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Eyewitness testimony

Gary L. Wells

Iowa State University, glwells@iastate.edu

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Eyewitness testimony

Abstract
Eyewitness testimony refers to verbal statements from people regarding what they observed and can purportedly remember that would be relevant to issues of proof at a criminal or civil trial. Such statements constitute a common form of evidence at trials. Eyewitness identification is a specific type of eyewitness testimony in which an eyewitness claims to recognize a specific person as one who committed a particular action. In cases where the eyewitness knew the suspect before the crime, issues of the reliability of memory are usually not contested. In cases where the perpetrator of the crime was a stranger to the eyewitness, however, the reliability of the identification is often at issue. Researchers in various areas of experimental psychology, especially cognitive and social psychology, have been conducting scientific studies of eyewitness testimony since the early 1900s, but most of the systematic research has occurred only since the mid- to late 1970s. There now exists a large body of published experimental research showing that eyewitness testimony evidence can be highly unreliable under certain conditions. In recent years, wrongful convictions of innocent people have been discovered through post-conviction DNA testing, and these cases show that more than 80 percent of these innocent people were convicted using mistaken eyewitness identification evidence. These DNA exoneration cases, along with previous analyses of wrongful convictions, point to mistaken eyewitness testimony as the primary cause of the conviction of innocent people.

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

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Court Cases
Frye v. United States (1923), 293 F. 1013.

V EYEWITNESS TESTIMONY

Eyewitness testimony refers to verbal statements from people regarding what they observed and can purportedly remember that would be relevant to issues of proof at a criminal or civil trial. Such statements constitute a common form of evidence at trials. Eyewitness identification is a specific type of eyewitness testimony in which an eyewitness claims to recognize a specific person as one who committed a particular action. In cases where the eyewitness knew the suspect before the crime, issues of the reliability of memory are usually not contested. In cases where the perpetrator of the crime was a stranger to the eyewitness, however, the reliability of the identification is often at issue. Researchers in various areas of experimental psychology, especially cognitive and social psychology, have been conducting scientific studies of eyewitness testimony since the early 1900s, but most of the systematic research has occurred only since the mid- to late 1970s. There now exists a large body of published experimental research showing that eyewitness testimony evidence can be highly unreliable under certain conditions. In recent years, wrongful convictions of innocent people have been discovered through post-conviction DNA testing, and these cases show that more than 80 percent of these innocent people were convicted using mistaken eyewitness identification evidence. These DNA exoneration cases, along with previous analyses of wrongful convictions, point to mistaken eyewitness testimony as the primary cause of the conviction of innocent people.

Psychologists commonly partition memory into three distinct phases. The first phase is acquisition. The acquisition phase refers to processes involved in the initial encoding of an event and the factors that affect the encoding. Problems in acquisition include the effects of expectations, attention, lighting, distance, arousal, and related factors that control the types, amount, and accuracy of the encoded information. Eyewitnesses to crimes often witness the event under poor conditions because the event happens unexpectedly, rapidly, and/or under conditions of fear. Also, their attention may be focused on elements that are of little use for later recognition of the perpetrator, such as focusing on a weapon. The second phase is retention. Information that is acquired must be retained for later use. Memory generally declines rapidly in the initial time periods and more slowly later, in what psychologists describe as a “negatively decelerating curve.” Importantly, new information can be acquired during this phase and mixed together with what was previously observed to create confusion regarding what was actually seen by the eyewitness and what was perhaps overheard later. It is now well established through controlled experiments that witnesses will use false information, contained in misleading questions, to create what appear to be new memories that are often dramatically different from what was actually observed. The final phase is the retrieval phase. The two primary types of retrieval are recall and recognition. In a recall task, the witness is provided with some context (e.g., the time frame) and asked to provide a verbal report of what was observed. In a recognition task, the witness is shown some objects (or persons) and asked to indicate whether any of them were involved in the crime event. Retrieval failures can be either errors of omission (e.g., failing to recall some detail or failing to recognize the perpetrator) or errors of commission (e.g., recalling things that were not present or picking an innocent person from a lineup). Problems at any of the three phases of memory lead to unreliability in testimony.

EVENT MEMORY

Eyewitnesses often give verbal reports of details of events, such as conversations, actions, and objects, that can have considerable importance to solving crimes. Psychologists have studied this process, and patterns of error in such recollections, in a variety of ways. One of the most informative approaches has been the three-part procedure that shows how recollections can be distorted by events that occur after the person has already witnessed the event in question. In the three-part procedure, experimental witnesses first see a complex event, such as a simulated violent crime or an automobile accident. Subsequently, half of the witnesses receive new misleading information about the event. The other half do not get any misinformation. Finally, all of the witnesses attempt to recall the original event.
In a typical example of a study using this paradigm, witnesses saw a simulated traffic accident. They then received written information about the accident, but some people were misled about what they saw. A stop sign, for instance, was referred to as a yield sign. When asked whether they originally saw a stop sign or a yield sign, those given the phony information tended to adopt it as their memory; they said they saw a yield sign. This change in eyewitness reports arising after receipt of misinformation is often referred to as the "misinformation effect." Researchers have shown that misinformation procedures can make people believe and remember that earlier in their lives they had been hospitalized when they had not, that they had been victims of vicious animal attacks as children even though they had not been, and even that they had witnessed demonic possession when they were very young.

Psychological science has built a strong case over the last twenty-five years that human memory is much more malleable than most people think it is. In addition, false memories of various types can be held with very high certainty, thereby making it difficult or even impossible at times to prove that the testimony of an eyewitness is wrong. The implications of this for criminal and civil trials can be enormous if the critical elements of proof rely on the testimony of eyewitnesses, especially if the eyewitnesses have been exposed to considerable amounts of new information (which might or might not be accurate) after the witnessed event. This situation has spawned considerable legal debate about the role of eyewitness experts in the courtroom. Throughout the 1980s and 1990s, defense attorneys have tended to maintain that such expert testimony is needed to inform jurors about the problems with eyewitness reliability, while prosecutors have tended to maintain that jurors already understand these matters or that such testimony would invade the traditional province of the jurors as the only ones who should be making judgments about the credibility of eyewitnesses.

**EYEWITNESS IDENTIFICATION**

One of the most direct ways in which eyewitnesses can affect the outcome of a trial is through testimony stating that a particular person was the perpetrator of the crime. In cases where the eyewitness knows the alleged perpetrator (e.g., a friend or relative), the chances of an honest mistaken identification are not usually considered to be high. However, in cases where the perpetrator was a stranger, the contention of the eyewitness that the identified person is the actual perpetrator can be quite controversial. Considerable research has been directed at the question of how reliable such identifications tend to be.

The methods used in the scientific study of eyewitness identification evidence typically involve staging live crimes or showing video events to people. Because the events are created by the researchers, it is known with certainty who the actual "perpetrator" was and the performance of eyewitnesses in picking him or her from a lineup can be scored systematically. These eyewitnesses can also be asked to indicate their confidence in the identification decision, thereby permitting analysis of the relation between confidence and accuracy. Systematic manipulations of key variables (e.g., the structure of the lineup) allows for a causal analysis of variables that affect identification accuracy, eyewitness confidence, and the relation between the two.

The scientific eyewitness identification literature has tended to rely on a distinction between "estimator variables" and "system variables." Estimator variables are those that affect the accuracy of eyewitness identifications but cannot be controlled by the criminal justice system. System variables also affect the accuracy of eyewitness identifications, but the criminal justice system can control those variables. Estimator variables tend to revolve around factors involved in the acquisition phase, such as lighting conditions, distance, arousal, the presence of weapons, and so on. System variables tend to revolve around factors involved in the retrieval phase, such as the structure of a lineup, instructions given to witnesses prior to viewing a lineup, and so on.

One of the estimator variables that has received considerable attention is the race of the perpetrator relative to the race of the eyewitness. Another estimator variable that is frequently cited is "weapon focus."

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**DID YOU KNOW...**

Misplaced eyewitness testimony is the major reason that innocent people are convicted of crimes. Other reasons include false confessions, false informant testimony, errors in forensic processing of evidence, prosecutorial misconduct, and poor legal representation. Today, DNA evidence is increasingly used to rule out potential suspects, to identify possible offenders, and to exonerate those who have been wrongfully convicted.
Experiments suggest that the presence of a weapon draws attention toward the weapon and away from the weapon holder’s face, resulting in less reliable identification performance by eyewitnesses. Stress, fear, and arousal have been less effectively studied because of the problems with studying these variables in an ecologically valid manner. Sex, intelligence, and personality factors appear to be weakly, if at all, related to the tendency to make correct or mistaken identifications.

System variable research has focused primarily on four factors: the instructions to eyewitnesses, the content of a lineup, the presentation procedures used during the lineup, and the behaviors of the lineup administrator. A dominant account of the process of eyewitness identification that has emerged is the “relative judgment process.” According to this account, eyewitnesses tend to select the person from the lineup who most closely resembles the perpetrator relative to the other members of the lineup. This process works reasonably well for eyewitnesses as long as the actual perpetrator is in the lineup. When the actual perpetrator is not in the lineup, however, there is still someone who looks more like the perpetrator than the remaining members of the lineup, thereby luring eyewitnesses to pick that person with surprising frequency.

It is critical to instruct eyewitnesses that the actual perpetrator might or might not be present in the lineup before showing the lineup to eyewitnesses. Proper instructions warning the eyewitness that the perpetrator might not be present do not eliminate the relative judgment tendency altogether, but they do reduce the magnitude of the problem.

The relative judgment process also has implications for how investigators should select “lineup fillers.” A lineup filler is a known-innocent member of a lineup. Normally, a lineup will have one suspect and several (five or more) fillers whose primary purpose is to prevent the eyewitness from simply guessing. If an eyewitness is merely guessing, then odds against selecting the suspect are $N:1$ (where $N$ is the number of fillers). However, if the fillers do not fit the general description of the suspect (as provided previously by the eyewitness) whereas the suspect does fit that description, then the lineup is said to be biased against the suspect.

The usual procedure for lineups is one that eyewitness researchers have called the “simultaneous procedure” because all members of the lineup are presented at one time. Simultaneous procedures tend to encourage eyewitnesses to compare one lineup member to another lineup member and home in on the one who looks most like the perpetrator. An alternative procedure, called the “sequential lineup,” was originally developed and tested in 1985. The sequential procedure presents the eyewitness with one lineup member at a time, and requires the eyewitness to make a yes/no decision on each lineup member before viewing the next lineup member. The sequential procedure prevents the eyewitness from merely making a decision as to which lineup member looks most like the perpetrator.

A major concern of eyewitness researchers has been the behaviors of the lineup administrator. The case detectives are well aware of which lineup member is the suspect. The “experimenter expectancy effect,” well known in psychology, occurs when the person (e.g., an experimenter) is aware of the desired response and unintentionally (even without awareness) influences the subject to give the desired response. In a lineup situation, verbal and nonverbal interactions between the witness and the investigator should be of great concern because the eyewitness is supposed to use only his or her
The Pitfalls of Eyewitness Testimony

Although eyewitness identification can be a potent and effective tool available to police and prosecution, it is unfortunately not always reliable. Even victims who are certain they recognize their attackers are often mistaken. Work by groups such as the Innocence Project and Truth in Justice suggests that mistaken identity is the single most important cause of wrongful convictions.

The Innocence Project is a nonprofit legal clinic founded in 1992 by attorneys Barry C. Scheck and Peter J. Neufeld at the Benjamin N. Cardozo School of Law in New York City. It handles only cases where postconviction DNA testing of evidence can yield conclusive proof of innocence. Cases are first reviewed by volunteer attorneys. Then, law students handle the case work while supervised by a team of attorneys and clinic staff. Since its founding, 101 inmates have been exonerated and released as a result of DNA testing. In 60 of the first 82 cases, mistaken eyewitness identification played a major role in the wrongful conviction.

Truth in Justice is a nonprofit organization working to free innocent men and women convicted of crimes they did not commit and to prevent wrongful convictions by educating the public regarding the vulnerabilities in the U.S. criminal justice system that make these mistakes possible. Like the Innocence Project, Truth in Justice maintains a Web site reporting on cases of wrongful conviction and publicizes research analyzing its causes.

As a result of work by the Innocence Project, Truth in Justice, and other groups, public concern over wrongful conviction has grown. Many states have now enacted laws addressing this issue, and legislation is pending in other states and in both houses of Congress. As of February 2002, the following states had enacted laws aimed at preventing the conviction of innocent persons and compensating victims who have been wrongfully imprisoned:

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<th>Legislation recommending, requiring, and/or funding DNA testing:</th>
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Sources: The Innocence Project Web site: www.innocenceproject.com; Truth in Justice: www.truthinjustice.org
memory, free from external influences, to make the decision. Recent research indicates that the knowledge of the person administering the lineup can influence the eyewitness to pick the wrong person when the lineup administrator has the wrong person as the suspect. Eyewitness researchers have argued strongly that the person who administers the lineup should not know which person in the lineup is the suspect.

Research has shown the confidence of an eyewitness is the principal determinant of whether jurors will believe that an eyewitness made an accurate identification. Research shows that there is only a modest relation between eyewitness confidence and eyewitness accuracy. Importantly, research also shows that procedures by many law enforcement agencies are probably harming the already modest relation between eyewitness identification confidence and accuracy. Specifically, eyewitnesses are commonly given "confirming feedback" after they identify a suspect. This feedback takes many forms, such as "Good, that's the guy we thought it was," or "You got him!" Research shows that feedback of this sort to eyewitnesses who are in fact mistaken can erase eyewitnesses' recollections of their initial uncertainty. This feedback problem is another factor leading eyewitness researchers to strongly advocate double-blind testing with lineups. (This testing entails having someone administer the lineup who does not know which person in the lineup is the suspect—preventing the person administering the test from influencing the eyewitness.) Repeated questioning of eyewitnesses tends to have similar confidence-inflating properties such that eyewitnesses tend to become more confident in their incorrect reports with repeated questioning.

Since about 1990, when forensic DNA evidence came into accepted usage in the justice system, dozens of cases have come to light in which innocent persons were convicted of serious crimes by juries. In most of these cases, the primary evidence that was used was eyewitness identification evidence. These cases have given research into eyewitness identification a credibility that did not exist before the advent of forensic DNA.

**SUMMARY**

Scientific studies have uncovered numerous problems that can plague the reliability of eyewitnesses. These problems can occur at the time of acquisition, storage, or retrieval of memories. Witnesses can be led to recall details incorrectly and even to report recalling entire events that never occurred. The certainty of an eyewitness can be misleading. Eyewitness researchers have been used in trials, both civil and criminal, to educate jurors about factors that can lead to mistaken eyewitness memories. Since the discovery in the 1990s of mistaken identifications based on DNA analyses, the justice system in the United States has started to take more seriously the problems with eyewitness evidence and the types of solutions that have been proposed by psychological scientists.

—Gary L. Wells

**See also** Wrongful Convictions

**Further Reading**


Human Behavior 21: 283–298.