Eyewitness Identification: Lineup Instructions and the Absence of the Offender

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Eyewitness identification of innocent suspects is an important source of injustice in the criminal justice system. Eyewitnesses of a staged vandalism received varying lineup instructions under conditions in which the offender was present or absent. Biased instructions implied that witnesses were to choose someone, whereas unbiased instructions provided a “no choice” option. One hundred witnesses (74 women, 26 men) viewed corporeal lineups on one of three evenings following the vandalism. A high rate of choosing occurred under biased instructions, and the lowest rate occurred under unbiased instructions with the vandal absent. Identification errors were highest under biased instructions with the vandal present, whereas under unbiased instructions all errors were false rejections of the lineup. Confidence ratings were obtained following the witnesses’ identification decision. Witnesses making a choice had high confidence scores, whereas those rejecting the lineup had low confidence scores. Confidence and accuracy were not related. The importance of the distinction between choosing and accuracy is discussed. Unbiased instructions reduced choosing and false identifications without decreasing correct identifications. Both identifications and nonidentifications had greater “diagnosticity” under unbiased than under biased instructions.

Eyewitness identification is thought to be easily biased and is considered an unreliable form of evidence that is responsible for many miscarriages of justice. Numerous instances of misidentification have been documented (Brandon & Davies, 1973; Buckhout, 1974; Goldstein, 1977; Levine & Tapp, 1973; Lof-}

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Wall, 1965; Woocher, 1977; Yarmey, 1979). Yet identification testimony plays a critical role in the criminal justice system and is often thought to be a determining factor in jury verdicts. The problem is particularly serious because for potential jurors and for many law enforcement officials and judges, visual identification is one of the most persuasive kinds of evidence that can be presented (Loftus, 1979; Sobel, 1972). Inaccurate identification involves two kinds of errors: identification of the wrong person and failure to identify the right person. The former is considered the more harmful error because it both incriminates an innocent person and fails to identify the guilty, increasing the likelihood that the latter will remain free and unsought. Although inaccurate identification has been an important source of injustice, eyewitness testimony has an intuitive and commonsense appeal that makes its continued use likely (Sobel, 1972). Thus it is important to find means of strengthening techniques for obtaining, evaluating, and using eyewitness identification evidence.
A focus of both the courts and psychological research has been on the problems of suggestibility and bias in identification situations. Witnesses’ understanding of the identification task is important and potentially controllable by the criminal justice system (systems variable, Wells, 1978). Buchhout, Figueroa, and Hoff (1975) and Hall and Ostrom (Note 1) compared biased with unbiased instructions given to eyewitnesses viewing lineups. Biased instructions led witnesses to believe that the offender was actually present, whereas unbiased instructions explicitly stated the possibility that the offender was absent. Whereas Buckhout et al. found no difference, Hall and Ostrom found substantially more total errors under biased than under unbiased instructions.

Aside from instructional bias, we have very little information on what is perhaps the major question about eyewitness identification: the danger of obtaining a positive identification of an innocent person. Four studies have examined the result of presenting eyewitnesses with lineups from which the offender was actually absent. Hall and Ostrom (Note 1) found virtually no difference in false identification whether or not the offender was present. Egan, Pittner, and Goldstein (1977) showed witnesses two confederates in a hypothetical robbery. In subsequent lineups, witnesses were shown five individuals, only one of whom was one of the two confederates. Although accurate identification of the confederate in the lineup was very high (97%), erroneous identification of one of the distractors as the second confederate was also very high (93%). Buchhout, Alper, Chern, Silverberg, and Slomovits (1974) reported an overall identification rate of 81%, but only 13% of the witnesses were able to make a correct identification without also making a subsequent false identification in the offender-absent condition. Loftus (1976) found 84% correct identifications when the offender was present but 60% false identifications of an innocent bystander when the offender was absent.

Research focusing on systems variables, which are under the control of the criminal justice system, may have great utility in the applied setting and potential for reducing inaccuracies. Yet studies of their effects also need to preserve and measure some important features of naturally occurring events to establish a basis of relevance for the legal process (estimator variables, Wells, 1978). For example, witnesses’ attention, motivation, and arousal are believed to differ when observing a real crime compared with an event known to be contrived. The credibility of laboratory studies is enhanced by realism, which is an important consideration if the information afforded by them is to be used in judicial processes. Research that is not realistic may not be relevant to criminal justice procedures and is often easily dismissed. Therefore, we constructed a study of eyewitness identification that addressed these basic issues and examined the effect of instructional bias (a systems variable) following a realistically staged crime.

The major issue is the possibility that false identifications are increased by witnesses’ belief that one of the persons in a lineup is to be chosen. The previous literature has not made a sharp distinction between factors inducing witnesses to choose a member of the lineup and factors affecting the accuracy of their choices. The distinction between choosing and accuracy is critical. They represent different psychological processes and are under the control of different classes of antecedent variables. Choosing is the result of a social decisionmaking process and is affected by the social utility of choosing. The accuracy of identification is dependent on the amount of information the witness has about the offender’s appearance. High rates of choosing should result from biased lineup instructions, which fail to provide witnesses the option of rejecting the lineup. Unbiased instructions, which provide this option, should result in lower rates of choosing. Another factor contributing to false identification is that in real lineup situations the guilty person is absent some unknown percentage of the time. We expected that the absence of the offender together with biased instructions would result in both a high rate of choosing and a correspondingly high rate of false identification. We varied both the instructions given to eyewitnesses observing a corporeal lineup and the offender’s presence in the lineup, following a realistically staged crime of moderate seriousness (vandalism).
Method

Witnesses and Procedure

Approximately 350 students from introductory courses in behavioral science and psychology were assembled in a large lecture hall for a biofeedback demonstration. During a pause in the demonstration an act of vandalism was staged. The vandal, a male confederate of the investigators, entered the room, spoke with the instructor, and was asked to wait next to a rack of apparatus. The vandal changed a switch setting on the apparatus, and the instructor asked the instructor not to. The vandal, however, changed settings twice more, to which the instructor responded with increasing anger. The vandal responded to the last of these by shouting an obscenity, pushing the electronic rack to the floor, and escaping through a rear door. The vandal was visible to the audience for 85 sec. The audience's response was a distinctly audible gasp. Twenty minutes after the vandalism a state police officer arrived and interviewed faculty members and a few persons who were seated close to the vandalism. The audience was then told that the vandalism had been staged and that the vandal was a confederate of the investigators. A questionnaire was distributed, and members of the audience were asked to volunteer to attend one of the lineups to be held on the following three evenings. One hundred witnesses (74 women, 26 men) appeared for these lineups.

The Lineup

The vandal and other lineup participants were volunteers from a nearby community high school. They were chosen so as to be similar in height, body build, and hair color and style, consistent with recommended lineup construction procedures (Goldstein, 1977, p. 232; LaSota & Bromley, 1974, p. 12). They were dressed similarly and in contrast to the vandal's clothing during the vandalism. Five of these participants were positioned along one wall of a room approximately 6.5 m square. The position of each lineup participant was systematically varied so that they appeared in each position equally often.

Lineup Procedure

The eyewitnesses were seated individually at a desk facing a curtain covering a two-way mirror. When they had read the printed instructions, the lights were turned out, the curtain opened, and they were able to see the lineup in the adjacent room, about 7 m distant. The eyewitnesses were allowed as much time as they needed for their response, after which confidence judgments were taken. Finally, the curtain was drawn, the lights turned on, and the witnesses escorted to another area where additional information was gathered. The witnesses were not visible to the lineup participants, and the lineup participants were visible to the witnesses only during their judgments.

Experimental Variables

Instructions. Two instructions (biased and unbiased) were given. The biased instruction read: "We believe that the person who pushed over the electronics equipment during the EEG demonstration is present in the lineup. Look carefully at each of the five individuals in the lineup. Which of these is the person you saw push over the equipment? Circle the number of his position in the lineup below." The eyewitnesses receiving this instruction were provided with five numbers (1-5) from which they could choose. Witnesses who wished to reject all five of the persons in the lineup had to ask how to indicate their judgment because no place was provided for such a response. Those witnesses who did ask were told that "if you believe that the vandal is not one of the people in the lineup, write that on the identification form."

The unbiased instruction, however, explicitly provided the witnesses with a "no choice" option. It read: "The person who pushed over the electronics equipment during the EEG demonstration may be one of the five individuals in the lineup. It is also possible that he is not in the lineup. Look carefully at each of the five individuals in the lineup. If the person you saw push over the equipment is not in the lineup, circle 0. If the person is present in the lineup, circle the number of his position." The witnesses receiving this instruction were provided with six numbers from which to choose (0-5).

Presence of the vandal. On every other trial the vandal was absent, and his place in the lineup was taken by an alternate.

Measured Variables

A number of questionnaire checks on the vandalism manipulation were made concerning the witnesses' suspicions and judgments of the vandalism's realism. Following their lineup judgment, with the lineup still in view, the witnesses were individually asked to rate—for each of the five individuals in the lineup—how sure they were that they had seen him push over the electronics equipment at the EEG demonstration and to indicate the degree of their confidence that the person who pushed over the electronics panel was actually in the lineup. The witnesses then completed an additional postexperimental questionnaire concerning the lineup procedures and their willingness to cooperate.

Results

Lineup Bias

The identifications by the eyewitnesses in the vandal-absent condition were examined to determine whether there was a preference for any of the four distractors or the vandal substitute. The frequencies of choice among the five members of the lineup did not differ from chance expectation ($\chi^2 = 3.6, N = 49$, $p > .30$).
Choosing a Member of the Lineup

The percentage of witnesses making a lineup choice under the four experimental conditions is presented in Table 1. The interaction of Instructions × Offender Presence, tested by the technique suggested by Langer and Abelson (1972), was not significant. Overall, the witnesses chose more under biased than under unbiased instructions (.90 > .56, z = 3.83, p < .001). Biased instructions led to a higher percentage of choosing within both vandal-present (100 > 83, z = 2.14, p < .05) and vandal-absent (78 > 33, z = 3.14, p < .001) conditions. When the vandal was present, more choices were made than when the vandal was absent, both under biased instructions (100 > 78, z = 2.61, p < .05) and under unbiased instructions (83 > 33, z = 3.55, p < .001).

Identification Errors

The percentage of witnesses making an identification error under the four experimental conditions is presented in Table 1. The interaction of Instructions × Offender Presence (Langer & Abelson, 1972) had a chance probability of .064 (z = 1.85). The overall percentage of errors was greater under biased than under unbiased instructions (48 > 26, z = 2.28; p < .02) and greater for the vandal-absent condition than for the vandal-present condition (53 > 22, z = 3.14, p < .001). Errors were greatest when the vandal was absent and the instruction was biased (78%), and this figure differs significantly from the adjacent values in its row and column (78 > 25, z = 3.72, p < .001, and 78 > 33, z = 3.14, p < .001).

The kind of error made when the vandal was present (false identification vs. false rejection) was reversed depending on the instruction. Under biased instructions all errors (25%) were false identifications, whereas under unbiased instructions all errors (17%) were false rejections of the entire lineup. This pattern departs significantly from chance expectation (Fisher exact test, p < .05).

Interrelations Among Manipulation Checks and Other Variables

Analogous to estimator variables (Wells, 1978) in real eyewitness identification situations are variables such as checks on the realism of the vandalism, variables from the lineup and postlineup questionnaires, as well as the witnesses’ sex, the delay between vandalism and lineup, the witnesses’ ordinal positions in the lineup session, the witnesses’ distance from the vandalism, and their identification-choice latency. Four factors were extracted from a factor analysis of 30 such measures. Of the four factors and the remaining single variables, only two showed either significant overall correlations with choosing or errors or consistent relationships across the four experimental conditions. The witnesses’ distance from the vandalism was significantly correlated with errors, r(98) = .21, p < .05. The witnesses’ confidence was strongly related to both choosing and accuracy within experimental conditions but was not significant overall across conditions.

Confidence, Choosing, and Accuracy

Two measures of confidence were taken and were highly correlated, r(98) = .848: the
witnesses' confidence that the vandal was in the lineup and a confidence index obtained for witnesses who made a choice (by taking their ratings of how sure they were that the person they chose was the vandal) and for those who did not choose (by taking the average rating of confidence across all lineup members). Confidence was higher among witnesses who chose \( M = 5.25 \) than among those who did not choose \( M = 1.50 \) on the "confidence the vandal is in the lineup" measure, \( F(1, 98) = 100.24, p < .001 \), and on the confidence index, \( M = 5.22 > M = 1.67, F(1, 98) = 97.98, p < .001 \). The two confidence measures were submitted separately to a 2 \( \times \) 2 analysis of variance (Instructions \( \times \) Vandal Presence). In both cases, the interaction was significant beyond a chance probability of .001, \( F(1, 96) = 90.64 \) and 35.96 for the confidence index and "confidence the vandal is in the lineup," respectively. All simple main effects were significant beyond .025, with the exception of the effect of the instructions when the vandal was present. The cell means for the two confidence measures show approximately the same pattern and relative magnitudes as do the overall choosing percentages. The means for the biased/present, biased/absent, unbiased/present, and unbiased/absent conditions are, respectively, 5.18, 4.39, 4.83, and 2.62 for the confidence index, and 5.18, 4.09, 5.09, and 2.78 for "confidence the vandal is in the lineup."

Table 2 presents the correlations of confidence with choosing and accuracy within and across the four experimental conditions. Accuracy and choosing are correlated -1.00 in the vandal-absent condition because choosing constitutes an error. The accuracy-choosing correlation is 1.00 under the unbiased/present condition because all witnesses who chose correctly identified the vandal, whereas the remaining witnesses erroneously rejected the lineup. No correlation between choosing and confidence or accuracy could be calculated in the biased/present condition because all of the witnesses made a lineup choice, resulting in zero variation, but confidence was strongly and positively related to choosing under the remaining three experimental conditions. The relationship of confidence to accuracy was strong and positive when the vandal was present and strong and negative when the vandal was absent. Aggregated across vandal-absent and vandal-present conditions, the overall confidence-accuracy correlation was nonsignificant, whereas the confidencechoosing relationship was strongly positive.

Discussion

Selection Bias

Fewer than one third of the vandalism witnesses voluntarily appeared to view a lineup. From one perspective, self-selection makes the resulting data unrepresentative of the larger population of witnesses. Doob and Kirshenbaum (1973) and Wells (1978), however, pointed out that voluntary selection of lineup observers is an ecologically valid procedure, reflecting police selection of eyewitnesses for lineups. Further, witnesses agreeing to participate in police investigations may self-select on the basis of motivational factors such as deference to authority, interest in affiliating with the criminal justice system, and desire to be cooperative (Doob & Kirshenbaum, 1973; Levine & Tapp, 1973; Wells, 1978). Self-selected eyewitnesses in identification studies, then, would provide a more valid basis for generalizing to the behavior of real witnesses than would randomly selected samples. Witnesses in the present study who observed the lineup were asked to indicate "how much (they) wanted to do what the person in charge of the lineup wanted (them) to do" (motive to comply). Scored on a -3 to 3 scale, the mean response was 1.71 (SD = 1.66), with approximately 85% in the positive region of the scale.

Choosing and Identification Errors

Our results contain the following important findings:

1. Witnesses chose at a very high rate with the vandal present, but the rate of choosing with the vandal absent was contingent on the instructions.

2. Errors were relatively low with the vandal present irrespective of the instructions, whereas the biased instruction led to a very high error rate with the vandal absent.
Table 2
Intercorrelations of Confidence, Choosing, and Accuracy Within Experimental Conditions
and Overall

<table>
<thead>
<tr>
<th>Condition</th>
<th>N</th>
<th>Confidence and accuracy</th>
<th>Confidence and choosing</th>
</tr>
</thead>
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<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biased/present</td>
<td>28</td>
<td>.43*</td>
<td>—</td>
</tr>
<tr>
<td>Biased/absent</td>
<td>22</td>
<td>-.84**</td>
<td>.84**</td>
</tr>
<tr>
<td>Unbiased/present</td>
<td>23</td>
<td>.95**</td>
<td>.95**</td>
</tr>
<tr>
<td>Unbiased/absent</td>
<td>27</td>
<td>-.85**</td>
<td>.85**</td>
</tr>
<tr>
<td>Overall</td>
<td>100</td>
<td>-.06</td>
<td>.86**</td>
</tr>
</tbody>
</table>

* No correlation can be calculated between confidence and choosing in the biased/present condition because there was no variance in choosing in this cell.
* p < .05. ** p < .001.

3. With the vandal present, the type of error made was reversed depending on the instructions.

4. Changing the instruction from biased to unbiased resulted in fewer choices and fewer false identifications without a decrease in correct identifications.

5. There was a significant overall correlation of confidence with choosing but not with accuracy.

The effect of the instructions on witnesses’ identifications illustrates the importance of the distinction between choosing and accuracy. A useful theoretical context for this is provided by the Signal Detection Theory (SDT) distinction between the decision criterion (the least amount of evidence required for making an identification) and the observer’s ability to distinguish between new events and events previously observed (Coombs, Dawes, & Tversky, 1970). Although SDT methodology is not strictly applicable to the structure and procedures of police lineups, the theoretical distinction is highly relevant. SDT considers the decision criterion and the observer’s sensitivity to be different and independent theoretical entities under the influence of different sets of antecedent variables. Analogously, in the eyewitness context, choosing is a decision problem and is influenced by factors related to the witnesses’ decision criterion (e.g., wanting to appear intelligent, wanting to cooperate with the police, wanting to be good witnesses). These are response-bias factors and have little to do with the quality of the witnesses’ recollection of the offender’s appearance or their ability to distinguish the offender from lineup foils. An accurate eyewitness identification is analogous to the hit rate in the SDT model, which is influenced both by the observer’s ability to distinguish the offender from the foils and by the witnesses’ willingness to make an identification (the level of their decision criterion). The significance of this point is that witnesses can be induced to attempt an identification even when they have a relatively poor recollection of the offender’s appearance.

The biased instruction appears to relax the witnesses’ decision criterion and is a powerful manipulation inducing the witnesses to choose. One-hundred percent of the witnesses chose when the vandal was present (25% erroneously) and 78% chose when the vandal was absent (all erroneously). In addition to inducing a very high rate of choosing, the biased instruction provides a task demand that appears to override the witnesses’ use of information in their choice. Many witnesses clearly had information about the vandal’s appearance, and the unbiased instruction allowed 83% of them to arrive at an accurate choice when the vandal was present and 67% to make an accurate rejection when the vandal was absent. Under biased instructions, however, witnesses having the same average amount of information chose at a high rate whether or not the vandal was present, with only 22% rejecting vandal-absent lineups.

Another line of evidence indicates the positive effect of unbiasing lineup instructions. Wells and Lindsay (1980) describe measures
of the “diagnosticity” of identifications and nonidentifications in eyewitness lineups. Under unbiased instructions, identifications in the present study were more diagnostic of the vandal’s presence than they were under biased instructions (12.58 > 4.81), and nonidentifications were more diagnostic of the vandal’s absence (5.49 > 3.38). The information obtained under unbiased instructions would provide investigators with potentially more useful information.

There is evidence that law enforcement officials believe that reductions in false identifications can be obtained only at the cost of reducing correct identifications and that they resist procedural changes for this reason (Levine & Tapp, 1973; Hall & Ostrom, Note 1; Davies, Note 2). Our data suggest that this association does not necessarily exist. If witnesses are allowed to substitute false rejection of the lineup for a false identification of an innocent person, it appears that they do so at approximately the same rate without decreasing the number of correct identifications. Thus the definition of the lineup task is important. Unbiasing the instructions and procedures in police lineups could yield substantial benefits.

Confidence

The relationship between witnesses’ confidence in their identification of an offender and the accuracy of the identification has been explored in a number of studies (Brown, Deffenbacher, & Sturgill, 1977; Egan et al., 1977; Leippe, Wells, & Ostrom, 1978; Lindsay, Wells, & Rumpell, 1981; Malpass & Devine, 1981; Wells, Lindsay, & Ferguson, 1979). The confidence-accuracy relationship is generally found to be small or absent, but witnesses are confident in whatever choice they make. Our data generally corroborate these findings. In contrast, however, are the correlations within the experimental conditions. Their pattern suggests an interpretation of the confidence-accuracy relationship mediated by their relationship to choosing. Einhorn and Hogarth (1978) showed that, in general, people are confident about the accuracy of their judgments, whether or not the judgments are in fact accurate. The same appears to be the case in the eyewitness context. If the offender is absent from a lineup, all choices would be errors and would be made confidently, producing a strong negative correlation of confidence with accuracy. If the offender is present in a lineup, choices would again be made confidently, but the degree of the confidence-accuracy relationship would depend on the overall rate of accurate choices: the higher the proportion of accurate identifications, the greater the correlation between confidence and accuracy.

In the vandal-present lineups of the present study, a high proportion of choices were made, and a large proportion of these were accurate. Because witnesses were confident in their choice, confidence and accuracy were strongly and positively related. In the vandal-absent lineups, the situation was reversed. Witnesses who made a choice were both confident and wrong. Although there remained a strong positive relationship between choosing and confidence, the relationship between confidence and accuracy was strong and negative. This underscores the importance of the distinction between choosing and accuracy. When the data are collapsed across the presence/absence conditions, the overall correlation between confidence and accuracy of −.06 is obtained. The correlation between confidence and choosing, collapsed across the presence/absence conditions, however, is .86. Thus a witness’s confidence in an identification is a valid indicator only of whether an identification has been made.

The danger in attempting to infer accuracy from confidence is evident in the fact that witnesses who make an identification when the vandal is absent (which is necessarily erroneous) are equally as confident as are accurate witnesses. Thus the witnesses’ confidence does not distinguish between accurate and inaccurate identifications. This is of considerable practical significance. Wells, Lindsay, and Ferguson (1979) demonstrated that mock jurors relied heavily on witnesses’ confidence when making belief decisions but were unable to differentiate between accurate and inaccurate testimony, believing both approximately 80% of the time. Thus it is the nonsignificant overall confidence-accuracy correlation that has applied utility in the eyewitness context because in real criminal investigations we do
not know when the offender is present or absent.

The major practical issue for eyewitness identification researchers is to devise means of reducing errors without reducing accuracy and to minimize the effects of those errors that are made. It appears that there is a general biased task orientation, a tendency for witnesses to understand that the task of the eyewitness is to choose someone. A major contribution to bias is the misconception that because police hold a lineup, the offender must be present. If witnesses in criminal proceedings understand lineup instructions as being similar to our biased instruction, and if lineups without offenders occur with any great frequency, it seems inescapable that innocent persons will be implicated by false eyewitness identifications.

The core purpose of unbiasing lineup procedures is to make rejection of all individuals in a lineup a realistic option for the eyewitnesses. Were this achieved and lineups constructed so as to minimize other constraints on the eyewitnesses’ willingness to use this option, the threat of injustice in eyewitness identification would be reduced.

Reference Notes


References


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