

Death Penalty Decisions: Instruction Comprehension, Attitudes, and Decision Mediators

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This research tested jury comprehension of death penalty instructions and the use of evidence in capital punishment decision making. Two studies are presented. The first study ($N = 245$ undergraduates) was based on paper-and-pencil methods, and the second study ($N = 735$ jury-eligible participants) involved videotaped stimuli and deliberating mock jurors. Manipulations included instructions and several different variations in the evidence. Findings support previous research showing low comprehension of capital penalty instructions. Higher instruction comprehension was associated with higher likelihood of issuing life sentence decisions. The importance of instruction comprehension is emphasized in a social cognitive model of jury decision making at the sentencing phase of capital cases.

KEYWORDS *death penalty, jury instructions, comprehension, capital punishment, decision making*

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Death penalty trials have changed significantly since the Supreme Court ruling in *Furman v. Georgia* (1972) when capital punishment, as it was applied at that time, was held to be unconstitutional. Following *Furman*, numerous state legislatures sought to develop new statutes for capital cases. Based on precedent set in *Gregg v. Georgia* (1976), all states that enforce the death penalty now have bifurcated capital trials where a separate sentencing hearing is held after a defendant is found guilty of a capital crime. Case law requires that capital juries be permitted to hear all relevant mitigating evidence and that they consider each mitigating factor during sentencing deliberations (*Lockett v. Ohio*, 1978). However, one of the Supreme Court's death penalty decisions (*Buchanan v. Angelone*, 1998) made it abundantly clear that there are no constitutional requirements that jurors be given instructions about specific mitigating factors or general instructions defining the concept of mitigation.

Given the potential cost to the defendant of errors in death penalty cases (life), it is of critical importance that jurors fully comprehend instructions on how to find and use aggravating and mitigating factors during sentencing deliberations. However, a growing body of evidence suggests that jurors are not fully comprehending capital penalty instructions. One qualitative survey of jurors who had served in capital trials found that fewer than half of the jurors had an adequate understanding of the legal definitions of "aggravating" and "mitigating" (Sontag, 1990, cited in Tiersma, 1995). Many states require that aggravating factors must be unanimously determined to exist beyond a reasonable doubt, while mitigating factors may be found to exist by fewer than all of the jurors and must be found to exist only by a preponderance of the evidence. Experimental research suggests that there is widespread misunderstanding about judicial instructions on the relaxed standard of proof and unanimity requirements for finding mitigating circumstances that are important in the capital sentencing schemes of many states (Luginbuhl, 1992; Haney & Lynch, 1997; Smith & Haney, 2011). Since most other aspects of the criminal trial (in most capital cases, all other aspects) must be unanimously agreed upon by the jury to exist beyond a reasonable doubt, it is not surprising that there is some confusion about these issues (Luginbuhl, 1992).

One goal of the present study was to explore the impact of capital sentencing instructions—and comprehension of these instructions—on the process and outcomes of capital sentencing decisions. One of the problems confronting juries is that there are generally few rules defining how mitigating and aggravating factors are to be considered. For example, a jury may be instructed to weigh a defendant's age but may not be told whether "age" is an aggravating or mitigating factor (or that it might be either one). Haney and Lynch (1997) have found high levels of misunderstanding about the weighing process jurors are supposed to undertake at the capital penalty phase. The likelihood that jurors are misinterpreting capital penalty phase instructions is highlighted by these findings—though, thus far, the majority of Supreme

Court judges are not persuaded that such misunderstandings are a significant problem (*Buchanan v. Angelone*, 1998). This is disturbing, considering the findings from a study conducted by Wiener and colleagues (1998), which suggest that juror misunderstanding of rules regarding the use of mitigating circumstances is related to higher certainty of imposing the death penalty.

There is some empirical evidence that social scientists can successfully restructure capital sentencing instructions to make them more comprehensible. For example, Diamond and Levi (1996) rewrote capital sentencing instructions from Illinois and tested them on a sample of jury-eligible participants. Compared to participants who received the actual Illinois instructions, those who heard the revised instructions demonstrated much better performance on comprehension measures. Wiener, Pritchard, and Weston (1995) found that their revised instructions yielded higher comprehensibility than Missouri capital penalty phase instructions. In another study, Wiener and colleagues (2004) found that deliberation did not improve instruction comprehension (see also Lynch & Haney, 2009).

The depth of the Supreme Court's conviction that jurors can successfully understand and evaluate aggravating and mitigating factors was underscored in its decision in *Buchanan v. Angelone* (1998). In *Buchanan*, a Virginia trial judge declined to give an instruction specifically advising the jury they could consider the defendant's lack of a prior criminal record, his mental disturbance, his impaired capacity to conform his behavior to the law, and his age as mitigating factors. The six-member majority held there were no Eighth Amendment requirements that jurors be given instructions about specific mitigating factors or general instructions about the concept of mitigating factors. Justice Breyer (joined in his dissent by Justices Stevens and Ginsburg) undertook a detailed analysis of the instructions that were given to the jury. The dissenters were persuaded there was a reasonable likelihood that the jurors did not understand the appropriate roles that aggravating and mitigating factors were to have in their penalty decision. Breyer also rejected the majority view that the jury might be correctly informed by the arguments advanced by defense counsel.

Breyer noted problems in phrases in the third paragraph of the instructions which explained the role of mitigating circumstances:

Paragraph 3—the key paragraph—repeats that, if the jury finds that the Commonwealth has proved death eligibility, the jury “may fix the punishment . . . at death.” It immediately adds in the same sentence “or if you believe from all the evidence that the death penalty is not justified, then you shall fix the punishment . . . at life imprisonment.” It is the stringing together of these two phrases, along with the use of the connective “or,” that leads to a potential understanding of the paragraph as saying, “If you find the defendant eligible for death, you may impose the death penalty, but if you find (on the basis of ‘all the evidence’) that the death penalty is not ‘justified,’ which is to say that the defendant is not eligible for the

death penalty, then you must impose life imprisonment.” (*Buchanan v. Angelone*, 1998, p. 9)

Breyer’s concern with the structure of the third paragraph of the instructions was that it could cause the jury to misconstrue the circumstances when the death penalty is justified as being determined only by the aggravating factors, when in fact both mitigating and aggravating factors should be considered.

The majority believes that paragraph 3 contains language telling the jury it may consider defendant’s mitigating evidence, specifically the phrase: “or if you believe from all the evidence that the death penalty is not justified, then you shall fix the punishment of the Defendant at life imprisonment.” . . . I believe that these words, read in the context of the entire instruction, do the opposite. In context, they are part of an instruction which seems to say that, if the jury finds the State has proved aggravating circumstances that make the defendant eligible for the death penalty, the jury may “fix the punishment . . . at death,” but if the jury finds that the State has not proved aggravating circumstances that make the defendant eligible for the death penalty, then the jury must “fix the punishment . . . at life imprisonment.” To say this without more—and there was no more—is to tell the jury that evidence of mitigating circumstances . . . is not relevant to their sentencing decision. (*Buchanan v. Angelone*, 1998, p. 9)

Specifically, Justice Breyer’s analysis of the Virginia instructions prompted him to suggest an alternative formulation of the instructions in which a definition of mitigation would be provided (this is now the practice in Virginia) and which would clarify the critical third paragraph of the instruction.

OVERVIEW

The conflicting views of the *Buchanan* majority and dissent clearly raise empirical questions. Would instructions revised according to Justice Breyer’s recommendations prove to be more comprehensible than the original instructions used in the *Buchanan* case? Would better understanding of these instructions lead to different sentencing outcomes? This research was designed, in part, to test these empirical questions. The stimulus materials were based on the *Buchanan* case.

In addition, the present research was designed to replicate research on juror comprehension of capital penalty instructions and shed light on the process of capital penalty decision making. The growing body of research demonstrating the incomprehensibility of capital sentencing instructions has not fully explored the role of instructions in the decision process. Further,

very little research has examined the relative importance of variations in penalty phase evidence on capital sentencing decisions. Research on sentencing in non-capital cases strongly suggests that prior criminal record—an evidentiary factor manipulated in the present research—is an important sentencing criterion (e.g., Albonetti, 1991; Clary & Shaffer 1985; Dane & Wrightsman, 1982; Jendrek & Kaplan, 1987; Rumsey, 1976). Defendant history of emotional abuse and defendant age—also manipulations in the present research—appear to be frequently introduced as mitigators at the capital penalty phase (Brank, Studebaker, Penrod, Claussen-Schulz, & Garven, 1999).

STUDY 1: METHOD

Procedure

Participants were 245 undergraduates enrolled in introductory and upper-level psychology courses who were jury-eligible U.S. citizens over the age of 18 (we were unable to screen for prior felony convictions). Participants were given a brief oral description of their mock juror responsibilities and instructed that a careful reading of the case scenario would potentially be beneficial to them because there would be three \$25 prizes for high memory performance. This incentive was used to maximize attention to stimuli. Participants were then screened for death qualification by answering the following question: “Is your attitude toward the death penalty so strong that it would seriously affect you as a juror and interfere with your ability to perform your duties?” Jurors who answered yes to this question ($n = 21$) were excluded from the analyses presented here. Their stimulus materials were replicated and randomly assigned to subsequent participants. This method of screening for death qualification was based on the current standard for death qualification in *Wainwright v. Witt* (1985) and was adapted from research by Dillehay and Sandys (1996). Although it is likely that more individuals would be excluded from capital juries following an actual voir dire, those eliminated solely because they are not death-qualified would be subject to the same standard used in the present study.

After reading brief instructions about the capital trial process, participants read a summary of case facts and penalty phase arguments by defense and prosecution attorneys (ranging from 2,143 to 3,663 words in length). The guilt phase case fact summary, 737 words in length, included a description of how Doug Buchanan had brutally murdered his father, stepmother, and two stepbrothers. It described how Doug had planned the murder with his wife. He had changed his mind the day prior to the murders but followed through the next day. He brought a shotgun and rubber gloves with him and walked through the woods to his father’s house while his wife waited in the car. Doug found his father outside when he arrived at the

house. He explained the gun by saying that he had been hunting squirrels. Following an argument with his father in which his father provoked Doug by telling him he had bought a car for Doug's 13-year-old step-brother, Doug murdered his father with the shotgun. He then waited 15 minutes until his two step-brothers returned from school and murdered them both, repeatedly stabbing the older brother in the head with a kitchen knife. After waiting until his stepmother returned home, he murdered her with the kitchen knife, inflicting multiple stab wounds to her chest and slashing her throat and neck.

Participants then read instructions that they were to behave as though they were part of a jury that had already convicted Doug Buchanan of first-degree murder based on those facts. Next, they read a summary of penalty phase evidence and closing arguments by the prosecuting and defense attorneys. Penalty phase evidence included (in abuse-present conditions, described below) testimony from experts for both sides who agreed that Doug had been emotionally abused by his father and stepmother and was suffering from a variety of psychological problems. The defense expert testified that Doug had been under "extreme emotional stress" at the time of the crime, and that at times "he lost meaningful contact with reality." The prosecution expert agreed that the defendant's family situation was a "pathological relationship," but disagreed with the conclusion reached by the defense expert that Doug had acted "under extreme mental or emotional disturbance."

Closing arguments by the defense emphasized (in abuse-present conditions) that the defendant had been severely mentally and emotionally abused and that he had acted "under the influence of extreme mental or emotional disturbance," and (in young age conditions) that he was young and could be rehabilitated. In conditions when prior criminal record was not present (described below), the defense attorney argument also stated that Doug Buchanan had no prior criminal record.

Prosecution closing arguments emphasized the heinousness of the crime and argued that there was no evidence that "his capacity to appreciate the criminality of his conduct or to conform his conduct to the requirements of the law was significantly impaired." The prosecutor acknowledged that there were mitigating factors but that they should not outweigh the heinous nature of the crime. He stated that, though the jury was entitled to their own consideration of the evidence, "I suggest you must bring back a sentence of death in this case because it is the only—it is the only reasonable sentence that can be given for acts such as this."

After reading the case facts and closing arguments, participants read a set of penalty decision instructions patterned from those used in the *Buchanan* case. Next, they completed an instrument-assessing sentence decisions (death or life imprisonment), memory for case facts, instruction comprehension, and evaluations of case, defendant, and victim characteristics.

Experimental Design

The experimental design was an incomplete $4 \times 2 \times 2 \times 2 \times 2$ factorial model (with eight logically impossible cells removed) resulting in 56 possible conditions. The manipulated variables included the type of *Instructions* (4), presence or absence of a *List* of four case-specific mitigating factors to accompany the instructions (2), the *Age* of the defendant (2), defendant's *Bad Prior Record* (criminal; 2), and history of *Emotional Abuse* (2). Given the net sample of 224, the design afforded power above .70 for detection of "medium"-sized main effects and two-way interactions (Cohen, 1977).

For the instruction conditions, there was a *No Instructions* condition plus three basic types of instructions. These instructions were either accompanied or not accompanied by a *List* of four case-specific mitigating factors specified in the Virginia statutes. In the *No Instructions* (1) condition, the *List* of mitigators was held constant as list-absent. The three other types of instructions were (2) a slightly modified version of the Virginia statutory instructions actually used in Buchanan's hearing, (3) an adaptation of Virginia's instructions based on specific recommendations made by Justice Breyer in his dissenting opinion, and (4) a set of instructions *Revised* by the researchers, which was hypothesized to more clearly describe the sentencing decision as defined in the Virginia statute.

The instruction condition that was revised according to Justice Breyer's recommendations (3) was similar to the original Virginia instructions except for changes in the third paragraph of the instruction:

However, if you believe, from any evidence presented of circumstances which do not justify or excuse the offense but which in fairness or mercy may extenuate or reduce the degree of moral culpability and punishment, that the death penalty is not justified, then you shall fix the punishment of the Defendant at life imprisonment.

The changes in paragraph three of the instructions comport with both of Justice Breyer's substantive suggestions: (a) It includes a definition of mitigation (taken from the current Virginia statutory capital sentencing instructions), and (b) it changes the structure of the mitigation instruction so that the role of mitigating circumstances would be (hypothetically) clearer to the lay reader.

The *Revised* set of instructions (4) explicitly spelled out the decisions the jurors were to make and included a decision tree at the end of the instructions to guide participants through the process. Wording that arguably suggested that death was the default sentence was changed to reflect conditions that require a life sentence. The revised instructions included additional information regarding the Virginia statutory capital sentencing procedures (i.e., that finding an aggravating factor requires juries to unanimously

agree that the aggravating factor has been proven beyond a reasonable doubt and that mitigating factors do not require unanimous agreement or proof beyond a reasonable doubt to merit consideration by the jury). These rules regarding the relaxed standard of proof and non-unanimity for mitigating factors were not mentioned in the original Virginia instructions (or the Breyer revision) but are mandated under current constitutional interpretation (see, e.g., *Lockett v. Ohio*, 1978; *Mills v. Maryland*, 1988). The revised instructions were intended as a minimal departure from the Virginia instructions. Wherever possible, language from the Virginia pattern instructions was retained.

The *List* of statutory mitigating factors was taken directly from the list that Buchanan's defense team attempted to have added to the instructions:

Facts in mitigation may include, but shall not be limited to, the following: (1) the defendant has no significant history of prior criminal activity (2) the capital felony was committed while the defendant was under the influence of extreme mental or emotional disturbance (3) at the time of the commission of the capital felony, the capacity of the defendant to appreciate the criminality of his conduct or to conform his conduct to the requirements of law was significantly impaired (4) the age of the defendant at the time of the commission of the offense.

Levels of the three manipulated case variables were as follows. The defendant's *Age* was either 17 or 27. He was presented either as having no *Bad Prior Record* or as having been previously convicted of assault and battery. The 49-word manipulation of *Bad Prior Record* was embedded in a three-sentence paragraph:

Just after his seventeenth birthday, Doug Buchanan was tried and convicted for assault and battery of another seventeen-year-old. Because he was tried as an adult, he served four months in jail and was released on parole for three months. With the exception of the time he served in jail, Doug has been working in a continuous series of low-skill labor and retail jobs since he dropped out of high school.

The fact pattern also varied in its description of *Emotional Abuse* by the defendant's parents, either including or excluding relevant information from the Buchanan case. This manipulation was approximately 1,700 words. Testimony from witnesses described how Doug had been tormented and mistreated by his father and stepmother. The description included information about how Doug's father had courted his mother's 19-year-old cousin during the weeks prior to his mother's death, eventually marrying the cousin. Following the marriage, Doug's father and stepmother treated Doug as inferior to his two stepbrothers. Doug would be confined to his yard and not allowed to participate in after-school activities, while his two stepbrothers

were allowed freedom and encouraged to engage in extracurricular pastimes. Further, the memory of Doug's mother, to whom he was very close, was degraded. All of her belongings, all pictures of her, and any other traces of her existence were thrown away, and she was often referred to as a whore by Doug's father and stepmother. Doug was also cut off from his natural mother's family, to whom he was also very close. He was not even allowed to attend his maternal grandmother's funeral.

Measures

After making a sentence decision of death or life imprisonment, participants answered a series of eight multiple choice questions assessing memory for case facts. Participants also answered four multiple choice questions that measured *Instruction Comprehension* (Table 1). A series of decision criteria measures included a seven-point rating of belief in the deterrent effect of the death penalty and 45 seven-point ratings of case, defendant, and victim characteristics derived from the case scenario (Table 2).

Measures of case, victim, and defendant characteristics were included in order to capture information about the capital penalty decision-making process. Conceptualizing these variables as decision mediators—aspects of the decision process that operate between initial information and final decisions—helps to describe and clarify the relationships between independent variables and decision outcomes. By employing measures of inferences related to final decision outcomes, a variety of relationships can be explored. Relationships among independent variables, decision mediator variables, and decision outcome variables reveal information about the decision process.

TABLE 1 Study 1: Comprehension of Capital Penalty Instructions

Question No.	Mandatory Death	Mandatory Life	DP a Possibility
1	100 (44.6%)	19 (8.5%)	*105 (46.9%)
2	5 (2.2%)	*145 (64.7%)	74 (33.0%)
3	2 (.9%)	*152 (67.9%)	70 (31.3%)
4	9 (4.0%)	*195 (87.1%)	20 (8.9%)

Note. *Instruction Comprehension* scores were calculated based on the number of accurate responses to these comprehension questions. DP = death penalty.

*Correct response.

TABLE 2 Study 1: Principal Components Analysis Unit-Weighted Factors (Standardized Item Alpha Coefficient, Range, Mean, Standard Deviation) and Descriptions of Questions in Each Component (Factor Loading)

Factor Label	Alpha, Range, M (SD)	Individual Items (Factor Loadings)
Bad Victim Character	$\alpha = .88$ Range = -11 to 19 M = 6.23 (7.69)	-Stepmother's character—good (.83)
		-Father's character—good (.83)
		-Stepmother instigated murder (.76)
		-Def. abused as child (.71)
		-Father instigated murder (.70)
Defendant Impaired	$\alpha = .72$ Range = -9 to 32 M = 3.65 (8.14)	-Low capacity to conform to the law (.82)
		-Capacity to see criminality impaired (.77)
		-Unable foresee consequences (.61)
		-Committed in calculated manner (-.52)
		-Defendant under duress (.45)
Good Defendant Character	$\alpha = .73$ Range = 3 to 21 M = 9.81 (3.44)	-Premeditated manner (-.39)
		-Favorable work history (.84)
		-Hardworking (.80)
Defendant Not Dangerous	$\alpha = .70$ Range = -11 to 18 M = 3.28 (5.97)	-Did good things for others (.74)
		-Rehabilitable (.74)
		-Would be a good inmate (.64)
Heinousness	$\alpha = .76$ Range = 6 to 21 M = 19.26 (2.50)	-Threat to society (-.56)
		-Future dangerousness (-.47)
		-Acted in mistaken good faith (.45)
		-Outrageously wanton/vile (.83)
		-Crime horrible or inhuman (.82)
Aggravated Crime	$\alpha = .60$ Range = 5 to 21 M = 26.41 (6.06)	-Heinousness of crime (.51)
		-Involved aggravated battery (.69)
		-Torture to the victims (.61)
		-Crime involved depravity of mind (.52)
		-Victim mutilation while alive (.51)
		-Def. coerced by another (.40)
Not Justified	$\alpha = .68$ Range = 2 to 14 M = 10.49 (3.10)	-Cold manner (.38)
		-Committed without moral justif. (.82)
		-Committed without legal justif. (.74)
Good Sibling Character	$\alpha = .99$ Range = 2 to 14 M = 11.06 (2.63)	-10-year-old stepbrother—good (.95)
		-13-year-old stepbrother—good (.94)
Siblings Instigated	$\alpha = .47$ Range = -5 to 9 M = -2.49 (3.04)	-13-year-old instigated events (.88)
		-10-year-old instigated events (.83)
		-Def. sole cause of father's death (-.44)
Parents Deserved to Die	$\alpha = .96$ Range = 2 to 14 M = 3.21 (2.61)	-Father deserved to die (.84)
		-Stepmother deserved to die (.81)
Siblings Deserved to Die	$\alpha = .87$ Range = 2 to 8 M = 2.10 (0.56)	-13-year-old deserved to die (.92)
		-10-year-old deserved to die (.88)
Parents Instigated	$\alpha = .88$ Range = 2 to 14 M = 5.09 (3.52)	-Father participated or consented (.88)
		-Stepmother participated or consented (.86)
Bad Defendant Character	$\alpha = .33$ Range = -6 to 6 M = 0.88 (3.42)	-Prior criminal history (.82)
		-Character of defendant—good (-.58)
Mutilation	$\alpha = n/a$ Range = 1 to 7 M = 3.64 (2.40)	-Mutilate victim after death (.72)

HYPOTHESES

- (1) We hypothesized that both our *Revised* instructions and Justice Breyer's suggested revisions would be more comprehensible than the original Virginia statutory instructions given to the jury in *Buchanan*.
- (2) We anticipated main effects for our three manipulated mitigating factors (*Age* of the defendant, *Bad Prior Record*, and history of *Emotional Abuse*) on sentencing decisions.
- (3) Presence of a *List* of case-specific mitigating factors was expected to interact with each of the manipulated mitigators to result in fewer death sentences when both the list and the mitigating factor were present.
- (4) Instruction comprehension was expected to interact with the manipulated mitigating factors such that high comprehension in the presence of mitigating factors would result in fewer death sentences than high comprehension without mitigators.

STUDY 1: RESULTS

Results are presented primarily in terms of a saturated, recursive path model in which manipulated variables (and belief in the deterrent value of the death penalty) constitute one block of variables (Level 1), *Instruction Comprehension* and *Recall of Case Facts* make up a second block of variables (Level 2), mediating inferences make up a third block (Level 3), and sentence judgments comprise the final dependent variable (Table 3 and Figure 1).

For sentencing decisions, 41% of participants ($n = 92$) voted for a life sentence while the remaining 59% voted for death ($n = 132$). *Instruction Comprehension* was assessed using four multiple-choice questions on sentencing instructions based on the law in Virginia (see Table 1). Although overall comprehension was significantly better than chance (66.7% versus 33.3%), errors were nonetheless frequent. Compared to participants using the original Virginia capital sentencing instructions given the jury in Buchanan's trial, there was significantly higher comprehension accuracy rate for those who received instructions *Revised* by the researchers (see Figure 1). Instructions revised in accordance with Justice Breyer's dissent did not yield higher comprehension scores than the original Virginia instructions. Participants receiving *No Instructions* performed no worse on the comprehension measures than those who received the original Virginia instructions used at Buchanan's trial.

Variables Included in Analyses

Level 1 Path Analysis Variables. The eight Level 1 variables included the four two-level independent variables (*Emotional Abuse*, defendant

TABLE 3 Study 1: Effects of Level 1, Level 2, and Level 3 Variables on Defendant Deservedness of Death Penalty

Variables	Total	Direct	Indirect
<i>Level 1</i>			
Age	-.04	-.02	-.02
Bad Prior Record	-.02	-.09	.07
Emotional Abuse	-.32**	-.04	-.29**
List	-.12	-.03	-.09
Belief in DP as a Deterrent	.19**	.10	.09
VA - Breyer Instruction	.00	-.03	.03
VA - Revised Instruction	.08	-.03	-.05
VA - No Instructions	.03	.02	.01
<i>Level 2</i>			
Recall of Facts	.05	.02	.02
Instruction Comprehension	-.21*	-.11*	-.10*
<i>Level 3</i>			
Bad Victim Character	—	-.04	—
Defendant Impaired	—	-.27*	—
Good Defendant Character	—	.14**	—
Defendant Not Dangerous	—	-.48**	—
Heinousness	—	.15**	—
Aggravated Crime	—	-.04	—
Not Justified	—	.01	—
Good Sibling Character	—	.02	—
Siblings Instigated	—	-.05	—
Parents Deserved to Die	—	.04	—
Siblings Deserved to Die	—	.01	—
Parents Instigated	—	-.05	—
Bad Defendant Character	—	.07	—
Mutilation	—	.07	—

* $p < .05$. ** $p < .001$.

Age, Bad Prior Record, and presence of a List of case-specific mitigators in the sentencing instructions) and three dummy variables representing comparisons among the instruction conditions using the original Virginia instruction as the baseline condition (*Breyer*, *Revised*, and *No Instructions*). Seven-point ratings of *Belief in DP as a Deterrent* were also included as a Level 1 variable in the path analysis.

Level 2 Path Analysis Variables. The two Level 2 variables were participant *Recall of Facts* (number of correct responses to eight multiple choice questions) and *Instruction Comprehension* (number of correct responses to the four comprehension questions; see Table 1).

Level 3 Path Analysis Variables. The Level 3 variables were 14 mediators generated from a principal components factor analysis of 45 seven-point ratings of crime, defendant, and victim characteristics (see Table 2). Missing values, which constituted 2.9% of responses, were replaced with the mean value of participant scores on that measure. A principal components analysis with varimax rotation identified 14 orthogonal components.

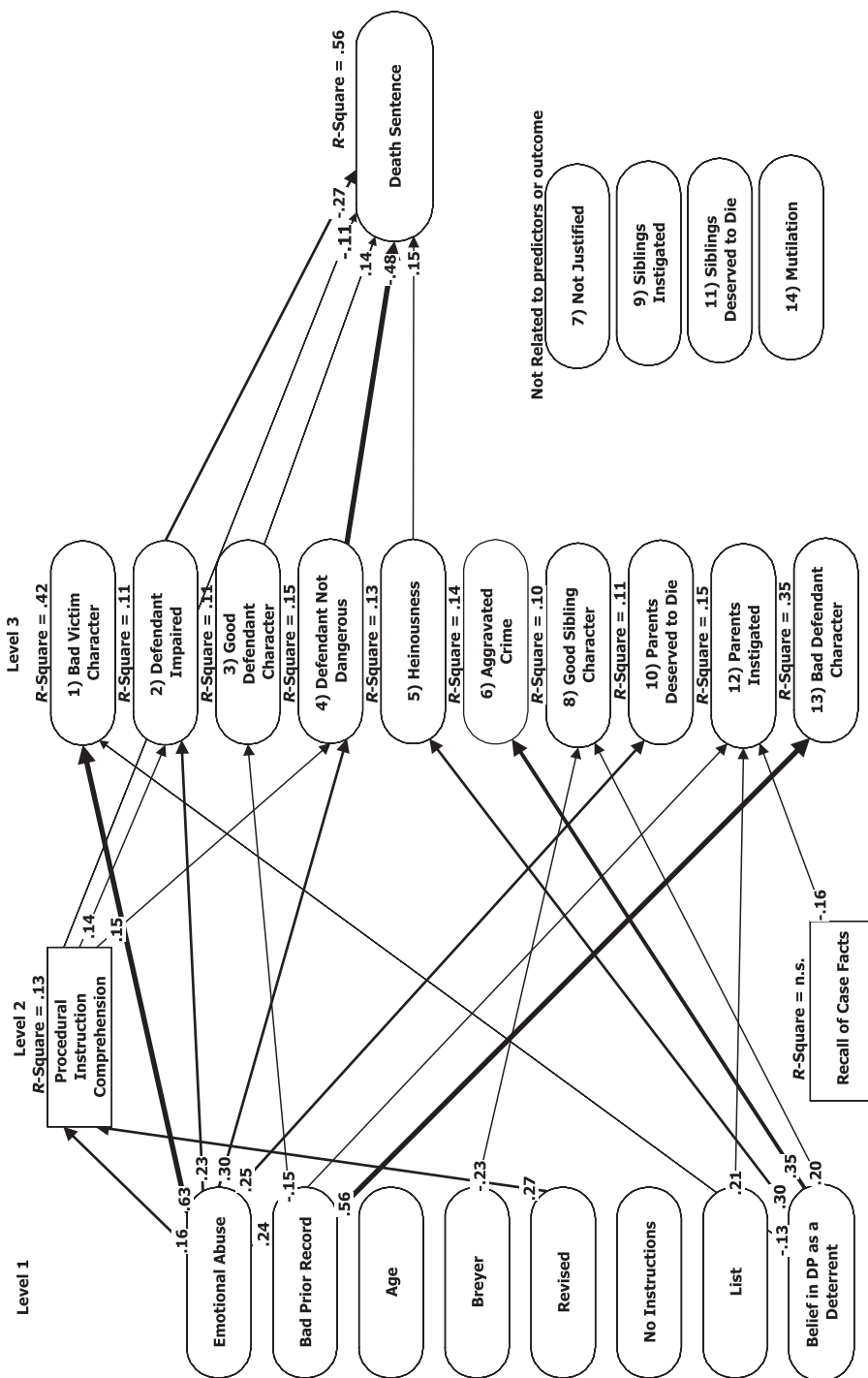


FIGURE 1 Direct effects in the Study 1 path model of jury decision making at the capital penalty phase.

Four of the mediators related to defendant characteristics: *Defendant Impaired*, *Good Defendant Character*, *Defendant Not Dangerous*, and *Bad Defendant Character*. Six mediators were related to victim characteristics: *Bad Victim Character*, *Good Sibling Character*, *Siblings Instigated*, *Parents Deserved to Die*, *Parents Instigated*, and *Siblings Deserved to Die*. Four mediators were related to case characteristics: *Heinousness*, *Aggravated Crime*, *Not Justified*, and *Mutilation*. See Table 2 for individual item principal component loadings on respective mediators, and for alpha reliability coefficients, ranges of scores, means, and standard deviations for the unit-weighted mediators.

Results from the Path Analysis

The path analysis was created using LISREL 8.3 based on the correlation matrix. Maximum likelihood estimation was used to determine path coefficients. The model was based on recursive saturated specifications. In other words, paths were computed for all Level 1 variables to each Level 2 variable, from all Level 1 and 2 variables to each Level 3 variable, and from all Level 1, 2, and 3 variables to dichotomous penalty decisions. All significant direct paths are presented in Figure 1, and Table 3 presents total, direct, and indirect effects of all variables on sentencing decisions. The model accounts for a substantial proportion of the variance in *Sentence* decisions, $R^2(24, 223) = .56, p < .001$. Interaction effects were tested in separate analyses that did not yield significant two-, three-, or four-way interactions among Level 1 and Level 2 variables on *Sentence* beyond what would be expected by chance (and a high likelihood of Type II error for higher-order interaction effects). Interactions were therefore excluded from all further analyses. For the purposes of this study, mediated relationships were considered to exist where there were total and indirect effects of an independent variable (A) on a primary dependent variable (C), and when the first variable (A) was also related to a second variable (B) which was, in turn, related to the primary dependent variable (C; see Baron & Kenny, 1986).

Emotional Abuse had a total effect on *Sentence* decisions controlling for other Level 1 variables ($z = -5.58, p < .001$). Bivariate life verdict preferences were 57.1% for participants in the abuse-present conditions versus 25.0% for participants in the abuse-absent conditions. *Belief in DP as a Deterrent* had an aggravating effect on *Sentence* decisions controlling for other Level 1 variables ($z = 3.22, p = .001$). The simple correlation between *Belief in DP as a Deterrent* and *Sentence* was $r = .20, p = .003$. None of the other Level 1 variables had significant total effects on *Sentence* decisions controlling for the other Level 1 variables.

Recall of Case Facts was unrelated to *Sentence* decisions, ($z = .83, p = \text{n.s.}$). Controlling for all other Level 1 and Level 2 variables, *Instruction Comprehension* had a total mitigating effect on *Sentence* decisions ($z = -3.44, p < .001$).

Controlling for all other Level 1, 2, and 3 variables, the following Level 3 variables were significantly related to *Death Sentence* decision outcomes: *Defendant Not Dangerous*, ($z = -10.61, p < .001$); *Defendant Impaired*, ($z = -6.09, p < .001$); *Heinousness*, ($z = 3.36, p < .001$); and *Good Defendant Character*, ($z = 3.23, p = .001$). No other Level 3 variables were related to *Death Sentence* outcomes.

Total effects of Level 1 and 2 variables on *Sentence* decisions were partially mediated by Level 3 variables. Most notably, inferences about *Defendant Not Dangerous*, *Defendant Impaired*, and the *Heinousness* of the crime were mediators in the decision model (see Table 3 and Figure 1). The variables *Defendant Impaired* and *Defendant Not Dangerous* mediated the main effects of *Emotional Abuse* and *Instruction Comprehension*. The main effect of *Emotional Abuse* was entirely mediated by Level 3 variables: In other words, the effect of *Emotional Abuse* on *Sentence* decisions was entirely indirect. *Emotional Abuse* was linked to inferences about *Defendant Not Dangerous* and *Defendant Impaired*, which were in turn related to fewer death sentences. The main effect of *Instruction Comprehension* on *Sentence* decisions was partially mediated by inferences about *Defendant Impaired* and *Defendant Not Dangerous*, although there was still a direct mitigating effect of *Instruction Comprehension* on *Sentence* after taking the Level 3 variables into account. Although the significant total effect of *Belief in DP as a Deterrent* was divided such that neither its direct nor indirect effects were statistically significant; inferences about the *Heinousness* of the crime appear to partially mediate its effect (see Table 3 and Figure 1).

STUDY 1: DISCUSSION

Instruction comprehension data support previous findings that suggest there are major problems with the comprehensibility of capital penalty instructions (e.g., Diamond & Levi, 1996; Geimer & Amsterdam, 1988; Haney, 1995; Haney & Lynch, 1994, 1997; Haney, Sontang, & Costanzo, 1994; Luginbuhl & Howe, 1995; Tiersma, 1995; Wiener et al., 1995, 2004). Specifically, it is troubling to note how often participants make pro-prosecution errors in instruction comprehension, such as the finding that almost half of our sample (44.6%) incorrectly thought that a death sentence was mandatory when the jury unanimously finds aggravating circumstances. Mandatory death sentences are unconstitutional by current standards, but this fact appears to be poorly communicated to capital juries by standard instructions. Another example of pro-prosecution errors is the finding that 33% of participants incorrectly thought that the death penalty was a possibility when asked, "What penalty is appropriate when some members of the jury believe that mitigating circumstances merit a life sentence?"

The first hypothesis was partially supported. Compared to the original Virginia instructions in the *Buchanan* case, the *Revised* instructions yielded better performance on the comprehension measures. However, instructions revised according to Justice Breyer's recommendations in his dissent to the majority in *Buchanan* were no more effective than the original instructions presented to the actual jury in *Buchanan*. Participants receiving the original *Buchanan* instructions performed no better on comprehension measures than those who received *No Instructions*. These findings strongly suggest that rewriting and restructuring death penalty instructions can increase comprehensibility, but simply adding a key phrase about the definition of mitigating factors and slightly modifying sentence structures—as suggested by Justice Breyer—does not appear to increase the comprehensibility of capital penalty instructions.

Although there were no significant total effects for individual instruction contrasts on sentencing decisions, there were total, direct, and indirect mitigating effects of *Instruction Comprehension* on *Death Sentence* decisions. These findings support research conducted by Wiener and his colleagues (Wiener et al., 1995, 1998), who have also found that increased comprehensibility of capital sentencing instructions is associated with life sentence verdicts. The direct and indirect links that we observe between *Instruction Comprehension* and sentencing decisions highlight the importance of improving the comprehensibility of penalty phase instructions.

The *Revised* instructions in the present study differed from the *Original VA* instructions in several respects. They were simpler, they contained more information about decision making procedures, and wording was changed to avoid inferences that the default sentence should be death. Unfortunately, it is not possible to tease out the precise source or sources of the increased *Instruction Comprehension* that we observed for participants in the *Revised* instruction condition as compared to participants who received the *Original VA* instructions.

The finding that *Emotional Abuse* was related to higher *Instruction Comprehension* suggests that comprehension of capital sentencing instructions is linked to case facts. This hypothesis is supported by research conducted by Wiener and his colleagues (1995) who observed different levels of instruction comprehension across two different fact patterns.

The second hypothesis, that the three case manipulations (*Emotional Abuse*, *Bad Prior Record*, and *Age* of the defendant) would have main effects on sentencing decisions, was partially supported. History of *Emotional Abuse* had a strong total mitigating effect on *Sentence* decisions; however, this is not surprising considering that the *Emotional Abuse* manipulation was much longer and more detailed than the other case manipulations. It is interesting that this effect was entirely indirect in that it was completely mediated by participant inferences about case, victim, and defendant characteristics. Most

notably, *Defendant Impaired* and *Defendant Not Dangerous* mediated the relationship between *Emotional Abuse* and *Sentence* decisions because they were both related to *Sentence* decisions and were also related to *Emotional Abuse*. There were no effects of defendant *Age* on *Sentence* decisions or any variables in Level 2 or 3 of the path model. *Bad Prior Record* did not have a total effect on *Sentence* decisions, but it had a negative relationship with inferences about *Good Defendant Character* and a strong positive relationship with inferences about *Bad Defendant Character*. The finding that the fairly weak manipulation of *Bad Prior Record* is related to other aspects of the decision model suggests that, under different circumstances, this type of evidence might play an important role in capital penalty decisions.

The third hypothesis was not supported. Presence of a *List* of case-specific mitigating factors did not interact (the critical test of instructions' sensitizing effects) with any of the manipulated mitigating factors to influence sentencing decisions. *Age* of the defendant and *Bad Prior Record* did not influence *Sentence* decisions, (and did not interact with instructions) despite the fact that participants were explicitly told that they could consider these factors in the *List*-present conditions. This suggests that providing jurors with a *List* of case-specific mitigators does not necessarily cue jurors in to mitigating factors present in the case at hand.

There is, however, some indirect evidence that providing jurors with a *List* of case-specific mitigators can serve as an aid in capital decision making. Presence of the *List* of case-specific mitigators was positively related to inferences that the *Parents Instigated* the killings. This is a logical relationship considering that two of the mitigators in the *List* were related to the defendant's mental state at the time of the offense—a factor that would logically relate to inferences that the *Parents Instigated* the crime given the current fact pattern. Although *Parents Instigated* was not related to *Sentence* decisions, the significant relationship between the *List* of mitigators and inferences drawn from the evidence suggests that, under different case circumstances, the presence of a *List* of case-specific mitigators might influence capital penalty decisions (i.e., under conditions in which listed mitigators impact mediating judgments that are linked to death penalty decisions).

The fourth hypothesis was not supported. There were no significant interactions between any of our manipulated case factors and *Instruction Comprehension* on *Sentence* decisions. It is noteworthy, however, that *Emotional Abuse* and *Instruction Comprehension* were both related to two of the same mediating variables that had mitigating effects on *Sentence* decisions: inferences about *Defendant Impaired* and the *Defendant Not Dangerous*. Higher *Instruction Comprehension* led to higher ratings on both of these two mitigating mediators, both of which were also related to presence of *Emotional Abuse*. The present data lend support to the hypothesis that clear, comprehensible instructions on the capital sentencing process can

impact interpretations of case evidence and ultimately (both directly and indirectly) influence death penalty sentencing decisions.

Belief in DP as a Deterrent had a significant total aggravating effect on *Sentence* decisions but did not have significant direct or indirect effects on *Sentence* (the total effect was divided between indirect and direct effects). To explore the importance of attitudes in capital sentencing decisions in Study 2, we employed a much more detailed measure of death penalty attitudes (see O'Neil, Patry, & Penrod, 2004).

The finding that *Sentence* decisions were strongly related to inferences about *Defendant Not Dangerous* is interesting from a policy perspective. All jurisdictions must allow mitigating evidence of defendant non-dangerousness at the penalty phase under *Lockett v. Ohio* (1978), and some jurisdictions do not allow future dangerousness of the defendant to be considered as an aggravating factor. Federal statutes, for example, do not allow sentencing parties to consider future dangerousness of the defendant as an aggravating factor. The strength of the relationship between dangerousness inferences and sentencing decisions observed in the current data raise the question of whether jurors can avoid consideration of dangerousness in their death penalty decisions. None of the instruction conditions in the present study explicitly mentioned the future dangerousness of the defendant as a legitimate factor for participants to consider, yet the mitigating effect of *Defendant Not Dangerous* on *Sentence* decisions was one of the strongest path estimates in the model.

STUDY 2: INTRODUCTION AND OVERVIEW

Study 2 was a replication and extension of Study 1 using methods higher in external validity. Study 2 was designed to test whether the revised Virginia instructions might improve comprehension under more realistic conditions with richer comprehension measures. In addition, the present research was designed to see whether comprehension would again be related to capital sentencing decision outcomes. Replication with methods higher in external validity is crucial, given that most published experimental research that has explicitly focused on comprehension of capital sentencing instructions has utilized paper-and-pencil type methodology (see Weiner et al., 2004 for a notable exception).

Study 2 further explores the importance of including with capital sentencing instructions to the jury a case-specific listing of possible mitigators. Study 1 did not yield differences in comprehension or sentencing decisions for this type of manipulation. Whether a list of case-specific mitigators can influence jury decisions at the capital penalty phase is an issue with clear legal implications (see *Buchanan v. Angelone*, 1998). A lack of relationships in this respect has as much legal significance as a strong relationship.

If nothing else, the lack of relationship demonstrated in Study 1 is a “finding” worthy of replication with more realistic methods.

Another goal was to reexamine the importance of evidence of defendant emotionally abusive history at the capital penalty phase. Defendant history of emotional abuse had strong mitigating effects in prior Study 1. In that study, however, the strong effects of defendant abuse were questionable given the relative salience of the manipulation in the context of the other stimuli. Study 2 utilized a similar type of abuse manipulation in terms of content but with a more realistic sample, a more realistic presentation modality, and a more realistic overall jury simulation method. Study 2 also replicated the prior record manipulation from Study 1. In that study, bad prior record was not a very influential factor in the analysis. In Study 2, the prior record manipulation was more extreme and arguably more realistic than in Study 1.

The second study also explored the impact of heinousness of the crime. Heinousness is anecdotally one of the most influential factors in capital cases. In a survey of attorneys who handle capital cases, Brank and colleagues (1999) found that heinousness of the crime was the most commonly reported aggravating factor, present in 59% of the cases reported by the participants. Experimental research has not yet explored the importance of crime heinousness in much detail (see Bornstein & Nemeth, 1999). There is some evidence that graphically presented evidence can influence mock juror decisions (Douglas, Lyons, & Ogloff, 1997); however, it is unclear to what extent these effects are due specifically to the visually graphic nature of crime scene photos. The present study did not employ visual depictions of crime scene evidence. Instead, the heinous nature of the crime (in high-heinous conditions) was communicated to mock jurors via verbal testimony.

STUDY 2: METHOD

Overview

The stimuli were based on *Buchanan v. Angelone* (1998), and most of the manipulations were based on the stimuli and findings from Study 1. Study 2 included a new case manipulation, heinousness of the crime. In addition, Study 2 was conducted using more realistic simulation methods, including video presentation of stimuli, a sample composed primarily of jury-eligible community participants, and group deliberation.

Experimental Design

The experimental design was a fully crossed $2 \times 2 \times 2 \times 2 \times 2$, resulting in 32 experimental cells. Three manipulated variables involved evidence of defendant emotionally abusive history (present or absent), bad prior record

(present or absent), and heinousness of the crime (high or low). Participants received either the Virginia penalty phase instructions from the trial or the revised version of the Virginia instructions, which were related to higher comprehension in Study 1. The instructions (original or revised) were either accompanied or not accompanied by a list of case-relevant mitigators.

Participants

Participants were recruited by fliers posted in approved public areas and newspaper advertisements. In addition, some student participants were solicited from introductory and upper-level psychology classes. Participants were scheduled for participation by calling a telephone number and speaking with a researcher. Several participants sought to contact the research team by e-mail and were scheduled for participation in that manner. Participants were screened for death qualification in a manner similar to that used in Study 1; non-qualified individuals ($n = 49$) were thanked for their interest and told that they could not participate. Non-students were paid \$35 for participating; students were paid \$20. Some students earned extra credit for psychology courses in addition to or instead of cash payment.

Mock juror participants consisted of 735 jury-eligible community members who were U.S. citizens over the age of 18, 130 of whom were students (we were not able to screen for prior felony convictions). See Table 4 for participant demographic data. Although the demographics reflect a slightly skewed sample in several respects, the sample is likely to be relatively representative of venire persons in the United States, particularly in the Midwest.

Stimulus Materials

Videotaped stimuli were based on a replication of the capital sentencing phase from *Buchanan v. Angelone* (1998). The sentencing phase portion of the trial transcript was used to create a script that summarized the sentencing phase of the trial. Although the stimuli were based on the same case as in Study 1, the stimuli for the present study were much more detailed. The tapes began with opening statements by each of the attorneys. Next, each side presented evidence on the appropriate sentence for the defendant. There were a total of seven witnesses, four for the prosecution and three for the defense. Prosecution witnesses consisted of an expert psychologist who testified generally about the defendant's mental stability, a police forensics analyst who reiterated some of the details regarding the crime, a friend of the defendant who testified about the defendant's home life, and the defendant's aunt who testified about the defendant's home life and upbringing. Defense witnesses consisted of an expert psychologist who testified about

TABLE 4 Study 2: Summary of Participant Demographics

Age	Sex		Education		Ethnicity
Under age 20	7.6% (<i>n</i> = 56)	Male	45.4% (<i>n</i> = 334)	Did not finish high school	Caucasian
20–29	25.4% (<i>n</i> = 187)	Female	53.9% (<i>n</i> = 396)	High school graduate	African American
30–39	16.5% (<i>n</i> = 121)			College graduate	Asian American
40–49	23% (<i>n</i> = 169)			Some graduate training	Latin American
50–59	13.3% (<i>n</i> = 98)				Other
60–69	8.3% (<i>n</i> = 61)				
Over 70	5.7% (<i>n</i> = 42)				

Note. Missing data explain percentages that do not add to 100%.

the defendant's mental status at the time of the crime and two character witnesses: the pastor from the defendant's church and one of the defendant's military supervisors. The attorneys in the videos were experienced criminal attorneys.

The videos were edited to create stimulus conditions that varied in terms of the defendant's history of *Emotional Abuse* (present or absent), his *Bad Prior Record* (present or absent), and the *Heinousness* of the crime (high or low). The *Emotional Abuse* manipulation detailed the defendant's upbringing. The primary witness whose testimony changed depending on the *Emotional Abuse* condition was the defense expert witness (a psychologist). Following closing arguments by the attorneys, the mock judge read either the *Original* or the *Revised* instructions. The instructions were followed by the *List* of case-specific mitigators in the appropriate conditions. The final video tapes ranged in length from 40 minutes to 1 hour and 5 minutes, depending on the specific condition.

Procedure

Upon arrival at the research facility, participants were divided into groups that had been randomly assigned to experimental conditions. Every attempt was made to split participants into groups where they did not know any of the other participants. Generally there were up to four groups per experimental session. Participant groups included a minimum of five mock juror participants. Generally there were five to six participants per group, although there were several groups with larger numbers of participants. Each of the 32 conditions were run four times, yielding a total of 127 mock juries (data from 1 condition included only 3 mock juries). Participants were instructed to remain silent during all of the non-deliberation portions of the study procedure.

After receiving general information on the nature of the study and their role as mock juror participants, participants completed an informed consent document. The general instructions told participants that they were to play the role of a juror at the sentencing phase of a capital trial. They were instructed to assume that their jury had already convicted the defendant of the crime and that they were now to hear sentencing phase evidence and arguments. Participants then viewed one of the 32 stimulus videos. Following the video, each participant was given a copy of the capital sentencing instructions that matched their experimental condition. The *List* of case-relevant mitigators was not given to participants in the conditions where that manipulation was present; the *List* manipulation was presented only on the stimulus videotapes. Participants then deliberated in their groups for up to 40 minutes or until they reached a unanimous verdict. Participants were warned when they had 2 minutes of deliberation time remaining and were instructed to send one representative to notify the researchers if they reached a verdict

before the 40 minutes were up. Group deliberations were videotaped, but the present analyses do not include data on deliberation content. Following deliberation, participants completed a packet of dependent variables. They were allowed to use the written copy of the capital sentencing instructions they had been given (either original Virginia instructions or revised instructions depending on their experimental condition) when completing the dependent variables.

Measures

Verdict measures were first, followed by 22 measures of instruction comprehension. Instruction comprehension measures were adapted from measures developed by Wiener and colleagues (R. F. Wiener, personal communication, April 19, 2000). The measures tested application of a variety of constitutional requirements of capital sentencing phase instructions as identified by Supreme Court case law, including unanimity and non-unanimity requirements for finding of aggravating and mitigating factors, the requirement that a death sentence never be mandated, finding of aggravators and mitigators not specifically enumerated by the judge or the attorneys, the requirement that the jury shoulder the responsibility for the sentencing decision, and that capital juries may not legitimately consider whether the defendant will be paroled when making sentencing decisions. Next, participants completed a series of 48 seven-point bipolar ratings of defendant, victim, and case characteristics. Participants also completed 15 seven-point bipolar attitude items, and demographic measures concluded the packet.

HYPOTHESES

- (1) The *Revised Instructions* were expected to yield higher comprehension than the original Virginia statutory instructions given to the jury in *Buchanan*.
- (2) Presence of a *List* of case-specific possible mitigators to accompany sentencing instructions was expected to result in higher levels of instruction comprehension.
- (3) Higher instruction comprehension was expected to be associated with reduced likelihood of death sentence decisions.
- (4) Defendant history of *Emotional Abuse* was expected to have a mitigating effect on sentencing decisions.
- (5) *Bad Prior Record* was expected to aggravate capital sentencing decisions.
- (6) *Heinousness* of the crime was expected to aggravate capital sentencing decisions.

- (7) Instruction comprehension was expected to interact with *Emotional Abuse* such that high comprehension in the presence of mitigating factors would be related to fewer death sentences than high comprehension without the mitigating evidence.
- (8) Inclusion of a *List* of case-specific mitigating factors with the instructions was expected to interact with *Emotional Abuse* to result in fewer death sentences when both the list and the mitigating factor were present.

STUDY 2: RESULTS

Results were conceptualized similarly to those from Study 1: a saturated, recursive path model of decision making, with three levels of predictor variables and post-deliberation dichotomous sentencing verdicts as the primary dependent variable. Post-deliberation sentencing verdicts were evenly divided between life (50.5%, $n = 371$) and death (49.5%, $n = 364$).

Instruction Comprehension

Comprehension measures and participant responses are presented in Table 5. For the purposes of computing instruction comprehension, starred items in Table 5 were considered to be correct responses. The percentage of correct responses varied between around 30% to around 70% across questions. Compared to participants who received the original Virginia pattern sentencing instructions used at the *Buchanan* trial, participants who received the revised instructions had higher comprehension performance on each of the 22 comprehension measures, and presence of a *List* of case-specific mitigators resulted in higher comprehension for 15 of the 22 comprehension items.

Variables Included in the Analysis

The path model consisted of three levels of predictors: Manipulated variables, attitudes toward capital punishment, and student status comprised the first level (Level 1), comprehension measures made up the second level (Level 2), and decision mediators made up the third level of predictor variables in the model (Level 3; Table 6). For *sentence* decisions, higher scores indicated death sentences.

Level 1 Path Analysis Variables. In addition to the five manipulated variables and student status, five composite attitude variables were included at Level 1, for a total of 11 Level 1 variables. The manipulated variables were labeled as follows: *Emotional Abuse*, *Bad Prior Record*, *Heinousness*, *Revised Instructions*, and *List*, such that presence (or high level) of the factor in the

TABLE 5 Study 2: Summary of Participant Responses on Instruction Comprehension Measures

Number	Question	Response Option % (n)		
		Yes	No	Do Not Know
1	After considering all the evidence in the case, a juror failed to find any aggravating factors beyond a reasonable doubt; however, she found one factor that was more likely to exist than not. This aggravating factor was that the murders of Richard, Geraldine, Donnie, and J. J. Wyndham involved depravity of mind. The juror believed that this aggravating circumstance is extremely offensive but it does not satisfy the requirements for invoking the death penalty. She voted for life in prison. Has the juror followed the judge's instructions?	*58.1% (427)	32.2% (237)	9.4% (69)
2	A juror believed that the fact that Jerome Wyndham appeared to have a good character is a mitigating factor. However, none of the other jurors believed that this was a mitigating circumstance; therefore, the first juror voted for the death penalty. Has the juror followed the judge's instructions?	38.0% (279)	*49.7% (365)	12.4% (91)
3	After reviewing all the evidence in the case, all jurors agreed that several specific aggravating circumstances were true beyond a reasonable doubt. All but one found beyond a reasonable doubt that those aggravating circumstances were sufficient to warrant the imposition of death. The remaining juror believed that the death penalty may be appropriate but was not firmly convinced. According to the law, is the death penalty available?	28.3% (208)	*57.4% (422)	14.1% (104)
4	After reviewing all the evidence in the case, some of the jurors agreed that several propositions about specific mitigating circumstances were true. The remaining jurors agreed that several different mitigating circumstances were true. According to the law, can the jurors weigh these mitigating factors against any aggravating circumstances that were found to be true beyond a reasonable doubt?	*56.3% (414)	23.3% (171)	19.7% (145)
5	After reviewing all the evidence in the case, all jurors but one were convinced beyond a reasonable doubt that a specific aggravating circumstance was true. According to the law, must the penalty be life in prison without probation or parole?	*48.2% (354)	23.7% (174)	28% (206)

6	After reviewing all the evidence in the case, the jury found some aggravating circumstances beyond a reasonable doubt and some mitigating circumstances. However, none of the specific aggravating or mitigating circumstances were named in the judge's instructions, and they all appeared to be different than the types of circumstances that the judge named. According to the law, can the jury consider the mitigating factors in reaching its verdict?	*44.5% (327)	33.9% (249)	21.6% (159)
7	After reviewing all the evidence in the case, all jurors agreed that several propositions about specific aggravating circumstances were true beyond a reasonable doubt and that they were sufficient to warrant the imposition of the death penalty. According to the law, must the death penalty be imposed?	60.5% (445)	*29.5% (217)	9.5% (70)
8	After reviewing all the evidence in the case, all the jurors found some aggravating circumstances to exist beyond a reasonable doubt, which outweigh any mitigating circumstances. According to the law, after considering all the circumstances in the case, must the jury impose the death penalty?	46.1% (339)	*41.0% (301)	12.8% (94)
9	While all jurors agree that mitigating circumstances exist that outweigh the aggravating circumstances found beyond a reasonable doubt, only half of them agree that the specific mitigating circumstance was that Jerome Wyndham had a good character. The jury sentenced Mr. Wyndham to life in prison. Has the jury followed the judge's instructions?	*64.6% (475)	25.0% (184)	10.2% (75)
10	All the jurors agreed that the prosecution has proved beyond a reasonable doubt that Jerome Wyndham murdered Richard, Geraldine, Donnie, and J. J. Wyndham with depravity of mind. All the jurors but one believed that this aggravating circumstance warranted a death decision. The jury imposed the death penalty on Mr. Wyndham. Has the jury followed the judge's instructions?	32.8% (241)	*58.5% (430)	8.7% (64)
11	The jury found that the prosecution has proved one aggravating circumstance beyond a reasonable doubt. This aggravating circumstance is that the murders of Richard, Geraldine, Donnie, and J. J. Wyndham involved depravity of mind. Without considering the mitigating circumstances, the jury voted for the death penalty based on the weight of this aggravating circumstance. Has the jury followed the judge's instructions?	38.2% (281)	*53.6% (394)	8.2% (60)

(Continued)

TABLE 5 (Continued)

Number	Question	Response Option % (n)		
		Yes	No	Do Not Know
12	A juror believed the fact that Jerome Wyncham appeared to have a good character was a mitigating factor that outweighed the aggravating circumstances found beyond a reasonable doubt. However, she decided that this fact was not one of the mitigating factors that the judge specifically mentioned nor was it similar to any of the mitigating factors that the judge specifically mentioned. She decided that as a result, she must vote for the death penalty and did so. Has she followed the judge's instructions?	35.8% (263)	*49.9% (367)	14.3% (105)
13	Several jurors find that the prosecution has proved one aggravating circumstance beyond a reasonable doubt. This aggravating circumstance was that the murders of Richard, Geraldine, Donnie, and J. J. Wyncham involved depravity of mind. One of the jurors failed to find any aggravating circumstances beyond a reasonable doubt. The jury decided not to examine the mitigating circumstances and instead assigned Mr. Wyncham life in prison. Has the jury followed the judge's instructions?	*39.6% (291)	50.6% (372)	9.8% (72)
14	After reviewing all the evidence in the case, a jury found a mitigating circumstance that the defense attorney did not raise as a mitigating factor. According to the law, may the jury weigh this mitigating factor against any aggravating circumstances that were found to be true beyond a reasonable doubt?	*42.0% (309)	33.1% (243)	24.9% (183)
15	According to the law, does the jury have the ultimate responsibility for deciding on a sentence for the defendant?	*64.5% (474)	18.1% (133)	17.4% (128)
16	A juror believed the fact that Jerome Wyncham appeared to have a good character was a mitigating factor. However, the juror decided that this was not one of the mitigating factors that the defense attorney brought up during closing arguments. He also did not believe that this fact was similar to the other mitigating factors. Because the juror believed Mr. Wyncham's good character outweighed the aggravating factors found beyond a reasonable doubt, he voted to impose life in prison. Has the juror followed the judge's instructions?	*53.3% (392)	32.7% (240)	13.9% (102)

17	A juror found beyond a reasonable doubt that Mr. Wyndham killed Richard, Geraldine, Donnie, and J. J. Wyndham with depravity of mind. The juror found as a mitigating circumstance the fact that Mr. Wyndham appeared to have a good character. The juror was not convinced beyond a reasonable doubt that the aggravating circumstances outweighed the mitigating circumstances. The juror decided that it is his responsibility and not the judge's responsibility to sentence the defendant and, therefore, voted against the death penalty. Has the juror followed the judge's instructions?	*46.7% (343)	38.5% (283)	14.7% (108)
18	After reviewing all the evidence in the case, a juror found only one mitigating circumstance to be true. The remaining jurors did not agree that this specific mitigating factor was true. Does the law prohibit this juror from considering this mitigating factor?	6.7% (49)	*76.1% (559)	17.3% (127)
19	Only one juror believed that trial testimony indicated that Mr. Wyndham appeared to have a good character. This juror believed this mitigating factor outweighed the aggravating circumstances found beyond a reasonable doubt. The juror voted for life in prison. Has the juror followed the judge's instructions?	*67.6% (497)	23.0% (169)	9.3% (68)
20	All but one of the jurors believed the murders of Richard, Geraldine, Donnie, and J. J. Wyndham involved depravity of mind. The one juror who did not agree with this aggravating circumstance voted for the death penalty because she thought that the judge would ultimately decide the defendant's sentence. Has the juror followed the judge's instructions?	8.6% (63)	*86.0% (632)	5.4% (40)
21	The jury found that the prosecution has proved two aggravating circumstances beyond a reasonable doubt but believes the mitigating circumstances outweigh the aggravating circumstances. However, the jury believes that Mr. Wyndham will eventually leave prison and be a danger to society. Therefore, the jury voted for the death penalty. Has the jury followed the judge's instructions?	21.4% (157)	*70.3% (517)	8.3% (61)
22	According to the law, is it true that the ultimate responsibility for imposing a penalty in a capital murder case lies with the trial judge?	20.1% (148)	*42.9% (315)	36.9% (271)

Note. Missing data explain percentages that do not add to 100% (*n*s which do not add to 735).

*Correct response.

TABLE 6 Study 2: Principal Components Analysis Unit-Weighted Factors (Standardized Item Alpha Coefficient, Range, Mean, Standard Deviation) and Descriptions of Questions in Each Component (Factor Loadings)

Factor Label	Alpha, Range, M (SD)	Individual Items (Factor Loadings)
Aggravated Crime	$\alpha = .84$ Range = 9 to 49 M = 39.97 (9.03)	-Outrageously wanton/vile (.79)
		-Crime horrible or inhuman (.79)
		-Involved aggravated battery (.67)
		-Torture to the victims (.66)
		-Heinousness of crime (.65)
		-Crime involved depravity of mind (.54)
		-Cold manner (.52)
Defendant Impaired	$\alpha = .78$ Range = 6 to 42 M = 21.47 (8.41)	-Capacity to see criminality impaired (.68)
		-Defendant under duress (.67)
		-Unable foresee consequences (.67)
		-Def. coerced by another (.55)
		-Def. abused as child (.51)
		-Acted in mistaken good faith (.37)
		-10-year-old deserved to die (.87)
Victims Deserved to Die	$\alpha = .83$ Range = 4 to 28 M = 5.33 (3.43)	-13-year-old deserved to die (.80)
		-Father deserved to die (.78)
		-Stepmother deserved to die (.76)
		-Stepmother participated or consented (.83)
Parent Provocation	$\alpha = .85$ Range = 4 to 28 M = 13.37 (6.81)	-Father participated or consented (.82)
		-Father instigated murder (.47)
		-Stepmother instigated murder (.46)
		-Defendant aware of actions (.77)
Defendant Culpability	$\alpha = .70$ Range = 4 to 28 M = 20.55 (5.36)	-Defendant in control of actions (.75)
		-Defendant responsibility for crime (.68)
		-Defendant blameworthiness (.41)
		-hardworking (.78)
Good Def. Character	$\alpha = .75$ Range = 4 to 28 M = 18.4 (5.07)	-Favorable work history (.77)
		-Did good things for others (.67)
		-Would be a good inmate (.47)
		-Stepmother's character—good (.84)
Good Parent Character	$\alpha = .91$ Range = 2 to 14 M = 6.29 (2.84)	-Father's character—good (.82)
		-Threat to society (.75)
		-Future dangerousness (.71)
		-Prior criminal history (.53)
Defendant Dangerousness	$\alpha = .72$ Range = 9 to 39 M = 26.84 (7.08)	-Rehabilitable (–.50*)
		-Character of defendant—good (–.50*)
		-13-year-old instigated events (.91)
		-10-year-old instigated events (.90)
Siblings Instigated	$\alpha = .97$ Range = 2 to 14 M = 3.18 (2.38)	-Committed without moral justif. (.82)
		-Committed without legal justif. (.82)
		-Committed in calculated manner (.46)
		-Premeditated manner (.45)
Not Justified	$\alpha = .78$ Range = 4 to 28 M = 21.60 (5.74)	-13-year-old stepbrother—good (.91)
		-10-year-old stepbrother—good (.91)
		-Mutilate victim after death (.73)
		-Victim mutilation while alive (.66)
Good Sibling Character	$\alpha = .99$ Range = 2 to 14 M = 11.51 (2.93)	-Victims innocent bystanders (.34)
		-Def. sole cause of father's death (.75)
		-Def. sole cause of father's death (.75)
Unnecessary Mutilation	$\alpha = .51$ Range = 3 to 21 M = 11.35 (5.11)	
Sole Cause	$\alpha = n/a$ Range = 1 to 7 M = 5.51 (2.16)	

*Items that loaded negatively were reverse-coded for factor construction.

variable label reflected higher numerical coding of that variable in the analysis. *Student* status was included in the model to control for student status and to evaluate differences in decision processes of students as compared to nonstudents. Attitude measures came from a scale that was developed and validated in prior research (the items in the present research differed only slightly from those published in O'Neil et al., 2004). The five subscales were labeled *CP Opposition*, *Retribution & Revenge*, *CP Deters*, *Skeptical re: LWOP* (life without the possibility of parole), and *CP is Cost Effective*.

Level 2 Path Analysis Variables. The two Level 2 variables consisted of *Instruction Comprehension*, which was calculated by summing the number of correct scores on the 22 comprehension items from Table 5 ($M = 12.00$, $SD = 3.89$), and a composite measure of participants' opinions about the comprehensibility of the instructions. *Opinion of Comprehensibility* ($M = 12.31$, $SD = 4.38$) was a sum of three seven-point ratings (0 = "Not at all," 7 = "Completely") on the following items: "Overall, how clear were the instructions?"; "How clearly was the term 'aggravation' defined?"; and "How clearly was the term 'mitigation' defined?"

Level 3 Path Analysis Variables. Level 3 variables consisted of the same 45 base items from Study 1 plus an additional 3 items relating to the defendant's culpability: his control at the time of the crime, his awareness of his actions at the time of the crime, and his responsibility for the crime. Thus, there were 48 items rated on seven-point bipolar scales that went into a principal components analysis with varimax rotation, resulting in 13 aggregate unit-weighted decision mediators. Factor labels, item summaries and factor loadings, and alpha internal consistency scores for these Level 3 variables are presented in Table 6.

Results from the Path Analysis

For the same reasons as in Study 1, the path analysis was created using maximum likelihood estimation method in LISREL 8.3 statistical software. The specified paths were based on a strict measurement model (no latent variables) using the correlation matrix among all variables. Because this was a saturated recursive model, paths were computed for relationships between all Level 1 variables and each Level 2 variable, between all Level 1 and 2 variables and each Level 3 variable, and for all Level 1, 2, and 3 variables and dichotomous *Sentence* decisions. Given the high level of statistical power afforded by the sample size (power greater than .9 for detection of 'medium' effects; Cohen, 1977) and the large number of paths estimated in the model, a conservative alpha level of .001 was employed for determining statistical significance. Significant direct paths among all variables are presented in Figure 2. Total, direct, and indirect relationships of all variables with sentencing decisions are presented in Table 7. Simple correlations between Level 1 variables and sentence decisions appear in Table 8.

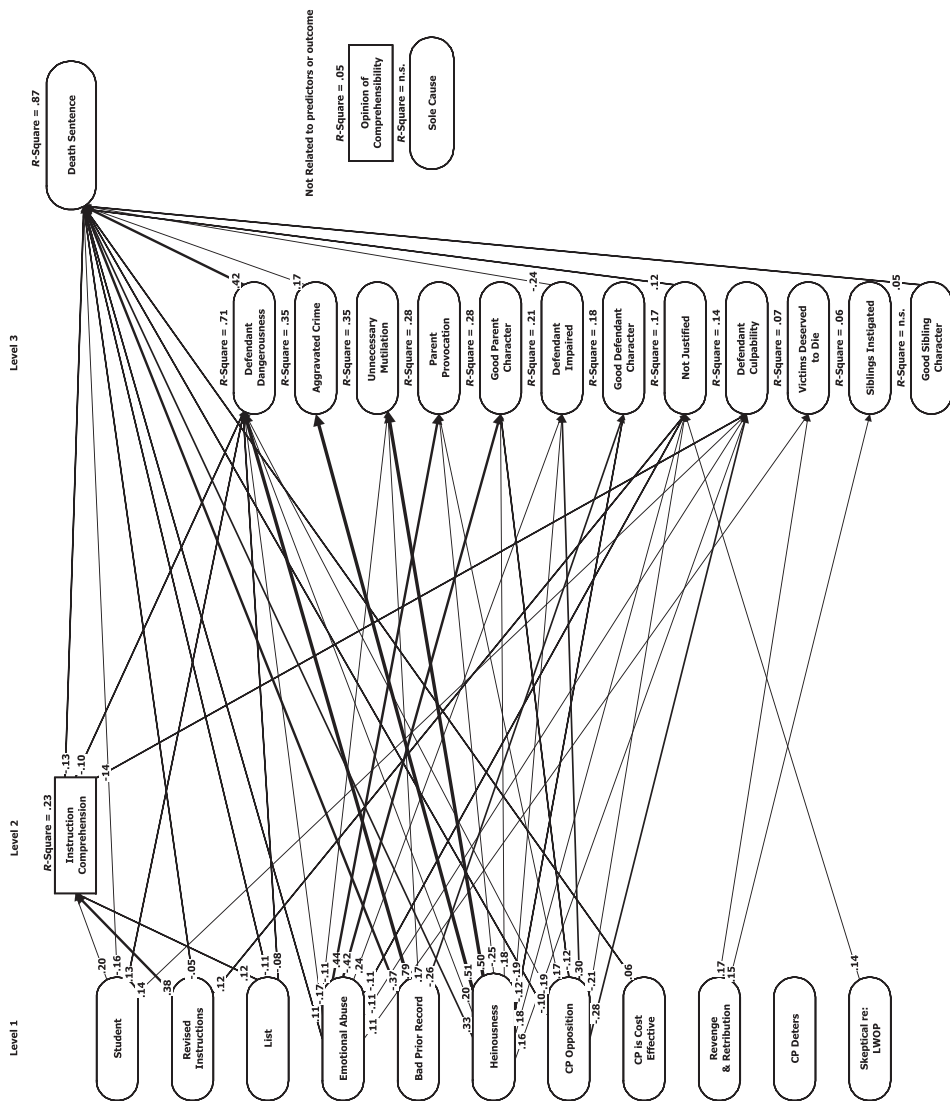


FIGURE 2 Direct effects and *r*-square values from the Study 2 path model of jury decision making.

TABLE 7 Study 2: Effects of Level 1, Level 2, and Level 3 Variables on Defendant Deservedness of Death Penalty

Variables	Total	Direct	Indirect
<i>Level 1</i>			
Student	-.16*	-.16*	.00
Revised Instructions	-.05	-.05*	.00
List	-.18*	-.11*	-.07*
Emotional Abuse	-.03	.11*	-.14*
Bad Prior Record	-.01	-.37*	.36*
Heinousness	.59*	.33*	.26*
CP Opposition	-.30*	-.10*	-.20*
CP is Cost Effective	.08*	.06*	.02
Revenge & Retribution	.00	-.03	.03
CP Deters	.03	-.01	.04
Skeptical re: LWOP	.10*	.03	.07*
<i>Level 2</i>			
Instruction Comprehension	-.23*	-.13*	-.09
Opinion of Comprehensibility	.06	.03	.02
<i>Level 3</i>			
Defendant Dangerous	—	.42*	—
Aggravated Crime	—	.17*	—
Unnecessary Mutilation	—	.00	—
Parent Provocation	—	.00	—
Good Parent Character	—	.00	—
Defendant Impaired	—	-.24*	—
Good Defendant Char	—	-.02	—
Not Justified	—	.12*	—
Defendant Culpability	—	.02	—
Victims Deserved to	—	-.02	—
Siblings Instigated	—	.03	—
Good Sibling Character	—	.05*	—
Sole Cause	—	-.02	—

* $p < .05$. ** $p < .001$.

TABLE 8 Study 2: Simple Correlations between Independent Variables and Sentencing Decisions

Independent Variable	Correlation with Sentencing Decision
Student	-.13**
Revised Instructions	-.04
List	-.13**
Emotional Abuse	-.03
Bad Prior Record	-.03
Heinousness	.42**
Instruction Comprehension	-.25**
Opinion of Comprehensibility	.10*

* $p < .05$. ** $p < .001$.

We tested for 2- and 3-way interaction effects (a total of 286 interaction terms), but significant effects did not emerge beyond the number expected by chance alone (and there was low power, i.e., high likelihood of Type II error for 3-way interactions). Therefore, in the interest of parsimony and statistical power, interaction effects were not included in the model. At the outset, it should be noted that the direct relationships between *Sentence* and *Emotional Abuse* and *Bad Prior Record* that appear in Figure 2 are misleading because the indirect effects of those variables on *Death Sentence* are in the opposite direction and of comparable strength to cancel out the direct effects, resulting in a net 0 total effect for each of those variables. See Figure 2 for relationships that predicted Level 2 and Level 3 variables.

The path model explained about 87% of the variance in sentencing decisions, $R^2(26, 708) = .87, p < .001$. Total, direct, and indirect relationships between all Level 1, Level 2, and Level 3 variables and *Sentence* are reported in Table 7, and direct effects are illustrated in Figure 2. The manipulated variable *List* had a total mitigating relationship with *Sentence*, see Table 7, while *Heinousness* had an aggravating effect on sentencing judgments. The attitude subscales *CP Opposition* and *Skeptical re: LWOP* also had total relationships with sentencing decisions, such that death sentences were less likely for those higher in *CP Opposition* and more likely for those who were *Skeptical re: LWOP*. The Level 2 variable *Instruction Comprehension* mitigated *Sentence* decisions. The Level 3 mediators *Defendant Dangerousness*, *Aggravated Crime*, *Not Justified*, and *Good Sibling Character* had aggravating relationships with sentencing decisions, while *Defendant Impaired* mitigated *Sentence* decisions.

The total effects for Level 1 and Level 2 variables mentioned above, *List*, *Heinousness*, *CP Opposition*, *Skeptical re: LWOP*, and *Instruction Comprehension*, were all mediated to some degree by other variables; see Table 7 and Figure 2.

The total mitigating effect of *Instruction Comprehension* was both direct and indirect, being partially mediated by Level 3 inferences about *Defendant Dangerousness* such that higher comprehension was associated with lower *Defendant Dangerousness*, which had a positive relationship with *Sentence*. In other words, higher levels of *Instruction Comprehension* mitigated *Sentence* decisions both directly and indirectly by being related to lower levels of *Defendant Dangerousness* that in turn were related to sentencing decisions. Therefore, there were two ways in which higher *Instruction Comprehension* mitigated *Sentence* responses: (a1) directly and (b) indirectly, mediated by inferences about *Defendant Dangerousness*.

List was both directly and indirectly related to *Sentence* decisions after taking Level 2 and Level 3 variables into account; see Table 7 and Figure 2. There were three ways that the indirect effect of *List* was expressed. Indirectly, *List* was related to *Instruction Comprehension*, which was in turn directly and indirectly related to *Sentence* decisions. This pattern of

relationships was such that presence of a *List* of case-specific mitigators was associated with higher levels of *Instruction Comprehension*, which were in turn related to lower likelihood of *Sentence* decisions in the two ways described above. In other words, part of the relationship between *List* and *Sentence* was “double-mediated,” passing through both *Instruction Comprehension* and *Defendant Dangerousness*. *List* was also directly negatively related to inferences regarding *Defendant Dangerousness* and was thereby indirectly related to *Sentence* decisions by “single mediation” via *Defendant Dangerousness*. Altogether then, there were four ways that *List* was related to lower likelihood of *Sentence* decisions: (a) directly; (b) indirectly, “singly mediated” by a direct relationship between *Instruction Comprehension* and *Sentence*; (c) indirectly, “doubly mediated” by an indirect relationship between *Instruction Comprehension* and *Sentence* via inferences regarding *Defendant Dangerousness*; and (4) indirectly, “singly mediated” by a negative relationship with *Defendant Dangerousness* that was in turn related to *Sentence* decisions.

Heinousness directly and indirectly aggravated *Sentence* decisions after taking Level 2 and Level 3 variables into account. Four different Level 3 variables partially mediated the relationship between *Heinousness* and *Sentence*: *Defendant Dangerousness*, *Aggravated Crime*, *Defendant Impaired*, and *Not Justified*. *Heinousness* were negatively related to *Defendant Impaired*, which was in turn negatively related to *Sentence* judgments: an indirect mitigating effect of *Heinousness*. *Heinousness* had positive relationships with each of the other three Level 3 mediators—*Defendant Dangerousness*, *Aggravated Crime*, and *Not Justified*—each of which were in turn positively related to *Sentence* decisions. There were altogether four ways in which *Heinousness* aggravated *Death Sentence* decisions: (a) directly; (b) indirectly, mediated by *Defendant Dangerousness*; (c) indirectly, mediated by *Aggravated Crime*; and (d) indirectly, mediated by *Not Justified*. There was also one indirect mitigating relationship between *Heinousness* and *Sentence* decisions, mediated by *Defendant Impaired*.

CP Opposition was both directly and indirectly related to lower likelihood of *Sentence* decisions after taking Level 2 and Level 3 variables into account. The indirect effect of *CP Opposition* was mediated by three Level 3 variables. *Defendant Dangerousness* and *Not Justified* were both negatively related to *CP Opposition* and positively related to *Sentence*, thereby mediating the indirect negative relationship between *CP Opposition* and *Sentence*. *Defendant Impaired* mediated the indirect mitigating relationship between *CP Opposition* and *Sentence* in the opposite way by being positively related to *CP Opposition* and negatively related to *Sentence*. Altogether, there were four ways in which *CP Opposition* was related to lower likelihood of *Sentence* decisions: (a) directly; (b) indirectly, mediated by a negative relationship with *Defendant Dangerousness* that was in turn positively related to *Sentence*; (c) indirectly, mediated by a negative relationship with *Not Justified*, which

was in turn positively related to *Sentence*; and (d) indirectly, mediated by a positive relationship with *Defendant Impaired*, which was in turn negatively related to *Sentence*.

Skeptical re: LWOP was not directly related to *Sentence* decisions after taking Level 2 and Level 3 variables into account. The aggravating relationship between *Skeptical re: LWOP* and *Sentence* decisions was strictly indirect, mediated entirely by a positive relationship with *Not Justified*, which was in turn positively related to *Sentence* decisions.

STUDY 2: DISCUSSION

The pattern of relationships observed in the present study replicates with higher external validity many of the relationships observed in Study 1. Though the level of measurement in Study 2 was still at the level of individual mock-jurors, this study was far more externally valid than Study 1 because the mock juror decisions were preceded by deliberations. The stimulus materials were also much more realistic than Study 1. Using a much richer set of comprehension measures, the present study replicated prior research by demonstrating improved comprehension for participants receiving revised Virginia instructions. The Study 2 data also replicated the finding that higher comprehension was associated with higher likelihood of issuing life sentence decisions.

Hypotheses 1, 2, and 3 were supported. There was higher comprehension for participants who received the revised instructions as compared to participants who received the original Virginia sentencing instructions used at the *Buchanan* trial and for participants who were exposed to a list of case-specific mitigators to accompany the instructions as compared to those who were not exposed to such a list. Higher comprehension was directly and indirectly related to higher likelihood of life sentences.

Hypotheses 4 and 5 were not supported. There was no total mitigating relationship between defendant emotionally abusive history and sentencing decisions, nor did bad prior record have a total relationship with sentencing decisions. Hypothesis 6 was supported: There were strong total, indirect, and direct aggravating relationships between crime heinousness and sentencing decisions. Hypotheses 7 and 8 were not supported: Neither instruction comprehension nor presence of a list of case-specific mitigators interacted with history of defendant emotional abuse to influence sentencing decisions.

GENERAL DISCUSSION

The current study presents a pair of studies that offer an exploratory model of jury decision making at the sentencing phase of capital cases. These studies

are the first (that we are aware of) to utilize experimental manipulation of both instruction types as well as different forms of sentencing phase evidence. Both studies were based on the same set of case facts (drawn from *Buchanan vs. Angelone*, 1998) and focused on the Virginia capital sentencing framework. The first study was a preliminary paper-and-pencil study with individual undergraduate mock juror participants, and the second utilized methods much higher in external validity including community mock jurors, videotaped penalty phase stimuli, and mock jury deliberations. While there are certainly limitations to these studies (which we elaborate below), the data advance substantially the literature on jury decision making in capital cases, especially when viewed in the context of the growing body of research in this area.

Comprehensibility of Instructions

Speaking specifically to the issue of instruction comprehension, the current studies replicate prior research demonstrating alarmingly low levels of jury comprehension of actual capital sentencing instructions (see, e.g., Haney & Lynch, 1994, 1997; Luginbuhl, 1992; Luginbuhl & Howe, 1995; Wiener et al., 1995, 1998, 2004) and also support the promising findings suggesting that the comprehensibility of capital sentencing instructions can be improved (e.g., Diamond & Levi, 1996; Otto, Applegate, & Davis, 2007; Smith & Haney, 2011; Wiener et al., 1995, 1998, 2004). While we observed abysmally low comprehension for the pattern Virginia instructions, comprehension was markedly higher when participants received revised instructions. Presence of a list of case-specific mitigating factors was also associated with higher instruction comprehension. These data illustrate that careful restructuring of capital sentencing instructions can improve juror comprehension.

Comprehension and Sentencing Decisions

Before drawing conclusions from the present data regarding the link between instruction comprehension and capital sentencing decisions, it is important to note potential confounds and problems with causal reasoning. The finding that higher comprehension was related to life sentence decisions does not necessarily reflect a causal connection. While it seems plausible to believe that higher comprehension caused changes in decision processes that resulted in more frequent life decisions, alternative explanations are equally viable. For example, it could be the case that participants who were more sympathetic toward the defendant read the instructions more carefully because they were trying to find some kind of “hook” on which to hang a life sentence.

There are numerous differences across the few studies that have explored the relationship between instruction comprehension and capital

sentencing decisions. These two studies are consistent in that there were mitigating relationships between comprehension and capital sentencing decisions using the Virginia pattern sentencing instructions and a revision of those instructions in the context of case facts similar to the facts in the actual *Buchanan* case. Given the divergence in samples, methodologies, and measures between these two studies, these studies offer some stability in terms of the relationship between comprehensibility and sentencing decisions within the limited range of Virginia's capital sentencing scheme and the *Buchanan* case facts.

Given the direct and indirect effects of *Instruction Comprehension* on *Sentence* outcomes, it is critical that future research identify the specific qualities of instructions that lead to increased comprehensibility. By learning more about why revisions such as the ones in the present study increase comprehensibility of capital sentencing instructions, researchers may be able to further boost comprehensibility of these instructions. When instructions offer more improvement in comprehensibility than the *Revised* instructions in the present study, we may observe direct and indirect effects of instruction revision on decision outcomes.

Is comprehensibility of capital sentencing instructions related to decision outcomes in a reliable, meaningful way? The answer to that question is not yet clear. It is important to recognize that the relationships observed in the current study between comprehension and capital sentencing instructions may be case-specific. It is possible that better understanding of capital sentencing instructions may result in higher likelihood for someone in one particular set of circumstances while having virtually no effect on sentencing outcomes for a defendant with a different set of circumstances and result in higher likelihood of a death sentence for yet another capital defendant.

Evidence, Attitudes, and Capital Sentencing Decisions

The present research offers some information regarding the ways in which different types of case evidence may influence capital sentencing decisions. As was anticipated, in Study 2, defendant history of emotional abuse did not have a similar mitigating effect as was observed in Study 1 in which we employed similar, yet less realistic stimuli. Interestingly, however, defendant history of emotional abuse did not have a net total relationship with sentencing decisions at all in Study 2. Similarly, bad prior record did not have a net total relationship with sentencing outcomes in Study 2. Both of these variables were related to other aspects of the model in ways that strongly suggest their importance in mock jurors' decision making, but they did not have an overall relationship with sentencing outcomes. This indicates that the manipulations were effective and that they did seem to play an important role in jurors' conceptualizations of the evidence; yet, they were unrelated to sentencing decisions.

Heinousness of the crime, conversely, emerged as an important predictor of death sentence judgments. The strong direct and indirect effects of this evidentiary factor on decision outcomes highlight the anecdotal attention that this factor is a critical component of prosecutorial decisions to seek the death penalty. Mediation of the relationship between heinousness and sentencing decisions by inferences about the defendant's dangerousness, inferences about the aggravated nature of the crime, and inferences about whether the crime was not justified offer some tentative insight regarding the mechanisms by which crime heinousness can influence jury decisions. The direct effect of heinousness on decision outcomes is intuitively straightforward as are the mediation of heinousness by inferences about the defendant's dangerousness and the aggravated nature of the crime. Mediation of the heinousness effect by inferences that the crime was not justified, however, suggests a more subtle and far-reaching effect of crime facts on juror reasoning processes. It seems from the present data that a more heinous crime might be perceived as having less of a reason for occurring.

Defendant dangerousness emerges as the most important mediator in the model of capital sentencing decisions. The findings that so many variables were related to dangerousness and that dangerousness inferences mediated effects of several independent variables on sentencing decisions flags dangerousness as an important consideration for future research on jury decision making in capital cases. While relationships between dangerousness and heinousness and bad prior record seem very clear, the relationships among dangerousness and many other predictors in the model suggests a very broad, rich set of considerations that influence dangerousness. Opposition to the death penalty was negatively related to dangerousness inferences, and belief that the death penalty is cost effective was positively associated with dangerousness inferences. These relationships between attitude measures and dangerousness inferences highlight the importance of jurors' preconceptions and attitudes in jury decision making. Even after deliberating in a group with others, peoples' attitudes affected their inferences about the case evidence. Of course, attitudes were also directly related to sentencing outcomes.

The relationship between death penalty attitudes and capital sentencing decisions has received relatively little research attention, except for a series of studies resulting in a scale for measuring attitudes towards the death penalty has been developed (see O'Neil et al., 2004). The present research highlights the importance of further research on juror attitudes at the sentencing phase of capital cases.

Mediating factors in death penalty decisions are worthy of further exploration to determine what types of inferences are important in the scheme of capital punishment decision making and what types are not important. Studies that manipulate a wider variety of aggravating and mitigating factors would be well suited to explore the differential impact of specific factors

on such inferences and death penalty decisions. Future research should also explore death penalty mediators in various case contexts. It is unclear from the present results which of our findings are tied to the specific case facts and which may be indicative of more general aspects of the capital decision process.

Limitations

It is important to note the liberties taken when revising the capital sentencing instructions. While it was intended that the instructions retain the legal specificity exemplified in the original pattern Virginia capital sentencing instructions used during the *Buchanan* trial, it is not entirely clear how well the revised instructions met that objective. For example, the instructions included a definition of the term *mitigation* that exemplified one view of the *Lockett* holding and which may be criticized. The revised instructions said, “. . . must then take into consideration the mitigating evidence presented by the defense. This may include any evidence presented of circumstances which in fairness or mercy may extenuate or reduce the degree of moral culpability and punishment.” Arguably, this definition of mitigation does not precisely cohere with the *Lockett* precedent, and the definition of mitigation should have referred to the *relevance* of mitigating evidence, an aspect of the evidence that might be determined by the court rather than the jury.

Another possible problem with the revised instructions lies in the decision tree list of questions at the end of the instructions. Arguably, the three sets of questions at the end of the revised instructions lack specificity and context. It is possible that mock juror participants construed the decision tree questions in a manner that is inconsistent with Supreme Court and Virginia case law. In other words, it is possible that the decision tree at the end of the revised instructions helped to bolster comprehension but that they did so at the cost of undermining the legal specificity of the instructions.

Even assuming some inaccuracies in the revised instructions, it seems very likely that the basic level of comprehension was much higher for participants who received the revised instructions. The degree to which these revised instructions successfully communicated fundamental constitutional requirements of capital sentencing, in comparison to the original instructions used in the *Buchanan* trial, is difficult to ignore. Participants who received the revised instructions had higher comprehension on every one of the 22 comprehension questions in the present study.

Conclusion

Future research should expand upon these results by varying case context and exploring the impact of an array of variables that were held constant in the present study (e.g., different sorts of aggravating and mitigating

circumstances and whether attorney arguments explicitly describe the specific aggravators and mitigators that the jury may consider). Another consideration for future research is the role of attitudes in death penalty decisions, including interactions among attitudes, instructions, and case facts. More research on decision mediators in capital penalty decisions is also necessary to identify mediators that are generally important across cases. Refining our understanding of the comprehensibility of capital sentencing instructions—and the roles of instructions and comprehension in capital sentencing decisions—is a task that should be addressed by researchers in the future.

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