) were normally distributed around the overall model was also verified. The assumption of independence was not necessary for LLM procedures. Linear mixed modeling procedures in SPSS were used to determine if LMM, specifically HLM, was needed (i.e., Was the assumption of independence violated? Were mock jurors' witness credibility ratings and/or verdicts *within* juries significantly more similar to each other than *between* juries?). If statistical significance was found, the assumption of independence would be violated, warranting the use of LMM procedures for the remaining primary analyses (Field, 2009).

In order to assess the *random effect* of group (i.e., the fact that mock jurors were grouped together in thirty different juries), the statistical analysis was limited to only the deliberation juries, as these jurors participated in the group activity warranting the most extensive cohesive effects. Two models were analyzed, each with one of the dependent variables specified, with jury group assignment specified as both a covariate and *random effect* in the model. Results indicated that group had a marginally insignificant effect on witness credibility ratings, $F(1, 14.18) = 748.85$, $p = .072$, with *b/se* = 1.79 (large effect) and roughly 26% of the variance in witness credibility ratings being accounted for by the grouping variable. Importantly, results also indicated that group had a statistically significant effect on verdict, $F(1, 14.13) = 171.85$, $p = .041$, with *b/se* = 2.04 (large effect) and approximately 35% of the variance in verdict being accounted for by the grouping variable. Based on these findings, HLM procedures were used for all analyses involving individual juror data to control for the dependency due to group (Field, 2009).

Primary Analyses

Hypotheses testing. The full model, including all conditions, was used to analyze the primary hypotheses, while controlling for biased attitudes against the insanity defense. Hypothesis one (H1) tested whether the thin slice phenomenon would translate to mock jurors' perceptions of expert witness credibility and verdict. As such, the researcher predicted stable witness credibility ratings and verdicts across all three time slices. Contrary to hypothesized findings consistent with the thin slices phenomenon, results yielded a statistically significant main effect of time slice on overall witness credibility, $F(2, 25.48) = 9.02$, $p = .001$. LSD post-hoc comparisons specifically showed that the jurors in the 30 second condition judged the expert as significantly less credible ($M_{30sec} = 141.180$, $SD = 4.7$) than jurors in the five and ten minute

conditions (M_{5min} = 160.56, SD = 4.5, p = .007; M_{10min} = 168.17, SD = 4.5, p < .001), whose ratings were not significantly different from each other. Additionally, when jurors were asked "What is your verdict?" (1 = Guilty; 2 = NGRI), time slice evidenced a main effect on juror verdicts, F(2, 23.13) = 6.70, p = .005. LSD post-hoc comparisons showed that the jurors in the 30 second condition (M_{30sec} = 1.45, SD = .08) were significantly more punitive than jurors exposed to the five minute (M_{5min} = 1.86, SD = .08) and ten minute testimony (M_{10min} = 1.69, SD = .08), p = .002 and p = .048, respectively).There was no main effect for deliberation on witness credibility, F(1, 26.01) = 1.25, p = .274.

Hypothesis two (H2) postulated that deliberation would have a main effect on verdict, such that mock jurors would be significantly more likely to enter a verdict of NGRI than non-deliberating jurors, given the leniency shift expected in deliberating juries. However, results failed to yield a significant main effect of deliberation on juror verdict, F(1, 23.7) = .23, p = .638.

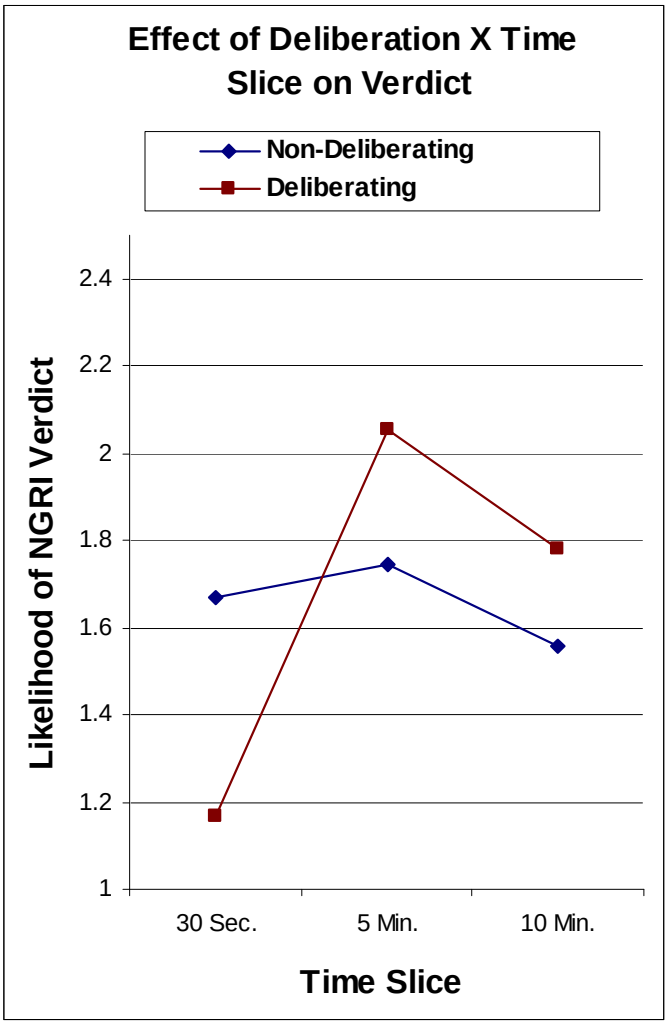
Hypothesis three (H3) tested the interaction of deliberation and thin slice manipulations on verdict. The researcher had postulated that deliberation would moderate the relationship between time exposed to the witness and juror verdict in a similar way for the 30 second and five minute conditions (i.e., the thin slices of exposure), but in a different direction for the ten minute condition. Results yielded a significant interaction of deliberation and time slice on verdict, F(2, 22.76) = 6.70, p = .005. A test of simple effects indicated that mock jurors exposed to the witness for only 30 seconds showed a significant difference in verdict ratings between deliberation conditions, F(1, 25.22) = 10.39, p = .003 (See Figure 2). LSD post-hoc comparisons showed that in the 30 second condition, jurors' verdicts differed significantly between deliberation conditions, such that non-deliberating jurors were more lenient and more likely to find the defendant NGRI (M_{Indiv} = 1.71, SD = .12) than deliberating jurors (M_{Delib} = 1.190, SD = .11).

These results run contrary to the researcher's hypothesis that a leniency shift would be evidenced post-deliberation. Findings also indicate that deliberation does not interact with time exposed to expert witness testimony when jurors are provided with "fuller" testimonies (i.e., more evidence from the witness). Regarding witness credibility, there was no interaction of deliberation and time slice juror ratings, $F(2, 25.11) = 2.51$, $p = .101$.

Figure 2

Significant two-way interaction between time slice and deliberation on verdict

(Verdict assessed as Likelihood of NGRI Rating)



Hypothesis four (H4) examined whether there was a positive correlation between witness credibility ratings and verdict scores collapsed across conditions. This question was intended to ensure witness credibility's relationship to verdict. This hypothesis was supported, with witness credibility (M = 156.63, SD = 32.50) and verdict (M = 1.67, SD = .62) yielding a positive correlation between the two variables, r = .29, n = 188, p = .002, which is a medium effect that explains roughly 52% of the variance in verdict.

Hypothesis five (H5) was intended to assess the relationship between bias against the insanity defense and verdict. The assumptions of normality were met for the IDAR scores, N = 184, M = 80.35, SD = 19.85 (CI 95: 77.47 and 82.35). It was hypothesized (H5a) that bias (based on scores from the total IDAR scale) would predict significantly less NGRI verdicts. When entered into the full model with both independent variables, results found a significant main effect for bias against the insanity defense on verdict ratings, b = -.17, F(1, 171.58) = 15.20, p = < .001. These findings support the hypothesized negative correlation between bias against the insanity defense and NGRI verdicts.

It was also postulated (H5b) that there would be significantly more frequent and higher NGRI verdicts in the post-deliberation versus the pre-deliberation condition *when* bias against the insanity defense was reported. The researcher hypothesized that bias against the insanity defense would moderate the relationship between deliberation and verdict for this sub-sample of the data, such that deliberation would exert a leniency effect on these biases and result in less punitive decision-making. Results supported this hypothesis to some extent, yielding a marginally significant interaction of bias against the insanity defense and deliberation on verdict for a sub-sample of the mock-jurors, F(1, 61.42) = 3.25, p = .078. This trend in the data suggests the presence of a leniency shift in verdict for mock jurors in the 85th percentile of IDAR scores,

such that deliberating jurors high on IDAR scores (M = 1.55, SD = .10) were less punitive than non-deliberating jurors who were high on IDAR scores (M = 1.49, SD = .10); N = 85, M = 96.31, SD = 11.04 (CI 95: 93.92 and 98.69).

Hypothesis six (H6) postulated that differences in juror characteristics (i.e., authoritarianism, need for cognition, personality variables) would moderate the effect of first impressions on witness credibility and verdict ratings. As noted previously, authoritarianism was not assessed due to low internal consistency for this measure in the current study. Thus, need for cognition (i.e., NFS total scores) and personality (i.e., the five factor constructs) were the primary subject variables of interest. The researchers also postulated that deliberation may enter into these relationships, creating a three-way interaction among exposure to the witness, deliberation, and outcome. However, contrary to the hypothesized findings, few main effects of these subject variables on overall witness credibility and verdict were found, limiting the scope of further analyses. There was only one main effect of Conscientiousness on witness credibility, (b = 7.29, F(1, 144.52) = 7.24, p = .008, and one marginally significant main effect of IDAR on witness credibility, (b = -4.40, F(1, 153.62) = 2.82, p = .095. Similar results were found regarding verdict. There was only one main effect of IDAR on verdict, (b = -.17, F(1, 154.72) = 12.88, p < .001, and one marginally significant main effect of Extraversion on verdict, (b = .079, F(1, 154.81) = 2.98, p = .086.

In summary, all subject variables failed to moderate the relationship between either one of the independent variables or their interaction and witness credibility. However, as bias against the insanity defense increases, a trend towards rating the defense expert witness as less credible emerges, while verdicts scores decrease, which also indicates more punitive verdicts. The main effects for the above mentioned personality variables show that as Conscientiousness and

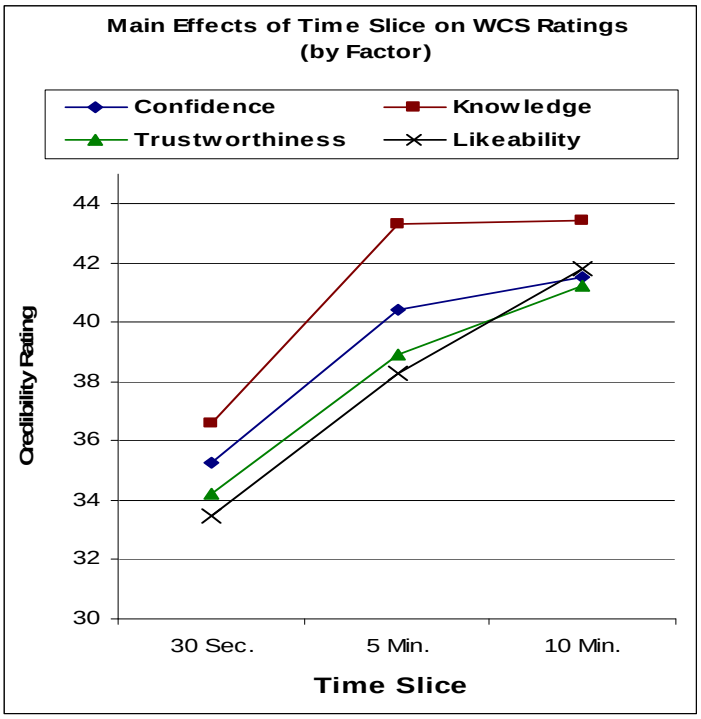
Extraversion increase, endorsement for the witness' credibility and for more lenient verdict also increase, respectively (providing support for H6b regarding a positive correlation between juror extraversion and NGRI verdicts).

Secondary Analyses

Additional witness credibility outcomes. The four facets of the Witness Credibility Scale (i.e., Trustworthiness, Confidence, Likeability, and Knowledge) were subjected to analyses within the above described HLM framework. No main effects for deliberation were found. Consistent with results for H1, main effects for time slice on each of the four WCS facets were found. Specifically, results yielded main effects for time slice on Confidence, $F(2, 24.73) = 5.91$, $p = .008$, on Knowledge, $F(2, 24.74) = 8.24$, $p = .002$), on Trustworthiness, $F(2, 25.01) = 7.63$, $p = .003$, and on Likeability, $F(2, 182) = 17.88$, $p < .001$ (See Figure 3).

Figure 3

Main effects of time slice on witness credibility facets



Examination of Table 1 shows that mock jurors in the 30 second group rated the witness as significantly lower on each of these four WCS variables than did jurors in the five minute and ten minute condition.

Table 1

Means (and Standard Deviations) for Mock Juror Ratings by Experimental Condition on the four WCS facets: Confidence, Knowledge, Trustworthiness, Likeability.

	WCS Facet			
Time Slice	Confidence	Knowledge	Trustworthiness	Likeability
30 Seconds	35.25 (1.16)	36.60 (1.37)	34.20 (1.48)	33.50 (1.09)
Five Minutes	40.42_a (1.12)	43.32_b (1.34)	38.91 (1.43)	38.31 (1.03)
Ten Minutes	41.54_a (1.13)	43.43_b (1.35)	41.26 (1.43)	41.81 (1.03)

Note. Means in the same column that do not share subscripts differ significantly.

Notably, for Trustworthiness and Likeability, the differences between ratings were significant between all three time slices. The Trustworthiness data are best explained by the significant two-way interaction found between deliberation and time slice, $F(2, 25.01) = 4.47$, $p = .022$, evidenced by a significant difference between deliberation conditions for the five minute group, $p = .047$, and a marginally significant difference for the 30 second group, $p = .072$. In particular, when compared to non-deliberating jurors, mock jurors who deliberated rated the witness as *more* trustworthy after being exposed to five minutes of testimony, but as *less* trustworthy if only exposed to 30 seconds of testimony.

Additional verdict outcomes. To further explicate the significant two-way interaction found between deliberation and time slice on verdict, the additional juror-level verdict items were explored (numbered two through five on Appendix H). These items asked the jurors to rate their level of agreement with the following continuous questions: 2) Is the defendant guilty?, 3) How confident are you about the verdict?, 4) What should the level of punishment be?, and 5) How committed to your sentencing decision are you? Table 2 illustrates the means for these additional verdict ratings by experimental condition, as follows:

Table 2

Means (and Standard Deviations) for Juror Verdict Ratings by Experimental Condition

Conditions		Continuous Verdict Variables *(See Below Table* & Appendix H)*			
		Item 2 *Is the defendant guilty*	Item 3 *How confident are you about that verdict?*	Item 4 *What should the level of punishment be?*	Item 5 *How committed to your sentencing decision are you?*
Deliberation	Filler Task	3.67_a (.31)	5.54_c (.16)	4.32_e (.20)	5.43_g (.14)
	Deliberation	3.81_a (.31)	5.89_c (.16)	4.64_e (.20)	5.79_g (.13)
Time Slice	30 Seconds	4.48 (.38)	5.78_d (.20)	4.42_f (.28)	5.48_h (.17)
	Five Minutes	3.36 (.37)	5.62_d (.19)	4.60_f (.24)	5.60_h (.16)
	Ten Minutes	3.40_b (.24)	5.73_d (.19)	4.42_f (.24)	5.75_h (.16)

Note. Means in the same column that do not share subscripts differ significantly.

*Items Scored on a Likert-type scale from 1 to 7:
Item 2: *Definitely NGRI* to *Definitely Guilty*
Item 3: *Not at all Confident* to *Very Confident*
Item 4: *As Lenient as Possible* to *As Harsh as Possible*
Item 5: *Not at all Confident* to *Very Confident*

Results indicated a marginally significant trend for jurors in the deliberation condition to rate their *confidence in their verdict*, $F(1, 25.58) = 2.78$, $p = .108$, and their *commitment to their sentencing decision*, $F(1, 182) = 2.52$, $p = .114$, as higher than non-deliberating jurors. No significant main effects or interactions were found for *level of punishment* assigned. However, results yielded a significant two-way interaction between deliberation and time exposed to the witness on mock jurors' ratings of *defendant guilt* on the continuous scale, $F(2, 23.78) = 3.69$, $p = .040$. A test of simple effects indicated that mock jurors exposed to the witness for only 30 seconds showed a significant difference in *defendant guilt* ratings between deliberation conditions, $F(1, 24.75) = 5.58$, $p = .026$. As Table 3 illustrates, mock jurors who only viewed a thin slice of testimony were significantly more likely to assign a punitive verdict post-deliberation (versus non-deliberation). These results mirror the previously reported two-way interaction between deliberation and time exposed to the witness testimony on the categorical verdict item detailed in the primary analyses section.

Table 3

Means (and Standard Deviations) for "Defendant Guilt" Ratings by Condition

	Deliberation Condition	
Time Exposed to Expert Testimony	Filler Task	Deliberation
30 Seconds	3.59 (.54)	5.38 (.53)
Five Minutes	3.59_a (.53)	3.14_a (.53)
Ten Minutes	3.86_b (.53)	2.94_b (.53)

Note. Means in the same row that do not share subscripts differ significantly.
*Item Scored on a Likert-type scale from 1 to 7 for Item 2: *Definitely NGRI* to *Definitely Guilty*

Jury-level analysis. First, some basic information regarding jury verdict was examined. Out of the 15 deliberating juries, 46.7% (N = 7 juries) were *Allen* charged due to a non-unanimous jury verdict, and asked to deliberate for an additional 15 minutes. Out of these seven juries (three from the 30 second condition, one from the five minute condition, and three from the 10 minute condition), 86% (N = 6) returned a second deadlocked verdict. Although non-deliberating juries did not receive an *Allen* charge, approximately 80% (N = 12) of the non-deliberating juries yielded a "deadlocked" verdict when mock jurors were asked to vote as a group after the fifteen-minute filler task. The remaining 20% of non-deliberating juries (N = 3) voted anonymously and unanimously for a NGRI verdict. Table 4 depicts the break-down of jury verdict by vote; whereas Table 5 illustrates a rundown of jury verdict and WCS means, for descriptive purposes.

Table 4

Verdict Percentages (and N) by Experimental Condition

Conditions		Final Verdict		
		Guilty	NGRI	Deadlocked
Filler Task	30 Seconds	0	20% (1)	80% (4)
	Five Minutes	0	20% (1)	80% (4)
	Ten Minutes	0	20% (1)	80% (4)
	Total*	**0**	**20% (3)**	**80% (12)**
Deliberation	30 Seconds	40% (2)	0	60% (3)
	Five Minutes	0	80% (4)	20% (1)
	Ten Minutes	0	40% (2)	60% (3)
	Total*	**13% (2)**	**40% (6)**	**47% (7)**
Total**	**30 Seconds**	**20% (2)**	**10% (1)**	**70% (7)**
	Five Minutes	**0**	**50% (5)**	**50% (5)**
	Ten Minutes	**0**	**30% (3)**	**70% (7)**
Overall***	NA	7% (2)	30% (9)	63% (19)

*Total collapsed across time slices.
**Total collapsed across deliberation condition.
***Total collapsed across all conditions.

Table 5

Means (and Standard Deviations) for Jury Outcomes by Experimental Condition

Conditions		Outcome Variable	
		Overall WCS *(Higher ratings = More Credible)*	Verdict *(1 = Guilty; 2 = NGRI)*
Filler Task	30 Seconds	146.70 (8.71)	1.67 (.09)
	Five Minutes	155.21 (.8.85)	1.75 (.06)
	Ten Minutes	173.60 (13.31)	1.57 (.34)
	Total*	158.51 (15.16)	1.66 (.20)
Deliberation	30 Seconds	133.26 (22.65)	1.17 (.29)
	Five Minutes	167.94 (9.54)	2.04 (.43)
	Ten Minutes	162.12 (13.67)	1.78 (.28)
	Total*	154.44 (21.74)	1.66 (.49)
Total**	30 Seconds	139.98 (17.66)	1.42 (.33)
	Five Minutes	161.58 (10.97)	1.89 (.33)
	Ten Minutes	167.86 (14.09)	1.67 (.31)

*Total collapsed across time slices.
**Total collapsed across deliberation conditions.

Despite the low statistical power achieved by subsuming juror-level data into jury-level data (N = 30), some exploratory analyses were conducted in GLM to examine the extent to which similar jury-level findings might be evident. A 2 (non-deliberating versus deliberating jury) X 3 (30 seconds, five minutes, 10 minutes exposure) ANCOVA to test the effect of these independent variables on witness credibility, controlling for IDAR scores. Specifically, this analysis was conducted to assess whether credibility judgments differed significantly among the time slice conditions for deliberating and non-deliberating juries. As in the LMM analyses, IDAR scores were used as a covariate to control for the influence of this potential bias. Results yielded a significant main effect for time slice on mean jury witness credibility ratings, $F(2, 29) = 10.62$, $p = .001$, with a medium effect size ($\eta_p^2 = .48$). LSD post-hoc comparisons showed that the juries in the 30 second condition judged the expert on average, as significantly less credible than did juries exposed to the five minute and ten minute testimony (see Table 5), $p = .005$ and $p < .001$, respectively. This finding mirrored that of the individual-level juror analysis.

The same 2 x 3 ANCOVA procedures were repeated with mean jury verdict as the outcome variable. When IDAR scores were controlled, results showed only a marginally significant trend for a main effect of deliberation on verdict, $F(1, 29) = 3.61$, $p = .070$, with a small effect size ($\eta_p^2 = .14$), such that deliberating juries were more punitive than non-deliberating juries (see Table 5). Although originally hypothesized in the opposite direction as an individual-level finding, the main effect of deliberation on verdict was only evidenced in the jury-level analysis.

Mixed Qualitative and Quantitative Analysis.

Cognitive responses. As described above, cognitive responses on the TLM were coded primarily for degree of thought elaboration, degree of stimulus derived thoughts, and thought

valence. Responses were also coded for thought content regarding the following: the defendant's medication non-compliance, culpability for the crime, and defendant punishment or sentencing. Results yielded a total of 884 thoughts for analysis. For illustrative purposes, Appendix Q provides a random sampling of 99 responses on the TLM across all participants and conditions.

The total number of thoughts produced was relatively evenly distributed across conditions (*Time Conditions*: $N_{30sec} = 252$, $N_{5min} = 314$, $N_{10min} = 317$; *Deliberation Conditions*: $N_{indiv} = 427$, $N_{del} = 457$). The frequencies for each of the coding variables were also fairly evenly distributed across time conditions. Approximately 39% of the thoughts were stimulus derived (i.e., central processing thoughts), whereas 58% were peripheral in nature. Mock jurors in the 30 second condition expressed slightly less central processing (30%) and slightly more peripheral processing (65%) than the overall sample, but percentages of stimulus derived thoughts in the longer testimony conditions only increased by one or two percent. The majority of thoughts were neutral towards the witness' position (63%), with 14% definitively positive towards the testimony and 20% negative. Thoughts from jurors in the 30 second condition were slightly less positive and thoughts from jurors in the five minute condition were slightly more positive, while jurors in the ten minute condition were the most in-line with the overall sample.

Some interesting findings were revealed by examining the secondary thought coding scheme variables. Approximately 9% of the thoughts mentioned medication, which is much lower than expected based on reviewing the extent to which the defendant's medication non-compliance during deliberations. Of these 81 thoughts, 38.5% simply mentioned medication in some manner, 41% asserted that the defendant was to blame for not taking his medication and 21% asked why the defendant was not taking his medication. Just less than one quarter of the thoughts mentioned extreme views regarding who was most culpable for the crime, with 18%

faulting the failed mental health or legal system and 3.5% stating that the defendant was "guilty no matter what." Despite the fact that a large proportion of deliberation discussions focused the defendant's possible sentencing and related issues (i.e., appropriate punishment, retribution, leniency, etc.), low frequencies of these thoughts were evidenced by the TLM. In particular, only 8% of thoughts mentioned these constructs, with 3.5% affirming that the defendant should be "locked up," 2.4% inquiring into the possible sentencing dispositions, and 2% asserting mental health treatment as the most appropriate sentence. Overall, the thought content was primarily focused on the defendant (65%), followed by witness or testimony-focused thoughts (24%), then by thoughts regarding mental illness in general (5%) and non-related aspects of the study (4.6%). Mock jurors in the 30 second condition endorsed slightly fewer defendant focused thoughts (61%) and slightly more witness focused thoughts (28%), and these percentages were relatively stable across conditions.

The above percentages were basically mirrored within each of the deliberation conditions, although theoretically deliberation should be irrelevant because the TLM was designed to assess thoughts only generated during the testimony portion of the study. As such, time exposed to the expert testimony was the only independent variable assessed in subsequent HLM analyses. Before discussing further analyses, it may be helpful to remind the reader that although 884 thoughts were generated, these thoughts were coded and summed for each variable of interest, per participant. Next, the procedures described in the *Data Analysis Plan* section of this manuscript were conducted to calculate the following outcome variables for each participant: Total elaboration (total thoughts); degree of stimulus-driven thoughts (central processing of the testimony), agreement with the testimony (positive valence towards the message), thought content focus, sentencing focus, use of medication evidence, and culpability. Initial analyses

were conducted via the same HLM procedures detailed in the primary analysis, using the same centering procedures where appropriate and controlling for IDAR scores. In-line with the frequency distributions across time slices, results yielded no significant main effects for time condition on any of the outcomes. Based on this finding, the researcher decided that for the purposes of this study, the TLM data could be illuminated best by subjecting the entire list of thoughts (versus the participant aggregated database) to Chi-square tests for independence using GLM procedures. Use of Chi-square non-parametric procedures for the following descriptive, exploratory analysis was deemed appropriate given the fact that participants were instructed to report thoughts experienced retrospectively from a time period in the study prior to the deliberation or filler tasks took place (Field, 2009).

The researcher's intention for running the Chi-square tests was to examine whether mock jurors were more or less likely to report the various thought outcomes as a function of time exposed to the witness' testimony. Although the above mentioned percentages appeared roughly approximate across the TLM variables, a more detailed analysis of these percentages is warranted. As mentioned previously, the primary researcher served as a tie breaker to categorize any data that had been averaged across the two raters' scores to conduct the Chi-square tests. All Chi-square procedures conducted met the additional statistical assumption requiring at least 80% of the contingency table's crosstab cells to have a frequency of at least five. Effect sizes were evaluated using the calculated Cramer's V statistic, which takes into account the degrees of freedom, necessary due to the large contingency tables used in the analyses (Field, 2009). Effect sizes were classified based on a sliding calculation appropriate for larger contingency tables (i.e., small = .07; medium = .21; and large = .35) (Field, 2009).

Results yielded a significant association between the time exposed to expert witness testimony and the following calculated TLM outcomes: agreement with the testimony, x^2 (4) = 15.98, p = .003, Cramer's V = .10 (small to medium effect); sentencing focus, x^2 (6) = 14.28, p = .027, Cramer's V = .10 (small to medium effect); and degree of culpability examined, x^2 (6) = 41.72, p < .001, Cramer's V = .15 (small to medium effect). In particular, results indicated a significant positive relationship between the five minute condition and message agreement (z = 2.2), juxtaposed by a significant negative relationship between the ten minute condition and message persuasiveness (z = -2.1). Results also yielded a significant negative relationship between the 30 second time condition and endorsements to "lock up" the defendant (z = -2.2), coupled with a significant positive relationship between the five minute condition and this socially distancing thought (z = 2.7). Additionally, results indicated a significant negative relationship between the 30 second condition and fault placed on the mental health system for the crime (z = -3.3), coupled by a positive relationship between this time slice and labeling the defendant as "guilty no matter what" (z = 3.3). Results also showed these same significant relationships but in reverse directions for the ten minute condition, (z = 2.3 and z = -2.4, respectively). Finally, a marginally insignificant trend was evidenced for the association between time slice and the degree of stimulus derived thoughts, x^2 (4) = 8.70, p = .069, Cramer's V = .07 (very small effect); however, due to the non-significant standardized coefficients in the contingency table, these results are not very meaningful. Figures 4 through 7 provide more descriptive information regarding frequencies and the nature of these relationships, as follows:

Figure 4

Message agreement cognitions from the TLM

(Percentages of the Total Sample by Experimental Condition, Time Slice)

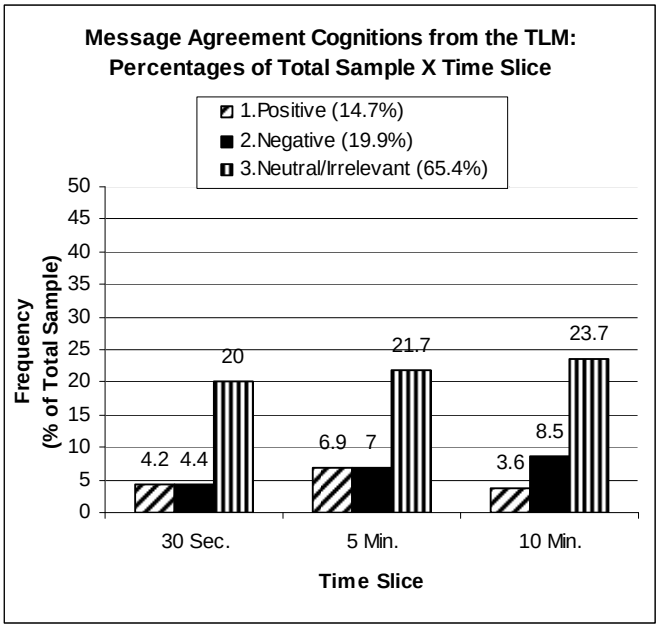


Figure 5

Sentencing Thoughts from the TLM

(Percentages of the Total Sample by Experimental Condition, Time Slice)

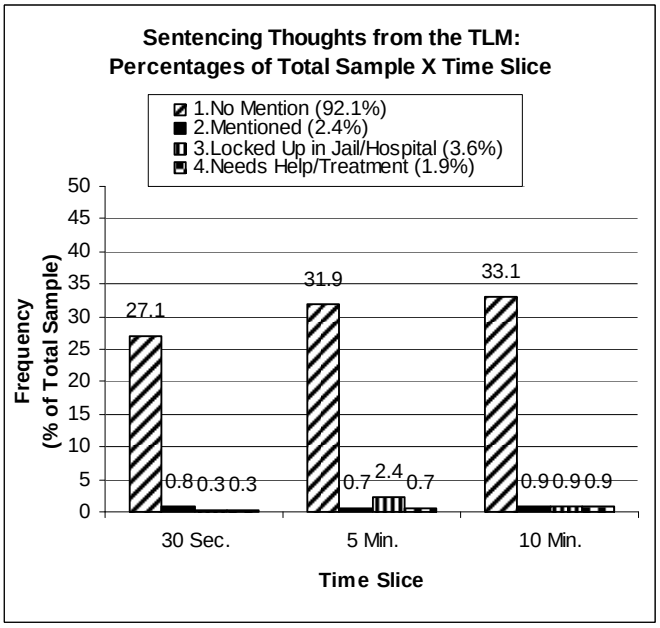


Figure 6

Culpability Cognitions from the TLM

(Percentages of the Total Sample by Experimental Condition, Time Slice)

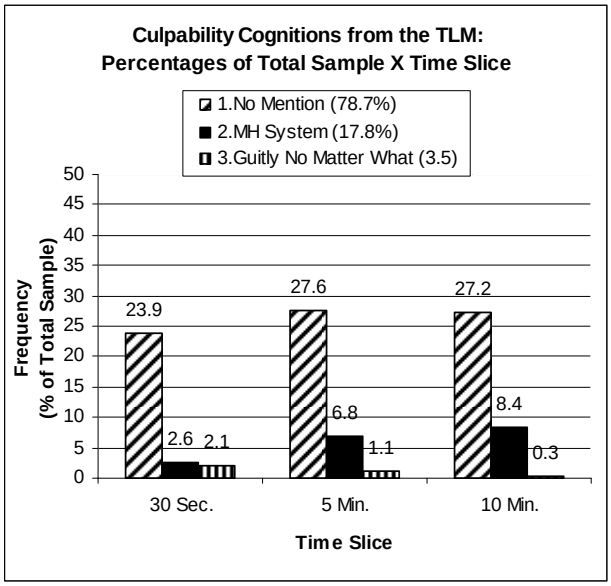
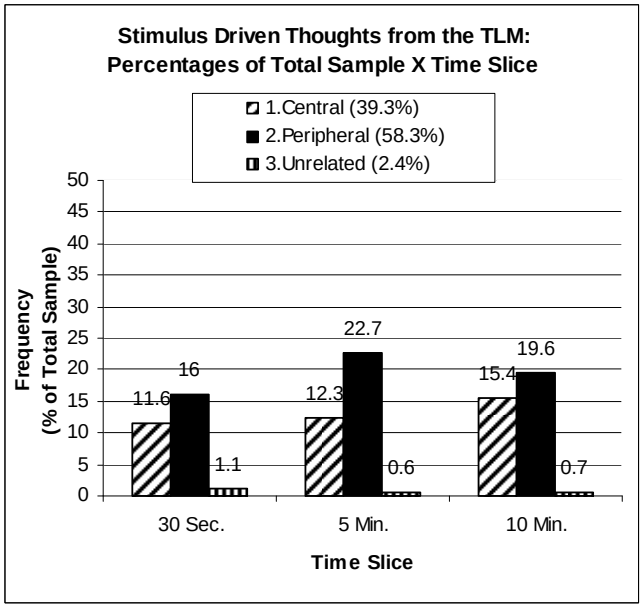


Figure 7

Stimulus Driven Thoughts from the TLM

(Percentages of the Total Sample by Experimental Condition, Time Slice)



Participant reaction form. Lastly, several key aspects of the participants' experiences as research subjects and as mock jurors were gleaned by examining the Participant Reaction Form data (Appendix O) between and across deliberation conditions. Data obtained from the PRF provided support for confidence in the above findings. Almost 100% of participants endorsed taking the study as seriously as they would if they were real jurors and denied any prior knowledge about the study that may have affected their participation. On semi-structured open-ended PRF items, only 2.2% of participants reported any suspicion regarding the purpose of the study and the same percentage of participants (N = 4) speculated that the study's hypothesis related to the time participants were exposed to expert witness testimony. Moreover, only two mock jurors endorsed a desire to change their verdict based after completing the study.

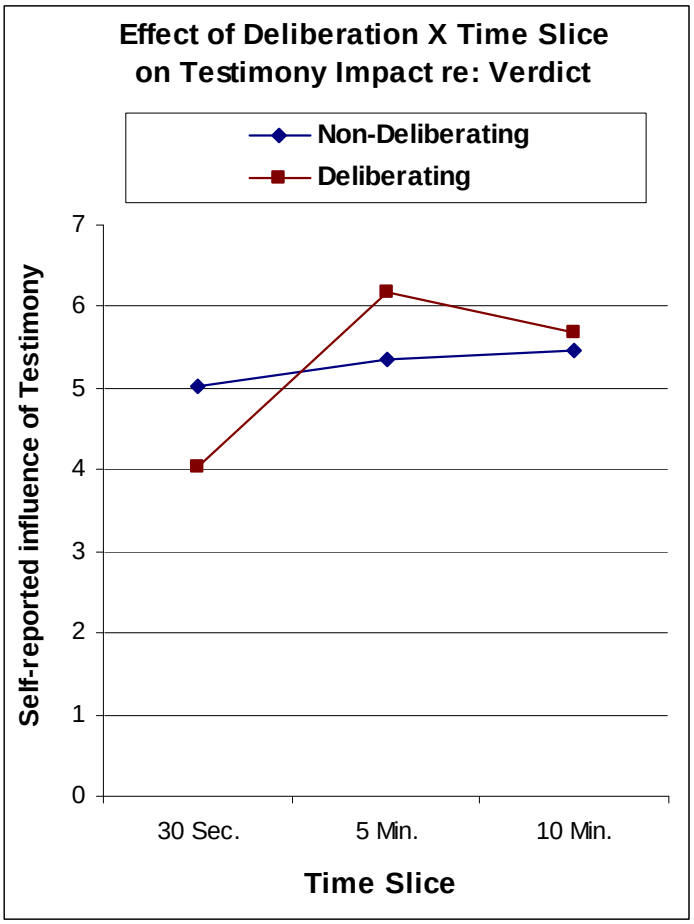
The PRF also obtained self-report data on mock jurors' first impressions of the expert witness and how they used this information in their decision-making. First impressions were reported as primarily positive across the five minute and ten minute conditions (roughly 80%), with this majority evident to a lesser extent (58% positive) for the 30 second conditions. A sizable majority of mock jurors reported that their impressions of the expert witness did not change either while watching the testimony (roughly 75%) or after deliberations (around 95 to 100%). Moreover, the considerable majority (85 to 100%) of mock jurors stated that deliberation did not change their verdict. Additionally, HLM analysis using the model specified in the primary analyses, was conducted to examine the extent to which jurors' views of *how much the testimony influenced his or her verdict decisions* varied between degree of exposure to the witness for deliberating and non-deliberating juries. Results yielded a significant two-way interaction between deliberation and time slice on jurors' self-reported use of testimony on verdict, $F(2, 22.53) = 6.42$, p .006. A test of simple effects confirmed that this interaction exists

for the 30 second condition, $F(1, 24.18) = 7.22$, $p = .013$, as well as for the five minute condition, $F(1, 22.46) = 5.24$, $p = .033$. LSD post-hoc comparisons indicated that deliberating jurors only exposed to the witness for 30 seconds relied significantly less on the testimony when compared to the non-deliberating jurors; while deliberating jurors exposed to the witness for the five minute condition reported increased reliance on the testimony when compared to the non-deliberating jurors (see Figure 8).

Figure 8

Significant two-way interaction between time slice and deliberation on degree of influence testimony had on verdict

(Mock Juror Self-Report)



Regarding participants' roles as mock jurors, when asked "How would your rate your comprehension of the judge's instructions?" approximately 80% of participants rated their comprehension as an "8" or higher on a scale from 1 (no comprehension) to 10 (complete comprehension). This finding was replicated across and between deliberation conditions. However, specifically regarding the deliberation condition, 46.7% of jurors required repetitions or clarifications of the mock judge's instructions (N = 12 juries; roughly evenly distributed across all conditions). On the PRF, when asked to describe what "reasonable doubt" meant, 49.2% of all jurors provided a response that was *more wrong than right* and 12.2% answered "I don't know." Surprisingly, on these items participants in the deliberation condition tended to provide incorrect answers more frequently than non-deliberating jurors (58.1% versus 39.8%). Additionally, close to 60% of non-deliberating jurors answered incorrectly or as "unsure" to the question "As a juror, if reasonable doubt is present, should you return a Not Guilty verdict?," while over 75% of deliberating jurors provided such a response. Notably, however, percentages of correct answers across deliberation conditions increased substantially for the remaining PRF items on burden of proof.

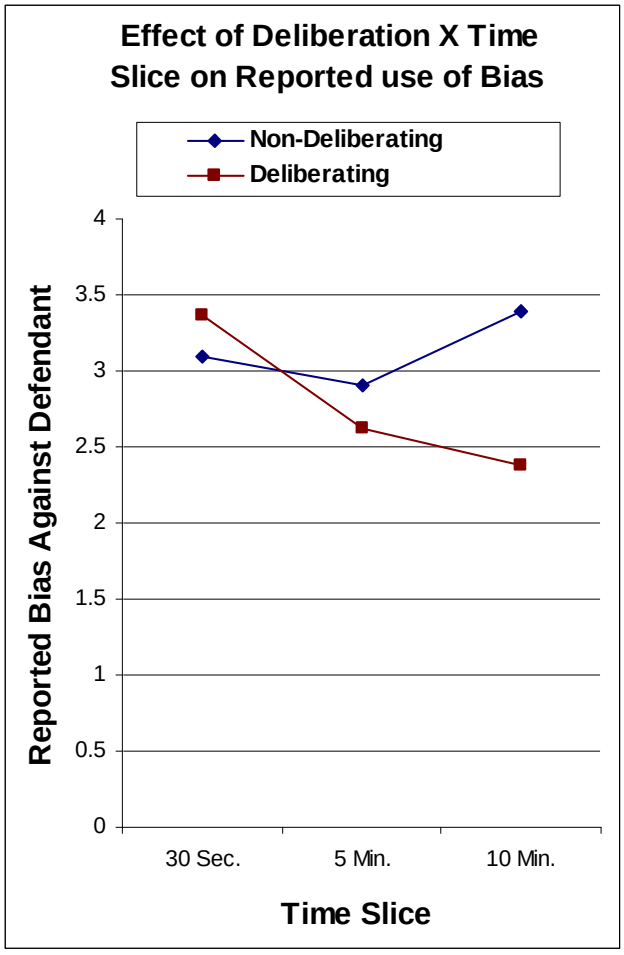
A final key finding based on mock juror self-report came from the PRF item that asked jurors to rate the agreement with following belief on a scale from one (Not at all) to ten (Very much): Do you believe you were biased against the defendant because he was claiming an insanity defense (i.e., found him more guilty because he was claiming NGRI)? This outcome variable was examined in the previously specified HLM model along with both independent variables and group as a *random effect*. Results indicated a marginally insignificant two-way interaction between deliberation and time slice on jurors' self-reported bias against the defendant and verdict, $F(2, 182) = 2.42$, $p = .092$. A test of simple effects confirmed that this interaction

exists for the ten minute condition, $F(1, 182) = 6.19$, $p = .014$. LSD post-hoc comparisons indicated that non-deliberating jurors exposed to the longest length of testimony believed they exerted more bias against the defendant (and subsequently, made more punitive decisions) than their deliberating counterparts (see Figure 9) Thus, while mock jurors report a leniency shift post-deliberation, these are contrary to results based on the current study's experimental manipulations.

Figure 9

Marginally significant trend for a two-way interaction between deliberation and time slice on reported influence of mock juror bias against defendant

(Mock Juror Self-Report)



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Discussion

Witness Credibility, Thin Slice, and First Impressions

As discussed above, one of the primary aims of this study was to examine the stability of thin slice judgments of witness credibility and verdict over time (H1). This phenomenon was not supported within the context of the current study. In fact, results yielded a statistically significant main effect of time slice on overall witness credibility, $p < .001$. When deliberation condition was controlled, jurors in the 30 second condition judged the expert as significantly less credible than jurors in the five and ten minute conditions – a finding that may be anticipated if one were to ignore the thin slices literature. However, it serves the reader to consider what exactly it is that thin slice judgments are capturing. In prior research, thin slice judgments have been found to primarily correspond with various criterion values (e.g., personality traits, judges' expectations of trial outcomes, deception detection, etc.) and are assessed less often regarding their level of consensus or inter-rater reliability with judgments made at a later time periods (Ambady, Krabbenhoft, Hogan, 2006; Ambady & Rosenthal, 1992; Funder, 1995). Thus, the fact that witness credibility is always subjective and does not have a "criterion" value per se as a gold standard, may play a role in why at first glance the thin slice phenomenon does not hold up in this context.

A related matter to consider is the potentially limited nature of manipulating various impressions of the expert witness based on time exposed to the testimony in the current study design. Although the length of the thin slice conditions were developed based on prior research, the ten minute condition could have been more externally valid if extended. It may be that if the

time were extended, the results would have turned out differently. Despite this postulation, five to ten minutes of videotaped mock stimulus testimony is likely common in the psycho-legal literature. Prior research has found that additional information is often neglected, redundant, or counterproductive in some situations (Ambady & Rosenthal, 1992; Wilson & Schooler, 1991). Thus, it is possible that the ten minute condition in the current study did not maximize opportunity for this cognitive overload to occur. Further research on how the length of stimulus exposure influences mock-jury research is warranted based on this study's findings.

It is also possible that 30 seconds of testimony is too long to capture accurately a truly "first" impression in this context, or that this condition should only include non-verbal behavior (similar to most of the very brief thin slice exposures reported in prior research). Jurors and presumably mock-jurors may have a higher threshold of effortful or evaluative attention towards "expert witnesses" in trials. Consequently, jurors may be implicitly influenced by the expectation to maintain a higher degree of cognitive effort in these situations, and as such, normative manipulations of thin slices for the general public may not have been optimal for the mock jurors' impression formation in this study. Similarly, it is also possible that the five minute condition (or somewhere in between 30 seconds and five minutes) serves as the optimal "thin slice" for assessing the stability of initial perceptions of expert witness testimony. This possibility could be explored in replication studies that increase the time points for thin slice time conditions and offer longer time conditions with which to compare them.

Moreover, the experimental conditions presented in this study do not introduce the same level of cognitive demand and information overload that jurors in real trials face. This fact could minimize use of peripheral processing biases for the longer testimony conditions (i.e., explaining the lack of uniformity in credibility ratings across time slices), as well as affect thought

elaboration across all conditions. Nevertheless, the time conditions provided an empirically supported and successfully manipulated opportunity to assess these constructs for the first time in the psycho-legal literature on expert witnesses.

Judgments of Verdict

Along with witness credibility, H1 also postulated that verdict would remain stable across the three time conditions based on the assumption that thin slice judgments were consistent across time and that they would positively relate to verdict (H4). As hypothesized in H4, witness credibility ratings were positively correlated with verdict. Additionally, H1 was not supported; instead, results on verdict outcomes mimicked the relationship for time condition on witness credibility ratings. Both verdict and witness credibility for the 30 second condition were different than the five minute and ten minute conditions. More specifically, results indicated that the jurors in the 30 second condition were significantly more punitive than jurors exposed to the five minute and ten minute testimony, $p = .005$.

Accounting for Deliberation

While main effects on witness credibility and verdict were evidenced for time condition, results failed to yield this finding for deliberation. Thus, hypothesis two (H2), which postulated a leniency shift in verdict for deliberating jurors versus non-deliberation jurors *across the entire sample*, was not supported. Hypothesis three (H3) anticipated a two-way interaction of time and deliberation on verdict. In general, it was hypothesized that as longer exposure to the witness was provided, deliberative effects would explain more of the final decision and help overcome biases against the insanity defense. Figure 1 depicts the hypothesized relationship in more detail. Results did in fact yield a significant two-way interaction of time and deliberation on verdict, however, as illustrated by Figure 2, not in the manner originally hypothesized.

Instead, results found that mock jurors exposed to the witness for only 30 seconds showed a significant difference in verdict ratings between deliberation conditions. Post-hoc comparisons showed that in the 30 second condition, jurors' verdicts differed significantly between deliberation conditions, such that non-deliberating jurors were more lenient and more likely to find the defendant NGRI than deliberating jurors. These results run contrary to the researcher's leniency shift hypothesis post-deliberation. The finding that *non-deliberation* verdicts were significantly less punitive suggests that deliberation led to potentially more bias or potentially less attention and/or consideration of the expert witness' testimony when only exposed to a first impression. As Table 3 illustrates, the 30 second by deliberation condition was the most likely out of the six experimental conditions to rate the defendant as guilty. In short, deliberation did not significantly interact with time exposed to expert witness testimony when jurors were provided with longer testimony exposure.

Despite jurors' apparent minimal discussion of the witness during deliberations, these findings underscore the importance of expert witness testimony, or at minimum the *content* of the testimony, in cases involving a NGRI defense. This two-way interaction was only evidenced for verdict and not for witness credibility. However, when compared to non-deliberating jurors, mock jurors who deliberated rated the witness as significantly *more* trustworthy after being exposed to five minutes of testimony, but as significantly *less* trustworthy if only exposed to 30 seconds of testimony. Is it possible that jurors are primed to be biased against the *defense expert* in an NGRI case and that is why they initially find him or her less trustworthy? Are jurors primed to be biased against *any witness*? These findings raise some interesting questions about the impact of deliberation on credibility and verdict in NGRI defense cases. Thanks in part to deliberation, results imply that expert witnesses can recover from poor first impressions on the

stand, or at the very least, outweigh the impact of peripheral impressions by focusing on content that is important to the juror. Initial findings regarding just what constitutes this evidence in a NGRI defense is described later. Moreover, this relationship between deliberation and first impressions on verdict is consistent with results presented earlier regarding the lack of support found for thin slices in the current study's context.

For now, it is important to recognize that when bias against the insanity defense was controlled, non-deliberating jurors across multiple juror and jury-level analyses were less punitive than deliberating jurors. While a large body of prior research supports the fact that group processes often maximize biased attitudes both in and out of jury contexts, research in the psycho-legal arena supports the occurrence of a post-deliberation leniency shift in criminal trials involving a *reasonable doubt* standard (Aronson, 2008; Devine et al., 2001; MacCoun & Kerr, 1988; Mitchell, Haw, Pfeifer, & Meissner, 2005; Salerno & Devine, 2010). At first glance, the current findings appear to be as indecisive as the rest of the literature on this topic. Upon further examination, however, the post-deliberation leniency shift in this study is marginally supported, but only for those mock jurors who were high in bias against the insanity defense (lending partial support for H2 and H5b). To the best of the researcher's knowledge, the current study is the first to elucidate this finding. Future research should focus on continuing to specify the relationship between deliberation and bias against the insanity defense in relation to punitive decision-making and the potential for injustice in such cases.

Mock Juror Subject Variables

Conscientiousness was significantly positively correlated with increased witness credibility, and Extraversion was positively correlated with more lenient verdicts (supporting H6b). However, one of the most interesting findings in the current study is the failure to find any

meaningful interactions between mock-juror subject variables and witness credibility and/or verdict. Granted that investigations into the subject variables were included primarily as exploratory in nature, still the lack of significant results was somewhat surprising given the previous literature. One explanation for the lack of significant interactions may be the fact that personality exerts its influence most when embedded in social interactions (Aronson, 2008). Thus, the somewhat contrived and impersonal nature of the stimulus video and experimental setting may have limited findings that tap into these social constructs. Indeed, a percentage of the cognitive responses provided by mock jurors expressed a desire to see the defendant in person, hear from the defendant himself and those who knew him, and hear the testimony live. Perhaps mock juror personality better explains variance in attitudes towards defendants and victims than it does lawyers and experts. It is also possible that juror characteristics (e.g., personality) are simply more informative of the actual deliberation process (i.e., factors in group-decision making and task completion).

One exception to the mock juror characteristic results was support for the hypothesized negative correlation between bias against the insanity defense and NGRI verdicts (5a). Results partially supported the second part of this hypothesis (5b) in that bias against the insanity defense exhibited the trend of moderating the relationship between deliberation and verdict. More specifically, this one-way interaction suggested the presence of a leniency shift in verdict for deliberating mock jurors who were high in bias against the insanity defense when compared to non-deliberating counterparts. In summary, results provided convergent validity for bias against the insanity defense as a meaningful variable of interest in NGRI defense mock-jury research, particular due to its suggested interaction with deliberation in the current study (i.e., “leniency shift” for deliberating jurors who were high in bias against the insanity defense).

Even more noteworthy was the complete lack of hypothesized findings related to mock juror need for cognition (H6d), considering the study was designed to assess degree of cognitive elaboration to some degree. The assumption of normality was confirmed for overall NFS scores (M = 58.87, SD = 13.30, Range = 21.00 to 87.00). Although the need for cognition has influenced verdicts in prior mock juror studies, less is known about the specific relationship between need for cognition and perceptions of expert witness testimony. As alluded to earlier, individuals may be motivated to exert a higher degree of cognitive effort in their role as mock jurors, particularly during a brief study that directly requests this attention and does not impose the same cognitive overload present in real trials. Even though the NFS is designed to assess an individuals' general baseline for cognitive elaboration, perhaps the trial context skews or diminishes the impact of need for cognition on the degree of evidence processing as a juror. Clearly, more research is needed to understand the nature of this construct as it relates to immediate and retrospective processing of expert witness testimony.

Cognitive Responses

Quantitative analyses of the study's cognitive responses from the TLM were somewhat restricted due to the scope of the project and as such, warrant attention in future research. For instance, how would results differ if these cognitive variables were entered into the overall model as predictors? What role would focusing on these various content areas (and to what degree) have on witness credibility and verdict? Research findings from these types of investigations could help inform the courts and mental health professionals about what facts deserve the most attention in certain kinds of cases (e.g., NGRI defense cases). The relation between mock juror subject variables (e.g., personality, need for cognition, etc.) and the TLM outcomes may also be valuable to assess. Based on some of the key themes identified in the

qualitative analysis in this study, it may also be necessary to include other measures that evaluate mock jurors' punitive attitudes more globally (e.g., belief in a just world), given that authoritarianism was not sufficient to tap into this construct in the current study. It is possible that retributive justice (e.g., "Someone has to pay," "Guilty no matter what") accounts for an increased variance percentage in NGRI cases based on the frequency with which these topics were discussed during deliberations and endorsed on the TLM.

Another surprising finding was how much jurors focused on information that was clearly explained by the expert witness (e.g., symptoms of schizophrenia, medication non-compliance), peripheral if not irrelevant to the defendant's mental state at the time of the offense (e.g., *why* the defendant was off his medication), or clearly identified by the mock judge as irrelevant to the case and inappropriate to consider (e.g., the possible sentencing dispositions for the defendant). The coding scheme for analyzing these and the other secondary cognitive responses was solely data-driven and based on qualitative analysis of the videotaped transcripts. These areas of focus (e.g., sentencing, need for treatment, culpability, medication non-compliance) could benefit from further statistical development, such as exploratory factor analysis, or confirmatory factor analysis in a theory based follow-up study. In short, although globally addressed to a minimal degree thus far, the psycho-legal literature could benefit from more in-depth analysis of the specific attitudes and cognitive processes that influence jury decision-making, and potentially prosecutorial discretion, in NGRI cases.

The role of bias against the insanity defense may be particularly informative for understanding the cognitive processes behind decision-making in these types of cases. Preliminary analysis of the TLM data suggest that IDAR scores are positively correlated with negative attitudes toward the defense's expert witness testimony, coupled with a negative

correlation between these biases and overall message agreement with the testimony. Future studies could include additional measures (e.g., desire for social distance; community attitudes towards mental illness) that may capture mock jurors' bias specifically against defendants who are stereotyped as violent mentally ill criminals. For example, the public associates "mental illness" with violence at a much higher rate than the actual base rate, particularly endorsing the association between psychosis and dangerousness (Markowitz, 2005). Understanding these biases within the courtroom context is the first step in ensuring fair trials for defendants who necessitate NGRI defenses.

General Discussion

Strengths. The current study has several strengths. The present investigation into the potential influence of impressions of expert witnesses, and their impact on biased cognitive processing, had good conceptual support in the social psychology and psycho-legal literature. This study was the first to use "thin slice" methodology to manipulate time exposed to expert testimony and assess reliability of witness credibility ratings in the courtroom context over time. The study also developed a thin slice manipulation that included the full range of "thin slices" (i.e., 30 seconds to five minutes) evidenced in the literature on this phenomenon. The use of thin slices to manipulate an initial impression of the expert witness was examined with a pilot sample of the data. Based on the pilot study, the study's manipulations were refined, which led to a successful and well developed manipulation of thin slice exposure to the witness as evidenced by mock-jurors' significantly different estimates of credibility across time slice.

Second, the experiment was designed to increase external and internal validity. The expert witness was portrayed by a forensic clinical psychologist who had experience testifying in court. The stimuli videos were set in a moot courtroom and in the Witness Research Lab to

provide an authentic appearing courtroom context. In addition, the selected case was based on an actual trial in which considerable variability had been found among jurors' verdicts (i.e., Trial one: Hung jury; Trial two: Guilty; Appeal: Plea bargain), increasing the likelihood of finding variability among participants' verdicts in the present study. Moreover, the following study design elements were chosen based on prior research, their acceptance in the field, and their logistical amenability: the type of case, optimal jury size, evidence-driven jury verdict, unanimous decision rule, and the judge's instructions. To increase internal validity, the experimenter followed standardized scripts to ensure all participants were exposed to comparable testing conditions and procedures, which were refined after the pilot study. Participant experiences and instruction comprehension were also evaluated throughout the study.

Third, there were several strengths demonstrated by the methods and statistical analyses used to evaluate the data. Methodological strengths include the counter-balancing of the participant characteristic questionnaires and the ability to assess most of the outcomes as categorical and/or continuous variables (e.g., verdict). Bias against the insanity defense was also considered as a covariate, and controlled for during analyses in order to increase the results' specificity. Additionally, although few results were found, subject characteristics were also assessed. Linear mixed models, in particular Hierarchical Linear Mixed Models, were conducted to account for the random effect of group on the data. The study had good statistical power, with 30 groups (juries) to conduct the HLM procedures (Field, 2009), and accounted for the potential lack of group process variables in the *individual juror* condition by including a filler task. Perhaps the study's most influential strength in this study was the inclusion of deliberation as an independent variable, as previously discussed. This aspect of the study design allowed the experimenter to define pre-deliberation operationally (i.e., individual juror condition) and post-

deliberation (i.e., deliberation condition) outcomes. Although somewhat more convenient logistically, if a within-subjects design had been implemented, there would have been limitations to the type of analysis performed and conceptually would have been difficult to parse out evidence-driven and verdict-driven deliberations (Salerno & Devine, 2010). Including a deliberation condition enhanced the external validity of the study and yielded results that otherwise would not have been found. Sometimes the rule of parsimony is best replaced with what will lead to more meaningful results. This aspect of the study also aligns with the recent push for considering the deliberation effects in jury decision-making to help clarify the cognitive processes underlying courtroom decision-making (Salerno & Diamond, 2010). These efforts are maximized by including the thought listing measure and participant reaction form in the current study. Furthermore, the deliberations will afford the opportunity for continued qualitative data exploration that will continue to shed light on the *how* and the *why* questions behind jury decision-making, which in the end, are the most informative for trial consultants, lawyers and judges, witnesses, and the factfinder.

Limitations. Despite these strengths, the current study also presents some methodological limitations. Although external validity was enhanced by the previously mentioned methods, several essential components of a capital trial were not included. Although the use of an expert witness called on by a NGRI defense was strategically selected in this study to optimize the witness' potential influence, mock jurors were not exposed to testimony from the prosecution. To lessen the effect of this limitation, mock jurors were provided an equivalent degree of case facts presented by the defense (through testimony and study materials) for the prosecution. However, the potential impact of only viewing one side of the testimony is noted.

The logistical constraints of the study prompted several other limitations, including a low statistical power for running jury-level data analysis (to explore convergent evidence for juror-level analyses). Despite this limitation, analysis of the jury-level data provided convergent validity for some of the juror-level findings. Future studies should include enough juries to also conduct jury-level analyses with enough power to replicate juror-level statistical analyses. It would be interesting to see how particular juror characteristics (e.g., personality) affect the decision-making process. Second, it should be mentioned that the TLM was not completed directly after exposure to the witness. Although this procedural modification would have protected against the possible confounds of reading the case fact sheet, deliberation, and poor recall ability, it also would have prompted more processing of expert testimony than may have been evidenced otherwise. Third, while deliberation was manipulated as an independent variable in this study, mock jurors were only provided a very limited time period for deliberations. It is possible that if given more time for deliberating, results would have been different or yielded different deliberative effects. The small time window for deliberations, however, is not likely the primary reason for the large percentages of "Undecided" jury verdicts. Because deliberation did not exert a main effect on juror level verdicts, and only exerted a small and non-significant effect on jury-level verdict, the high frequency of undecided verdicts is more likely representative of the lack of evidence and overall case information that was inherent in the study design. Moreover, the percentage of undecided jury verdicts in the study suggests that the case selected provided an adequate degree of variance in verdict to test the manipulations. Lastly, potential benefits of tracking the mock jurors' de-identified subject numbers during the deliberations was overlooked during the study design phase. Thus, while the video-taped deliberations have been transcribed and will be subjected to more in-depth qualitative analysis, the researcher will not be

able to track individual juror non-verbal or verbal behavior in relation to their individual-level juror data. However, jury numbers were tracked and can be analyzed on a jury-level.

Additional limitations to the study's generalizability include the use of a predominantly female and Caucasian undergraduate sample. It is also more likely that the mock jurors knew each other or had pre-existing relationships than in the typical jury pool; however, HLM would have accounted for some of this dependence among groups. The current study also presented the courtroom stimuli via videotape rather than through live administration and was conducted on undergraduates rather than actual jurors. It should be noted, however, that trial information is often presented by means of video in jury research and was chosen in the present study in an effort to present the information as realistically as possible; although, as Bornstein (1999) documents in his frequently cited review of jury simulation research, on average, presentation medium does not have a significant effect in the majority of research studies. Because this was the first study to focus on first impressions of expert witness credibility in this manner, the same witness was used for all testimony conditions. Thus, generalizations of the results are limited to male, middle-aged, Caucasian experts. Results also primarily inform cases that use a 6-member jury and involve mental health testimony or a NGRI defense.

Future directions. Generalizability of these results could be extended by replicating this study with more diverse mock-jury pools and additional variations in the witness testimony stimulus. Future studies should seek to expand the present findings from a male to a female expert, from a Caucasian expert to other races, from the defense to the prosecution, and from a predominantly female to a predominantly male sample. Researchers may also glean different relationships in the data if the circumstances of the crime or mental health history of the defendant were varied.

Modified replications of the current study could also be fruitful by way of verifying the existence of the relationship between first impressions and deliberation on verdict that was found in the current study, as well as to verify the existence of the effect of length of time exposed to the expert testimony on witness credibility. A more sensitive manipulation of impression-formation, possibly by measuring "in the moment" evaluations through a computer task while watching the stimulus, may be ideal for investigating the differential impact of central and peripheral processing of testimony (and the witness) over time. This methodology would also lend itself to defining the perceptual "thin slice" in this context and whether first impressions are just as, if not more relevant, than later observations in characterizing a witness' credibility. In turn, future findings using this technique could potentially help to inform witnesses, lawyers, and trial consultants about the most critical time points during testimony and when jurors are or are not centrally processing the evidence being presented. The current investigation's results provide strong support for gleaning meaningful information from continued research in this area.

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Appendices

Appendix A

Participant Information Sheet

Title of Research Project: *The Role of Deliberation in Criminal Case Verdicts*
Investigators: Caroline Titcomb, B.A. & Stanley Brodsky, Ph.D.

It is important that you read the following explanation of this research study. This document describes the purpose, procedures, possible benefits and risks, and confidentiality of this study.

Purpose and Procedures: The current study is examining the role of deliberation in criminal case outcomes. If you decide to take part in this study, you will be asked to participate as a mock-juror in the trial phase of a criminal trial. You will be asked to view a videotaped excerpt of testimony from a trial, participate in a shortened mock-jury deliberation, and complete a written questionnaire. The questionnaire asks that you: 1) make a rating of the expert testimony seen in the video; 2) state a verdict for the case; 3) give your opinion on such issues as the legal system and the insanity defense; 4) provide information regarding how you think and your personality; 5) describe your experience as a participant and thoughts regarding the case; and 6) give a short demographic description of yourself (e.g., age, gender, prior jury experience, etc.). The brief deliberations will be videotaped and de-identified. Participating in this study will take up to 90 minutes.

Benefits and Risks: There are no direct benefits to you for participating in the study, but you will receive 2.5 research credits. Potential benefits include learning more about the trial process and gaining insight into personal beliefs regarding the legal system. This study will help psychologists and lawyers better understand how jurors make decisions and how deliberations impact mock-jury verdicts. There are no expected risks or discomforts involved with participating in this study. If at any point you feel uncomfortable, you may stop participating without any penalty.

Confidentiality: Your name will only be recorded to ensure you receive credit for your participation and will be kept separate from the other study materials. The documents containing participant names will be destroyed once all credit has been awarded. There will be no identifying information on the demographic sheet, questionnaires, or video recordings that would allow the researcher, or anyone else, to determine which person completed the materials. The deliberation videos and questionnaires with no identifying information will be stored in a locked file cabinet in Gordon Palmer Hall. Data will be entered into a password-protected, confidential database on a university computer. The questionnaires will be stored for seven years to comply with the American Psychological Association's research standards. Once the study is completed, the videos will be stored in a locked cabinet for up to two years, with coded identities removed, for further analysis of the data and then destroyed.

Withdrawal without Prejudice: Your participation is voluntary. You may choose not to take part at all. If you decide to participate, you are free to withdraw at any time. Leaving the study will not result in any penalty, and you will still receive the 2 research credits.

Cost of Participation: There will be no cost to you for participating in the current research study. All materials needed for the study will be provided for you.

Alternative Procedures: Please see your class professor for any alternative procedures or assignments you can complete if you choose not to participate in this study.

Questions: If you have any questions regarding the research study or any possible research related injuries right now, please ask them. If you have questions about the study later on, please contact Caroline Titcomb at ctitcomb@crimson.ua.edu or Dr. Stanley Brodsky (faculty advisor for the current study and licensed clinical psychologist) at sbrodsky@bama.ua.edu. Dr. Brodsky is a licensed clinical psychologist and is available if any aspect of participation is upsetting. If you have any questions about your rights as a research participant, you may contact the University of Alabama Research Compliance Officer at (205)348-5152.

Appendix B

Case Information Sheet

Your duty as the juror:

- It's your duty to base your judgment on the evidence or lack thereof in the case and your evaluation of credibility and weight of the evidence.
- Keep an open mind while hearing the evidence; don't form opinions or conclusions with respect to the guilt, non-guilt, or responsibility of the defendant, except to continue to presume him innocent.
- Pay special attention to the videotaped testimony, because this testimony is the key piece of evidence presented to you.
- It is your job to determine verdict in the case, sentencing will be determined at a later trial phase.

Charges against the defendant:

The indictment accuses the defendant, Frank Duncan, of the crime of Murder in the Second Degree for pushing a Ms. Hannah Ann Miller in front of a subway train on January 3rd, 2007. Murder in the Second Degree is described as either:

a) intentionally committing an act of murder, or

b) acting with such depraved indifference to human life that one recklessly engages in conduct which created a grave risk of death to another person

The defendant's plea:

- The defendant has entered a plea of Not Guilty by Reason of Insanity (NGRI) due to his diagnosis of schizophrenia.

Prosecution's job:

- Proving beyond a reasonable doubt that the defendant intentionally caused the death of the victim.
- *Reasonable doubt* is not proof beyond all doubt; it is a serious doubt that is established by the evidence in the case and that a reasonable person would consider as substantial.

Defense's job:

- Proving that with preponderance of the evidence that the defendant was insane at the time of the offense.
- *Preponderance of the evidence* means that the degree of certainty should be more certain than uncertain.

Once you have heard the evidence, your job as the juror:

1. Begin by presuming the defendant's innocence.
2. Determine if the prosecution has proved that the defendant committed the crime beyond a reasonable doubt.
    a. If you find that the prosecution has not proved beyond a reasonable doubt that the defendant committed the act, then you must find the defendant **not guilty**.
3. If you find that the prosecution has proved that the defendant committed the crime beyond a reasonable doubt, you then need to determine if the defendant is criminally responsible for the act.
    a. In order to be found **guilty** of murder in the second degree, the defendant must *intentionally* cause the death of another person. Intent must be proven beyond a reasonable doubt.
    b. In order to be found **not guilty by reason of insanity**, you must determine that *at the time of the act*, Mr. Duncan's reasoning was so significantly impaired due to his mental illness that *either*:
        a) He did not know the nature and quality of the act he was doing, or
        b) If he did know the nature of his actions, then he did not know what he was doing was wrong. Wrong is used in its broadest sense, including not only what was legally wrong, but what ordinary people commonly understand to be morally wrong, bad or evil.

Appendix C

Expert Witness Testimony Content (30 Second Condition)

DEFENSE ATTORNEY: Dr. Harper, when you interviewed Frank Duncan, how did he describe the incident?

EXPERT WITNESS: That he knows he pushed Hannah Miller to her death.

DEFENSE ATTORNEY: In your expert psychiatric opinion, what have you concluded about that incident?

EXPERT WITNESS: He pushed her to her death at a time when he was off his medication and his psychotic symptoms were at their worst. He couldn't think or plan. He had no reason. It was a sudden psychotic act. In my opinion, at that time, he did not know the quality and nature of his actions or that they were wrong.

Appendix D

Expert Witness Testimony Content (5 Minute Condition)

DEFENSE ATTORNEY: Dr. Harper, could you please tell the court your current title and position?

EXPERT WITNESS: I am a Professor of Psychiatry at Emory University and I'm also the Clinical Director of the Department of Psychiatry at Emory University Hospital.

DEFENSE ATTORNEY: Now, Doctor, in very general terms, please tell us what is schizophrenia?

EXPERT WITNESS: Schizophrenia is a brain disease that has mental symptoms. It causes severe disruption of almost all mental functioning and is considered perhaps the most serious of all mental illnesses. The core symptoms are hallucinations, delusions, and the inability to get ones thoughts straight. Schizophrenics can't think properly or reach logical conclusions.

DEFENSE ATTORNEY: When does this disease usually start?

EXPERT WITNESS: It starts in late adolescence. There are usually times in which the patient's symptoms become more intense than usual. With medication, these major symptoms may subside, but the medications cannot control the thought disruption, and schizophrenic patients may become belligerent or even aggressive. So, they have a level of baseline functioning, and then, from time to time, the severe symptoms of hearing voices or becoming agitated can flare up.

DEFENSE ATTORNEY: That is an interesting point, doctor. Are schizophrenic patients usually violent?

EXPERT WITNESS: Patients who have schizophrenia are more violent than normal people, but they are most likely to be aggressive when their symptoms are most intense. When their delusions and hallucinations are under control, they don't tend to be any more aggressive than anyone else.

DEFENSE ATTORNEY: Doctor, did you make a diagnosis of Frank Duncan in this case?

EXPERT WITNESS: Yes. Schizophrenia.

DEFENSE ATTORNEY: Ok. And now, Doctor, can you tell us please a little bit about Frank Duncan's medical and psychiatric history?

EXPERT WITNESS: Certainly. Mr. Duncan's symptoms began in high school and became severe during his freshman year in college. He was first hospitalized in 1997. He was hospitalized for 7 months in 2000 and an entire year in 2002. In 2004, he spent two weeks in a psychiatric facility. He spent 196 days in the hospital in 2005 and 2006; in

2006 alone he spent 130 days in the psychiatric hospital, indicating an extremely severe course of illness at that point. Throughout the course of his illness, he often experienced the severe side effects of the antipsychotic medication, and so often did not take his medication. As a result, he often battled with the most severe symptoms of schizophrenia and experienced violent outbursts. Over the course of ten years, these outbursts included 8 assaults both in and out of medical facilities, some including pushing and hitting, and the majority of them directed at women. After several of these incidents, Mr. Duncan's chart has quotes from the defendant that he did not know why he did it.

DEFENSE ATTORNEY: From the defendant's medical records, is there any evidence that he was seeking help for his condition?

EXPERT WITNESS: Yes. From his records, there is extensive evidence he knew that he needed treatment and hospitalization. However, the psychiatric facilities continuously treated him, prescribed medication, and subsequently discharged him to the community. His records state that he knows he's schizophrenic, he can't understand what's happening to his mind, he seems out of his control, and he wants to get better. He's looking for help from hospitals and doctors. This is not somebody that gets angry and assaults a person. He is a person who strikes out for no reason and can't understand why, has no good explanation. He says that he can't control it because he doesn't want to do it. It's not an intended act; it is a symptom of his illness.

DEFENSE ATTORNEY: Doctor, do you have any opinion as to Mr. Duncan's course of schizophrenia up to this point in time?

EXPERT WITNESS: Yes. His illness became much more severe during 2005 and 2006. His baseline illness was worse and he was having more frequent severe symptoms on top of that.

DEFENSE ATTORNEY: When you interviewed Frank Duncan, how did he describe the incident?

EXPERT WITNESS: That he knows he pushed Hannah Miller to her death.

DEFENSE ATTORNEY: In your expert psychiatric opinion, what have you concluded about that incident?

EXPERT WITNESS: He pushed her to her death at a time when he was off his medication and his psychotic symptoms were at their worst. He couldn't think or plan. He had no reason. It was a sudden psychotic act. In my opinion, at that time, he did not know the quality and nature of his actions or that they were wrong.

Appendix E

Expert Witness Testimony Content (10 Minute Condition)

DEFENSE ATTORNEY: Good morning, Dr. Harper.

EXPERT WITNESS: Good morning.

DEFENSE ATTORNEY: Could you please tell the court your current title and position, Doctor?

EXPERT WITNESS: I am a Professor of Psychiatry at Emory University and I'm also the Clinical Director of the Department of Psychiatry at Emory University Hospital.

DEFENSE ATTORNEY: Dr. Harper, could you please give us the background of your education?

EXPERT WITNESS: Certainly. I attended Tulane University graduating with a Bachelor's Degree in Biology. I then attended Vanderbilt School of Medicine. My psychiatric training was at Emory University Hospital where I completed a residency in general psychiatry.

DEFENSE ATTORNEY: Now, Doctor, in very general terms, please tell us what is schizophrenia?

EXPERT WITNESS: Schizophrenia is a brain disease that has mental symptoms. It causes severe disruption of almost all mental functioning and is considered perhaps the most serious of all mental illnesses. The core symptoms are hallucinations, which are perceptions that have no basis in reality, such as hearing voices when no one is there. Another core symptom is experiencing delusions, which are false beliefs held with conviction, even though they have no basis in reality. An example of a delusion is a paranoid thought that someone is trying to kill you. Another symptom is thought disorder. Patients who suffer from schizophrenia say they can't get their thoughts straight. They can't think properly or reach logical conclusions. Schizophrenics get confused and their speech is often hard to understand or illogical. Then there is a disturbance in emotional expression; called "constricted emotions" where they don't show the full range of emotions. They appear flat, dull, spacey, or they may show inappropriate emotions.

DEFENSE ATTORNEY: When does this disease usually start?

EXPERT WITNESS: It starts in late adolescence. There are usually times in which the patient's symptoms become more intense than usual. With medication, these major symptoms may subside, but the medications cannot control the thought disruption, so they tend to be unable to work or maintain relationships. Schizophrenic patients may become belligerent or even aggressive. So, they have a level of baseline functioning, and then from time to time the severe symptoms of hearing voices or becoming agitated can flare up.

DEFENSE ATTORNEY: That is an interesting point, doctor. Are schizophrenic patients usually violent?

EXPERT WITNESS: Patients who have schizophrenia are more violent than normal people, but they are most likely to be aggressive when their symptoms are most intense. When their delusions and hallucinations are under control, they don't tend to be any more aggressive than anyone else.

DEFENSE ATTORNEY: Doctor Harper, what type of medications do you prescribe to schizophrenics and what do those medications do to them?

EXPERT WITNESS: Physicians use antipsychotic medications to treat schizophrenia. The medications specifically target the symptoms of hallucinations and delusions. These medications have severe side effects, which causes many patients to stop taking the medication.

DEFENSE ATTORNEY: Doctor, did you make a diagnosis of Frank Duncan in this case?

EXPERT WITNESS: Yes. Schizophrenia

DEFENSE ATTORNEY: Was Mr. Duncan compliant with his medication?

EXPERT WITNESS: Throughout the course of his illness, he often experienced the severe side effects of the antipsychotic medication that I mentioned earlier, and so often he did not take his medication. As a result, he often battled with the severe symptoms of schizophrenia and experienced violent outbursts. Over the course of ten years, these outbursts included pushing and threatening his mother; assaulting a staff member of a hospital; assaulting a stranger at a supermarket; attacking a psychiatrist at one of the hospitals; assaulting a child at a Barnes and Noble; attacking a resident doctor; punching two patrons at a Burger King; punching a female patient at a psychiatric facility in the face. After several of these incidents, Mr. Duncan's chart has quotes from the defendant that he did not know why he did it.

DEFENSE ATTORNEY: Now, Doctor, can you tell us please a little bit about Frank Duncan's medical and psychiatric history?

EXPERT WITNESS: Certainly. Mr. Duncan's symptoms began in high school and became severe during his freshman year in college. He was first hospitalized in 1997. He was hospitalized for 7 months in 2000 and an entire year in 2002. In 2004, he spent two weeks in a psychiatric facility. He spent 196 days in the hospital in 2005 and 2006; in 2006 alone he spent 130 days in the psychiatric hospital, indicating an extremely severe course of illness at that point. Over the course of his illness, he experienced the following symptoms, among others: delusions that his mother and his doctors were trying to poison him; hearing voices telling him to kill himself; delusions that someone was after him with a gun; illogical speech; disorganized thoughts; hallucinations that people were shrinking and growing; delusions that the earth is running out of oxygen; hallucinations that people

were turning purple; auditory hallucinations telling him to hurt someone; delusions that a person named Larry was trying to manipulate his thoughts and was trying to steal his excrement.

DEFENSE ATTORNEY: I see. From the defendant's medical records, is there any evidence that he was seeking help for his condition?

EXPERT WITNESS: Yes. From his records, there is extensive evidence he knew that he needed treatment and hospitalization. However, the psychiatric facilities continuously treated him, prescribed medication, and subsequently discharged him to the community. In 2005 he checked himself into a psychiatric facility after becoming nervous and scared. He was treated with medications and discharged. Another time that year Mr. Duncan called 911 and asked to be brought to psychiatric ER, the report lists the following quote from the call, "I am confused and I cannot function, so I need some help." He was hospitalized for 8 days then discharged. In 2006, he broke down his neighbor's door and asked that the police be called and that he be taken to a hospital because he had been experiencing auditory hallucinations telling him to hurt someone. In the records for a subsequent hospitalization, the patient stated that he wanted to study his illness and he wanted to get a degree in psychology. "Patient states sometimes he can't control his arms and that's when he gets into trouble as he ends up hurting people". In 2007, he signed into yet another hospital after hearing voices and complaining that someone was trying to evaporate his brain. On his application for admission, he writes that his reasons for applying for admission are "severe schizophrenia, hopefully will cure".

DEFENSE ATTORNEY: If you could stop there a minute, doctor. Frank Duncan stated that he wanted to study about his illness. What do you make of that?

EXPERT WITNESS: He knows he's schizophrenic, he can't understand what's happening to his mind, it seems out of his control and he wants to figure it out. He's looking for help from hospitals and doctors. This is not somebody that gets angry and assaults a person. He is a person who strikes out for no reason and can't understand why. He says that he can't control it because he doesn't want to do it. It's not an intended act; it is a symptom of his illness. So he makes up theories as to why he's doing this, "I'm a puppet on a string", he is desperately trying to figure it out and get well, he's in a hospital taking medication and it's not working. He's been schizophrenic now for 10 years and despite medications and treatment, his illness is becoming worse.

DEFENSE ATTORNEY: Doctor, do you have any opinion as to Mr. Duncan's course of schizophrenia up to this point in time?

EXPERT WITNESS: Yes. His illness became much more severe during 2005 and 2006. His baseline illness was worse and he was having more frequent symptoms. He was not able to function out of the hospital very well and he keeps going back when his symptoms flair out of control.

DEFENSE ATTORNEY: When you interviewed Frank Duncan, how did he describe the incident on January 3, 2007?

EXPERT WITNESS: That he knows he pushed Hannah Miller to her death.

DEFENSE ATTORNEY: In your expert psychiatric opinion, what have you concluded about that incident?

EXPERT WITNESS: He pushed her to her death at a time when he was off his medication and his psychotic symptoms were at their worst. He couldn't think or plan. He had no reason. It was a sudden psychotic act.

DEFENSE ATTORNEY: Was Frank Duncan taking his medication during the time of the incident on January 3?

EXPERT WITNESS: His medical records note that he was not taking his medication, and we know that his prescription had not been filled for several weeks.

DEFENSE ATTORNEY: Did you have opportunities to interview Frank Duncan when he was both on and off his medication?

EXPERT WITNESS: Yes.

DEFENSE ATTORNEY: Can you tell us any differences that you might have observed in the medicated state and the unmedicated state, doctor?

EXPERT WITNESS: Yes. He was more psychotic off his medication; his thinking was markedly impaired.

DEFENSE ATTORNEY: One final question, doctor. Can you render an opinion to a reasonable degree of scientific certainty whether Frank Duncan because of his mental disease or defect, lacked substantial ability to know or understand the quality and consequences of his actions or that such conduct was wrong during the incident with Hannah Miller on January 3, 2007?

EXPERT WITNESS: I can render an opinion. At that time, he did not know the quality and nature of his actions or that they were wrong.

DEFENSE ATTORNEY: Thank you doctor, I have no further questions.

Appendix F

Case Fact Sheet

Facts presented by the Prosecution:

- On January 3rd, 2007 Hanna Ann Miller was waiting for the northbound train at the south end of the station platform. Witnesses saw the defendant, Mr. Duncan, entering the subway station and walking in an odd way, taking baby steps, talking to himself, bumping into things.
- Witnesses testified that they saw the defendant go up to Hanna Miller and ask for the time and that Ms. Miller told him about five o'clock. They testified that as the train entered the station, the defendant set himself up against the wall directly behind Ms. Miller and as the train came in, he pushed off the wall and he grabbed Miss Miller from behind and hurled her in front of the oncoming train. Depite this, Mr. Duncan was able to stop himself before falling onto the tracks.
- Ms. Miller landed between the rails and she was immediately obscured as the train went over her.
- The motorman testified that he asked the defendant "How could you do this?" and that the defendant responded with words similar to "I need a doctor, or take me to the hospital."
- Witnesses testified that the defendant was very calm and cooperative after the incident.
- A video of the defendant at the police station 12 hours after the time of the arrest, showed the defendant said he had a pretty good day up to the time of the incident, and that he pushed her lightly, didn't intend to, and that some force was within him.
- In the video he stated "Oh, it would be wrong to do it."
- Experts testified that a person with schizophrenia is like any other group of individuals; there's a full range of how this illness affects them and some of them function at a fairly high level.
- The People argued that the defendant uses his illness as a way of manipulating his environment. Witnesses testified that he uses it to gain different living conditions, escape from social situations that do not satisfy him, and uses it when he feels ignored or feels disrespected by women.

Facts presented by the Defense:

- The defense presented evidence that ten years ago Mr. Duncan was diagnosed with schizophrenia, a mental illness marked by hallucinations and delusions that impairs one's thought process.
- He was prescribed medication, but like many people, he did not take the medication because of their severe side effects (e.g., weight gain that can lead to heart disease and diabetes, extreme sleepiness, seizures, lifelong disorders that produce involuntary, repetitive movements).
- Experts testified that Mr. Duncan committed acts of violence against doctors and strangers in the past, but that these acts were due to the severe symptoms he experienced because of his illness. For example, he believed that the doctors were poisoning him with cyanide and that someone was entering his body, causing him to push people against his will. In therapy, Mr. Duncan stated "I'm controlled, like a puppet on a string," during the attacks. He had no explanation for the behavior.
- The defense showed evidence that Mr. Duncan was in the hands of a poorly coordinated mental health system that shuffled him in and out of treatment, despite his known history of aggression when his illness is not managed. They argued that Mr. Duncan is a product of his crippling disease and that this fact cannot be separated from the man on the subway platform.
- Witnesses testified that Mr. Duncan tried to get help for his sickness by checking into a hospital, and asking that someone call the police or the doctors when he became aggressive.
- The defense presented evidence that Mr. Duncan was off his medication at the time of the incident. Experts testified that Mr. Duncan's illness is worse off his medication.
- Witnesses who know Mr. Duncan testified that he seemed in a daze, different, and worse than ever before; standing in the pouring rain and unable to tell them what day it was. They testified that in the subway, he was pacing back and forth, talking to himself, and stomping his feet
- The video taken at the police station, showed Mr. Duncan explaining that he felt something take over in the subway. Witnesses testified seeing more bizarre behavior when Mr. Duncan just stood there after the incident, as if in a trance, waiting for police to get there.
- Experts testified that Mr. Duncan was legally insane at the time of the offense and that at that time, due to his lack of medication and psychotic state, Mr. Duncan was not capable of debating what was right or wrong, even if he understood afterwards that it was wrong. The defense's evidence attempted to show that Mr. Duncan had no motive, no rational thinking, and no full appreciation of what he was doing.

Appendix G

Witness Credibility Scale

Instructions: *Please rate the **defense expert witness** for the following items on the scale provided.*
If you are unsure, please take your BEST GUESS.

Example:

1	*2*	*3*	*4*	*5* ✓	*6*	*7*	*8*	*9*	*10*
Dressed Formally									*Dressed Informally*

1	2	3	4	5	6	7	8	9	10
Unfriendly									Friendly

1	2	3	4	5	6	7	8	9	10
Disrespectful									Respectful

1	2	3	4	5	6	7	8	9	10
Unkind									Kind

1	2	3	4	5	6	7	8	9	10
Ill-mannered									Well-mannered

1	2	3	4	5	6	7	8	9	10
Unpleasant									Pleasant

1	2	3	4	5	6	7	8	9	10
Untrustworthy									Trustworthy

1	2	3	4	5	6	7	8	9	10
Untruthful									Truthful

1	2	3	4	5	6	7	8	9	10
Undependable									Dependable

1	2	3	4	5	6	7	8	9	10
Dishonest									Honest

1	2	3	4	5	6	7	8	9	10

Unreliable Reliable

1	2	3	4	5	6	7	8	9	10

Not confident Confident

1	2	3	4	5	6	7	8	9	10

Inarticulate Well-spoken

1	2	3	4	5	6	7	8	9	10

Tense Relaxed

1	2	3	4	5	6	7	8	9	10

Shaken Poised

1	2	3	4	5	6	7	8	9	10

Not Self-Assured Self-Assured

1	2	3	4	5	6	7	8	9	10

Uninformed Informed

1	2	3	4	5	6	7	8	9	10

Illogical Logical

1	2	3	4	5	6	7	8	9	10

Uneducated Educated

1	2	3	4	5	6	7	8	9	10

Unwise Wise

1	2	3	4	5	6	7	8	9	10

Unscientific Scientific

Appendix H

Verdict Form

Instructions: *Please answer the following questions by placing a* ✓ *mark on the <u>one</u> answer that <u>best</u> represents your opinion for each question.*

1. What is your verdict?

1	2	3
Guilty	Not Guilty by Reason of Insanity (NGRI)	Not Guilty

<u>IF YOU ANSWERED (1, Guilty) OR (2, NGRI) FOR ITEM #1</u>, PLEASE ANSWER THE FOLLOWING QUESTIONS #2 THROUGH #5:

2. Is the defendant guilty?

1	2	3	4	5	6	7
Definitely NGRI			Neutral			Definitely Guilty

3. How confident are you about that verdict?

1	2	3	4	5	6	7
Not at all Confident			Neutral			Very Confident

4. What should the level of punishment be?

1	2	3	4	5	6	7
As lenient as possible			Neutral			As harsh as possible

5. How committed to your sentencing decision are you?

1	2	3	4	5	6	7
Not at all Confident			Neutral			Very Confident

Appendix I

Thought Listing Measure

The investigators are interested in what thoughts came into your mind as you were hearing the case of *State v. Duncan.* That is, you might have had thoughts that had little to do with the topic or what it had to say. Regardless, we are interested in any and all thoughts that you remember coming to mind. Please write your thoughts in the space provided on the paper. PLEASE WRITE ONLY ONE (1) "THOUGHT" PER BOX.

Don't worry about grammar or writing complete sentences, just write the basic meaning of each thought you can recall coming to mind.

1.)
2.)
3.)
4.)
5.)
6.)
7.)
8.)

Appendix J

Thought Listing Measure Coding Scheme

**Adapted from Guadagno & Cialdini, 2003*

Total Elaboration* = Sum the total number of thoughts for each juror.

Stimulus Derivation*
1 = **Central** (Restatements, agreements, elaboration, disagreements, counterarguments, questions, or reactions to the argument/testimony; anything *within* the testimony that may affect decision-making)
2 = **Peripheral** (Vague reference to case argument; anything that may affect decision-making; i.e., - You can not necessarily tell why the juror is coming to his/her conclusion)
3 = **Unrelated** (Completely unrelated to the juror's decision-making process)

Thought Valence* (towards the defense or expert testimony; *NOT necessarily just towards witness or defendant)*
1 = **Positive** (i.e., thought can never be considered negative)
2 = **Negative** (i.e., thought can never be considered positive)
3 = **Neutral/Irrelevant** (i.e., thought can be considered negative or positive)

Thought Content
1 = **Defendant** (e.g., anything about the defendant related to the case, his illness, mental health in general, medication, motive, case disposition/ verdict)
2 = **Witness** (e.g., anything about the testimony: quality of testimony, testimony content, length of testimony, credibility, characteristics, the defense's case/argument)
3 = **Experimental Variables** (i.e., anything related to the experiment that could influence mock juror participation: quality of the video, room temperature, interest in the prosecution's side or more evidence, procedures length)

Culpability
1 = **Culpability not mentioned**
2 = **Mental Health System** (i.e., asserting that the mental health system is *equally* or *more* culpable than the defendant; e.g., sympathy for the defendant, mental health system's fault, there should have been "red flags," the crime could have been prevented, defendant had a violent history related to his illness, questioning why defendant was not monitored better)
3 = **Guilty no matter what** (e.g., defendant is guilty no matter what; defendant is using his illness as an *excuse*; "he still killed someone")

Punishment/Sentencing
1 = **Sentencing not mentioned**
2 = **Sentencing mentioned** (e.g., the defendant still deserves *some* punishment; questioning what his punishment would be for various case dispositions)
3 = **Locked away/Danger** (i.e., asserting that the defendant should be "locked away" in either jail or a mental hospital; the defendant should not be alone; the defendant should not be free; the defendant is a danger to society)
4 = **Mental Health Help** (i.e., asserting that the defendant's actions primarily warrant mental health treatment; clear that the mock juror views treatment as the primary goal)

Inclusion of Medication
1 = **No** (Medication not mentioned)
2 = **Yes** (Medication mentioned)

Use of Medication Evidence (Only applicable to thoughts involving medication)
1 = **Medication mentioned** (e.g., the fact the defendant *should be* on medication; whether or not the defendant *was* compliant with his medication; fact based/no opinion)
2 = **Defendant's Fault** (i.e., asserting that it is the defendant's fault because he was non-compliant with medication)
3 = **Why medication non-compliance?** (i.e., questioning why the defendant was non-compliant with his medication)

Appendix K

Mini-marker Set

How accurately can you describe yourself?

Instructions: *Please use this list of common human traits to describe yourself as accurately as possible.*

*Describe yourself as you see yourself **at the present time**, not as you wish to be in the future.*

*Describe yourself as you **are generally or typically**, as compared with other persons you know of the same sex and of roughly your same age.*

*Before each trait, please **write a number** indicating how accurately that trait describes you, using the following rating scale:*

1	2	3	4	5	6	7	8	9
Extremely *Inaccurate*	Very *Inaccurate*	Moderately *Inaccurate*	Slightly *Inaccurate*	*Neither* Inaccurate nor Accurate	Slightly *Accurate*	Moderately *Accurate*	Very *Accurate*	Extremely *Accurate*

____Bashful	____Energetic	____Moody	____Systematic
____Bold	____Envious	____Organized	____Talkative
____Careless	____Extraverted	____Philosophical	____Temperamental
____Cold	____Fretful	____Practical	____Touchy
____Complex	____Harsh	____Quiet	____Uncreative
____Cooperative	____Imaginative	____Relaxed	____Unenvious
____Creative	____Inefficient	____Rude	____Unintellectual
____Deep	____Intellectual	____Shy	____Unsympathetic
____Disorganized	____Jealous	____Sloppy	____Warm
____Efficient	____Kind	____Sympathetic	____Withdrawn

Appendix L

Need for Cognition Scale, Short Form

Instructions: *For <u>each</u> of the statements below, please **<u>indicate to what extent the statement is characteristic of you</u>**. Please use the following scale:*

1	2	3	4	5
Extremely Uncharacteristic of Me *(Not at all like me)*	Somewhat Uncharacteristic of Me	Uncertain	Somewhat Characteristic of Me	Extremely Characteristic of Me *(Very much like me)*

_____I would prefer complex to simple problems.

_____I like to have the responsibility of handling a situation that requires a lot of thinking.

_____Thinking is not my idea of fun.

_____I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

_____I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.

_____I find satisfaction in deliberating hard and for long hours.

_____I only think as hard as I have to.

_____I prefer to think about small, daily projects to long-term ones.

_____I like tasks that require little thought once I've learned them.

_____The idea of relying on thought to make my way to the top appeals to me.

_____I really enjoy a task that involves coming up with new solutions to problems.

_____Learning new ways to think doesn't excite me very much.

_____I prefer my life to be filled with puzzles that I must solve.

_____The notion of thinking abstractly is appealing to me.

_____I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

_____I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

_____It's enough for me that something gets the job done; I don't care how or why it works.

_____I usually end up deliberating about issues even when they do not affect me personally.

Appendix M

Revised Legal Attitudes Questionnaire

Instructions: *Indicate your level of agreement with each of the following items by pairing each item with a number based on this scale:*

1	2	3	4	5	6
Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree

____ Unfair treatment of underprivileged groups and classes is the chief cause of crime.
____ Too many obviously guilty persons escape punishment because of legal technicalities.
____ Evidence illegally obtained should be admissible in court if such evidence is the only way of obtaining a conviction.
____ Search warrants should clearly specify the person or things to be seized.
____ No one should be convicted of a crime on the basis of circumstantial evidence, no matter how strong such evidence is.
____ There is no need in a criminal case for the accused to prove his innocence beyond a reasonable doubt.
____ Any person who resists arrest commits a crime.
____ When determining a person's guilt or innocence, the existence of a prior arrest record should not be considered.
____ Wiretapping by anyone and for any reason should be completely illegal.
____ Defendants in a criminal case should be required to take the witness stand.
____ All too often, minority group members do not get fair trials.
____ Because of the oppression and persecution minority group members suffer, they deserve leniency and special treatment in the courts.
____ Citizens need to be protected against excess police power as well as against criminals.
____ It is better for society that several guilty men be freed than one innocent one wrongfully imprisoned.
____ Accused persons should be required to take lie-detector tests.
____ When there is a "hung" jury in a criminal case, the defendant should always be freed and the indictment dismissed.
____ A society with true freedom and equality for all would have very little crime.
____ It is moral and ethical for a lawyer to represent a defendant in a criminal case even when he believes his client is guilty.
____ Police should be allowed to arrest and question suspicious looking persons to determine whether they have been up to something illegal.
____ The law coddles criminals to the detriment of society.
____ The freedom of society is endangered as much by overzealous law enforcement as by the acts of individual criminals.
____ In the long run, liberty is more important than order.
____ Upstanding citizens have nothing to fear from the police.

Appendix N

Insanity Defense Attitudes Scale – Revised

Instructions: *On the following pages, you will find statements that express commonly held opinions about the insanity defense. We would like to know how much you agree or disagree with each of these statements. Indicate your level of agreement with each of the following items by pairing each item with a number based on this scale:*

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

____ I believe that people should be held responsible for their actions no matter what their mental condition.

____ I believe that all human beings know what they are doing and have the power to control themselves.

____ The insanity defense threatens public safety by telling criminals that they can get away with a crime if they come up with a good story about why they did it.

____ I believe that mental illness can impair people's ability to make logical choices and control themselves.

____ A defendant's degree of insanity is irrelevant: if he commits the crime, then he should do the time.

____ The insanity defense returns disturbed, dangerous people to the streets.

____ Mentally ill defendants who plead insanity have failed to exert enough willpower to behave properly like the rest of us. So, they should be punished for their crimes like everyone else.

____ As a last resort, defense attorneys will encourage their clients to act strangely and lie through their teeth in order to appear "insane."

____ Perfectly sane killers can get away with their crimes by hiring high-priced lawyers and experts who misuse the insanity defense.

____ The insanity plea is a loophole in the law that allows too many guilty people to escape punishment.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree

____ We should punish people who commit criminal acts, regardless of their degree of mental disturbance.

____ It is wrong to punish people who commit crime for crazy reasons while gripped by uncontrollable hallucinations or delusions.

____ Most defendants who use the insanity defense are truly mentally ill, not fakers.

____ Some people with severe mental illness are out of touch with reality and do not understand that their acts are wrong. These people cannot be blamed and do not deserve to be punished.

____ Many of the crazy criminals that psychiatrists see fit to return to the streets go on to kill again.

____ With slick attorneys and a sad story, any criminal can use the insanity defense to finagle his way to freedom.

____ It is wrong to punish someone for an act they commit because of any uncontrollable illness, whether it be epilepsy or mental illness.

____ I believe that we should punish a person for a criminal act only if he understood the act as evil and then freely chose to do it.

____ For the right price, psychiatrists will probably manufacture a "mental illness" for any criminal to convince the jury that he is insane.

Instructions: *Please place a* ✓ *mark over the corresponding number*.

21. How strongly do you feel about the insanity defense?

Not at all	1	2	3	4	5	6	7	Very Strongly

21. How personally important is your opinion on the insanity defense?

Not at all	1	2	3	4	5	6	7	Very Important

22. How much do you care about the insanity defense?

Not at all	1	2	3	4	5	6	7	Very Much

Appendix O

Participant Reaction Form

1. What do you think the hypothesis for this study was?

_____

_____

2. What was your first impression of the expert witness (e.g., good, bad, puzzling, convincing, any emotional reaction)?

_____

_____

_____

3. Did your impression of the expert witness change during his testimony? If so, how?

_____

_____

4. Did your impression of the expert witness change after the deliberation? If so, how?

_____

_____

5. How much did the expert witness' testimony influence your verdict?

1	2	3	4	5	6	7
Not at All			Neutral			Very Much

6. Do you believe you heard enough from the expert witness to understand his expert opinion?

1	2	3	4	5	6	7
Not at All			Neutral			Very Much

7. Do you believe you heard enough from the expert witness to include it in your consideration of whether the defendant was guilty or NGRI?

1	2	3	4	5	6	7
Not at All			Neutral			Very Much

8. Do you believe you were bias against the defendant because he was claiming an insanity defense (i.e., found him more guilty because he was claiming NGRI)?

1	2	3	4	5	6	7
Not at All			Neutral			Very Much

9. Did you participate in the group discussion/deliberation phase of the study as openly and as honestly as you would as a real juror in a trial (regardless of what you were asked to discuss during the discussion)?

_____

_____

10. Did the deliberation/group discussion change your original opinions about the following:

10a. Witness Credibility? YES___ or NO___

If Yes, How? _____

_____

10b. Verdict? YES___ or NO___

If Yes, How? _____

_____

11. How would your rate your comprehension of the judge's instructions?

1	2	3	4	5	6	7	8	9	10
Did Not Understand									Completely Understood

12. Describe in your own words, what does reasonable doubt mean?

_____

13. As a juror, if reasonable doubt is present, should you return a Not Guilty verdict?

Yes ____ No ___ Unsure ___

14. As a juror, do you have to deem a defendant 100% guilty before returning a Guilty verdict?

Yes ____ No ___ Unsure ___

15. Who has the burden of proving that the defendant is guilty beyond a reasonable doubt?

The Prosecution ____ The Defense ____

16. Who has the burden of proving that the defendant was <u>not</u> responsible for his actions at the time of the offense? The Prosecution ____ The Defense ____

17. Did you take this study seriously when you were filling out the items and watching the video? Please be honest.

_____

18. Had you heard anything about this study prior to participating? If yes, what?

_____

19. Do you have any other thoughts, feelings, or questions about this study?

_____

Appendix P

Demographic Questionnaire

1. My gender is:
   __Male __Female

2. I consider myself to be:
   __ African American __ Native American __ Asian
   __ Pacific Islander __ Biracial __ Caucasian
   __ Hispanic __ Other (Specify_____)

5. Total household income per year - your best estimate
   __ $10,000 or less __ $100,000 or higher
   __ $10,001 - 50,000 __ Don't have any idea
   __ $50,001 – 100,000 __ Prefer not to report

6. On a scale of 10 to 1, with 10 being "extremely religious" and 1 being "Not at all religious", I consider myself to be: (PLEASE CIRCLE ONE **NUMBER**)

Not at all Religious	1	2	3	4	5	6	7	8	9	10	Extremely Religious

7. I am _____ years old.

8. Freshman_____ Sophomore_____ Junior_____ Senior_____ Other_____

9. Major: _____

10. What part of the country are you from? South__ North__ Midwest__ West__ NA__

10. Have you ever been a juror for either a civil or criminal trial? YES__ or NO__
    9a. If yes, what was your verdict?_____

11. Have you ever been a juror for a not guilty by reason of insanity case? YES__ or NO__
    10a. If yes, what was your verdict?_____

12. What is your political orientation? PLEASE CIRCLE ONE **NUMBER**:

Very Liberal	1	2	3	4	5 Moderate	6	7	8	9	10	Very Conservative

13. Have any of your immediate family members ever been diagnosed with a mental illness or sought psychological services? YES_____ or NO_____
    13a. If yes, what was the presenting issue?_____

14. Have you ever been diagnosed with a mental illness or sought psychological services? YES_____ or NO_____
    14a. If yes, what was the presenting issue?_____

Appendix Q

	Random Thought List
1	that the man was crazy
2	if he knew what happens when he didn't take his medicine then he shouldn't have stopped
3	did the person speaking know the defendant personally?
4	he still killed someone
5	i would've like to heard the defendant on the stand
6	what does the defendant look like
7	why was duncan deliberately not taking medicine AND not under watch
8	the expert seemed unreliable he did not expand upon his theory of the defedants illness
9	his testimony was short
10	despite what the psychologist said it is the patient's responsibility to take their medication
11	who is more responsible duncan or doctors who did not give hime proper attention
12	why didn't he take his medicine?
13	he intentionally did not take his medicine
14	there is no way to now if he really was insane at the time
15	how credible is this doctor brought forth by the defense
16	don't use his past abuse of illness to hate him
17	what is my understanding of schizophrenia
18	i wonder what the verdict was
19	was the key witness non-partisan?
20	doctor could be biased
21	cant he be found somewhat guilty by not taking his meds
22	what does duncan look like
23	he isnt making up insanity with all of his hopsitalizations
24	im going to vote not guilty because thats what they want
25	should people with mental illness not go to prison
26	Something isnt adding up
27	defendant had previous altercations
28	doctor seemed intelligent and trustworthy
29	the criteria for judging guilty is wrong
30	are he and his doctor friends?
31	if he had been treated did doctors not see duncan as a threat?
32	i am scared of schizophrenics now
33	while reading the trial information i tried to picture mr. duncan in the incident
34	as i was deliberating i was reminded alot of the show CSI
35	doctor seemed somewhat nervous on stand
36	it would suck being in the hospital that long
37	what are his hallucinations like
38	can the illness cause someone to act this way
39	did the illness cause the actions
40	should the personbe responsible for what his illness caused
41	would it have been reasonable to expect the defendant to take care of himself
42	should the defendant be held morally responsible for his actions
43	the witness was pretty friendly and likeable
44	what would i think if i knew the guy
45	being sick isnt an excuse to continually hurt people
46	what does duncan look like

47	I'm not sure how I feel about mental illness
48	he claims he doesn't know that his actions were wrong but how can the be proved
49	it should be illegal for an insane person to be n the street if they do not take their medicine
50	will he receive further help after the trial
51	maybe cuz its the North but why didnt anyone ask him if he was ok? he may have bitten them but still
52	i probably would not take that medicine
53	this guy needs to locked up in a mental institution
54	they should have guilty but insane
55	wish we could've seen it all like the whole trial
56	cant decide if its fake or an actual old case
57	shouldn't be alone ever
58	hospitals responsibility to keep on their "watch"
59	he should be in a straight jacket
60	does he feel guilt
61	this man seems layed back or nonchalant about his answers
62	what does it mean when your eyes cut right when your talking
63	okay this is all good and well but how can i think of this without being bias
64	i like his tie
65	who cares if he is crazy
66	should be guilty no matter what
67	the health system should be punished for releasing mr duncan
68	very biased towards the defense
69	illogical and irrational to assume just cuz the defendant had sckyz... he was automatically out of control
70	too comfortable testifying in such a case
71	i wondered how often defendants plea insanity and how many of them are truly insane
72	the clinician just stated facts
73	where was this case being held and who else was in the court room
74	how long is this video
75	but i feel that some fault should be put upon someone in cases like these
76	lots of prequestions before real questions
77	did he not know he needed help during the actions?
78	the guy sounds like a mentally insane killer
79	duncan defintely had a mental illness but was aware of it
80	he may have an illness but his crime should not go unpunished
81	his punishment should be medical help
82	i think all people no matter their state of illness have some control over their actions
83	i wondered what duncan looked like
84	i wondered how he acted in court
85	anyone diagnosed with scizophrenia should be put away
86	there was farr too much discussion on what schizophrenia was
87	everytime the expert looked up it made me wonder why he was avoiding eye contact
88	how is insanity proved?
89	how do they test for this disease?
90	not enough information
91	he often sought help for his illness
92	how did he slip in and out of the hospital
93	if his condition is so bad why is he alone