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Consequentiality and Eyewitness Person Identification

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SUMMARY

The role of consequentiality in eyewitness person identification was examined. Subjects viewed a videotape depicting a simulated bank robbery and were then asked to identify the robber from a photographic lineup. Consequentiality was induced by leading some subjects to believe that the video tape was of an actual bank robbery, and that performance on the identification task would be influential in the suspected robber's court trial. The following manipulations were included to determine the interaction of consequentiality with commonly investigated eyewitness variables: lineup instructions, accountability and suspect presence in the lineup. In addition, the data were analysed for sex differences. Analyses of identification attempts and hits revealed interactions indicating that men were more influenced by consequentiality and lineup instructions than women. The results suggest that consequentiality does play a role in certain eyewitness identification situations.

It is now common for psychologists to provide expert testimony in court trials regarding eyewitness unreliability (Loftus, 1984). This testimony has been criticized in part because it is based primarily upon laboratory research. Critics have focused upon the relationship of these laboratory studies to the 'real world,' and the consequent advisability of allowing such expert testimony into the courtroom (Egeth and McCloskey, 1984; Haugaard, 1988; Goodman, Rudy, Bottoms and Aman, 1990).

In raising the 'realism' issue, researchers have observed that subjects generally

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know they are in an experiment both at the time of the event (during the encoding phase) and, in all but a few cases, when they were tested (during the retrieval/identification phase; Malpass and Devine, 1984). Consequently, the generalizability of laboratory research to the real world has been challenged (Malpass and Devine, 1980), raising such questions as: 'How might real eyewitnesses differ from their laboratory counterparts?' 'Are real eyewitnesses more cautious in identifying a suspect as the criminal?' 'Do real eyewitnesses behave differently when their actions may have long term, major effects on the lives of other people?'

Although these questions are phrased to elicit dichotomous answers, it may be better to characterize the issue on a continuum. At one end of the continuum, individuals are witnessing crimes in the real world. These answers may possess external validity but questionable internal validity. At the other end of the continuum, laboratory subjects are informed that they are viewing staged presentations. These answers may possess internal validity but questionable external validity. Ideally, studies should be conducted that represent the entire continuum. However, because of methodological and ethical concerns it is unlikely that many studies will possess ideal external validity. Although studies could be (and have been) conducted at the other end of the continuum, they are of little practical value. In other words, studies that tap the intermediate points on the continuum may be the best we can hope for. The present study is an example of this compromise: a laboratory based study that includes variables that are assumed to play an important part in a real world phenomenon. In this study, we manipulated the consequences of eyewitness identification, a variable that may be an integral part of eyewitness identification. Research using realism manipulations (i.e. inducing the subjects to believe they were actual witnesses to real events) have not been conclusive. In reviewing this literature, it is important to recognize that there is a difference between 'choosing' (whether a witness will identify a lineup member as the suspect) and accuracy (whether or not the witness makes a correct identification; Malpass and Devine, 1981). Furthermore, when a lineup includes the suspect ('suspect-present' lineup), the witness must choose a lineup member in order to be accurate. If the witness does not choose a lineup member, it is a 'certain error'—there is no possibility of being correct. When a lineup does not include the suspect (a 'suspect-absent' lineup), the witness must select the 'not present' option to be correct; if the witness chooses a lineup member, it is a certain error.

When the literature is examined in terms of attempted identifications, only one study (Köhnken and Maass, 1988, Experiment I) reported a significant difference between 'real' (i.e. subjects were led to believe that the event had actually occurred) and 'laboratory' (i.e. subjects were informed that the event was simulated) subjects. In this experiment, realism subjects attempted fewer identifications than laboratory subjects in a subject-absent lineup. In other words, realism subjects committed fewer certain errors. However, when the results of several studies (Köhnken and Maass, 1988, Experiments I and II; Murray and Wells, 1982, suspect-present and suspect-absent lineups; Sanders and Warnick, 1981, Experiments I and II) were examined in terms of absolute differences in certain errors, results from all six studies favoured the realism subjects. More precisely, in suspect-present lineups, realism subjects attempted more identifications than laboratory subjects. In suspect-absent lineups, realism subjects attempted fewer identifications than laboratory subjects.

However, when these same studies are examined in terms of accuracy, absolute

differences favouring realism subjects occurred in only four of the six studies (the other two studies showed greater accuracy in the laboratory conditions). In short, realism subjects were more accurate in two-thirds of the studies.

Given the strong intuitive reasons for believing that realism should make a difference, why are these studies not more consistent in showing better performance? It may be that the manipulations were too weak relative to how the variable might operate in the real world. Do subjects think their identification counts? In other words what impact, as perceived by the witness, will the identification have on the selected lineup member? Additionally, an integral part of the perceived consequences of eyewitness identification may be the seriousness of the witnessed event. A study by Leippe, Wells and Ostrom (1978) illustrates how the subject's perception of an event's seriousness can affect accuracy. The authors staged a theft and varied the value of the stolen item (cigarettes worth about $1.49 or a calculator worth over $45.00). They found that accurate identification was more likely for the calculator than the cigarettes. This difference was demonstrated even though realism was maintained through the encoding phase only, and the difference between the conditions was less than $50.00.

Every prior reviewed study in which realism was manipulated as a variable simulated either a trivial infraction or a misdemeanor. It is possible that unless the witness is the victim, anything less than a serious crime is not a sufficiently strong manipulation to reliably show an effect of realism. When witnesses observe an infraction or a misdemeanor, they may believe that their identification (or other testimony) really does not matter much. Witnesses may feel that these minor incidents are not very important—especially relative to felonies such as rape, robbery and murder. Furthermore, these judgements of seriousness may be based on two different factors. The first is how 'bad' the crime is in a moral sense. For example, armed robbery is a 'bad' crime relative to the petty theft of an apple. The second factor is the punishment the criminal is likely to receive. Malpass, Devine and Bergen (described in Malpass and Devine, 1980) staged a vandalism and maintained realism through the lineup phase. They varied the severity of the punishment the criminal was likely to receive. They found that 83% of the subjects in the severe punishment condition attempted an identification as opposed to only 26% in the trivial punishment condition.

It is also important, as Murray and Wells (1982) noted, to manipulate additional variables along with realism and examine the results for interactions. An important question is whether or not realism changes the impact of some other variable. If so, the generalizability of the laboratory studies is called into question. Thus, the interaction between realism and biased instructions found by Köhnken and Maass (1988, Experiment II) is cause for concern. If variables affect witnesses differently in the real world, then laboratory research may not tell the whole story. On the other hand, if realism does not interact with other variables, the laboratory work can then be more comfortably applied to real world examples. In other words, although the impact of other variables may be enhanced or reduced by realism, the lack of any interactions with realism would indicate that the essential relationships between the variables are the same in the real world and in the laboratory.

In addition to possibly improving accuracy or modifying the impact of other variables, there is another way realism might affect eyewitness person identification—it could affect confidence levels. It is well documented that judges and jurors find

confident witnesses more credible (Loftus, 1979). However, numerous studies that have examined the correlation between confidence and accuracy have produced mixed results (Deffenbacher, 1980; Wells and Murray, 1984; Bothwell, Deffenbacher and Brigham, 1987).

Real witnesses might be less sure of their choices than laboratory subjects merely as a result of the increased seriousness of the situation. The studies summarized earlier (Sanders and Warnick, 1981; Murray and Wells, 1982; Köhnken and Maass, 1988), however, showed little support for this idea. As with the lack of consistent differences found between realism and laboratory subjects in attempts and accuracy, these nonsignificant effects may be due to the relatively minor nature of the 'crimes' involved.

Another variable of interest is the sex of the subject (witness). Previous researchers addressed the question of whether there are any differences between men and women in eyewitness *memory* tasks; the results were equivocal. Some studies show male superiority, others show female superiority. whereas yet others show no differences (see Loftus, Banaji, Schooler and Foster (1987a) for a review). Studies relating specifically to eyewitness *person identification* provide little clarification. For example, although Yarmey and Jones (1983) found that women were more likely to fail to recognize that the suspect was in the lineup than were men, two other studies (Loftus, Schooler, Boone and Kline, 1987b; Sanders and Warnick, 1981 found no differences in identification accuracy between men and women. Two of these studies used a serious event (Yarmey and Jones (1983) used a rape, and Loftus *et al.* (1987b) used a bank robbery), whereas the third (Sanders and Warnick, 1981) used either a non-criminal incident or a theft—a satchel-snatch. Most importantly, none of these studies examined consequentiality or lineup instructions.

The current research was an attempt to address some of the issues that have been discussed. Specifically, the current study contained a consequentiality manipulation of an incident that was more serious (a felony) relative to the previously cited studies. Of additional interest was whether consequentiality would interact with other variables. Two such variables were chosen in an attempt to mimic conditions that might be found in the real world: lineup instructions and accountability. One hypothesis is that induction of a consequentiality condition would cause the subjects to approach the task more carefully, due to the increased seriousness of the consequences (both positive and negative). Consequentiality would then result in higher accuracy. We also expected subjects exposed to biased lineup instructions to show a greater readiness to select a lineup member, and subjects in the accountable conditions to be more careful in their selections. Finally, because of the equivocal nature of the sex data, no expectations were generated for this variable.

In this study consequentiality was induced as follows. Subjects saw a video of a bank robbery. Half of the subjects were told the bank robbery was real and that their identification would count. The other half were told the bank robbery was a simulation. We also manipulated lineup instructions (biased subjects were led to believe the suspect was actually in the lineup), accountability (accountable subjects were told they may have to explain why they made the selection they did to their peer group), and presence or absence of the suspect in the lineup.

METHOD

Subjects

The subjects were 356 (220 females and 134 males) students from lower division psychology classes at the University of Washington. They participated for course credit. Subjects were tested in groups of three to seven. Three subjects failed to complete the identification task, selecting neither a lineup member nor the 'not present' option. These three subjects included one male from the laboratory/biased instructions condition and two females from the real/biased instructions condition. The data from a total of 353 subjects were included in the analyses.

Materials

The stimulus event was a tape of a realistically simulated bank robbery 29.2 seconds long that was filmed from a stationary camera mounted overhead.[1] The video depicted a European-American male robber armed with a pistol. He entered the bank, demanded money from a teller, placed the money in a paper bag and left the bank. No audio accompanied the video.

During pretesting, it was discovered that the subjects had great difficulty making an identification. To eliminate this floor effect, another tape was made from the original. This new tape showed the entire robbery sequence twice and then showed an 11.3 second shot from a different camera angle, which included a clearer view of the robber's face. This final version, including the pauses between action sequences, was 1 minute 48.2 seconds in length. The tape was shown in black and white and without sound. The base rate for identification with the new video tape was 0.41 (nine subjects out of 22 chose the correct lineup photograph).

Two different lineups were used. The lineups were on colour slides and shown with a standard slide projector. Both lineups came from the same original slide containing photographs of the heads and shoulders of eight adult European-American males, all with a moustache. There were four photographs in the top row and four photographs in the bottom row. The picture of the robber was in the bottom row, second from the left. The two photographs on the right side, bottom row, were blocked off for the suspect-present lineup. The two photographs on the left side, bottom row, were blocked off for the suspect-absent lineup. Each subject, then, saw a lineup containing six photographs: four in the top row and two in the bottom row.

Independent Variables

One independent variable involved suspect presence or absence in the lineup. The remaining three independent variables—consequentiality, lineup instructions and accountability—were contained in a cover story that was read to the subjects by the experimenter. There were eight versions of the basic cover story.

The *consequentiality variable* was manipulated in paragraphs 1, 2, 3 and 5 of the cover story. One version indicated that the video was of a simulated bank robbery. The other version was as follows:

[1] The video tape and photographic lineups were provided by John Yuille.

This is a film of an actual robbery that occurred in Canada. It was filmed by a bank security camera.

A man was later arrested and indicted for the crime. The case will shortly be going to trial. There are no witnesses who can positively identify the suspect as the robber. As you saw, there is this film made by the bank's security cameras. Now, the big question in court will be, 'Can an identification be made from this film?'

What we are doing here is trying to help the court answer this question. You will be shown a photographic lineup of possible suspects and asked to indicate the number of the man you think is the robber based on what you saw in the film. The lineup was assembled by the police who investigated the crime.

I want to emphasize this is a real crime and what you do may, ultimately, affect real lives.

The *biased instructions* were manipulated in the fourth paragraph of the cover story. The biased version implied the suspect was in the lineup. It stated:

It's important to identify the man you saw in the film. We believe the man in the film is present in the photographic lineup. Look carefully at each of the six men in the lineup. If you recognize the man you saw in the film, circle the number of his position in the lineup.

The unbiased version reminded the subjects that the suspect might or might not be in the lineup. It stated:

It's important to identify the man you saw in the film. The man in the film may or may not be in the photographic lineup. Look carefully at each of the six men in the lineup. If you recognize the man you saw in the film, circle the number of his position in the lineup.

Accountability was manipulated by telling the 'accountable' subjects, 'In order to ensure that all of you take this seriously, I will select two of you at random and ask you to explain why you made the selection you did to the group.' The 'not accountable' group was told, 'We want you to take this seriously. Some of the other groups have even had to account for the choices they made, but we're not going to do that with this group.'

Procedure

The subjects volunteered for a study entitled 'Person Identification.' They were assigned randomly to the conditions and were given the following verbal instructions: 'First, you will be shown a short video clip. You will then see a brief shot from a different camera angle.'

They saw the video tape of the robbery and then were given the cover story verbally. The version of the cover story they heard was determined randomly. The subjects then received an answer sheet consisting of six squares arranged in the configuration of the lineup they would see. The squares were labelled 1 to 6. Beneath the main configuration was a box labelled 'not present.'

The subjects were given the following instructions both verbally and in written form on the answer sheets: 'If you recognize the man you saw in the film, circle

the number of his position in the lineup.' They were told they would have as much time as they needed to make their selection.

After finishing the answer sheet, the subjects completed a second form which contained the question 'How sure are you of your selection?' The question was accompanied by 1 to 7 Likert scale ranging from 'not at all' to 'totally'.

The subjects were then given a debriefing form to read. The experimenter encouraged the expression of any questions, reactions or comments about the experiment. Discussions were conducted with those groups who wished to talk about the experiment.

Dependent Variables

There were three dependent variables. The first was whether or not the subjects attempted an identification. This was defined as selecting a lineup member as the suspect. The second dependent variable was accuracy—whether the subject was correct. For the subjects in the suspect-present lineup condition, the subject had to choose the correct lineup member to be correct. To be accurate in the suspect-absent lineup condition, the subject had to choose the 'not present' option. The third dependent variable was the subject's rating of confidence in the selection. This was measured by the question, 'How sure are you of your selection?'

Design

The conceptual design was a 2 (consequentiality $\times$ 2 (lineup instructions) $\times$ 2 (accountability) $\times$ 2 (suspect presence) factorial. There were 16 cells, with 20 to 25 subjects per cell.

RESULTS

The results are presented in four sections. The first section contains the attempted identifications analyses for both suspect-present and suspect-absent lineups. The second section contains the accuracy of choice analyses for the suspect-present lineup (hits, false identifications) and the suspect-absent lineup (correct rejections and false identifications). The identification data and the accuracy data were analysed using stepwise logistic regression.[2] In the first two sections, summaries are first provided and then followed by the analyses. The third and fourth sections analysed the confidence data and confidence–accuracy relationship.

All of the analyses incorporating the independent variables failed to reveal any significant effects for accountability. Because the additional variable of sex led to some small cell sizes, accountability was replaced with the subject-sex variable. Only the analyses with sex are reported here.

[2] Logistic regression was used because the data were categorical (Tabachnick and Fidell, 1989). Using this method, different models consisting of the possible combinations of independent variables and interactions were tested using a chi square goodness-of-fit method. The model that best fit the data was determined by isolating those factors whose 'removal' significantly improved prediction. In this way, it was possible to test for main effects and interactions (Dixon, 1985).

Attempted Identifications

Whether or not the robber was in the lineup had no impact by itself on the subjects' willingness to identify a lineup member as the robber: The subjects chose a lineup member at approximately the same percentage whether or not the suspect was actually in the lineup (78% of the subjects in the suspect-present condition attempted an identification,[3] as did 80% of the subjects in the suspect-absent condition, χ^2 [1, $n = 353$] = 0.23, ns).

Regarding attempted identifications, the main hypothesis was that biased lineup instructions would cause a greater readiness for the subjects to select a lineup member. This in fact was the case both when the robber was in the lineup (suspect-present condition) and when he was not in the lineup (suspect-absent condition). The data also revealed an unexpected interaction—when the suspect was in the lineup, the men were more affected by instructions in the inconsequentiality condition than the consequentiality condition (this pattern was *not* observed for women). The opposite pattern was observed for the men when the suspect was not in the lineup—they were more affected by the instructions in the consequentiality than the inconsequentiality condition (again, this pattern was not observed for women).

Suspect-present lineup

Subjects who received biased lineup instructions were more likely to attempt an identification than subjects who received unbiased instructions, χ^2 (1, $n = 175$) = 24.34, $p < .001$. Although neither consequentiality nor subject-sex by themselves affected attempted identifications, consequentiality and sex interacted with lineup instruction, χ^2 (1, $n = 175$) = 7.25, $p < .01$. Men and women appear to respond differently (Figure 1). Accordingly, the data for men and for women were analysed in separate two-way (consequentiality × instructions) logistic regression analyses.

The women were more likely to attempt an identification in the biased instructions condition than in the unbiased condition, regardless of the consequentiality condition, χ^2 (1, $n = 112$) = 7.25, $p < .01$. The men also were more likely to attempt an identification when they received biased lineup instructions than when they received unbiased instructions, χ^2 (1, $n = 63$) = 15.45, $p < .0005$. However, the men were more affected by instructions in the inconsequentiality condition than in the consequentiality condition. In the inconsequentiality condition, biased lineup instructions led them to attempt an identification more often, whereas unbiased instructions led them to attempt an identification less often, χ^2 (1, $n = 63$) = 7.38, $p < .01$.

Suspect-absent lineup

In order to create a six-person lineup that excluded the bankrobber, the two photographs on the left-hand side of the bottom row were covered, and replaced with the two photographs on the right-hand side of the bottom row. One of the newly exposed photographs pictured a man who was looking away from the camera. It was discovered after the subjects were tested that this photograph may have created a biased lineup. Of the subjects who chose a lineup member in this condition, 87% chose this particular lineup member. Therefore, data from the suspect-absent con-

[3] Subjects attempting an identification were scored as either a 0 or a 1. If the subject chose the 'not present' option or refused to select either a lineup member or the 'not present' option, it was scored 0. If the subject chose a lineup member, it was scored 1.

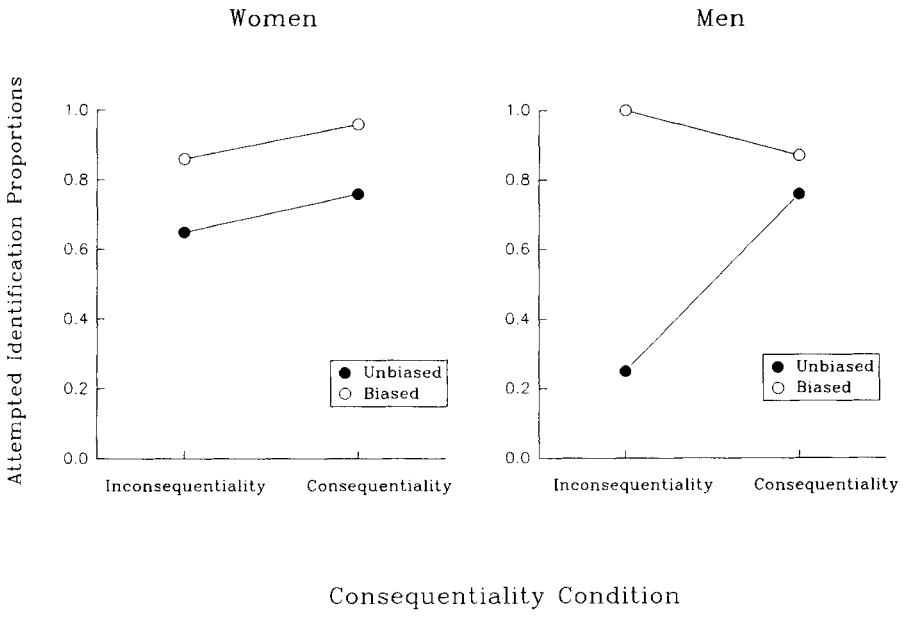

Figure 1. Attempt proportions in the suspect-present condition as a function of consequentiality, instructions, and sex.

dition must be interpreted with caution. However, it should be noted that this lineup slide has been used in previous experiments (for example, see Yuille, 1985; Loftus *et al.*, 1987).

Subjects who received biased lineup instructions were more likely to attempt an identification than subjects who received unbiased instructions. $\chi^2(1, n = 178) = 7.80$, $p < .01$.

Again, although neither consequentiality nor subject-sex by themselves affected attempted identifications, consequentiality and sex interacted with lineup instructions, χ^2 $(1, n = 178) = 4.14$, $p < .05$. Because women and men once again appear to be responding differently, the data were analysed in separate 2-way (consequentiality $\times$ instructions) logistic regression analyses.

The women were more likely to attempt an identification in the biased instructions condition than in the unbiased instructions condition, $\chi^2(1, n = 108) = 6.46, p < .05$. In contrast, the men were more influenced by biased instructions in the consequentiality condition than in the inconsequentiality condition, $\chi^2(1, n = 70) = 3.81, p < .05$ (Figure 2).

Accuracy

Recall that the primary hypothesis regarding accuracy was that subjects in the consequentiality condition would approach the task more carefully, thus producing a higher accuracy rate. The data did not show the expected main effect for consequentiality. However, biased instructions again had a strong impact. In the suspect–present condition, biased instructions resulted in more hits, but no significant difference in false identifications. Men responded differentially to the conditions of consequen-

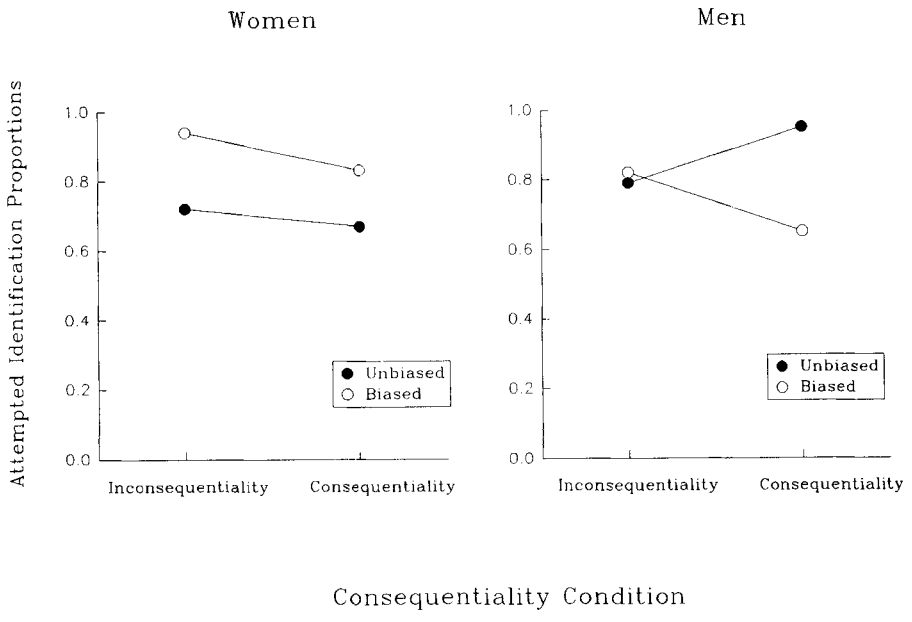

Figure 2. Attempt proportions in the suspect-absent condition as a function of consequentiality, instructions, and sex.

tiality and instructions, whereas the women did not. For the men, instructions had a greater impact on hits in the inconsequentiality than the consequentiality condition. The men were also more likely to identify the correct lineup member when they were in the consequentiality condition than when they were in the inconsequentiality condition. Finally, men were more affected by lineup instructions in the inconsequentiality than in the consequentiality condition.

Overall, the subjects were more accurate[4] if the suspect was in the lineup (52%) than when he was not in the lineup (20%), $\chi^2(1, n = 353) = 38.81, p < .0001$. Separate 2 (consequentiality) × 2 (instructions) × 2 (sex) logistic regression analyses were conducted on hits and false identifications.

Suspect-present lineup

Biased instructions resulted in more hits, $\chi^2(1, n = 175) = 7.22, p < .01$ than unbiased instructions. Instructions did not influence false identifications. Women were more likely to select the correct lineup member (a hit) than were men, χ^2 $(1, n = 175) = 6.14, p < .05$.

Once again, although consequentiality did not by itself affect accuracy, consequentiality and sex interacted with lineup instructions (approaching significance) for hits, χ^2 $(1, n = 175) = 2.47, p < .12$. Because men and women appeared to be responding differently, these data were analysed in separate 2 × 2 (consequentiality × lineup instructions) logistic regression analyses. Men were more likely to be affected by

[4] In the suspect-present condition, if the witness chose the correct lineup member, it was scored as a 1. If the witness chose an incorrect lineup member or chose the 'not present' option it was scored as a 0. In the suspect-absent condition, if the witness chose any lineup member, it was scored as a 0. If the witness chose the 'not present' option, it was scored as a 1.

biased instructions in the inconsequentiality condition than in the consequentiality condition for hits, χ^2 (1, $n = 63$) = 9.12, $p < .0005$. The men were also more likely to select the correct lineup member (hit) in the consequentiality condition than in the inconsequentiality condition, χ^2 (1, $n = 63$) = 3.58, $p < .06$. Finally, the men were more likely to be affected by lineup instructions in the inconsequentiality than the consequentiality condition, χ^2 (1, $n = 63$) = 4.66, $p < .05$. There were no significant effects for the women (Figure 3).[5]

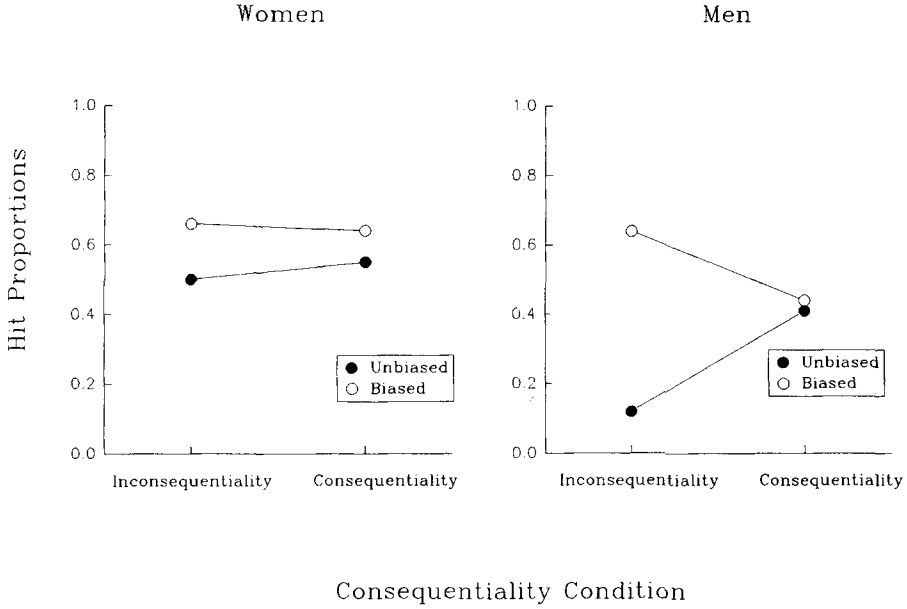

Figure 3. Hit proportions in the suspect-present condition as a function of consequentiality, instructions, and sex.

Suspect-absent lineup

Because analysis of the attempted identifications in the suspect-absent lineup is identical to an analysis of accuracy (if the subject attempted an identification, it was a false identification; if the witness did not attempt an identification, it was a correct rejection), these results are the same as those presented in the attempted identifications section and will not be duplicated here.

Confidence

Confidence levels ('How sure are you of your selection?') were measured using a 1 to 7 Likert scale, with 7 being the most confident. The data in both the suspect-present and suspect-absent conditions were analysed using three-way (consequentiality × instructions × sex; equal cell weights) ANOVAs.

[5] The accuracy data (for the suspect-present condition) were also analysed for the conditional probability of a correct response given that an attempt was made. None of the independent variables (biased instructions, consequentiality, or subject-sex) had a significant effect, nor were there any interaction effects.

The analysis of the suspect-present condition revealed that biased subjects ($m = 5.02$) were more confident than unbiased subjects ($m = 4.53$), $F(1, 167) = 6.95$, $p < .01$. The analysis in the suspect-absent condition revealed that biased subjects ($m = 4.86$) were more confident than unbiased subjects ($m = 4.39$; $F(1, 171) = 4.58$, $p < .05$). In addition, inconsequentiality subjects ($m = 4.80$) were more confident than consequentiality subjects ($m = 4.44$), $F(1, 171) = 3.69$, $p < .06$.

Confidence-Accuracy Correlations

Subjects in the suspect-present condition ($r = .49$, $n = 175$) had a higher confidence-accuracy correlation than subjects in the suspect-absent condition ($r = .16$, $n = 178$; $z = 3.50$, $p < .0005$). Within the suspect-present condition, the confidence-accuracy correlation was 0.56 ($n = 86$, $p < .001$) for inconsequentiality subjects and .46 ($n = 91$, $p < .001$) for consequentiality subjects ($z = .090$, ns). Within the suspect-absent condition, the confidence-accuracy correlation for the inconsequentiality subjects was .02 ($n = 92$, $p > .75$) and for consequentiality subjects .29 ($n = 87$, $p < .01$; $z = -1.84$, ns). There no significant differences in confidence between men and women.

DISCUSSION

The main purpose of this study was to examine the interaction of consequentiality with several different variables. Consequentiality affected some variables but not others. First we will discuss some of these variables separately, and then we will consider the interactions involving consequentiality.

Biased instructions

One of the major and consistent results to emerge from this study is that biased instructions caused an increase in the number of subjects who attempted an identification. This increase was reflected in the accuracy data as more hits when the suspect was in the lineup, and fewer correct rejections and more false identifications when the subject was not in the lineup. This effect is consistent with the Malpass and Devine (1981) results; they also found biased instructions increased the proportion of subjects attempting an identification. When the suspect was in the lineup, biased instructions produced fewer errors; when the suspect was not in the lineup, it increased errors.

Köhnken and Maass (1988, Experiment I), on the other hand, found that biased instructions did not increase the number of identification attempts. However, the Köhnken and Maass experiment differed from Malpass and Devine (1981) in that all subjects were provided with a 'don't know' option. When the suspect was in the lineup, the biased subjects had a strong tendency to select the 'don't know' option, whereas the unbiased subjects preferred the 'not present' option (creating a high miss rate). When Köhnken and Maass repeated the experiment (Experiment II) and eliminated the 'don't know' option, the results more closely resembled those of Malpass and Devine; specifically, the subjects in the laboratory condition attempted an identification more often than the unbiased subjects, which then resulted in more false identifications. The current research differs from both of these studies

in two important ways. First, all subjects in our study received an answer sheet containing a 'not present' option. Apparently, biased instructions will increase identification attempts even when a 'not present' alternative is available. Such instructions may, however, produce the opposite effect once a 'don't know' option is made available. Second, the current research included both a suspect-absent and a suspect-present lineup.

Accountability

Accountability had no effect on identification or accuracy. It was expected that accuracy would increase with the accountability manipulation. It is possible that other payoffs were so strong (such as sending a bad guy to jail, keeping an innocent person out of jail, performing for the experimenter, etc.) that any effect accountability might have had was diluted. It may also be that our accountability manipulation was inadequate, either lacking sufficient sensitivity or ecological validity. Perhaps the manipulation could be improved, for example, by telling the accountable subjects that their performance would be reported in the school newspaper, thus allowing everyone to know who was accurate and who was not.[6] With a stronger manipulation, such as one that would make the witnesses feel they may be facing public ridicule or even retribution from the suspect, the results might have been different.

Interactions with consequentiality

Consequentiality clearly had an effect, although not that which was expected. We hypothesized that consequentiality would increase accuracy. The data revealed no main effects for consequentiality, nor did the women show any differential effects due to consequentiality. The men, however, displayed a consistent interaction effect with consequentiality and instructions. In the suspect-present condition, the instructions had a greater impact in the inconsequentiality condition than in the consequentiality condition. In contrast, in the suspect-absent condition, the opposite was observed: Instructions had a greater impact in the consequentiality condition than in the inconsequentiality condition. In other words, when the suspect was in the lineup, instructions had little impact on men in the consequentiality condition. When the suspect was not in the lineup, the instructions had a measurable impact on men in the consequentiality condition, but little impact on men in the inconsequentiality condition.

Once again, it must be remembered that the consequentiality and gender interactions should be interpreted with caution. Although these interactions are consistent, further research is needed to establish the reliability of the effects, particularly with respect to the suspect-absent lineup, which contained the 'shifty' photograph.

However, if these differences are reliable, how could they be explained? It becomes important to understand why the men in the suspect-present condition were more influenced by the instructions in the inconsequentiality condition than in the consequentiality condition. Perhaps the men were more gullible than women and therefore more inclined to believe the consequentiality ploy. Alternatively, perhaps the men were less involved in the experiment, and were participating with as little effort as possible. If the experimenter implied the perpetrator was in the lineup, the subjects

[6] We would like to thank an anonymous reviewer for this suggestion.

would choose the most likely-looking candidate. In the consequentiality condition, however, the stakes were higher, demanding the subjects expend considerable effort. In this case, the men made more of an attempt to remember what the perpetrator actually looked like. In the suspect-absent condition, it was easiest to select the 'shifty' looking lineup member. However, in the consequentiality condition the stakes were higher, demanding the subjects expend considerable effort. In this case, the men made more of an attempt to remember what the perpetrator actually looked like. In the suspect-absent condition, it was easiest to select the 'shifty' looking lineup member. However, in the consequentiality condition, rather than rely upon such an easy solution and faced with a highly ambiguous situation, the men may have relied upon the instructions provided by the experimenter as reliable cues.

Additional research is needed to test these and other explanations. However, the methodological and practical implications from these findings are of considerable importance. First, the current research supports the notion that consequentiality does affect aspects of the eyewitness identification process (i.e. men are particularly responsive to the lineup instructions in the inconsequentiality condition), although other factors (i.e. the performance of women, accountability) were unaffected by the consequentiality manipulation.

Second, whenever possible the data should be examined for sex differences (Denmark, Russo, Frieze, and Sechzer, 1988). The dramatic sex differences in our data were surprising largely because previous findings were so equivocal. Obviously, there are a sufficient number of methodological differences (e.g. the research setting, the seriousness of the crime, the subject population) in eyewitness studies to account for the variability in sex effects. Examination of these differences is needed to determine the precise role of sex differences in this area.

Given the interactive nature of our data we agree with other researchers (Yuille, 1986; Haugaard, 1988; Köhnken and Maass, 1988; Yuille, 1989; Goodman *et al.*, 1990) that the ecological validity of the eyewitness memory paradigm should be further explored. In particular, researchers should attempt to identify which factors produce differential effects in the real world and the laboratory.

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