

2015

Eyewitness Lineups: Identification from

Laura Smalarz
Williams College

Gary L. Wells
Iowa State University, glwells@iastate.edu

Follow this and additional works at: https://lib.dr.iastate.edu/psychology_pubs

 Part of the [Cognition and Perception Commons](#), [Criminology and Criminal Justice Commons](#), and the [Law and Psychology Commons](#)

The complete bibliographic information for this item can be found at https://lib.dr.iastate.edu/psychology_pubs/72. For information on how to cite this item, please visit <http://lib.dr.iastate.edu/howtocite.html>.

This Book Chapter is brought to you for free and open access by the Psychology at Iowa State University Digital Repository. It has been accepted for inclusion in Psychology Publications by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.

Eyewitness Lineups: Identification from

Abstract

The police lineup is a common tool for eyewitness identifications of suspects in criminal cases. Forensic DNA testing of people convicted by eyewitness identification evidence and field studies of police lineups, however, have revealed that mistaken identification from lineups is not uncommon. Controlled laboratory experiments have isolated numerous variables that contribute to mistaken identifications from lineups, some of which are controllable by the criminal justice system (e.g., various biases in the lineup or its procedure) and some of which are not controllable by the criminal justice system (e.g., witnessing conditions, stress).

Disciplines

Cognition and Perception | Criminology and Criminal Justice | Law and Psychology | Psychology

Comments

This chapter was published as Smalarz, L., & Wells, G. L. (2015), "Eyewitness Lineups. In A. Jamieson and A.A. Moenssens (Eds.) *Wiley Encyclopedia of Forensic Science*, John Wiley: Chichester. doi: [10.1002/9780470061589.fsa469.pub2](https://doi.org/10.1002/9780470061589.fsa469.pub2). Posted with permission.

Eyewitness Lineups: Identification from

Update based on original article by Gary L. Wells and Lisa E. Hasel, Wiley Encyclopedia of Forensic Science, © 2009, John Wiley & Sons, Ltd.

The police lineup is a common tool for trying to establish the identity of the perpetrator of a crime. A lineup is likely to be used when there was at least one eyewitness (*see* **Eyewitness Testimony**) who observed the culprit committing the crime (or observed someone just before or just after the crime was committed who was likely to have been the culprit). When police investigators have a suspect in the crime, that person or his/her photo is shown to the eyewitness to see if the eyewitness will identify that person as the culprit. Because showing only one person (or one photo) is considered a suggestive procedure, the suspect (or his photo) is embedded among other people (or photos of other people). These other people (or their photos) are not suspects and are called *fillers*. This array of people (or photos) is generally called a *lineup*. The eyewitness is then asked if she/he recognizes anyone in the lineup as having been the culprit. Photographic lineups are much more common than are live lineups, and the number of lineup members typically ranges from six to eight. A positive identification of someone from a lineup can be a very powerful form of evidence, commonly resulting in arrest, indictment, and ultimate conviction.

The Development of a Science of Lineups

Behavioral scientists have conducted hundreds of experiments, starting in the mid- to late 1970s, in which unsuspecting people have viewed simulated crimes followed by lineups. On the basis of these experiments, scientists have published several hundred articles warning that the risk of eyewitnesses identifying innocent people is much higher than most people seem to believe. The rate of mistaken identification is not a constant number but instead varies as a function of dozens of factors. These include factors that are not under the control of the criminal justice system (such as witness viewing conditions, stress,

and whether the witness and culprit are of the same race or not), which are called *estimator variables*. However, the rate of mistaken identification also includes factors that are directly under the control of the criminal justice system (such as prelineup instructions to the eyewitness, the choice of fillers used in the lineup, and cues from the lineup administrator that can influence the eyewitness), which are called *system variables* [1]. Psychological scientists have taken a special interest in system variables because of the potential to use system variables to reduce the chances of mistaken identification.

Although the early eyewitness identification literature drew the attention and respect of many psychological scientists, it was not until the mid- to late 1990s that the legal system began to take significant notice. It was at this time that the advent of forensic DNA testing helped uncover wrongful convictions that had resulted from mistaken eyewitness identification. In 1996, a US Justice Department report on the first 28 DNA exonerations revealed that 24 were cases of mistaken eyewitness identification [2]. By 2007, the number of DNA-based exonerations of individuals who were convicted by juries stood at more than 200, and over 75% of those were cases of mistaken eyewitness identification (see www.innocenceproject.org for an up-to-date Internet site that tracks these cases). These DNA exonerations have resulted in greater communication between the justice system and the psychological science on the problem of mistaken identification.

Causes of Misidentification in Lineups

Researchers have discovered a large number of factors that contribute to eyewitness misidentification. Some of these factors are relatively obvious in the sense that they represent conditions of witnessing that are not conducive to forming a good memory of the facial characteristics of the perpetrator, such as poor lighting, distant viewing, short exposure durations to the perpetrator's face, and the use of disguises by the perpetrator.

Other factors might be less obvious, such as the stress and fear that sometimes accompany witnessing a crime. Surveys suggest that many people believe that stress and fear could make memory better by making the eyewitness more alert or that the emotion will somehow help the eyewitness form a clear and

2 Eyewitness Lineups: Identification from

lasting memory [3]. However, research does not support this contention, indicating instead that stress impairs the formation of memories needed for accurate identification decisions from lineups [4]. Similarly, the use of weapons visible to the eyewitness draws attentional focus to the weapon and detracts from processing of the face of the perpetrator [5]. Another factor that affects eyewitness identification performance is whether the eyewitness and the culprit are of the same or different race or ethnic background. Research has consistently shown that it is more difficult to recognize a stranger who was viewed on only one prior occasion if that person was of a different racial or ethnic appearance than the witness [6].

Relative Judgments

Having a weak memory *per se*, however, does not fully explain why eyewitnesses make mistaken identifications from lineups. In particular, having a weak memory does not explain why a witness would make a positive identification rather than simply saying “I don’t know.” A dominant conceptualization among eyewitness scientists is that eyewitnesses are motivated to make an identification (in the interests of justice) and sometimes rely on a “relative-judgment process” rather than on absolute recognition to make the identification decision [7]. A relative judgment is one in which the eyewitness compares each lineup member to the other lineup members and decides which one more closely resembles his/her memory *relative* to the other lineup members.

The relative-judgment strategy can lead to an accurate identification if the actual perpetrator is in the lineup. However, if the actual perpetrator is not in the lineup, then relying on a relative-judgment strategy increases the risk of misidentifying an innocent suspect. Although there are no empirically determined estimates of how often perpetrator-absent lineups are shown to witnesses in actual cases, the absence of the actual perpetrator in the lineup is not necessarily an unusual situation. It simply means that the person-of-interest (the suspect) is not the perpetrator and that the investigation has focused on the wrong person.

The rate of perpetrator-absent lineups in actual cases cannot be easily represented by a single base rate or percentage. Instead, the rate of perpetrator-absent lineups is likely to vary from one case to another and one jurisdiction to another, depending

on how much or little evidence the detectives feel that they need in order to conduct a lineup [8]. Jurisdictions that are quick to assemble a lineup on the basis of mere hunches would be expected to run a higher rate of perpetrator-absent lineups than would jurisdictions that require good evidence against the suspect before conducting a lineup.

Experiments on the relative-judgment process have shown that when the actual perpetrator is removed from a lineup, witnesses shift their identifications to another lineup member rather than rejecting the lineup or saying “I don’t know” [9]. This phenomenon is especially pronounced when witness’s memories for the perpetrator are weak. Accordingly, researchers have investigated ways to decrease witnesses’ reliance on relative judgments when making identification decisions. One strategy is to present the lineup members to eyewitnesses sequentially (one-by-one) rather than simultaneously (all at once). This sequential presentation method helps curb witnesses’ propensities to make positive identifications based on relative judgments and instead promotes absolute recognition judgments. As a result, the sequential lineup method reduces the risk of mistaken identification but it can also reduce identifications of the guilty party [10].

Another method for curbing eyewitnesses’ propensities to make positive identifications is to warn eyewitnesses before viewing the lineup that the actual perpetrator might not be in the lineup. This prelineup warning has little effect on the eyewitness’s ability to identify the perpetrator if the actual perpetrator is in the lineup, but it reduces the risk of identifying an innocent suspect if the actual perpetrator is not in the lineup [11].

Lineup Composition

Another factor that contributes to mistaken identification is the use of lineup fillers who fail to fit the eyewitness’s description of the perpetrator, which leads the eyewitness to prefer the suspect (who fits the description) even when the suspect is not the perpetrator [12]. Consider a case, for instance, in which the eyewitness described the perpetrator as a tall man in his 20s with short dark hair and no facial hair. Suppose that the suspect fits that description, but the fillers were short, or had light-colored hair, or had long hair, or were in their 40s, or had facial hair. This would make the suspect stand out in the lineup

as being the person that the investigators obviously believe committed the crime.

A technique called the *mock witness procedure* has been developed by eyewitness scientists to assess such lineup biases. Mock witnesses are people who have never previously seen the suspect and are simply given the eyewitness's verbal description of the perpetrator. The mock witnesses then view the lineup (or a photo of it) and select the person they believe most closely matches the description provided by the eyewitness. A fair six-person lineup should result in only 1/6 of the mock witnesses picking the suspect and the remaining 5/6 of the witnesses selecting fillers. The inverse of these ratios (e.g., inverse of $1/6 = 6$) is known as *functional lineup size* [13]. Hence, if 1/3 of the mock witnesses pick the suspect, the functional size of the lineup would be 3, even if the nominal size (number of persons in the lineup) was 6, 8, or 10. The higher the functional size, the more it is presumed to be protective of mistaken identifications of an innocent suspect.

Influence of Lineup Administrator

Another factor that can cause mistaken identifications from lineups is the behavior of the person who administers the lineup. The common practice is for the case detective to administer the lineup [14]. That means that the lineup administrator knows very well which lineup member is suspected of committing the crime and which lineup members are merely fillers. Eyewitness scientists have argued that this practice creates considerable opportunity for the lineup administrator to influence the eyewitness. Experimental simulations have shown that lineup administrators influence eyewitness identifications in a manner consistent with what the administrator is led to believe about which person is the suspect [15]. The precise ways in which this influence occurs are not yet well established, but they appear to be very similar to the experimenter-expectancy effect in which the results of an experiment are influenced by the expectations of the experimenter who tests the research participants [16]. Accordingly, eyewitness scientists have advocated for the use of *double-blind lineups* [9, 17] in which the person administering the lineup does not know which person is the suspect and which are fillers [18].

False Confidence

A lineup results in two primary outcomes: the identification itself and the confidence that the eyewitness expresses in the identification. The confidence expressed by the eyewitness is important because tentative or low-confidence identifications are usually not considered strong evidence, often do not result in charges, and tend to be unpersuasive to judges and juries. A confident eyewitness, in contrast, is very persuasive [19]. Hence, eyewitness scientists have devoted a great deal of research to investigate the strength of the correlation between eyewitness identification confidence and eyewitness identification accuracy.

As might be expected, the strength of the relation between confidence and accuracy varies considerably across studies as a function of numerous variables. A meta-analysis of 30 different studies indicated that the average correlation might be as high as $r = 0.41$ [20]. That means that accuracy is accounting for a maximum of only about 16% of the variance across eyewitnesses in their confidence.

The concept of *false confidence* refers to a highly confident eyewitness who has nevertheless made a mistaken identification. False confidence can occur for a variety of reasons, including the obvious situation in which an innocent person who was identified happens to have very high coincidental resemblance to the culprit. More interesting, however, is the phenomenon of "confidence malleability" in which a mistaken eyewitness who was initially low in confidence later becomes highly confident.

Evidence for confidence malleability has been shown dramatically with the postidentification feedback effect. After making mistaken identifications, eyewitnesses who are given feedback suggesting that they identified the right person (e.g., "Good, you identified the actual suspect") undergo a distortion in their memory about their initial uncertainty and come to believe that they were confident all along [21]. The postidentification feedback effect has been demonstrated across a variety of experiments [22]. Recent research shows that feedback eliminates an otherwise reliable ability of evaluators to differentiate between accurate and mistaken identification testimony [23]. Hence, feedback can thwart the abilities of fact-finders to make accurate judgments in cases involving eyewitness-identification evidence.

4 Eyewitness Lineups: Identification from

References

- [1] Wells, G.L. (1978). Applied eyewitness testimony research: system variables and estimator variables, *Journal of Personality and Social Psychology* **36**, 1546–1557.
- [2] Connors, E., Lundregan, T., Miller, N. & McEwan, T. (1996). *Convicted By Juries, Exonerated By Science: Case Studies in the Use of DNA Evidence to Establish Innocence After Trial*, National Institute of Justice, Alexandria, VA.
- [3] Kassin, S.M., Tubb, V.A., Hosch, H.M. & Memon, A. (2001). On the “general acceptance” of eyewitness testimony research, *American Psychologist* **56**, 405–416.
- [4] Morgan, C.A., Hazlett, G., Doran, A., Garrett, S., Hoyt, G., Thomas, P., Baranoski, M. & Southwick, S.M. (2004). Accuracy of eyewitness memory for persons encountered during exposure to highly intense stress, *International Journal of Law and Psychiatry* **27**, 265–279.
- [5] Steblay, N.M. (1992). A meta-analytic review of the weapon focus effect, *Law and Human Behavior* **16**, 413–424.
- [6] Meissner, C.A. & Brigham, J.C. (2001). Twenty years of investigating the own-race bias in memory for faces: a meta-analytic review, *Psychology, Public Policy, and Law* **7**, 3–35.
- [7] Wells, G.L. (1984). The psychology of lineup identifications, *Journal of Applied Social Psychology* **14**, 89–103.
- [8] Wells, G.L. (2006). Eyewitness identification: systemic reforms, *Wisconsin Law Review* **2006**, 615–643.
- [9] Wells, G.L. (1993). What do we know about eyewitness identification?, *American Psychologist* **48**, 553–571.
- [10] Steblay, N.M., Dysart, J.E. & Wells, G.L. (2011). Seventy-two tests of the sequential lineup superiority effect: A meta-analysis and policy discussion, *Psychology, Public Policy, and Law* **17**, 99–139.
- [11] Steblay, N.M. (1997). Social influence in eyewitness recall: a meta-analytic review of lineup instruction effects, *Law and Human Behavior* **21**, 283–298.
- [12] Wells, G.L., Rydell, S.M. & Seelau, E.P. (1993). On the selection of distractors for eyewitness lineups, *Journal of Applied Psychology* **78**, 835–844.
- [13] Wells, G.L., Leippe, M.R. & Ostrom, T.M. (1979). Guidelines for empirically assessing the fairness of a lineup, *Law and Human Behavior* **3**, 285–293.
- [14] Police Executive Research Forum (2013). *A National Survey of Eyewitness Identification Procedures in Law Enforcement Agencies*. Report submitted to the National Institute of Justice, March 8, 2013.
- [15] Greathouse, S.M. & Kovera, M.B. (2009). Instruction bias and lineup presentation moderate the effects of administrator knowledge on eyewitness identification, *Law and Human Behavior* **33**, 70–82.
- [16] Rosenthal, R. (2002). Covert communication in classrooms, clinics, courtrooms, and cubicles, *American Psychologist* **57**, 838–849.
- [17] Wells, G.L., Small, M., Penrod, S.J., Malpass, R.S., Fulero, S.M. & Brimacombe, C.A.E. (1998). Eyewitness identification procedures: recommendations for lineups and photospreads, *Law and Human Behavior* **22**, 603–647.
- [18] Wells, G.L. (1988). *Eyewitness Identification: A System Handbook*, Carswell Legal Publications, Toronto.
- [19] Wells, G.L., Lindsay, R.C.L. & Ferguson, T.J. (1979). Accuracy, confidence, and juror perceptions in eyewitness identification, *Journal of Applied Psychology* **64**, 440–448.
- [20] Sporer, S., Penrod, S., Read, D. & Cutler, B.L. (1995). Choosing, confidence, and accuracy: a meta-analysis of the confidence-accuracy relation in eyewitness identification studies, *Psychological Bulletin* **118**, 315–327.
- [21] Wells, G.L. & Bradfield, A.L. (1998). Good, you identified the suspect: feedback to eyewitnesses distorts their reports of the witnessing experience, *Journal of Applied Psychology* **83**, 360–376.
- [22] Steblay, N.M., Wells, G.L. & Douglass, A.L. (2014). The eyewitness post-identification feedback effect 15 years later: theoretical and policy implications, *Psychology, Public Policy, and Law* **20**, 1–18.
- [23] Smalarz, L. & Wells, G.L. (2014). Post-identification feedback to eyewitnesses impairs evaluators’ abilities to discriminate between accurate and mistaken testimony, *Law and Human Behavior* **38**, 194–202.

Laura Smalarz and Gary L. Wells