

A PRIMER ON THE PSYCHOLOGY OF EYEWITNESS MEMORY

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Eyewitness misidentification is the most common contributing factor to wrongful convictions in the United States, with eyewitness error playing a role in over 70% of the nation's DNA exoneration cases.¹ Therefore, it is extremely important that those working in the criminal justice system understand the factors that contribute to the mistakes eyewitnesses make and learn whether those errors can be prevented. Even more importantly, if law enforcement is not able to eliminate or prevent all errors, attorneys, judges, and jurors need to understand whether they have the ability to reliably distinguish between accurate and inaccurate eyewitness decisions. The goal of this Essay is to attempt to provide answers to these important issues from a scientific (psychological) perspective.

Over the last several decades, eyewitness researchers have learned a tremendous amount about the causes of mistaken identifications and other eyewitness errors. We have gained this knowledge from multiple sources, including controlled laboratory studies, field studies, archival reviews of police records, and, of course, DNA exoneration cases. Together, the data from these sources tell a consistent and compelling story; eyewitness errors are common and, in some cases, were predictable. We have learned through an examination of thousands of police records across the globe that 24% of eyewitnesses who *view* a lineup make an identification error and choose a filler,² a statistic that is consistent with the results from laboratory studies. Further, for witnesses

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1. See INNOCENCE PROJECT, www.InnocenceProject.org (last visited Feb. 26, 2019).

2. G. L. Wells et al., *Policy and Procedure Recommendations for the Collection and Preservation of Eyewitness Identification Evidence* (Feb. 2019) (Final Draft of the APLS Scientific Review Paper on Eyewitness Identification Procedures) (on file with author).

who actually *choose* a lineup member (i.e., make a positive identification), 37% select a lineup filler.³ Filler identifications are, of course, known errors, but there are additional mistaken identifications of innocent suspects that also take place, yielding a total false identification rate somewhere north of 40% in actual cases.

Given the data on how common eyewitness errors are, one might think that eyewitness evidence is not particularly valuable or reliable. This blanket statement is not true, as it cannot account for important nuances discovered through scientific research. The role of a witness is to attend to, perceive, store, retrieve, and then communicate information *they* witnessed to law enforcement and investigators. But errors or alterations of memory can occur at any of these stages, and because memory does not work like a video camera, it is difficult to know whether the memories are accurate or have been altered in some way.

Similar to other forms of trace evidence, eyewitness evidence can be extremely valuable if the evidence (memory) was gathered or collected using best practices and if it was *strong* to begin with. For example, a partial fingerprint may be useful but it is not generally as reliable as a full print, and, regardless of quality, trained professionals must be used to collect the evidence to avoid contaminating or altering it. But what does it mean for one to have a *strong* memory of a perpetrator or a crime? From a psychological perspective, this means that the witness (at a minimum) had to pay attention to the people and events involved. Regrettably, our attention is rather selective, and it is not possible for humans to simultaneously attend to everything in their environment. Thus, we often miss many details around us, later filling in the “gaps” by guessing, asking others, or through other means (e.g., social media, news media). Unfortunately, the process of filling in information or confirming our experiences with others makes our memories more vulnerable to contamination or alteration, often without our awareness. Thus, when a witness is asked to recall what they saw or heard themselves, it could be difficult for them to disentangle their original memory with information learned after the event.

After attention, the next step in the memory process is *perception* or the interpretation and organization of what it is we just sensed. Although this seems like a relatively simple concept, perception is extremely complex. In fact, our life experiences affect

3. Wells et al., *supra* note 2.

the way in which we interpret our environment and organize our memories, which partially explains why multiple witnesses to the same event often have different accounts of what took place. Following perception, we must *store* memories in a way that allows us to be able to *retrieve* them at a later time, but the more time that passes between storage and retrieval, the greater the likelihood that memory errors will occur. Memories are vulnerable to contamination from post-event information (e.g., communications with 911 dispatchers, co-witnesses, or media coverage), and thus they should be tested as soon as possible using best practices.

The steps of the memory process described above relate the way in which eyewitness researchers have organized the field for over four decades: estimator and system variables. Estimator variables are the factors related to perception and storage and are therefore not under the control of the criminal justice system, whereas system variables are those primarily related to the retrieval of memories using techniques that are under the control of the criminal justice system. Some examples of estimator variables include the length of time the witness had to view the perpetrator, whether the witness experienced stress or fear during the event, whether a weapon was used during the crime, the lighting conditions during the observation, whether the witness and perpetrator were from the same racial or ethnic background, and whether the witness was intoxicated during the event. Some examples of system variables include the 911 call and what questions are asked of a witness during this initial reporting, whether witnesses are permitted to speak with one another after an event, the use of the cognitive interview, and the use of identification procedures including showups, mug-shot searches, composites or sketches, photo arrays and lineups, and in-court identification procedures.

All criminal cases include the presence of estimator variables that could have affected the ability of the witness to perceive and remember details accurately. But the critical question is whether we have developed procedures (system variables) that can overcome the influence of estimator variables and eliminate identification errors. Unfortunately, the answer is no; we have not. Although researchers have developed best practices—adopted by many states across the union—that can help to reduce eyewitness errors and increase the reliability of positive identifications of the suspect, not all errors will be prevented.

The current best practices in the field of eyewitness

identification generally relate to the use of photo arrays, the most commonly used identification procedure in the United States, and live lineups. Live lineups are less common, probably due to the inherent difficulty in finding five individuals who match the witness's description, look somewhat similar to the police suspect, and are willing to act as lineup fillers. In addition, there is very little control that lineup administrators have over the movements or actions that lineup members make, and thus the possibility of bias against the suspect can be greater in comparison to photo arrays. Regardless of type, the purpose is the same: it is a memory test designed to give investigators more (reliable) information about the suspect and witness than they had before the procedure was conducted. To make the most out of the memory test, it should be conducted using techniques that have been shown to maximize overall accuracy. These *best practices* include: having some a priori evidence that the suspect could be the perpetrator before conducting an identification procedure; conducting a pre-lineup interview with the witness to record their memory of the event/perpetrator in detail; including only one suspect per identification procedure;⁴ having pre-set criteria for filler selection⁵ and ensuring that the suspect does not stand out; giving the witness a standardized set of pre-identification instructions or warnings;⁶ using double-blind administration where the person conducting the procedure does not know the identity of the suspect;⁷ immediately taking a statement of confidence from the witness when a selection has been made; and recording the entire identification procedure. In addition, the use of showups should be avoided when possible because they are inherently suggestive, and a suspect should only be presented to a witness—for the purposes of identification—one time. For this reason, in-court identification procedures are not recommended because most violate the latter two best practices: avoid using showups, and do not conduct multiple identification procedures with the same suspect.

4. For this reason, mug-shot searching, where witnesses are asked to view many (hundreds) of prior arrest photos in the hopes that they will recognize the perpetrator, is not recommended. In effect, all persons viewed in the mug-shot search are potential suspects, violating the one-suspect per identification procedure recommendation.

5. This could be a match to the witness's description, similarity to the suspect, or a hybrid of these strategies.

6. For example, that the perpetrator may or may not be present and that the investigation will continue even if the witness does not select anyone.

7. Blinded administration can be used when double-blind lineups are not feasible. Blinded lineups are when the administrator knows who the suspect is but is not able to see which photograph or person the witness is viewing during the procedure.

After a witness has made their identification decision, there are a few tools that can be useful in the quest to determine the likely accuracy of that decision: confidence and decision speed, with quick decisions being more likely to be accurate. High confidence in an initial identification of the suspect using best practices *is* related to accuracy and can be a useful tool to identify witnesses who probably made an accurate identification. But outside these conditions (best practices), the relationship between confidence and accuracy weakens, and confidence becomes less useful as a diagnostic tool. For example, if a witness is given feedback about their identification decision (e.g., That's great! You've been a fantastic witness!), there is a strong likelihood that their confidence will be inflated because of the feedback. A further drawback with using confidence to determine accuracy is that few witnesses make an identification with high confidence, and thus this tool may not be very helpful in the majority of cases.

In addition to increasing confidence, feedback has also been shown to inflate a witness's report of how well they saw the perpetrator, how much attention they were paying to the crime, as well as other judgments about the quality of their witnessing experience. These factors are important because the United States Supreme Court in *Manson v. Brathwaite* ruled that these factors, confidence, attention, etc., could be useful in evaluating the reliability of the witness.⁸ For these reasons, it is important for law enforcement to thoroughly interview witnesses about their witnessing experience prior to conducting any identification procedure in order to maintain the integrity of the evidence.

We have now covered why witnesses make mistakes (errors in attention, perception, contamination, storage, and retrieval) and you have learned that we can reduce some identification errors by using best practices when collecting and preserving eyewitness evidence. But, merely using best practices will not prevent all errors, as estimator variables will still have some influence on the outcome. By way of final example, Wells, Steblay, and Dysart conducted a study in 2015 that compared the outcomes of two types of photo arrays using witnesses in actual criminal cases.⁹ Best practices (double-blind administration, one suspect per array, pre-identification instructions, immediate confidence statement) were

8. *Manson v. Brathwaite*, 432 U.S. 98, 114 (1977).

9. See generally Wells, Steblay & Dysart, *Double-Blind Photo Lineups Using Actual Eyewitnesses: An Experimental Test of a Sequential Versus Simultaneous Lineup Procedure*, 39 L. & HUM. BEHAV. 1 (2015).

used in the collection of evidence. However, despite the use of these “safeguards,” 36% of all positive identifications from photo arrays were mistaken identifications of fillers.¹⁰ So, it appears that although we have come far in our understanding of the causes of mistaken eyewitness identification, the solution(s) for eliminating these errors evades us, and our ability to postdict errors is imperfect. Regardless, the use of best practices will reduce errors and increase the likelihood of the fair administration of justice.

10. Wells, Steblay & Dysart, *supra* note 9, at 1.