

When an eyewitness is wrong: Recommendations for mitigating false convictions

August 14 2017, by Heather Zeiger



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(Medical Xpress)—Eyewitness testimony is a foundational component in the U. S. criminal justice system. Criminals are convicted and innocent people go free on the basis of an eyewitness testimony. But, sometimes

the eyewitness gets it wrong.

The advent of DNA technologies and the latest studies on visual perception and [memory](#) have called into question the reliability of [eyewitness testimony](#). Because of this the National Academy of Sciences formed a committee to analyze the reliability of eyewitness testimony and provide recommendations on how to mitigate the factors that lead to false convictions. Thomas D. Albright of the Salk Institute for Biological Sciences was one of the chairs of the committee and reviewed the committee's consensus report. His perspective article can be found in the *Proceedings of the National Academy of Sciences*.

Witnessing a crime is an unplanned event, and because of this, there are several variables that affect the witness's memory and, therefore, who they end up choosing from a lineup. Broadly, those variables are estimator variables and system variables.

Estimator variables have to do with the setting of the crime and the mental and emotional state of the witness. Lighting and distance, for example, can affect the witness's ability to get a clear look at the perpetrator. The witness's physical and emotional state may affect how clearly they see the perpetrator. If the witness was also the victim, for example, then that would constitute a high state of emotional distress that would affect how clearly the witness recalls the event.

Eyewitnesses pick the wrong person in a lineup either because of a failure of visual perception or a failure of memory. Uncertainty, bias, and confidence can affect a witness's visual perception. Uncertainty can come from environmental "noise" or the lighting or whether the attack allowed a good look at the suspect's face. The greater the uncertainty in the details of the crime, the more bias comes into play. Bias fills in the gaps in a person's memory using the person's prior experience as a guide for how to fill those gaps. When the witness's memory relies more on

biases than on actual facts, the witness will sometimes become overconfident in his or her memory of the event. This is why there is little correlation between confidence of a witness in a courtroom setting and whether the witness accurately remembered the event.

While the criminal justice system cannot control estimator variables, it can control system variables. These variables include the way the witness is presented with the lineup of suspects. For example, the witness could see all of the members of the lineup at once, or the members of the lineup could be presented sequentially. Other factors, such as administrator bias and filler suspects, are also important.

Faulty memory can also play a role in picking the wrong suspect in a lineup. When someone witnesses a crime, they store the event in such a way that the memory can be retrieved later. This is [declarative memory](#). Declarative memory can be thought of as three processes: encoding, storage, and retrieval. Outside influences, including system variables, can lead to a breakdown in any one of these processes.

Albright provides an example of a man who was wrongly convicted because two witnesses, the victim and another person, both picked the same person from a lineup. Without outlining the details of the case here, an important point in this example is that the victim showed doubt about her choice at the time of the lineup, but by the time of the trial, she was very confident that the suspect was the man who had attacked her. Studies have shown that doubt or confidence at the time of lineup correlates to the actual perpetrator more so than level of confidence at the time of the trial.

Recommendations by the committee were based on how best to account for errors based on estimator variables, and how to optimize system variables to ensure the correct suspect is chosen from a lineup.

Based on this science, Albright reports three recommendations to help mitigate uncertainty, bias, and confidence (or false confidence).

Mathematical models that take into account variables such as lighting and cognitive state can provide a quantifiable measure of the reliability of a witness's visual certainty in a particular setting.

Bias can be mitigated using better procedures when lining up suspects and the choice of the lineup. Additionally, an individual's personal [bias](#) can be taken into account when considering the reliability of their choice from the lineup.

Confidence level, particularly confidence in a wrong choice, can be controlled by providing the witnesses with less information. Albright says the best way to mitigate this factor is to take the witness's confidence level at the time that they pick the suspect, and to make this information available at the trial. Any additional confidence between the time of the lineup and the trial are questionable.

More information: Why eyewitnesses fail, Thomas D. Albright, 7758–7764, [DOI: 10.1073/pnas.1706891114](https://doi.org/10.1073/pnas.1706891114)

Abstract

Eyewitness identifications play an important role in the investigation and prosecution of crimes, but it is well known that eyewitnesses make mistakes, often with serious consequences. In light of these concerns, the National Academy of Sciences recently convened a panel of experts to undertake a comprehensive study of current practice and use of eyewitness testimony, with an eye toward understanding why identification errors occur and what can be done to prevent them. The work of this committee led to key findings and recommendations for reform, detailed in a consensus report entitled *Identifying the Culprit: Assessing Eyewitness Identification*. In this review, I focus on the scientific issues that emerged from this study, along with brief

discussions of how these issues led to specific recommendations for additional research, best practices for law enforcement, and use of eyewitness evidence by the courts.

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