

Test a Witness's Memory of a Suspect Only Once

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In the courtroom, eyewitnesses usually identify defendants as crime culprits with high confidence, regardless of how correct they are. Unfortunately, juries and judges tend to interpret eyewitness confidence on the stand as an indicator of accuracy, which can result in wrongful convictions. Data from the Innocence Project (2020), a nonprofit organization dedicated to exonerating individuals who have been wrongly convicted, suggest that eyewitness testimony contributed to wrongful convictions in 70% (262) of the 375 cases in which prisoners were later exonerated by DNA evidence. One problem with relying on eyewitness testimony and confidence in court is that by the time of trial, an eyewitness's memory has been contaminated by several factors, including the simple fact that they have been asked to identify a suspect several times before.

In this [online supplemental issue](#) of *Psychological Science in the Public Interest*, intended as a follow-up to their [2017 article](#) (Wixted & Wells, 2017), APS Fellows John T. Wixted, Gary L. Wells, and Elizabeth F. Loftus, and Brandon L. Garrett propose a new guideline for conducting proper eyewitness identification procedures: "Avoid repeated identification procedures with the same witness and suspect." That is, test a witness's memory only once.

Memory is constructive and malleable

In their new article, Wixted and colleagues expound upon one of the newly proposed recommendations for proper eyewitness identification procedures that Wells and colleagues outlined in a 2020 article. Implementing this new recommendation would not involve any special training beyond educating police

investigators, prosecutors, and judges about its science-based rationale, the authors say. Their current article seeks to offer the basis for that education.

One of the first steps to comprehending why a witness's memory should be tested only once is understanding that memory is malleable, especially following recognition tests, such as lineup procedures. As many experiments have indicated, testing people's recognition contaminates their memory, rendering later recognition tests invalid. As Wixted and colleagues explain, "presenting a lineup leaves the eyewitness with a memory trace of all the faces in the lineup, including that of the suspect. As a result, the memory signal generated by the face of that suspect will be stronger on a later test involving the same eyewitness, even if the suspect is innocent." Moreover, the eyewitness will likely be more confident about their memory. In the courtroom, this confidence is usually seen as an indicator of memory accuracy.

Related Content

[Under the Cortex: Ask the Witness Only Once](#): A podcast episode with John Wixted, a researcher at the University of California at San Diego and first author on this article.

[Convicted by Memory, Exonerated by Science](#): A 2021 *Observer* article by Michael P. Toglia and Garrett L. Berman on how research exploring factors that contribute to wrongful convictions reveals a path for addressing their consequences.

Wixted and colleagues describe how the current theoretical understanding of recognition memory informs the best lineup procedures.

- **Encoding specificity** says that memory is cue-dependent, and thus it is important to reinstate the crime context rather than just asking whether a face is familiar (e.g., "Do you see the person who stole the car?"). When the retrieval cue reinstates the context, it also activates relevant content, including the culprit's face.
- Upon seeing the lineup, the witness compares each face against the activated face (i.e., **similarity-based matching**). The comparison between each face in the lineup and the activated face generates memory-match signals, and the face associated with the strongest signal becomes a candidate for being identified.
- **Signal detection theory** provides a theoretical framework for this process, explaining when witnesses may misidentify a suspect or miss the culprit and why a guilty suspect is not always expected to generate a stronger signal than a nonguilty one.
- Comparing the lineup faces and the activated face also creates a detailed memory of each lineup face via **elaborative processing**, which causes items to be better remembered afterward. Thus, in a second test, a newly formed memory of an innocent suspect is accessible, and the signal generated by the memory of that suspect is likely to be strong.
- This can confuse the witness's memory of the activation source (i.e., a failure of **source monitoring**) in a second test and lead them to attribute such activation to the memory of the

crime rather than to the previous lineup procedure. Several memory tests may then further increase the potential for misidentifications.

Wixted and colleagues emphasize that because of how human memory works, an eyewitness's memory will be contaminated after a first test, even when it and subsequent tests use pristine procedures. Another important point they make is that, in a first test, confidence is more likely to protect innocent suspects, and decisions made rapidly and with high confidence tend to be more reliable than decisions made slowly. Therefore, courts should not neglect the results of the first time an eyewitness is tested.

The importance of implementing the “test-only-once” reform

In his book *Convicting the Innocent*, Garrett (2011) further examined Innocence Project data in which eyewitness misidentification contributed to a wrongful conviction. In almost 57% of the 161 cases analyzed, the witnesses who misidentified a suspect with high confidence at trial recalled that their initial identification was characterized by at least one of the following issues: low confidence (34 cases), identifying someone else or no one at all (64 cases), or not having seen the culprit's face (15 cases).

Wixted and colleagues present two real-world cases in which testing an eyewitness's memory more than once clearly influenced whom they identified and how confidently they did so, leading to the conviction of innocent suspects who were later exonerated by further evidence. They also describe the case of Charles Don Flores, a man convicted for murder in Texas who remains on death row. Flores's conviction was based on an eyewitness identification. However, in the first lineup test, the eyewitness did not identify Flores as the culprit. “The most remarkable fact about this case is that the eyewitness evidence that is mainly responsible for sending [Flores] to death row (namely, the witness's confident testimony at trial) is actually probative of innocence when properly understood (i.e., her initial description of the accomplice and her rejection of the initial lineup). In this case, police and prosecutors obviously failed to appreciate that only the first test counts,” Wixted and colleagues explain.

References

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