



Improving Witness Testimony



Witness testimony plays a key role in criminal investigations and trials. However, inaccurate testimony can lead to the prosecution of innocent individuals. Prosecuting innocent suspects is costly, with a day in court costing over £2,500 on average.¹ Wrongful convictions also mean the real perpetrator of a crime is not caught and may continue to harm society. This POSTnote focuses on how witness testimony is gathered and used in criminal investigations.

Background

Witness testimony is a written or oral statement given by an individual who has experienced an incident, such as seeing or hearing ([POSTnote 509](#)) a crime take place.² People who give testimony can include victims of crimes, bystanders or emergency service staff. Stakeholders, including psychologists, police officers and legal professionals, agree that witness testimony can provide useful evidence for investigations.^{3,4,5} Witness testimonies are often seen as a strong form of evidence by police, judges and jurors.⁶

As with any evidence, the accuracy of witness testimony decreases if it is not carefully obtained, managed and handled during investigations and prosecutions.⁷ For example, research by the Innocence Project, an organisation that seeks to exonerate wrongfully convicted individuals, indicates that witness testimony that incorrectly implicated a defendant was a leading factor in wrongful convictions. In a 2018 review of 365 wrongful conviction cases in the USA where an individual was later exonerated by DNA evidence, 69% involved inaccurate witness identifications of the suspect.⁸ Certain procedures may reduce the likelihood of these miscarriages of justice. For instance, enabling witnesses to express their uncertainty about an identification can give law enforcement personnel,

Overview

- Memories of events can be influenced by various factors, including the conditions in which it was witnessed or exposure to inaccurate information after the event.
- Testimony for criminal investigations can be collected through police interviews, creation of facial composites or identity parades.
- Testimony can be influenced by the location of a procedure or the person carrying it out.
- Approaches to reduce influence include asking open questions, asking a witness how confident they are, and giving a witness the option to say when they do not know.
- Vulnerable groups (such as children) may benefit from procedure changes to reduce potential intimidation or discomfort.
- Careful management of testimony in criminal investigations can be undermined if it is not presented appropriately in court.

judges and jurors an indication of how much to rely on the witness testimony.⁹

In the UK, there are no available data on how frequently witness testimony is used in trials or how many wrongful convictions are caused by inaccurate testimony. However, when witness testimony incorrectly implicates innocent people, there can be significant costs. Wrongfully accused or convicted individuals are at risk of discrimination, relationship damage and poor mental health.⁹ Wrongful convictions are also costly (with a miscarriage of justice costing up to £1 million in compensation) and cause reputational damage to the police and legal system.¹⁰ Furthermore, the real perpetrators are not caught and may continue to harm society by committing further crime.⁹

This POSTnote covers:

- How memory of witnessed events can be influenced
- Procedures for gathering evidence and identifying suspects and how these may affect testimony
- Evidence on how changes to investigative procedure could improve the accuracy of witness testimony
- How witness testimony is used and managed in court
- Techniques for collecting witness testimony from vulnerable groups, such as children or older adults.

Event memory

When an individual experiences an event, it is encoded as a memory that may be retrieved later. For many reasons, an individual's memory will not be a full and accurate version of an event. First, the viewing circumstances can influence the quantity and quality of detail encoded by a witness. Second, memories can alter after they have been encoded. Third, memory can be influenced by the situation in which it is recalled, such as in a potentially intimidating environment like a police interview room.^{11,12}

Factors that can affect encoding

There are various factors that influence how much detail an individual can perceive and then encode. These include:

- **Circumstantial factors**, such as how far away the event occurred from the witness, how long the event lasted, how well-lit the scene was, and whether there were any visual obstructions.¹³
- **Individual factors**, such as whether the witness was intoxicated, tired, scared or stressed, which can reduce the ability to perceive and encode details of events.^{14,15,16}
- **Social factors**, such as whether people involved in the event had similar characteristics to the witness, as individuals can be less accurate when identifying people of a different sex, age group or racial/ethnic background to them.^{17,18,19}

In England and Wales, the Home Office's police codes of practice advise officers to document these factors to assess the accuracy of information provided by witnesses.²⁰

Although factors influence how much detail is encoded about an event, no individual factor makes a memory completely inaccurate. For example, research indicates that an intoxicated witness is often able to accurately recall an event's central points, such as information about a perpetrator, but their account may lack peripheral detail.²¹

Factors that can alter memory

Memories are not unchanging records of an event and can be altered by various factors once they have been encoded.¹² Memories that have been altered by external influences are considered 'contaminated' and less accurate. Contamination by external factors can include discussing the event with another person (see 'influence of other witnesses', below) or seeing inaccurate or misleading media (including social media) coverage of the event.^{22,23,24}

The amount of time that has passed since witnessing an event can also alter memories. Individuals tend to forget more details from older events, making these memories more vulnerable to contamination and the omission of relevant details.²⁵ Statements or identifications made soon after an event, though not immune to contamination, are considered to be more accurate.^{25,26} However, limited police resources and efforts to prevent trauma to victims/witnesses can delay taking statements and conducting interviews.²⁴

Witness testimony in criminal cases

Witness testimony is gathered during various stages of a criminal investigation. The evidence collected in these

Box 1: Presenting witness testimony in court

In a court case, a written or video witness account may be used as evidence. If the defendant pleads not guilty, a witness may be called in to give evidence.²⁷ However, research suggests that juror beliefs about memory (such to what extent stress can affect encoding) are often inconsistent with research evidence on memory.²⁸ Therefore, after witness testimony is presented to a jury, the judge can read a statement based on the Turnbull Guidelines (1977), which aims to provide information to improve the evaluation of the testimony. Typically, the statement debunks memory myths, lists potential influential encoding factors or explains evidence discrepancies. However, a Turnbull statement is not compulsory unless the case depends either entirely or substantially on witness identification.³¹ Instead, judges can provide their own warnings about witness testimony, often having had no formal training on memory science.³² Researchers suggest that the guidelines should be updated to reflect modern circumstances (such as the role of social media exposure in memory contamination or the likely usefulness of confidence judgments, Box 2).²⁹ However, research in the USA suggests that such instructions may not improve juror evaluations.³⁰ There is optional (non-compulsory) training available on memory myths for barristers and judges in the UK that could improve their awareness, handling and assessment of witness testimony.^{33,34} Expert witnesses can be used to explain memory to jurors and judges. Following Crown Prosecution Service guidelines, their 'expert' status is decided by the judge on a case-by-case basis.³⁵ However, there are no specific credentials required for being an expert witness on memory.³⁶

investigation stages is used to support prosecution cases in court (Box 1). During investigations, police follow standardised UK guidelines when interacting with witnesses to gather as much accurate information as possible and reduce the risk of contaminating testimony.^{37,38,39} However, witness testimony may still be at risk of contamination from biases during investigations (Box 2). In England and Wales, law enforcement officers must provide any suspect with the first recorded description of a perpetrator given by a witness. This initial description gives an indication of potential contamination and possible mistaken identity in later investigation stages.²⁰

Witness testimony can be collected in crime scene interviews, in subsequent formal interviews, through creating facial composites of perpetrators and through selecting suspects from identity parades.

Initial investigation

At a crime scene, front line police conduct initial investigations by taking basic statements and contact details from witnesses. Following a criminal incident, crime scenes may have bystanders, victims and emergency service staff in the same location undertaking various evidence collection activities. There are two key ways in which witness testimony may be contaminated at this stage: through the questions asked by emergency services and through interactions between witnesses and/or victims.⁴⁰

Interview questions

The risk of memory and testimony contamination during early interviews can be reduced by ensuring questions do not implant new information or mislead the witness (Box 2). Since 1993, there has been a standardised police guidance for interviewing (the PEACE framework). PEACE helps

officers carry out an interview that produces testimony that is as useful and uncontaminated as possible.³⁸ However, front line officers do not always use the PEACE framework.⁴¹ The Structured Interview Protocol (SIP), based on the PEACE framework, was developed by academic researchers to support front line police, and encourages good practice, such as asking open questions (Box 2).⁴² A study of 221 officers from four police forces found that adopting the SIP resulted in officers reporting greater confidence, a decrease in the bias of the interviews and an increase in the amount of detail elicited.⁴³ Although the SIP is practiced by two police forces, and its developers aim to increase its use, it is not yet statutory in any UK nation.⁴⁴

Interactions between witnesses

At a crime scene, managing witnesses can be difficult and time-consuming for front line police as they try to reduce the risks of both trauma and memory contamination, while obtaining statements as quickly as possible from each witness.³¹ Witnesses can contaminate each other's testimony if they are interviewed together or overhear other testimony (known as the co-witness effect). This effect can be particularly strong if one witness is very outspoken or confident, as other witnesses may be convinced by this confidence and alter their version of events to match.⁴⁵ In response to this effect, researchers developed the Self-Administered Interview (SAI).⁴⁶ The SAI is a booklet, given to witnesses before interview, containing a list of generic open questions along with a clear set of written instructions about what is expected of a witness.⁴⁷ Research in practice scenarios indicates that the SAI (compared with procedure without the booklet) can improve the accuracy of testimony and the number of details correctly remembered after a week, and can reduce memory contamination from incorrect information or leading questions.^{48,49} The SAI has been reviewed for use with vulnerable groups, who often need additional support (Box 3).^{50,51,52} Although the use of the SAI is not obligatory, it is standard police practice in some UK forces, with over 2,500 officers trained in its use.⁵³ The SAI has been included in the College of Policing's initial account interviewing guidance with the recommendation that investigators should consider use of the SAI in incidents involving large numbers of witnesses.⁴

Investigative interviews

After the initial investigation, there may be further investigative interviews, which are used to collect detailed statements from witnesses and victims. To avoid memory contamination, standard training for all forms of investigative interviews encourage asking primarily open-ended questions, avoiding suggestive or leading questions, and beginning with broader questions before following up with more specific questions (Box 2).⁴⁵

There are different styles of investigative interview, but the Cognitive Interview (CI) has been the subject of extensive research, is used by many worldwide law enforcement organisations and forms the basis of the most commonly used interview protocol with cooperative interviewees.⁵⁴ It was created using techniques derived from scientific memory and communication theory research alongside

Box 2: Reducing bias in witness testimony

During a criminal investigation, there is a risk of unintentional biases (POSTnote 512) contaminating witness testimony. When collecting witness testimony, there are two main biases that can contaminate the account. First, there is the **observer-expectancy effect** where individuals involved in the investigation accidentally or deliberately affect the behaviour of witnesses because of their beliefs about the case. For example, a police officer could ask leading questions based on who they suspect committed an offence.⁵⁵ Second, the **subject-expectancy effect** can lead to witnesses consciously or unconsciously changing their behaviour because of what they believe is expected of them.⁵⁶ For example, a witness might describe a suspect in a certain way because they believe that is what an interviewer wants.⁵⁷ There is no single procedure that can entirely eliminate bias but there are procedures that work together to reduce/mitigate bias. However, good practice in one area (such as asking about witness confidence) can be undermined by lack of another procedure (such as asking open questions). Evidence suggests several ways to reduce/mitigate bias:

- **Open questions** do not demand a particular answer (POSTnote 512) and cannot be answered with just 'yes' or 'no' (such as 'What happened last night?'). Leading questions require a yes/no answer or a specific response (such as 'Did he hit the man?' or 'Who hit the man?'). Asking leading questions presumes that (potentially false) details are correct and this can contaminate witness testimony as witnesses may not correct false assumptions and may be influenced by them.⁵⁷ To reduce the risk of contamination, investigative interview guidelines encourage asking open questions.⁵⁸ However, police interviews can still use leading questions.⁵⁴
- **Confidence collection** is when witnesses are asked how confident they are in their statements. Research demonstrates that initial confidence collection from a witness is usually a reliable indicator of accuracy for most investigation stages.^{60,61,62,63} However, the way confidence ratings are collected may affect their perceived reliability, with some researchers raising concerns that numerical confidence ratings ('How confident were you out of 100?') lead to more ambiguous answers than open questions (such as asking 'What do you think?' after creating a facial composite).⁶⁴ Confidence ratings are less likely to be contaminated the earlier they are gathered in the process.⁶⁰ Taking confidence statements is common during an identity parade in the USA, but is not standard practice at any investigation stage in the UK.^{21,65}
- **Opting out** of answering a question, or identifying a person in an identity parade, allows witnesses to indicate when they do not know an answer. Encouraging 'not sure' responses in the interview process increases the accuracy of testimony.^{14,57} In an identity parade, telling a witness that the suspect may not be there reduces pressure on the witness and the chance of false identification.^{66,67}
- **Double-blind procedures** are when neither the attending officer nor the witness is aware of an investigation's key information (such as who the suspects are). For example, double-blinding is often used in an identity parade so neither the witness nor the attending officer know which individual in the parade is the suspect.⁶⁸
- **Video recording** of testimony provides more information to future investigators and prosecutors, which can help them to identify potential bias or contamination. A video recording can capture the environment and the psychological state of a witness.³¹ It also records the questions asked and the interactions between the officers and interviewees. However, recording of all investigation stages is not standard practice in any UK nation.⁶²

analyses of police interviews.⁷⁰ The CI includes procedures to develop rapport, put the interviewee at ease and allow the interviewee to provide an uninterrupted narrative of their experience before various aspects are clarified by the

interviewing officer.⁷¹ CIs can be adapted for other steps of an investigation (such as during the creation of facial composites).⁷² Sixty-five lab-based studies and two studies involving use of the CI in police forces have shown that, compared to standard interviews, the CI increases the amount of information gathered.⁷³ The effectiveness of the CI depends on adherence to procedures and training.⁷⁴ However, best practice techniques may be used inconsistently in investigative interviews because of varying levels of training, workforce support and supervision.⁷⁵

Effects of interview environment and rapport

The interview environment can influence the detail provided by witnesses. For example, an interview in a police station may intimidate a witness or decrease their focus, potentially reducing the amount of detail recalled.⁷⁶ Interviewing venues are required to be private and secure, but officers can be flexible in the location, depending on the demeanour and trauma of the witness.⁵⁸ For example, interviews may take place in special locations for vulnerable individuals (Box 3). Studies demonstrate that the rapport between a police officer and the interviewee also influences the amount and accuracy of information obtained.^{32,77} Rapport (using empathy to build trust) is particularly important when obtaining information from traumatised witnesses.⁷⁸

Facial composites

A witness can, with the help of a suitably trained professional, construct an image of a perpetrator's face which is then circulated publicly to help the police find the individual.⁷⁹ These facial composites are usually created to identify perpetrators of serious crime (such as those involving violence).

Traditional facial composite methods (such as sketches, E-FIT or PRO-fit systems) require individuals to focus on each facial feature (such as eyes or nose) one at a time. Witnesses describe the feature or select from a database. These features are then assembled to create an image. However, evidence indicates that this method can be highly inaccurate, with PRO-fit resulting in correct identifications of suspects in about 5% of cases in lab-based studies.⁸⁰

Since around 2006, UK police forces have used facial composite methods where an individual is asked to look at a selection of complete faces and choose those which resemble the person they are attempting to identify (such as EvoFIT). These faces are combined and adjusted until the witness believes it is a good resemblance.⁸¹ EvoFIT (used in 22 out of 43 constabularies in England, Wales and Northern Ireland), has been found to lead to an individual being identified and correctly named over 70% of the time in lab-based studies and police trials.^{82,83,84} Facial composite methods require training and adherence to procedure for the most reliable results.⁸⁵

Identity parades

If police identify a suspect during their investigations, they can carry out an identity parade. In an identity parade, a witness tries to identify a perpetrator after being shown a suspect and at least eight other similar-looking individuals

Box 3: Vulnerable groups

The term 'vulnerable' commonly refers to children, individuals with significant communication or social impairments, and people with a disability/disorder.^{87,88} A vulnerable witness can also be an individual who requires assistance due to emotional or environmental factors (such as witnessing a very traumatic crime).⁷⁶ Vulnerable witnesses may be more susceptible to certain memory inaccuracies (such as children being unable to separate multiple events or provide accurate timelines).⁸⁹ Some lawyers have suggested that a psychological assessment of witnesses could be included as part of the information provided in court (Box 1).⁹⁰ However, the Judiciary of England and Wales expressed concern that this may be used to undermine testimony from vulnerable groups.⁹¹ Vulnerable witnesses may find standard procedures intimidating, which can affect the quantity and quality of testimony.⁹² There are several adaptations that can reduce intimidation:

- More comfortable environments instead of police stations (such as special interview centres) can put witnesses at ease.^{58,93}
- Allowing witnesses to draw events (sketching) as well as, or instead of, describing them during investigative interviews can help reduce memory contamination and is less time-consuming and demanding for children with autism and older adults.^{94,95,96,97}
- Registered Intermediaries (RI) are communication specialists who help vulnerable witnesses give evidence.⁹⁸ RIs have assisted in the collection of testimony that may not have been possible without them.^{99,100} RIs are required to remain impartial and should not provide emotional support or bias the witness. There are regulations, codes-of-conduct and procedural guidelines for RIs involved in criminal court cases, but not for family court cases.^{90,101}
- Changes in court procedures, such as giving evidence via video-link or asking members of the court to remove wigs and gowns, may make vulnerable witnesses feel less intimidated. Research indicates that not all lawyers are equipped to handle vulnerable witnesses appropriately.¹⁰² The Inns of Court College of Advocacy has recommended a training course for all criminal and family practitioners in handling vulnerable people.¹⁰²

who are not suspects (fillers).¹⁰³ In England and Wales, over 20,000 suspects a year are estimated to be charged or cautioned after an identity parade.¹⁰⁴

There are few studies comparing video identification (where witnesses are shown sequential videos of fillers and suspects) and live parades (where the witness is shown the suspect and fillers in person), although research indicates that live parades do not increase accurate identification.¹⁰⁴ Live identity parades can be more expensive and difficult to arrange as all involved parties need to cooperate. Video identification also means that witnesses do not have to confront the suspect and can view the parade anywhere. Public bodies (including the Home Office) advocate using high-quality video technology for identity parades. Video identification parade electronic recording (VIPER) has a database of fillers that can be selected from. Each video is a 15-second clip of the individual looking front on and then turning to both sides. VIPER's database allows more appropriate fillers (closer matching to the suspect) to be selected compared to live parades. Video identification has become standard in the UK.¹⁰⁵ Video parades have been in use since 1997 and have been preferred to live parades since 2002. Police forces in the UK use one of two available video parade systems (PROMAT or VIPER).^{106,107}

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