REFORMING EYEWITNESS IDENTIFICATION: CAUTIONARY LINEUP INSTRUCTIONS; WEIGHING THE ADVANTAGES AND DISADVANTAGES OF SHOW-UPS VERSUS LINEUPS

Nancy K. Mehrkens Steblay*

Advances in scientific psychology have generated substantial knowledge about the psychological processes that move a well-intentioned witness to a false identification, or more desirably, bring the witness to an accurate decision. Many factors prior to the lineup task contribute to memory accuracy, including: witness characteristics (e.g., visual acuity, attention, stress), offender attributes (disguise, unique features), event conditions (exposure time, viewing opportunity), and qualities of the time period subsequent to the crime (e.g., retention interval). When the eyewitness finally approaches a lineup, he or she possesses a valuable asset—a memory of the event. However slim or rich that memory may be, the lineup is an investigator’s chance to secure productive information about the suspect and perpetrator.

A compelling body of research reminds us that the eyewitness lineup decision is one based not only on memory, but also on witness motivation and expectation. Indeed, one of the most intriguing lessons

---

* Nancy Steblay is Professor of Psychology at Augsburg College in Minneapolis, Minnesota. She can be reached by email at steblay@augsburg.edu, or at the Department of Psychology, Augsburg College, 2211 Riverside Avenue, Minneapolis, MN 55454.

This paper was presented at the “Reforming Eyewitness Identification: Convicting the Guilty, Protecting the Innocent” symposium held at the Benjamin N. Cardozo School of Law, New York City, Sept. 12-13, 2004.


from psychological science, as applied to police practice, is the enormous power over eyewitness behavior that is exerted by the context of the lineup identification task.\textsuperscript{4} Seemingly innocuous gestures or phrasing by the investigator or subtle changes in procedure can dramatically affect a witness's thinking, thus altering the course of the lineup process, the witness's retrospective recall of the memory event, and potentially an investigation and prosecution.\textsuperscript{5}

Along with monitoring eyewitness accuracy, researchers have paid close attention to eyewitnesses' willingness to choose from the lineup (choice of any lineup member, whether suspect or filler).\textsuperscript{6} A lineup selection can be understood in terms of a decision criterion, defined as the lowest strength or vividness of recollection the witness requires before being willing to identify a person as the perpetrator.\textsuperscript{7} Thus, the selection is function of both the witness's true memory of the culprit and external influences. We do not know where on a continuum of cautiousness versus carelessness the decision criterion rests for any specific eyewitness, but laboratory research suggests that this criterion can be "pushed around" by the context and structure of the lineup.

Most recently, this is evidenced by comparisons of sequential to simultaneous lineup formats, where significant reductions in choosing rates, as well as false identifications, are produced with sequential lineup presentation.\textsuperscript{8} Lineup context can also increase witness choosing rates. At the same time that witnesses may feel internal pressures—to trust in their own memory, to present themselves positively, to cooperate with investigators—the demand characteristics of an authoritative and persuasive police environment may reinforce an inclination to make a lineup choice.\textsuperscript{9} The witness well may assume that investigators have put together a lineup because the culprit has been apprehended.

\textsuperscript{4} Wells & Scelau, supra note 3, at 769; see also Brian L. Cutler & Steven D. Penrod, Mistaken Identification: The Eyewitness, Psychology, and the Law (1995).

\textsuperscript{5} Gary L. Wells & Amy L. Bradfield, "Good, You Identified the Suspect": Feedback to Eyewitnesses Distorts Their Reports of the Witnessing Experience, 83 J. APPLIED PSYCHOL. 360 (1998); Steven Penrod & Brian Cutler, Witness Confidence and Witness Accuracy: Assessing Their Forensic Relation, 1 PSYCHOL. PUB. POLY & L 817, 822 (1995).


\textsuperscript{8} Steblay et al., supra note 6, at 464.

\textsuperscript{9} See White Paper, supra note 3, at 618.
An effective lineup strategy must provide a careful test of memory alone; circumventing witness motivation and expectancies that violate this central objective. Wells'\textsuperscript{10} theoretical framework of eyewitness memory has provided direction for research investigations of lineup structure and delivery. Wells reasoned that a traditional lineup scenario allows the witness to engage in relative judgment (i.e., comparing lineup members for the most likely candidate in the lineup). Even a perpetrator-absent lineup can meet the criterion of a best match, potentially placing an innocent suspect at risk. Procedures that force a tighter reliance on absolute judgment (recognition based on memory itself) should produce more accurate lineup decisions.\textsuperscript{11} Absolute judgment is expected to inhibit guessing, resulting in lower witness choosing rates.\textsuperscript{12}

A guiding principle of the eyewitness research literature is that factors affecting identification accuracy fall into two categories. Estimator variables involve aspects of the witness's perception and encoding of a crime event, such as duration of the crime, presence of a weapon, or the race of the perpetrator. Estimator variables are not under the control of the justice system.\textsuperscript{13} Other aspects of the eyewitness experience are amenable to justice system control. These system variables\textsuperscript{14} provide avenues for improvement of eyewitness performance.\textsuperscript{15} Lineup procedures—the context for memory retrieval provided by both structural and process properties of lineups—are among these system variables.\textsuperscript{16}

I. LINEUP INSTRUCTIONS: THE POWER OF A FEW WORDS

Some of the earliest laboratory efforts to inhibit relative judgment produced significant effects from slight changes in lineup protocol. This early research demonstrated the subtle but powerful influence of a simple lineup instruction provided to eyewitnesses: “The perpetrator may or may not be in this lineup.”\textsuperscript{17}

\textsuperscript{10} Wells, Psychology of Lineups, supra note 2, at 89.
\textsuperscript{11} White Paper, supra note 3, at 613.
\textsuperscript{12} Sieblay et al., supra note 6, at 468.
\textsuperscript{14} Id.
\textsuperscript{15} Id.
\textsuperscript{16} Gary L. Wells et al., From the Lab to the Police Station: A Successful Application of Eyewitness Research, 55 AM. PSYCHOL. 582 (2000).
\textsuperscript{17} Malpass & Devine, supra note 7, at 482.
Well-established psychological principles explain that social influence originates in an individual’s reliance on others to help define or clarify a situation. For an eyewitness, the traditional lineup task is prescribed through its easily recognized prototype in popular culture, and this familiar script is facilitated by instructions from an authority that provide informational social influence (the perpetrator is in the lineup) as well as normative social influence (the acceptable response is to make a choice). Researcher believe that the basic lineup instruction, “point to the man you saw,” provides a combination of scripting, information, and advice that strongly encourages the witness to choose from the lineup. If the eyewitness assumes the perpetrator is in the lineup, then he or she is likely to believe that the task now is to find the person who best resembles his or her memory of the perpetrator.

An eyewitness who chooses from a lineup has seemingly met two cognitive criteria: (1) a face in the lineup is perceived as familiar, and (2) that face is judged as having appeared at the crime scene. Normative social influence may serve to ease the acceptance of a face with familiar features; informational social influence provides the contextual criterion through the perceived claim that the crime was committed by one of the lineup members. With the traditional instruction, there is no explicit option of declining to choose. The witness may be induced to choose even with a relatively poor recollection of the culprit.

One means to improve this situation is to communicate to the witness an expectation that allows the possibility that the lineup may not include the perpetrator. Can this small change in wording make a difference? To test the impact of lineup instructions, it is necessary to compare two lineup test conditions in which the only difference is the content of the lineup instruction. All participants must witness the same experimenter-controlled event and subsequently be tested for memory of the perpetrator. As the participant-witnesses are introduced

19 Id.
20 Wells, supra note 16, at 585.
22 Wells, supra note 16, at 593.
to the lineup task, half are provided a cautionary (unbiased) instruction: “The person you saw may or may not be in this lineup.” The remaining witnesses receive the traditional biased instruction: “Which of these is the man you saw?” Lineup choices for the two groups can then be compared for accuracy.

This comparison testing has been accomplished by multiple teams of researchers, and a meta-analytic review is available that summarizes the results of the investigations. Meta-analysis is a statistical tool used to combine the results of multiple studies, each individual study having tested the same hypothesis. The prominent benefit of meta-analysis is to allow detection of significant patterns in data that run across studies—reliable, stubborn effects that endure across investigators, labs, and variations in method. Steblay, et al., reviewed the results of twenty-two experimental tests (i.e., comparisons of the effects of biased versus unbiased instructions under controlled laboratory conditions). The research included 2,588 participant-witnesses. The combined results demonstrated a significant difference in overall witness lineup accuracy (the combination of percentage of correct identifications in target-present lineups plus percentage of correct rejection of target-absent lineups), with the cautionary instruction producing fifty-six percent correct decisions and the biased instruction generating forty-four percent correct decisions. Thus, a simple change in instruction produced an average twelve percent increase in lineup decision accuracy.

It is informative to separate witness decisions by lineup type, based on whether the offender (target) is present in or absent from the lineup. Table 1 indicates that cautionary instructions produced an average of twenty-five percent fewer errors for target-absent arrays, with no average loss in correct identifications in target-present lineups. The implication is immense: in 1000 target-absent lineups conducted over some period of time, we would expect 250 fewer identification errors. A rather simple change offers significantly increased protection against identification error in a target-absent lineup.

---

23 See Steblay, supra note 18.
24 Id. at 288.
25 Id.
TABLE 1. LINEUP DECISION ACCURACY

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Cautionary</th>
<th>Biased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target-Present Lineup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct identification</td>
<td>54%</td>
<td>53%</td>
</tr>
<tr>
<td>Error</td>
<td>46%</td>
<td>47%</td>
</tr>
<tr>
<td>Target-Absent Lineup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct rejection</td>
<td>60%</td>
<td>35%</td>
</tr>
<tr>
<td>Error</td>
<td>40%</td>
<td>65%</td>
</tr>
</tbody>
</table>

The mechanism underlying this effect appears to be the witness’s decision as to whether or not to make a choice from the lineup: Higher levels of choosing follow a biased instruction. In a subset of fifteen experimental tests that allow calculation of selection percentages, cautionary instructions produced a forty-eight percent overall choosing rate; biased instruction generated a seventy-two percent choosing rate. A cautionary instruction produced a more cautious eyewitness. Is this change desirable? Or conversely, could a “nudge” be beneficial, particularly for the very cautious witness who may have set a high personal decision criterion? The risk of such a push is clear in the target-absent lineup: a significant increase in identification errors (twenty-five percent). For the target-present lineup, a smaller data set of six studies allows close analysis of witness choice distribution (see Table 2).

---

26 Id. at 289.
27 Data on file with author.
28 Data on file with author.
(6 studies)

<table>
<thead>
<tr>
<th>Decision</th>
<th>Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct identification</td>
<td>Cautionary: 50%</td>
</tr>
<tr>
<td>Filler selection</td>
<td>Cautionary: 17%</td>
</tr>
<tr>
<td>No choice from lineup</td>
<td>Cautionary: 33%</td>
</tr>
</tbody>
</table>

While the average level of correct identifications remains equal between the two instruction conditions, the biased instruction generates more filler selections, which is evidence of increased risk to the innocent suspect. The cautionary instruction with its lower choosing rate produces more “no choice” decisions. Thus, the nudge of the biased instruction does not turn cautious witnesses to correct identifications. Rather, it simply pushes around the errors that result from weak memory. Of course, in the field we cannot be certain as to whether the lineup is a perpetrator-present or absent array. In addition, it can be speculated, as yet untested, that a biased instruction may cause the witness to attend more to the lineup administrator’s behavior. This is a dangerous scenario if the lineup is run without a “blind” administrator or a “blind” instruction to the witness.

It is important to note the robustness of the lineup instruction effect. The meta-analysis demonstrated the positive impact of the cautionary instruction across lineup display (photo, live, and video), lineup presentation format (sequential and simultaneous), delay between event and lineup (immediate, two, three, seven, and fourteen days), intensity of event (high, moderate, and low), realism, and subject population (students and non-students). The phenomenon is reliable and meaningful.\(^\text{29}\) The recommendation from these studies is for an instruction that suggests to the witness that the perpetrator may or may not be in the lineup and that provides an explicit option to reject the lineup.

\(^{29}\) Stebay, supra note 18, at 290.
The 1999 National Institute of Justice Guidelines\(^{30}\) recommend that “[p]rior to viewing a lineup,” the investigator should “instruct the witness that it is just as important to clear innocent persons from suspicion as to identify guilty parties.”\(^ {31}\) More specifically, the recommended procedure is that the investigator instruct the witness that the person who committed the crime may or may not be in the set of photographs being presented. Finally, the investigator should assure the witness that regardless of whether or not an identification is made, the police will continue to investigate the incident.\(^ {32}\)

II. SHOW-UPS: THE POWER OF CONTEXT

Research also has provided data regarding eyewitness performance for show-up identifications, the procedure in which a single suspect is presented to the eyewitness shortly after the event, to see if the eyewitness will identify that person as the culprit.\(^ {33}\) Show-ups may be an instance of particularly powerful contextual cues for the witness. As noted with regard to lineup instructions, both informational and normative social influence are likely at play, as the witness is presented with one suspect in close temporal and physical proximity to the witnessed event. The task is clear, and the sense of urgency is apparent. The question for researchers is if and how this context may affect eyewitness decisions.

Expected benefits and drawbacks to show-up use have been presented elsewhere. In particular, Wells\(^ {34}\) has thoughtfully summarized legal and practical considerations. The list of benefits begins with the unique role that a show-up plays in an investigation: a practical means for police to gain immediate information from an eyewitness regarding a possible suspect and thus advance the investigation in a timely manner. Suspect rights are at issue as well, as there is a need to free an innocent person from suspicion as quickly as possible. A show-up will detain the suspect for only a matter of moments and does not necessitate an arrest. In fact, field data indicate that witnesses who are presented with show-

---


\(^{31}\) Id. at 32.

\(^{32}\) Id.


ups actually reject the suspect more often than they make a positive identification, thereby permitting a quick exoneration of the detained person. A second consideration is public safety. Police need to immediately assess a suspect for risk of flight and subsequent dangerousness.

From a psychological perspective, a show-up may afford access to fresh memory unspoiled by the passage of time. Live presentation allows a view of a suspect’s full body, thereby offering appraisal of gait, posture, affect, demeanor, or other attributes that may aid identification. Perhaps a show-up is an easier decision, uncomplicated by distracting fillers. However, this technique has been suggested, tested, and dismissed as a technique appropriate for children who may otherwise be confused by a lineup procedure. Finally, a show-up could be regarded as a one-person sequential lineup. As the show-up requests only one “yes/no” judgment, it is logical that it provides the benefits of absolute judgment.

Drawbacks to show-up use also can be catalogued. First, although ideally the police convey to the witness an openness to either disconfirmation or confirmation of the show-up target, show-up procedure instead has been characterized as unnecessarily suggestive. Demand characteristics of the situation may convince the witness that the police have good reason to hold the apprehended individual—a reasonable match to memory, caught in the area, clothing as described, or held in a squad car. The witness’s expectation is augmented by an instruction that implicitly requests a confirmation: “We have picked up a suspect in the area... We’d like you to take a look...” The pressure to validate the one-person lineup may be difficult to resist.

Additional concerns involve the show-up’s possible reduction in protection of the innocent suspect. The purpose of fillers in a lineup is to reduce the suggestiveness of the procedure and to draw any errors away from the suspect and toward the fillers. The fillers help to make certain that the lineup is a test of the witness’s ability to actually recog-

37 Streblay, supra note 33, at 525.
nize the culprit and not merely to identify the suspect present in the lineup.\textsuperscript{40} The show-up does not allow this benefit. Also, the show-up does not provide the same mechanism as a lineup to signal police that the witness has an inadequate memory of the perpetrator. When an eyewitness avoids fillers to choose the suspect from a lineup, this helps to verify memory reliability; conversely, a filler selection suggests that the witness has a weak memory of the culprit.

The available meta-analysis provides an additional perspective on the usefulness of show-ups, including twelve comparisons of show-up to lineup performance involving 3,013 participant-witnesses.\textsuperscript{41} These subjects were exposed to crime scenarios and then shown either a lineup or show-up for the identification task. Witness responses were compared between show-up and lineup conditions. Eleven of the twelve tests involved head-and-shoulders photo shots. Although the number of studies is small, the research included testing of subjects across populations (children, adults, community residents, college students), and both lab and field experiments.\textsuperscript{42}

A primary question is whether presentation format affects choosing rates (whether the witness says “yes” to any photo in the array). Overall, lineups produced higher choosing rates, fifty-four percent versus twenty-seven percent, lineups versus show-ups, respectively.\textsuperscript{43} A show-up ostensibly results in a more cautious witness. How does this translate to accuracy? In the target-present display, the correct identification rate is virtually the same for show-ups and lineups, forty-seven percent versus forty-five percent.\textsuperscript{44} However, target-present lineup error takes two forms: filler selections or incorrect rejections. In a subset of studies, the researchers reported a breakdown of overall error into these two components. Analysis demonstrates that a lineup offers information about witness reliability that a show-up cannot: twenty-four percent of the witnesses were willing to choose but had poor memory of the offender (i.e., filler choices).\textsuperscript{45}

What about the target-absent lineups? Show-ups generated twenty-eight percent fewer errors than lineups, but each show-up error was the identification of an innocent suspect whereas some proportion

\textsuperscript{40} Wells & Seelau, supra note 3, at 766 (where fillers are referred to as “distractors”).
\textsuperscript{41} Steblay, supra note 33, at 523.
\textsuperscript{42} Id. at 528.
\textsuperscript{43} Id. at 530.
\textsuperscript{44} Id.
\textsuperscript{45} Id.
of the lineup errors are merely the identification of a filler (for whom charges obviously would not be brought). In other words, the full fifteen percent show-up error rate (Table 3) represents "dangerous" error: identification of an innocent suspect as the perpetrator. In the case of a lineup, however, the forty-three percent error rate includes both false identifications and filler selections. The teasing apart of these two types of error produces a more precise indicator of dangerous lineup error. Five tests allowed separation of filler and suspect selections, and these five tests appear representative of the larger data set, in that lineup error rates of the five are almost identical to the larger sample, at forty-one percent. For these five tests, one can remove (subtract) filler choices from the error category (reducing the overall number of subjects in the analyses). With filler choices excluded, lineups generate an eighty-four percent accuracy rate, sixteen percent error rate; virtually the same as show-ups.

Table 3. Witness Accuracy in Target-Absent Arrays

<table>
<thead>
<tr>
<th></th>
<th>Showup</th>
<th>Lineup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct Rejection</td>
<td>85 %</td>
<td>57 %</td>
</tr>
<tr>
<td>Error</td>
<td>15 %</td>
<td>43 %</td>
</tr>
</tbody>
</table>

Three of the research teams included in the review specifically planted a suspect in the array who closely matched the description of the perpetrator. Thus, this person became the innocent suspect in a target-absent show-up and lineup. Dangerous false identifications in these cases are higher in show-ups than lineups, twenty-three percent versus seventeen percent.

In summary, correct identification rate was approximately equal for witnesses shown either a lineup or a show-up when the perpetrator was, in fact, present in the display. False identification rates in target-absent show-up and lineup presentations were also approximately equal. Despite surprising commonality in outcome between these presentation formats, these results should not be seen as a green light for show-up use. The evidence of increased false identifications for the designated

---

46 ld.
47 ld.
48 ld.
innocent suspect should give pause. Furthermore, the following considerations are crucial.

**Diagnosticsity (utility) of the lineup.** In these studies, the diagnosticity of identifications, the ratio of hits to false identifications, favors lineups. Diagnosticity for non-identifications, the ratio of correct rejections to false rejections, is greater for show-ups. In simple terms, an identification of the suspect when obtained from a lineup is more trustworthy than when obtained from a show-up. Rejection of the array (not identifying the suspect) is more trustworthy, indicating innocence, when this happens with a show-up than when this occurs with a lineup.

**Suggestibility.** The most direct behavioral indicator of suggestibility is witness choosing rate. Participant-witnesses who viewed a lineup were twice as likely to make an identification from the array than those who viewed a show-up, a twenty-seven percent higher lineup choosing rate. Thus, suggestibility is apparently not a strong mechanism underlying show-up decisions. At least under the rather favorable conditions of these studies, the data indicate greater caution for witnesses when confronted with a single photo show-up. Perhaps this indication is attributable to a closer approximation to absolute judgment in these witnesses.

It could be argued that these studies represent a very conservative careful use of show-ups. Many best-practice features were included: Show-up/lineup members were matched to perpetrator description, cautionary instructions were employed, the focus of the identification was on the perpetrator’s face (thus reducing potential suggestiveness of the “on the scene” event), and each test involved a single eyewitness (thus no contamination across subjects). Field practice, however, may involve substantial pitfalls (e.g., lack of a cautionary instruction and high potential for suggestibility due to clothing similarity, suspect nervousness, and/or display of the suspect in a squad car or with handcuffs). The field show-up may be more dangerous than these data portray.

**Comparison lineups.** One aspect in which these studies may not have represented best lineup practice is in functional size of the lineup. If one considers the obtained choosing rate in target-absent lineups (forty-three percent), each of the six fillers should be drawing approximately one-sixth of the errors (seven percent). However, in these tests, the dangerous error rate (identification of suspect) is sixteen percent, signifying a functional lineup size of fewer than six (perhaps closer to three or four). Performance on show-ups may look relatively good because the comparative lineups were not constructed to a desired level of
fairness. More work will need to be done to clarify this issue, but it
appears that the test of show-ups versus lineup in these studies is actu-
ally a test of show-ups compared to poorly-constructed lineups. If the
lineups were well-constructed, the innocent suspect should have drawn
only one-sixth of the total choices; instead the innocent suspect received
an average of more than one-third of the choices.

Protection for the innocent suspect. As discussed earlier, well-con-
structed lineups impart the powerful advantage of drawing errors away
from an innocent suspect. Show-ups do not provide this important safe-
guard. A lineup filler choice by the witness is diagnostic of unreliable
memory in the same way that a choice of the suspect or rejection of the
lineup despite the presence of fillers builds our confidence in a witness's
memory.

Jeopardy for the innocent suspect may well be increased with the
suggestiveness of a show-up procedure. These show-up tests do not in-
dicate greater choosing by witnesses, perhaps due to limitations of study
design. The remaining source of worry is in the show-up's absence of
the protective mechanism of a well-constructed lineup. Thus, the con-
tinuing policy dilemma pits possible memory benefits and significant
known practical needs—to quickly free innocent persons and pursue the
guilty—against the potential suggestiveness of the field procedure and
the lack of protection for an innocent suspect.

Show-ups serve a practical purpose in police investigations, and
their use is not likely to diminish in the immediate future. Meanwhile,
courts struggle with the probative value of a show-up decision (e.g.,
State of Wisconsin v. Dubose). Existing data indicate that the investiga-
tory decision to be confronted is between the alternatives of a show-up
now (immediacy) versus a lineup later (with safeguards). However, the
research also alerts us to the direction in which policy might move: use
of computers to generate an in-the-field photo lineup that favors imme-
diacy but also offers the protection of a well-constructed lineup.

III. Conclusion

Context for the identification task is critical. The decision crite-
ron of a witness can be relaxed or tightened by lineup instructions and
format. This “pushing” of the witness’s decision to choose is productive

if it involves an intentional strategy to force the witness toward absolute judgment; a reliance on memory alone.

Reduced demand characteristics and decreased motivation for witnesses to guess will be achieved through well-constructed lineups and empirically-supported lineup procedures. Such techniques will allow more reliable and defensible identifications of true perpetrators and increased safeguards for innocent suspects.