

Effects of Inconsistent Eyewitness Statements on Mock-Jurors' Evaluations of the Eyewitness, Perceptions of Defendant Culpability and Verdicts*

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In attempting to discredit an eyewitness, it is a common strategy for an attorney to highlight inconsistencies in the eyewitness's recall testimony during cross-examination and encourage the jurors to infer, based on those inconsistencies, that the eyewitness's memory is faulty. An experiment was conducted to examine the effectiveness of this cross-examination strategy. Subjects viewed a simulated cross-examination and rendered judgments about the eyewitness and defendant. The type of inconsistent testimony was manipulated between subjects. Subjects exposed to inconsistent recall testimony about either central or peripheral details perceived the eyewitness as less credible (as evidenced by ratings on multiple dimensions) and the defendant as less culpable. Inconsistency on central details led to fewer convictions. Results point to the effectiveness of this cross-examination strategy.

Acknowledging the fallibility of eyewitness identification, the criminal justice system has devised several safeguards for protecting defendants against erroneous conviction resulting from mistaken eyewitness identification. These safeguards

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include the presence of counsel during postindictment lineups (*U.S. v. Wade*, 1967), expert psychological testimony about factors that influence eyewitness memory (*People v. MacDonald*, 1984), and judicial instructions pertaining to the factors that influence eyewitness memory (*U.S. v. Telfaire*, 1972). In practice, defense attorneys are frequently not present at lineup tests from which their clients are identified (Brigham & Wolfskeil, 1983). Admission of expert testimony on eyewitness memory is an exception rather than the rule (Walters, 1985). Cautionary instructions are likewise rarely used (Walters, 1985), and empirical research casts doubt on their effectiveness when they are used (Cutler, Dexter, & Penrod, 1991; Cutler & Penrod, in press; Greene, 1988).

The most commonly used safeguard against mistaken eyewitness identification is cross-examination (Walters, 1985). During cross-examination attorneys often attempt to cast doubt on eyewitness testimony. This can be accomplished by revealing, through questions to the eyewitness and others, conditions surrounding the crime that might inhibit perception, encoding, or storage of crime information. In addition, attorneys often attempt to emphasize factors associated with the identification test that would make accuracy unlikely or difficult to assess. Another frequently used tactic is to attempt to discredit eyewitnesses by divulging inconsistencies in their testimony (Bailey & Rothblatt, 1985). Prager, Moran, and Sanchez (1992) found that public defenders rated identification of inconsistencies in witness statements as one of the more important tasks in trial preparation. Judges' instructions in the state of Florida explicitly advise jurors to draw inferences about accuracy based on the consistency of eyewitness statements (Florida Standard Jury Instructions in Criminal Cases, 1994). The current research examines the influence of testimonial inconsistencies revealed during cross-examination.

Previous studies of cross-examination investigated the effects of various aspects of eyewitness testimony on jurors' decisions about eyewitness accuracy. Jurors tend to be insensitive to testimony about the encoding conditions surrounding the crime and retrieval conditions surrounding the identification test (Cutler, Penrod, & Dexter, 1990; Lindsay, Wells, & O'Connor, 1989; Lindsay, Wells, & Rumpel, 1981) but are instead influenced by the level of detail in eyewitness testimony (Bell & Loftus, 1989), the accuracy of those details (Wells & Leippe, 1981), and the confidence of eyewitnesses in the accuracy of their identifications (Cutler et al., 1990; Lindsay et al., 1981; Wells, Lindsay, & Ferguson, 1979).

Two studies have examined the effects of eyewitness consistency on jurors' ratings of defendant culpability. In Lindsay, Lim, Marando, and Cully's (1986) Experiment 3, undergraduate students listened to an audiotaped simulated trial. In the control condition, there were no inconsistencies in the eyewitness's testimony. In the inconsistent eyewitness condition, the eyewitness testified that "she (a) originally stated the criminal was blonde, (b) did not think that the defendant could be described as blonde, (c) did not know if the defendant altered her hair color between the time of the crime and the lineup procedure, (d) recalled that the defendant's hair was dark when identified from the lineup, but (e) still felt certain she had made an accurate identification." Consistency did not significantly influence jurors' verdicts. Despite the lack of a difference in verdict pattern, Lindsay

et al. (1986) found that jurors who voted guilty perceived the eyewitness as significantly more consistent than did jurors who voted not guilty. As Lindsay et al. (1986) point out, this finding might be due to jurors' attempting to justify their verdicts after the fact.

Leippe and Romanczyk (1989) investigated the effects of inconsistencies in the statements of adult and child eyewitnesses on mock-juror reactions. In their study, inconsistencies were not contradictory statements as in Lindsay et al.'s study; rather, inconsistencies referred to statements made at trial but not given during pretrial investigation. The stimulus consisted of a written trial summary. Consistency of adult witnesses had a nonsignificant effect on jurors' perceptions of witness credibility and verdict. Inconsistencies in testimony reduced perceptions of the six-year old witness's credibility but did not significantly influence verdict.

Like Lindsay et al. (1986) but unlike Leippe and Romanczyk (1989), the current study limited its examination of inconsistent testimony to contradictory statements. This study differs from Lindsay et al.'s in several respects. First, Lindsay et al. manipulated consistency on only one descriptive dimension and found no effect. We devised a more powerful manipulation by increasing the number of descriptive dimensions on which the witness gives inconsistent testimony. Second, the dimension on which the witness gives inconsistent testimony was manipulated: central versus peripheral information. Witnesses are often questioned repeatedly and by different sources (at the scene of the crime by a uniformed officer, in follow-up interviews with detectives, in depositions with attorneys and finally on the witness stand). Opportunities therefore exist for witnesses to contradict themselves on a variety of dimensions, which are more or less relevant to the central issues in the case. We therefore thought it would be useful to examine whether the centrality of the information about which the witness gives inconsistent testimony impacts differentially on juror reactions to the witness and testimony.

In this study, central details focused on the perpetrator's appearance. These details were considered central because identification of the defendant was the primary issue in the case. Peripheral details referred to objects in the eyewitnessing environment which could not easily be encoded merely by focussing one's attention on the perpetrator's physical characteristics. Peripheral details can conceivably be encoded (or not) independently of the physical characteristics of the perpetrator.¹

We hypothesized that jurors exposed to inconsistent (as compared to consistent) eyewitness testimony would perceive the eyewitness as less credible and the defendant as less culpable and would be less likely to recommend a guilty verdict. We also hypothesized that inconsistent statements concerning central details would have a greater influence on mock-jurors' reactions than would inconsistent statements concerning peripheral details.

¹ As an anonymous reviewer noted, the central versus peripheral distinction could be made not only from a perceptual standpoint but also from a legal standpoint, where a central detail would have high probative value and a peripheral detail would have low probative value. Other distinctions may exist as well. Our intention was to capture the perceptual distinction.

METHOD

Design

A 2 (testimony about central details; inconsistent vs. consistent) \times 2 (testimony about peripheral details; inconsistent vs. consistent) factorial design was employed.

Participants

Participants were 100 college undergraduates from introductory psychology classes at a southeastern regional state university who received extra course credit for their participation. Participants were randomly assigned to one of the four experimental conditions ($n = 25$ in each).

Procedure

Participants were tested in groups ranging in size from five to eight. They were informed that they were to view a videotaped direct and cross-examination of an eyewitness who was robbed while working in a bank, that the testimony given by the eyewitness assisted in the apprehension of the alleged perpetrator, and that the same eyewitness later identified the male suspect. Although there were no explicit instructions as to whether deliberation would take place, participants were instructed to pay close attention to the examination and cross-examination because they would be responding to the evidence in the case as if they were jurors. After viewing the videotape, they completed questionnaires containing the dependent measures.

Stimulus Materials²

Videotaped Cross-Examination

The videotape was based on an actual deposition taken from an eyewitness to an armed robbery. The simulated cross-examination was videotaped in a moot courtroom at a local law school. The videotape lasted approximately 25 minutes and showed direct and cross-examination of a female bank teller. Attorneys in the videotape were portrayed by third-year law students. The witness described the suspect and the circumstances in four different versions of the statement. In the control condition (peripheral-consistent/central-consistent) the witness gave no inconsistent statements. The second condition contained inconsistencies only on central details. The third condition contained only peripheral inconsistencies. The fourth condition contained both sets of inconsistencies (central and peripheral).

² Copies of the stimulus materials are available upon request.

The four versions of the videotape were created by editing from a single master tape, so that all details not varied were identical.

Independent Variables

When an inconsistency is revealed in court, it is usually between what an eyewitness said during an earlier interview (e.g., police report or deposition) and what the eyewitness said in a later interview or in court. This study simulated this situation by portraying inconsistencies between previous out-of-court statements and current in-court statements. The attorney asked a question of the eyewitness and the eyewitness answered. In the consistent conditions, the attorney then moved on to the next question. In the inconsistent conditions, the attorney asked whether the eyewitness had given a specific alternative answer during a previous interview and the eyewitness conceded that she did so. The attorney then asked which answer was correct and the eyewitness would respond with the more current answer. In the central-inconsistent conditions, inconsistencies were revealed on four separate dimensions: whether the perpetrator was clean-shaven, wore sunglasses, wore a watch,³ and the color of the perpetrator's jacket. Likewise, in the peripheral-inconsistent conditions, inconsistencies on four peripheral dimensions were exposed: the model of the perpetrator's automobile, what the perpetrator was carrying (bag versus briefcase), whether a security guard was present and which customer entered the bank together with the perpetrator. The total number of items recalled (and percent of items recalled inconsistently) by the eyewitness for the control, central-consistent/peripheral-inconsistent, central-inconsistent/peripheral-consistent and central-inconsistent/peripheral-inconsistent conditions were 37 (0%), 43 (9.3%), 42 (9.5%), and 48 (16%), respectively.⁴

Dependent Variables

The questionnaire included items assessing verdict (not guilty vs. guilty); probability that the defendant committed the crime; perception of defense and prosecution case strength; importance of each side's evidence to the participants' determination of verdict; and eight items assessing evaluations of the eyewitness (credibility, consistency, confidence, accuracy, likability, honesty, appearance of confusion, and trustworthiness of the eyewitness and defendant). Other than for verdict, responses to all items were recorded on 7-point scales (0 to 6).

RESULTS

Manipulation Check

A 2 (peripheral details: inconsistent vs. consistent) \times 2 (central details: inconsistent vs. consistent) ANOVA was performed on subjects' ratings of the wit-

³ Description of the watch was classified as a central detail because, during the robbery, the perpetrator drew attention to his watch in his interaction with the victim/witness.

⁴ This design confounds type and number of inconsistencies. An alternative design would be to expose subjects to two central and two peripheral inconsistent statements in the inconsistent/inconsistent condition, but that would affect the manipulation in other undesirable ways.

ness's consistency. The witness was rated as more consistent when central details were consistent ($M = 2.18$) rather than inconsistent ($M = 1.00$), $F(1,96) = 19.29$, $p < .01$, $\eta^2 = .14$. Similarly, the witness was rated as more consistent when peripheral details were consistent ($M = 2.22$) rather than inconsistent ($M = 0.96$), $F(1,96) = 22.00$, $p < .01$, $\eta^2 = .16$. The interaction was not significant $F(1,96) = 0.272$, $p > .05$, $\eta^2 = .002$, showing that the two main effects were additive and the manipulations were successful. The means were 2.88 (peripheral-consistent/central-consistent), 1.56 (peripheral-consistent/central-inconsistent), 1.48 (peripheral-inconsistent/central-consistent) and .44 (peripheral-inconsistent/central-inconsistent).

Verdict and Defendant Culpability Rating

Conviction rate was 18% across conditions. Conviction rates by condition were 32% for peripheral-consistent/central-consistent, 12% for peripheral-consistent/central-inconsistent, 20% for peripheral-inconsistent/central-consistent and 8% for peripheral-inconsistent/central-inconsistent. A 2 (peripheral details) \times 2 (central details) log-linear analysis of verdict revealed that central details had a significant main effect on verdict, $\chi^2(1, N = 100) = 4.60$, $p < .05$, r (inconsistent = 1/consistent = 0; guilty = 1/not guilty = 0) = .21. Participants convicted significantly less often when testimony about central details was inconsistent. The main effect for peripheral details was not significant, $\chi^2(1, N = 100) = 1.15$, $p > .05$, r (inconsistent = 1/consistent = 0; guilty = 1/not guilty = 0) = .10. The interaction between central and peripheral details was also nonsignificant, $\chi^2(1, N = 100) = 0.29$, $p > .05$, r = (consistent-consistent and inconsistent-inconsistent = 1/other two cells = 0; guilty = 1/not guilty = 0) = .05.

A 2 \times 2 ANOVA of the culpability ratings revealed no significant main effects. The interaction was also nonsignificant.

Evaluations of the Eyewitness

The eight items assessing evaluations of the eyewitness were highly intercorrelated: $\alpha = .85$ and average corrected item-total correlation = .60. Descriptive statistics for these items are displayed in Table 1.

On each dimension the most positive evaluation of the eyewitness occurred in the peripheral-consistent/central-consistent condition and the least positive evaluations occurred in the peripheral-inconsistent/central-inconsistent condition. A 2 (peripheral details) \times 2 (central details) MANOVA with the eight evaluation items as dependent measures revealed significant multivariate main effects for both central details, $F(8,89) = 2.56$ $p < .05$, and peripheral details, $F(8,89) = 3.42$, $p < .01$. Overall, the subjects reported significantly more negative impressions of the eyewitness in conditions which included inconsistencies of either type. The multivariate interaction was nonsignificant: $F(8,89) = 1.07$, $p > .05$. Cell means for the eight evaluation items are displayed in Table 1.

Contrary to our hypothesis, central details did not produce significantly larger effects than did peripheral details. The multivariate main effect for periph-

Table 1. Effects of Inconsistency-Consistency on Mock-Jurors Evaluations of the Eyewitness and Defendant

Rating dimension	Grand mean	Standard deviation	Consistent	Central inconsistent	Peripheral inconsistent	Central and peripheral inconsistent
Verdict (% guilty)	18%	0.39	32%	12%	20%	8%
Culpability	2.57	1.57	3.12	2.36	2.48	2.32
Credibility	1.96	1.61	3.12	1.96	1.88	0.88
Consistency	1.59	1.58	2.88	1.56	1.48	0.44
Confidence	3.34	1.77	4.04	3.44	3.36	2.52
Accuracy	1.91	1.49	3.08	2.00	1.68	0.88
Likability	3.48	1.49	4.12	3.36	3.20	3.24
Honesty	3.11	1.41	3.44	3.36	3.16	2.48
Confusion	3.94	1.59	3.24	4.04	3.44	5.04
Trustworthy	2.86	1.43	3.64	3.04	2.84	1.92

eral details was somewhat larger than for central details. In addition, we compared the magnitude of the correlations between central and peripheral details with each dependent variable by computing z for the difference between pairs of dependent correlations. None of these differences was statistically significant, indicating that in no case did central details produce a significantly larger effect than peripheral details.

A final analysis resembled one conducted by Lindsay et al. The mean consistency rating for subjects who convicted ($n = 18$) was 3.72, whereas the mean for subjects who acquitted ($n = 82$) was 1.12. As in Lindsay et al.'s study, this difference was significant, $t(98) = 8.12$, $p < .001$, $r = -.63$. Subjects who convicted perceived the eyewitness as more consistent compared to subjects who acquitted.

DISCUSSION

The results of this experiment supported the hypothesis that jurors exposed to inconsistent (as compared to consistent) eyewitness testimony would perceive the eyewitness as less credible, the defendant as less culpable and would be less likely to convict. In contrast, Lindsay et al. (1986) found no effect for consistency on jurors' verdicts. As mentioned earlier, Lindsay et al. (1986) manipulated consistency on only one descriptive dimension. The difference between our results and theirs may be attributable to the fact that the current study manipulated inconsistency on more descriptive dimensions than did Lindsay et al.—the more powerful the manipulation, the greater the effect.

Another factor that might explain the differential pattern of results is the strength of the evidence or baseline credibility of the witness in the trial simulations. The conviction rate in Lindsay et al.'s control condition (i.e., no inconsistent testimony) was 43%. The conviction rate in this study's control condition was

only 32%. Further, in the current study mock jurors viewed the eyewitness in the control condition as moderately inconsistent ($M = 2.88$ on a 0–6 scale) and somewhat confused ($M = 3.24$) even though the witness did not give inconsistent statements. Thus, in our study the witness had some credibility problems. Comparing the two sets of findings, it may be the case that inconsistency influences jurors' reactions only (or to a greater extent) when the witness does not have high credibility or when jurors are predisposed to acquit because the evidence is weak. Consistent with this view, Leippe and Romanczyk (1989) found that inconsistency significantly influenced perceptions of a child's testimony but did not significantly influence perceptions of an adult's testimony.⁵ A more pointed test of this explanation would require the independent manipulation of evidence strength, witness credibility, and inconsistency. Note also that the magnitude of the inconsistency effect in the current study may be exaggerated due to the limited amount of trial information available to the mock-jurors. The inconsistent testimony may therefore have been unusually weighted. This problem is typical of trial simulation research. Perhaps it can be at least partially alleviated with the use of more realistic simulated trials.

Like Lindsay et al. (1986), this study found that subjects who convicted rated the eyewitness as more consistent than did subjects who acquitted. Whether perceptions of consistency influence verdict or choice of verdict affects inferences of consistency is difficult to determine with these data. Modeling techniques can sometimes shed light on directional differences.

The prediction that inconsistent central details would have a greater influence than inconsistent peripheral details received mixed support. On the one hand, inconsistency in central details produced a significant main effect on verdict, whereas the main effect for peripheral details was nonsignificant. On the other hand, the two types of inconsistency had comparable effects on the evaluations of the eyewitness and on the manipulation check. The conviction rates and credibility/culpability ratings were unexpectedly low in all but the inconsistent/inconsistent conditions. This may have suppressed the main effects and made the test of differential impact less sensitive. Further research with more balanced evidence or a more credible witness may reveal the hypothesized pattern. Another explanation is that erroneous classification of information as central or peripheral contributed to comparable effects. For example, we assumed that testimony about the perpetrator's watch was central but testimony about his briefcase was peripheral. Perhaps jurors did not perceive this difference. Likewise, perhaps other approaches to classification (see footnote 1) would have produced the hypothesized interaction.

Besides examining the relative impact of inconsistent recall of central versus peripheral details, further research should examine other qualitative differences that fall under the general category of "inconsistent testimony." This study and Lindsay et al.'s (1986) study focused exclusively on contradictions between pre-trial and in-court statements. In contrast, Leippe and Romanczyk (1989) exam-

⁵ We would like to thank Michael Leippe for bringing this explanation to our attention.

ined the influence of statements made in court that were not made during pretrial interviews. Other types of inconsistencies include contradictory statements made in court, pretrial descriptions not recalled in court, etc. The differential impact of these types of inconsistent statements is worthy of study.

In addition to asking whether the consistency of testimony influences jurors' perceptions of eyewitnesses, it also behooves us to ask to what extent consistency of testimony actually predicts eyewitness identification accuracy. A series of studies conducted by Fisher and Cutler (in press) examined this question and found that inconsistencies in eyewitness testimony were *not* predictive of identification accuracy. Fisher and Cutler (in press) hypothesized that consistency of testimony is influenced by factors that may or may not influence the accuracy of eyewitness identification, such as encoding conditions, type of interview, etc. Still, little is known about the theoretical underpinnings of the consistency-accuracy relation in eyewitness testimony and the factors that moderate this relation. Thus, although eliciting inconsistent testimony may be an effective cross-examination tactic in that it had its intended effect on mock-juror reactions in this study, the influence of this tactic on the quality of juror decisions will be dependent upon what becomes known about the actual relation between consistency of testimony and accuracy of identification.

The results of this study are consistent with a growing body of research which suggests that when jurors assess eyewitness accuracy, they are unlikely to rely on factors that are predictive of eyewitness identification accuracy (e.g., encoding and retrieval conditions). In contrast, jurors seem inclined to evaluate identification accuracy based on factors that appear to have questionable associations with identification accuracy (Bell & Loftus, 1989; Cutler, et al., 1990; Lindsay et al., 1989; Lindsay, Wells, & Rumpel, 1981; Wells & Leippe, 1981; Wells et al., 1979). Further research on this topic is needed to assess the effectiveness of other traditional legal safeguards designed to protect defendants from the consequences of mistaken eyewitness identification.

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