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Applying the Story Model to juror decision-making: A response
to juror bias

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San Jose State University, 1993

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APPLYING THE STORY MODEL TO JUROR DECISION-MAKING:

A RESPONSE TO JUROR BIAS

A Thesis

Presented to

the Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

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ABSTRACT

APPLYING THE STORY MODEL TO JUROR DECISION-MAKING:
A RESPONSE TO JUROR BIAS

by Darrah A. Westrup

The uniqueness principle of the Story Model was tested by having mock jurors construct both a case for a defendant's guilt and for innocence as they read evidence from a mock criminal trial. Other jurors were asked to construct a case (story) in one predetermined direction. Jurors indicated their "true" verdict decision and degree of decision certainty both before and after a mock jury deliberation. Jurors told to construct a case for guilt rendered significantly more guilty verdicts than jurors given other instructions. While there were no significant differences in certainty scores, a unidimensional "judgment" variable indicated significant differences between the guilt group and other groups. Controls were least likely to change their verdicts from pre- to post deliberation; jurors constructing stories for guilt were most likely to change verdicts. Despite a leniency bias, the story construction manipulation was effective.

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ABSTRACT

APPLYING THE STORY MODEL TO JURY DECISION-MAKING:

A RESPONSE TO JUROR BIAS

The uniqueness principle of the Story Model was tested by having mock jurors

construct both a case for a defendant's guilt and for innocence as they read

evidence from a mock criminal trial. Other jurors were asked to construct a case

(story) in one predetermined direction. Jurors indicated their "true" verdict

decision and degree of certainty both before and after a mock jury deliberation.

Jurors told to construct a case for guilt rendered significantly more guilty

verdicts than jurors given other instructions. While there were no significant

differences in certainty scores' a unidimensional "judgment" variable indicated

significant differences between the guilt group and other groups. Controls were

least likely to change their verdicts from pre- to post deliberation; jurors

constructing stories for guilt were most likely to change verdicts. Despite a

leniency bias, the story construction manipulation was effective.

Applying the Story Model to Juror Decision-Making:

A Response to Juror Bias

The purpose of this study is twofold: to test the uniqueness principle of the Story Model (Pennington & Hastie, 1986a), and to apply this principle to decrease juror bias. While the present system of jury decision-making is firmly entrenched in our judicial process, research increasingly points to significant problems within this system. In essence, jurors' actual performance is quite different from the assumed ideal of objectivity (Devine & Ostrom, 1985; Weld & Danzig, 1940; Wiener, Habert, Shkodriani & Staebler, 1991). Of particular concern is jurors' tendency to form prejudgments based upon factors other than the fair evaluation of evidence presented in court. These and other studies continue to suggest that despite receiving instructions from the judge to remain impartial until all evidence has been presented, jurors are following a different decision-making path (Helgeson & Shaver, 1990; Kaplan, 1989; MacCoun, 1989). Because our judicial system relies on juror judgment to arrive at just and logically sound verdicts, the possibility that jury verdicts are based on much less objective factors is a sobering notion.

A number of hypotheses have been generated that attempt to explain the reasoning process in which jurors might actually engage during a criminal trial. Until recently these models were mathematically based. In a comprehensive review, Pennington and Hastie (1986b) identified four general categories of these types of models. Bayesian probability models define the decision process as a sequence, where prior knowledge of a hypothesis is multiplied by the conditional probability of a piece of evidence. Information integration models propose that a juror makes a series of independent evaluations on each piece of

evidence on a single culpability dimension. This eventually culminates in a final calculation of all items to determine the ultimate decision. Poisson process models suggest that a juror's decision-making process is a gradual aggregation of the weight of the evidence until eventually a particular piece fixes the weight at a final value. A decision is made when this final value is compared with a given decision criterion. Sequential weighting models describe the decision-making process as a series of opinion revisions. Each revision involves the weighted average of both the previous judgment and the current piece of evidence.

While these models do describe cognitive reasoning processes, they fall short of defining the decision-making process that occurs in a courtroom. For instance, repeated attempts to predict decision outcomes according to Bayesian models fail, due in part to the fact that humans do not take prior probabilities (otherwise known as base rate information) into account (Anderson, 1990; MacCoun 1989). Some theorists argue that mathematical models do not reflect human reasoning because humans use different methods of aggregation to begin with (Pennington & Hastie, 1992). Research has shown that jurors' decision-making process does not proceed in a continuous updating fashion as evidence is presented, and that jurors make inferences about events that are missing or perhaps not stated (Pennington & Hastie, 1988). A significant criticism of research using mathematical models is that it incorporates a unidemensional line-by-line approach to decision-making (MacCoun, 1989). In a typical jury trial, jurors make a global decision of guilt or innocence after all the evidence is presented, rather than making a linear item by item judgment evaluation.

The Story Model introduced by Pennington and Hastie (1986a), offers a theory of juror decision-making that overcomes some of the shortcomings of

previous models. Pennington and Hastie (1988) state "When the body of evidence relevant to a decision is large, complex, and the implications of its constituents are interdependent, the decision process is explanation-based" (p. 521). The typical court setting fulfills these criteria. This explanation-based model suggests that during the course of hearing evidence, jurors utilize narrative story structures to organize and make sense of the information they receive. Jurors use schemata acquired from previous experience combined with the evidence presented in court to create a plausible story for what occurred. The explanation-based approach proposes that a semantic mental representation or "story" is inserted between evidence presented and the decision, which actually mediates the verdict that is reached (Pennington & Hastie, 1990). This process is accomplished by combining the evidence presented during trial with prior knowledge of the world which applies to the case at hand and a natural generic awareness of what elements are needed to construct a coherent and complete story. A significant assumption of the Story Model is that the construed explanation determines the juror's ultimate verdict.

According to Pennington and Hastie (1992) the Story Model is comprised of the following three components:

1. Evidence evaluation through story construction.

2. Understanding decision alternatives by learning the particular attributes of appropriate verdict categories.

3. Reaching a decision by classifying the constructed story into the best-fitting verdict category.

The first component, evidence evaluation by story construction, is thought to be influenced by three certainty factors which affect a story's ultimate

acceptability: coverage (does the story account for the evidence presented) coherence (which is subdivided into three components: consistency, completeness, and plausibility), and uniqueness. A story's uniqueness is considered to be a key factor in the construction process. If more than one story fits the other criteria uncertainty results. The present study draws upon the role uniqueness plays in jurors' story construction and in their verdict certainty.

Research conducted by Pennington and Hastie (1986a) revealed through think-aloud protocols that jurors' mental representations of evidence had a story structure and that information regarding the possible verdicts was organized by jurors into feature lists. This research also determined that the decisions reached covaried with story structures. The organization of evidence into story content and structure differed for subjects choosing different verdicts. In 1988, Pennington and Hastie conducted a study designed to test the Story Model's ability to mediate juror decisions. In this study, subjects responded to a recognition memory task, "recognizing" or not recognizing evidence as having been presented as trial evidence. Subjects recognized evidence that fit their story of the verdict with a higher probability than evidence from stories associated with opposing verdicts. When subjects rated the importance of each piece of evidence, importance was strongly related to the role of that item in the story associated with that subject's verdict. A second experiment varied the order of evidence presented in order to manipulate ease of story construction. This manipulation established that the stories that were easier to construct influenced decisions more than stories not so easily constructed. For example, when evidence supporting an innocent verdict was presented in "story order" with clear causal and temporal links between items, and the order of evidence

supporting guilt did not follow an underlying causal and temporal structure, there were more innocent verdicts than guilty verdicts. When the ease of story construction was reversed, there were more guilty verdicts than innocent verdicts. (Pennington & Hastie, 1988).

In their most recent experiment, Pennington and Hastie (1992) provided further support of the Story Model. One of the variables in this experiment was the credibility of each witness. Pennington and Hastie predicted that credibility effects would be greater under conditions when stories were easily constructed. A witness's credibility could then be applied to the story as a whole, supporting the entire structure. Conversely, it was expected that when stories were difficult to construct, credibility information would be lumped together with other evidence in a less coherent manner and would have less impact. Importantly, this study controlled for memory effects by varying the order of evidence and by using simple materials that had previously been shown to be equally memorable (Devine & Ostrom, 1985). The ease of story construction was manipulated by varying evidence order: evidence presented issue by issue (character of the defendant, then motive, then opportunity etc.), versus evidence organized and presented by story, where each witness gave testimony regarding motive, opportunity, character and credibility together as a coherent block of information. The results of this study showed that evidence presented in story format resulted in more frequent decisions for the verdict supported by the story evidence and greater confidence in those decisions than evidence presented in issue order.

Implications for the available body of research on the Story Model are many. It behooves those interested in our judicial system as well as those

interested in human cognition to look at what such research may mean. The idea that jurors actively engage in story construction, and that the stories they construct are powerful mediators of verdict decisions, offers an explanation for how jurors arrive at their decisions, and why jurors demonstrate less than ideal levels of objectivity in the courtroom. The present project looked at the possibility of influencing jurors' natural tendency to construct stories into a less biased state of mind during a criminal trial. Because previous research has shown that a judge's instructions, which are intended to promote juror objectivity, are dominated by a juror's natural propensity to construct a story, it was worthwhile to look at ways to incorporate this tendency so as to encourage a less biased reasoning process. Specifically, this study attempted to tap into this cognitive process by asking mock jurors to construct two "cases" (stories), one for the defendant's innocence and one for the defendant's guilt as they were presented with evidence from a criminal trial, while other mock jurors were required to construct only one case (story) for either guilt or innocence. The hypotheses central to this study were:

    1. The construction of two conflicting stories violates the uniqueness certainty principle of the Story Model, leading subjects who believe they need to construct two stories to demonstrate lesser degrees of certainty in their decisions than subjects not given that instruction.

    2. Subjects who have incentive to construct stories for one verdict only (Innocence or Guilt), have a greater number of verdicts in that given direction than subjects not given that instruction, even though the evidence supports both sides evenly.

3. Recency and primacy effects of witness testimonies affect ease of story construction so that subjects who are told to construct stories in a given direction are more influenced by such effects than the controls and the subjects told to construct two stories. Subjects whose constructions are hampered by recency and primacy effects exhibit less decision certainty than subjects whose constructions are aided by recency and primacy effects.

Method

Subjects:

A total of 104 subjects participated in this research; 31 men and 73 women. Subjects were 73 San Jose State University undergraduates enrolled in general psychology courses, and 31 employees at GO Corporation, a computer software company located in Foster City, CA. Twenty-six subjects were assigned to each of four group. Two of the subjects returned booklets that had missing data. For this reason some of the analyses in the present study involve groups that are slightly uneven (25 versus 26 subjects). Subjects volunteered to be part of the experiment. Some of the students received course credit for their participation, while other students, as well as the GO employees, received no compensation for their participation, monetary or otherwise.

Materials:

The stimulus materials consisted of booklets that contained information as part of a trial transcript on a criminal murder case. Evidence was presented by witnesses who testified in a question-and-answer format. The pieces of evidence presented by each witness were similar in content to the evidence pieces used by Devine and Ostrom (1985), as they were previously shown to be equally memorable regardless of organization. Similar to Pennington and Hastie (1992),

the present experiment used non-complex evidence items. The format of the booklets was modeled after that used by Pennington and Hastie: 16 testimony items presented as a block of evidence per page. Each of four witnesses testified regarding four categories: motive, opportunity, character and credibility. As the Pennington and Hastie study established that the effect of evidence order (when done in story form) is maintained even if no credibility information is available. No information regarding the witness's relationship to the defendant was provided. Instead, the witness's occupation was briefly stated. Importantly, the evidence was presented in story format as determined by the 1992 Pennington and Hastie study, rather than issue format, in order to ensure equal ease of story construction across all treatment conditions.

Design and Procedure:

Testing occurred in 13 sessions over the course of six weeks. The subjects in a given testing session convened in a predetermined room, then met separately with the researcher either in another small room, or at a small table in the hallway. The researcher then gave each subject the appropriate instructions, after which the subject reentered the room and began reading the test booklet. Subjects were randomly assigned to one of the four groups as they met with the researcher to receive their instructions. All groups were informed that they were participating in a study examining jury cognition and deliberation. They were told that they would be reading a brief case summary describing a murder, and that they would then read transcripts of testimonies provided by four witnesses. They were told that they would be allowed to read the trial transcripts at their own speed, after which they would wait until every subject in that particular testing session had finished with the test booklets and were ready to begin a

mock jury deliberation. From this point on the initial instructions varied from group to group.

Group 1 (control) was told that after they finished reading the transcript, they would be participating in a mock jury deliberation, during which time they were to defend their opinion of the verdict, "guilty" or "innocent" whichever their opinion happened to be. Group 2 (guilt group) was told that upon completion of reading the transcript they would participate in a mock jury deliberation during which time they were to argue/support a case for the defendant's guilt. Conversely, Group 3 (innocent group) was told that during the mock jury deliberation they would be arguing/supporting a case for innocence. Group 4 (dual group) was told that after finishing the transcript, they would be participating in a mock jury deliberation during which time they would be required to argue/support a case for either innocence or guilt, and that immediately upon completion of the reading, they would be informed as to which side they would be defending.

After receiving the instructions, subjects received the appropriate booklet. Subjects reentered the original room where they worked independently alongside no more than 12 subjects. Each booklet began by reiterating the verbal instructions given previously, including the instructions particular to each group. Each booklet included a brief summary of the case describing the charge against the defendant and factual information regarding the time and location of the event in question. Testimony regarding the murder case was equally weighted, with the same number (two and two) of witnesses presenting evidence for innocent and guilty verdicts. Witnesses were similar in occupation and had no

stated relationship to the defendant In addition, the serial position of each witness was counterbalanced across booklets.

Subjects were allowed to study the material at their own pace. However, once each page was turned, subjects were not allowed to go back to previous evidence blocks. This restriction was required so that the presentation of evidence followed that provided in a courtroom as closely as possible. When subjects in the guilt, innocent, and dual groups reached the end of the booklet, they encountered a response sheet asking the following question: "Regardless of which case you will be supporting/arguing during the mock jury deliberation, what is your true opinion of this case?". Subjects were asked to check a box next to either "Defendant is guilty" or "Defendant is innocent." The response sheet for subjects in the control group had only a statement requesting that they check the box that indicated their opinion: "Defendant is guilty" or "Defendant is innocent." This requirement was a departure from the procedure used in the Pennington and Hastie (1992) study as well as many experiments involving jury verdicts, where the dependent variable has been continuous (i.e., degree of likelihood the defendant is guilty/innocent). As jurors in an actual criminal situation are required to make a categorical assessment of guilt or innocence, it was worthwhile to attempt to replicate that requirement. The response sheet for all groups also included a statement asking subjects to rate their degree of certainty in their personal verdict decision on a scale of 1 to 7, with 1 being "not very certain" and 7 being "very certain." Immediately upon finishing with the booklet and response sheet, subjects returned them to the researcher.

Subjects who completed this phase of the study were then asked to wait in the original meeting room until all the other subjects finished reading and

responding to their booklets. When all the subjects in the testing session were finished and had rejoined in the room, a researcher invited them to begin the deliberation by presenting a "case" for either guilt or innocence. From that point on, the researcher remained uninvolved in the discussion in order to simulate an actual jury deliberation as closely as possible. Discussion was allowed to continue for up to 30 minutes. When the researcher determined that deliberation had either come to an end or that the 30 minutes were up, subjects were asked to respond to a three-question survey. This survey asked the subjects to check the box that indicated their final decision ("Defendant is guilty" versus "Defendant is innocent"). They were also asked to indicate their degree of certainty in their decision and, if their opinion changed, why it changed. While the actual deliberation between subjects and the postdeliberation survey did not directly examine the hypotheses of this study, it did provide information regarding the effects of jury deliberation upon subjects' stories. Jury deliberation may influence jurors to discard their stories of the case as indicated in a change in verdict and verdict certainty on predeliberation to postdeliberation measures. The mock jury deliberation also fulfilled subjects' expectations of the study based on their initial instructions.

<div align="center">Results</div>

An important hypothesis of this study was that by simultaneously constructing two stories subjects demonstrate less certainty in their verdict decisions than subjects constructing one story. This analysis is presented first, using the following four dependent variables: (a) predeliberation verdict certainty, (b) postdeliberation verdict certainty, (c) a predeliberation "judgment" variable, and (d) a postdeliberation "judgment" variable. The decision certainty

measures are analyzed using analyses of variance and multivariate analyses of variance and involve two factors: group and order of witness testimony. Decision certainty as defined by verdict constancy is analyzed as well with a 4 x 2 (Group x Verdict Constancy) chi-square.

The dependent variables and factors listed above also compose the next analysis of variance to be presented. This analysis tested the hypothesis that witness order affects ease of story construction and hence decision certainty.

Finally, a series of chi-square analyses is presented to examine the hypothesis that subjects told to construct a story for a particular verdict demonstrate a greater number of verdicts in that given direction. The dependent variables used in these analyses are predeliberation verdicts and postdeliberation verdicts with group as a factor.

The average confidence rating among the four groups ranged from 3.85 to 4.48 (1 being "not at all certain" and 7 being "very certain"). Table 1 provides the means and standard deviations of predeliberation decision certainty indicated by the subjects in each group. A two way (Group x Witness Order) analysis of variance resulted in no main effects. Most of the subjects indicated neither extreme levels of certainty nor uncertainty, with 76% selecting a certainty level of 3 to 5. One of the issues addressed in this research was whether verdict and decision certainty are truly distinct constructs. A concern was that rather than deciding upon a verdict and then a degree of certainty for that verdict, subjects in fact engage in a more complex decision-making process, where both certainty and verdict are considered jointly. An effort was made to tap into this possibility by combining both verdict and certainty into a single dimension "judgment" variable. The pre- and postdeliberation confidence ratings of subjects who

Table 1

Means and Standard Deviations of Decision Certainty by Group and Witness
Order

	Decision Certainty	
	Mean	Standard Deviation
Group		
Control	4.48	1.56
Guilt	3.85	1.80
Innocent	4.42	1.10
Dual	3.85	1.26
Order		
GIIG[a]	3.92	1.32
IGIG	4.19	1.50
GIIG	4.04	1.31
IGGI	4.42	1.72

[a]Denotes order of witnesses: In this condition a witness presenting evidence
supporting a guilty verdict (G) began, followed by a witness who presented
evidence for an innocent verdict (I), followed by another witness who supported
innocence (I), and finishing with a witness who supported guilt (G).

chose a guilty verdict were multiplied by -1. The pre- and postdeliberation confidence ratings of subjects who selected an innocent verdict were multiplied by 1. This resulted in a single dimension judgment variable ranging from confidently guilty to confidently innocent. This judgment variable was then used as the dependent variable in a repeated measures multivariate analysis of variance with group as the factor. This resulted in a significant difference between groups $F(1, 98) = 3.65$, $p < .05$. Planned comparisons between the guilt and control groups ($F(1, 49) = 6.55$, $p < .05$), and the guilt and innocent groups ($F(49, 1) = 8.12$, $p < .01$), indicated that when verdict was combined with decision certainty into a single dimension judgment variable, there was a significant difference between the guilt group and the control and innocent groups (planned comparisons between the other groups did not produce significant results). This finding was supported by an analysis that examined the frequency of verdict changes from pre- to postdeliberation between groups. While this 4 x 2 (Verdict Constancy x Group) chi-square was not statistically significant, it did indicate that 27% of the guilt group switched verdicts after the mock deliberation compared with only 4% of the control group, 12% of the innocent group and 15% of the dual group. A series of 2 x 2 (Verdict Constancy x Group) chi-square analyses indicated a statistically significant difference only between the guilt and control group, $X^2(1, n=102) = 5.06$, $p < .05$. To examine the direction of the verdict changes, the pre- and postdeliberation verdicts were classified into four pre- and post deliberation patterns: (a) guilt, guilt; (b) innocent, innocent ; (c) guilt, innocent; and (d) innocent, guilt. Table 2 illustrates the frequency of each verdict pattern by group. A 4 x 4 (Verdict Pattern x Group) chi square analysis

Table 2

Verdict Pattern Frequency According to Group

	Verdict Pattern			
Group	GGa	II	GI	IG
Control	3	21		1
Guilt	5	14	6	1
Innocent		22	3	
Dual	2	20	4	

aDenotes verdict pattern with the predeliberation verdict first, followed by the postdeliberation verdict (in this example both verdicts were guilty).

demonstrated that of those subjects who changed their verdicts after the deliberation (15% of the sample), 87% changed from a guilty to an innocent verdict.

Previous research regarding the Story Model indicated that ease of story construction is a determining factor in the weight of the evidence involved (Pennington & Hastie, 1988). It was expected that those subjects who first read testimony supporting the story they were told to construct would show a higher degree of certainty in their predeliberation verdicts than subjects who first read evidence that contradicted the story they were told to create. It was also a main hypothesis of this study that the dual group would be less affected by the order of witness testimonies than subjects in the other groups. However, this interaction between condition and witness order was not supported by the data ($\underline{F}$ (1, 98) = 1.92, $\underline{p}$ > .05).

Among the four groups the percentage of predeliberation guilty verdicts ranged from 12 percent to 42 percent. Table 3 presents the predeliberation verdict frequency for each group manipulation. A 4 x 2 (Group x Verdict) chi-square analysis detected a significant difference in predeliberation verdict frequencies between groups, $\underline{X}^2$ (1, $\underline{n}$= 103) = 9.28, $\underline{p}$ <.05.

In order to determine where these differences lay, a series of 2 x 2 chi-square analyses was conducted on the data. One such analysis looked at the difference in frequencies of predeliberation verdicts between the guilt and the innocent groups. Forty-two percent of the subjects in the guilt group selected a guilty verdict, compared with only 12% of the subjects in the innocent group giving the guilty verdict. This difference was significant, $\underline{X}^2$ (1, $\underline{n}$ = 52) = 6.26, $\underline{p}$ < .05.

Table 3

Predeliberation Verdict Frequency According to Group

	Verdict	
Group	Guilty	Innocent
Control	3	22
Guilt	11	15
Innocent	3	23
Dual	6	20

A 2 x 2 chi-square analysis of predeliberation verdicts between the guilt group and the control group also yielded a significant result, $\underline{X}^2(1, \underline{n} = 51) = 5.88$, $\underline{p} < .05$. However, a similar analysis between the innocent and control groups did not result in a significant difference. As anticipated, a 2 x 2 chi-square analysis comparing the control group and the dual group as variables did not indicate a statistical difference in the distribution of predeliberation guilty and innocent verdicts. It was expected that the dual group, due to uncertainty and ambiguous evidence, and the control group, due to chance, should show similar verdict distributions.

Contrary to the expected result, the guilt group versus the dual group manipulation did not significantly affect the distribution of predeliberation verdicts, $\underline{X}^2 (1, \underline{n} = 51) = 2.51$, $\underline{p} > .05$. Similarly, there was no significant difference in predeliberation verdict distribution between the innocent group and the dual group, $\underline{X}^2 (1, \underline{n} = 52) = 1.21$, $\underline{p} > .05$.

Postdeliberation verdict frequencies were analyzed in a similar fashion. Of the comparisons made, only a 2 x 2 chi-square analysis between the guilt and innocent groups resulted in a significant difference $\underline{X}^2 (1, \underline{n} = 51) = 4.50$, $\underline{p} < .05$.

Discussion

By eliciting dual story construction, this study aimed to test the uniqueness principle of the Story Model (Pennington & Hastie, 1986a). It was hypothesized that the dual group, having incentive to construct a case both for innocence and for guilt, would exhibit less certainty in their actual verdict opinion than the subjects in the other three treatment conditions. However the analyses did not support this hypothesis. It is interesting that the confidence rating measurement that was expected to detect subtle differences between the different instruction

groups failed to do so while the dichotomous verdict variables demonstrated significant differences in actual verdicts rendered. This could be due in part to the fact that the case presented in the stimulus materials was quite ambiguous. Subjects may simply have demonstrated a recognition that the presented situation was far from an "open and shut case" by selecting similar, mid-range certainty levels. Another possible explanation is that decision certainty as a distinct construct is not a viable measurement for decision evaluation. When decision certainty was combined with pre- and postdeliberation verdicts and analyzed jointly, the results were similar to those found by chi-square analyses of the verdict decisions. In these analyses, as well as in those measuring verdict constancy, it was demonstrated that the guilt group differed from the other groups in terms of the verdict rendered and certainty in that verdict.

All of the analyses involving the witness order manipulation failed to produce significant results. The materials used in this research closely simulated that used in previous research by Devine and Ostrom (1985) in order to provide subjects with evidence that was equally memorable. It is possible that the simplicity of these materials contributed to the absence of significant effects from the witness order manipulation. Any primacy and recency effects that would either inhibit or enhance story construction may not have been detectable in easily memorable material.

The analyses involving verdict decision frequencies as a dependent variable resulted in a significant difference between groups. In particular, subjects who were told they would be presenting a case for guilt during jury deliberation were significantly more likely to select a predeliberation guilty verdict than subjects who were told they would be presenting a case for innocence. Subjects in the

guilt group were also more likely to select a predeliberation guilty verdict than were subjects in the control group. The evidence was weighted evenly between guilt and innocence, and an argument for guilt was no more plausible than one for innocence. Therefore, the above pattern demonstrates that the story constructed influenced the judgment of guilt.

The majority of subjects in all four groups selected an innocent predeliberation verdict. Again, given the ambiguous and balanced nature of the evidence, this suggests the presence of an underlying force at work to influence jurors to reach innocent verdicts. Research done by Feild and Barnett (1978) showed that college students were significantly more lenient in sentencing someone charged with a crime than were non-students. As two-thirds of the subjects used in the present study were college students, perhaps this offers an explanation for the number of innocent verdicts. It should be mentioned that there were noticeable differences between the two sample populations used in this research. Chiefly, subjects drawn from GO Corporation were more articulate and seemed to be much more engaged during the deliberation process than were the college students who participated in the experiment. The duration of GO employee deliberations was at least twice as long as the deliberations between college students. The difference was striking, suggesting that there is a distinct difference between these populations, at least in a deliberation setting. This is of concern due to the quantity of psychological research, past and present, that relies upon the student population as a subject pool. However, MacCoun and Kerr (1988) compared college students and community mock jurors and found no significant differences in terms of leniency. This same research determined that a leniency bias, or asymmetry effect, did occur when subjects were given

instructions to evaluate their decisions based on the "beyond reasonable doubt" standard as opposed to the "preponderance of evidence" standard. This "beyond a reasonable doubt" standard has been estimated as requiring a probability of guilt greater than .90. This estimation, combined with an "innocent until proven guilty" standard and a cultural fear of convicting an innocent person could well influence jurors to render an innocent verdict. It was noted during the present study that while jurors engaged in mock deliberations they frequently expressed the "beyond a reasonable doubt" standard. It is interesting to note that although the dual group did not have significantly less innocent predeliberation verdicts than did the innocent group, a trend developed where 42% of the guilt group chose a guilty predeliberation verdict and 23% of the dual group chose a guilty predeliberation verdict, compared with only 12% of the innocent group and 12% of the control group. It is possible that constructing stories which support a guilty verdict offsets the tendency of jurors to render an innocent verdict.

Measurements comparing predeliberation verdicts and certainty levels with postdeliberation verdicts and certainty levels underscore the fact that much remains unclear about what factors influence a juror's final decision. Much of the previous research on jury deliberation examines the effects group dynamics have upon verdict decisions (MacCoun & Kerr, 1988; Weld & Danzig, 1940). Research has indicated the deliberation process itself may create a leniency bias (Stasser & Bray, 1982). This is supported by the fact that of the jurors who switched verdicts from pre- to postdeliberation, 87% switched to an innocent verdict. Only one of the subjects in the control group however, changed verdicts after the deliberation. This suggests that the story construction manipulation had some effect on a juror's verdict certainty or openness to a change of opinion, especially

when compared with the frequency of verdict switching demonstrated by subjects in the other groups. The Story Model would suggest that the stronger a person's story, the more difficult it would be to sway that person. According to the Story Model, the control group would have the most authentic story as this group was not influenced to create either a particular story or two stories at once. The guilt group would be faced with having to construct a story supporting a guilty verdict and a possible leniency bias as well. The fact that this group had the highest number of pre- to postdeliberation changes may reflect this conflict. While the majority of both the innocent and dual groups selected an innocent verdict, both groups were more than twice as likely as the control group to change verdicts after the deliberation, also suggesting the effects of the story construction manipulation.

The Story Model posits that humans are inherently driven to organize information into a narrative, cause and effect structure. It is a premise of this model that this need is so fundamental it overrides other considerations, i.e., the desire to remain impartial during a trial. This research took the uniqueness principle of the Story Model and applied it to a mock jury decision-making simulation in order to elicit dual story construction. The idea behind this application was to increase juror uncertainty and hence lower juror bias. A major consideration of this work was whether or not an incentive could be provided that would truly promote dual story construction. Given humans' fundamental need to make sense of things, it remains questionable whether any incentive would be strong enough to cause jurors simultaneously and equitably to construct two stories. Indeed, some subjects in the dual group reported being aware of having a "favorite story" even as they constructed two. The deliberation

incentive was effective in that during debriefing subjects were uniformly surprised to learn the true focus of the present study. While many subjects reported that during the experiment they had formed hypotheses concerning the study's main purpose, they were surprised to learn that the primary focus was on measuring the verdicts rendered before the mock deliberation occurred. However, it is reasonable to question whether the deliberation incentive was powerful enough to induce actual simultaneous story construction. Clearly, further research on the Story Model is needed to disentangle these issues.

Appendix

Stimulus Materials

(Instructions for control group)

In criminal trials, jurors are asked to listen to all the evidence presented and arrive at either an innocent or a guilty verdict. They then participate in a jury deliberation with their fellow jurors to arrive at a final, unanimous decision. This study will examine the effects of jury deliberation upon a juror's initial verdict decision. You will be asked to take the role of a juror considering the case to be presented.

You will read a courtroom transcript in which a number of witnesses are questioned by a lawyer. The lawyer will question each witness one at a time, asking each a series of questions before moving on to the next witness. When you have finished reading the transcript, you will be asked to participate in a mock jury deliberation, in which you will support your personal opinion of the case, whether the defendant is "guilty" or "innocent".

When the deliberation has either ended or 30 minutes have passed, you will be given another response sheet which will ask you what your postdeliberation verdict is and how certain you are of that decision. You will also be asked (if your decision changed from predeliberation to postdeliberation), why your decision changed.

Procedure: When I tell you to start, please begin reading the transcript which will begin with a brief summary of a murder trial, and will then move on to the witness testimonies which will be in question and answer format. You may read each block of evidence (each page) at your own pace, however, once you have turn the page you may not go back to previous pages. Please read the testimony carefully.

(Instructions for guilt group)

In criminal trials, jurors are asked to listen to all the evidence presented and arrive at either an innocent or a guilty verdict. They then participate in a jury deliberation with their fellow jurors to arrive at a final, unanimous decision. This study will examine the effects of jury deliberation upon a juror's initial verdict decision. You will be asked to take the role of a juror considering the case to be presented.

You will read a courtroom transcript in which a number of witnesses are questioned by a lawyer. The lawyer will question each witness one at a time, asking each a series of questions before moving on to the next witness. When you have finished reading the transcript, you will be asked to participate in a mock jury deliberation, in which your task will be to support a "guilty" verdict (regardless of what your personal opinion may be).

When the deliberation has either ended or 30 minutes have passed, you will be given another response sheet which will ask you what your postdeliberation verdict is and how certain you are of that decision. You will also be asked (if your decision changed from predeliberation to postdeliberation), why your decision changed.

Procedure: When I tell you to start, please begin reading the transcript which will begin with a brief summary of a murder trial, and will then move on to the witness testimonies which will be in question and answer format. You may read each block of evidence (each page) at your own pace, however, once you have turn the page you may not go back to previous pages. Please read the testimony carefully.

(Instructions for innocent group)

In criminal trials, jurors are asked to listen to all the evidence presented and arrive at either an innocent or a guilty verdict. They then participate in a jury deliberation with their fellow jurors to arrive at a final, unanimous decision. This study will examine the effects of jury deliberation upon a juror's initial verdict decision. You will be asked to take the role of a juror considering the case to be presented.

You will read a courtroom transcript in which a number of witnesses are questioned by a lawyer. The lawyer will question each witness one at a time, asking each a series of questions before moving on to the next witness. When you have finished reading the transcript, you will be asked to participate in a mock jury deliberation, in which your task will be to support an "innocent" verdict (regardless of what your personal opinion may be).

When the deliberation has either ended or 30 minutes have passed, you will be given another response sheet which will ask you what your postdeliberation verdict is and how certain you are of that decision. You will also be asked (if your decision changed from predeliberation to postdeliberation), why your decision changed.

Procedure: When I tell you to start, please begin reading the transcript which will begin with a brief summary of a murder trial, and will then move on to the witness testimonies which will be in question and answer format. You may read each block of evidence (each page) at your own pace, however, once you have turn the page you may not go back to previous pages. Please read the testimony carefully.

(Instructions for dual group)

In criminal trials, jurors are asked to listen to all the evidence presented and arrive at either an innocent or a guilty verdict. They then participate in a jury deliberation with their fellow jurors to arrive at a final, unanimous decision. This study will examine the effects of jury deliberation upon a juror's initial verdict decision. You will be asked to take the role of a juror considering the case to be presented.

You will read a courtroom transcript in which a number of witnesses are questioned by a lawyer. The lawyer will question each witness one at a time, asking each a series of questions before moving on to the next witness. When you have finished reading the transcript, you will be asked to participate in a mock jury deliberation, in which your task will be to support either (depending upon to which category you have been assigned) a "guilty" verdict or an "innocent" verdict (regardless of what your personal opinion may be).

When the deliberation has either ended or 30 minutes have passed, you will be given another response sheet which will ask you what your postdeliberation verdict is and how certain you are of that decision. You will also be asked (if your decision changed from predeliberation to postdeliberation), why your decision changed.

Procedure: When I tell you to start, please begin reading the transcript which will begin with a brief summary of a murder trial, and will then move on to the witness testimonies which will be in question and answer format. You may read each block of evidence (each page) at your own pace, however, once you have turn the page you may not go back to previous pages. Please read the testimony carefully.

(Case summary)

The defendant, Jeffrey T. Williams, was brought to trial in Franklin County, Ohio, on the date of September fourteenth, nineteen hundred and eighty-seven. He was charged with the murder of one Alex D. Branch. Mr Branch was hit in the back of the head with a heavy object sometime between 4:00 and 5:00 p.m. and died of a massive head injury. William's pleaded not guilty to the murder charge. It is known that the defendant was well acquainted with the deceased and that they had worked for the same company for about three years.

We now ask you, as a juror, to read carefully the evidence to be presented.

Judge: Let us now proceed with the rest of the trial. Counsel, would you continue with your questioning.

Lawyer: Thank you, your Honor.

(Evidence items from four witnesses in GIIG witness order)

(Guilt)

Your Honor, I have four questions for Mr. Thompson:

Q. Mr. Thompson, what is your occupation?

A. I am a delivery person for a parcel service.

Q. Can you tell me what you observed the afternoon of Sept. 14?

A. I was delivering a package at an apartment down the hall and I heard what sounded like arguing coming from room #223. Someone yelled "I could kill you!"; I heard it very clearly.

Q. Then what happened?

A. Then this guy (points at the defendant) comes rushing out of the apartment and goes past me down the stairs.

Q. How did the defendant seem to you at the time?

A. He was very upset, in a big hurry. He brushed by me in the hall as though he hardly noticed I was there.

(Innocent)

Your honor, I have four questions for Mr. Wright:

Q. Mr. Wright, what is your occupation?

A. I'm a taxi cab driver.

Q. Can you tell me what you observed on the afternoon of Sept. 14th?

A. Sure. About 4:30 I got a call for a fare over on 5th and Mason. I pick him up (points to the defendant) and take him to Harry's on 22nd.

Q. Can you tell me about the ride?

A. Well, we started talking about the big game, you know, since he was going to Harry's I figured he was a sports guy. Anyway, he tells me he lost a big bet on it to his friend. I told him the same thing had happened to me and we laughed about it. He was going to Harry's to watch the postgame and have a couple of brews.

Q. How did the defendant appear to you at the time?

A. He seemed pretty up, in a good mood which I thought was being a good sport. He had a lot of energy.

(Innocent)

Your Honor, I have four questions for Mr. Tims:

Q. Mr. Tims, what is your occupation?

A. I'm a painter.

Q. Can you relate to the court what you observed on the afternoon of Sept. 14th?

A. I was on a job in the next apartment over. I was painting the living room wall that separates the two apartments when I heard all this yelling coming from over there. It got pretty boisterous, I heard someone yell, "I could kill you!" real loud and then laughing.

Q. Did you hear or see anything else from the apartment after that?

A. Yeah, I heard the door slam, then after a while I heard music, like from a stereo. That was pretty loud too.

Q. Did you get any impression about the defendant during all this?

A. You mean what he's like? I don't know - pretty rowdy I guess. They were having a good time.

(Guilt)

Your Honor, I have four questions for Mr. Jarvis:

Q. Mr. Jarvis, what is your occupation?

A. I'm a plumber.

Q. Can you tell me what you observed the afternoon of Sept. 14th?

A. I was in the men's bathroom in the lobby, working on one of the latrines. One wasn't working right. About 4:15 - 4:30, the defendant comes in, all in a hurry. He doesn't see me at first, because I'm you know, down on the floor. He goes straight to the sink and starts washing his hands real roughly, real good.

Q. Did you observe anything else?

A. He's saying things under his breath. I heard something about, "...nobody's gonna get by with that.", Then he sees me and stops.

Q. How did the defendant seem to you at the time?

A. At first he seemed real pissed off. After he saw me he looked real surprised and pretty nervous, antsy.

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