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Forensic psychology

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Head of Intellectual Property, The Open University

Contents

Introduction and guidance

Introduction and guidance

Welcome to this free course, *Forensic psychology*.

In this course you will explore how your own mind works, and discover how the limitations of the human brain can lead to major miscarriages of justice. You will use videos of real witnesses and go behind the scenes of a police investigation to explore the psychology of eyewitness testimony.

The course lasts eight weeks, with approximately three hours of study each week. You can work through the course at your own pace, so if you have more time one week there is no problem with pushing on to complete another week's study.

You will be able to test your understanding of the course through the weekly interactive quizzes, of which Weeks 4 and 8 will provide you with an opportunity to earn a badge to demonstrate your new skills. You can read more on how to study the course and about badges in the next sections.

After completing this course, you will be able to:

- understand the psychology of eyewitness technology
- recognise an improvement in investigative skills
- understand human cognition and the mistakes brains can make
- discuss concepts of criminal investigation
- consider the relationship between limitations of the human brain and miscarriages of justice.

Moving around the course

In the 'Summary' at the end of each week, you can find a link to the next week. If at any time you want to return to the start of the course, click on 'Course content'. From here you can navigate to any part of the course. Alternatively, use the week links at the top of every page of the course.

It's also good practice, if you access a link from within a course page (including links to the quizzes), to open it in a new window or tab. That way you can easily return to where you've come from without having to use the back button on your browser.

What is a badged course?

While studying *Forensic psychology* you have the option to work towards gaining a digital badge.

Badged courses are a key part of The Open University's mission *to promote the educational well-being of the community*. The courses also provide another way of helping you to progress from informal to formal learning.

To complete a course you need to be able to find about 24 hours of study time, over a period of about 8 weeks. However, it is possible to study them at any time, and at a pace to suit you.

Badged courses are all available on The Open University's OpenLearn website and do not cost anything to study. They differ from Open University courses because you do not receive support from a tutor. But you do get useful feedback from the interactive quizzes.

What is a badge?

Digital badges are a new way of demonstrating online that you have gained a skill. Schools, colleges and universities are working with employers and other organisations to develop open badges that help learners gain recognition for their skills, and support employers to identify the right candidate for a job.

Badges demonstrate your work and achievement on the course. You can share your achievement with friends, family and employers, and on social media. Badges are a great motivation, helping you to reach the end of the course. Gaining a badge often boosts confidence in the skills and abilities that underpin successful study. So, completing this course should encourage you to think about taking other courses.

How to get a badge

Getting a badge is straightforward! Here's what you have to do:

- read each week of the course
- score 50% or more in the two badge quizzes in Week 4 and Week 8.

For all the quizzes, you can have three attempts at most of the questions (for true or false type questions you usually only get one attempt). If you get the answer right first time you will get more marks than for a correct answer the second or third time. Therefore, please be aware that for the two badge quizzes it is possible to get all the questions right but not score 50% and be eligible for the badge on that attempt. If one of your answers is incorrect you will often receive helpful feedback and suggestions about how to work out the correct answer.

For the badge quizzes, if you're not successful in getting 50% the first time, after 24 hours you can attempt the whole quiz, and come back as many times as you like.

We hope that as many people as possible will gain an Open University badge – so you should see getting a badge as an opportunity to reflect on what you have learned rather than as a test.

If you need more guidance on getting a badge and what you can do with it, take a look at the OpenLearn FAQs. When you gain your badge you will receive an email to notify you and you will be able to view and manage all your badges in My OpenLearn within 24 hours of completing the criteria to gain a badge.

Get started with Week 1.

Week 1: Introduction to eyewitness psychology

Introduction

Crime dramas have become incredibly popular and many of us are used to seeing our favourite detectives cracking the case and arresting the criminal. In real life, cases are rarely straightforward, and there is often considerable uncertainty as to whether the person accused of the crime actually did it.

In this course, you will explore how psychological knowledge can be used to help prevent wrongful convictions and how it has helped obtain evidence from eyewitnesses. You will follow the investigation of an armed robbery, evaluate the evidence gathered and see if you can solve the case as well as the police did.

Watch the following video in which Graham Pike and Catriona Havard from The Open University introduce the course.

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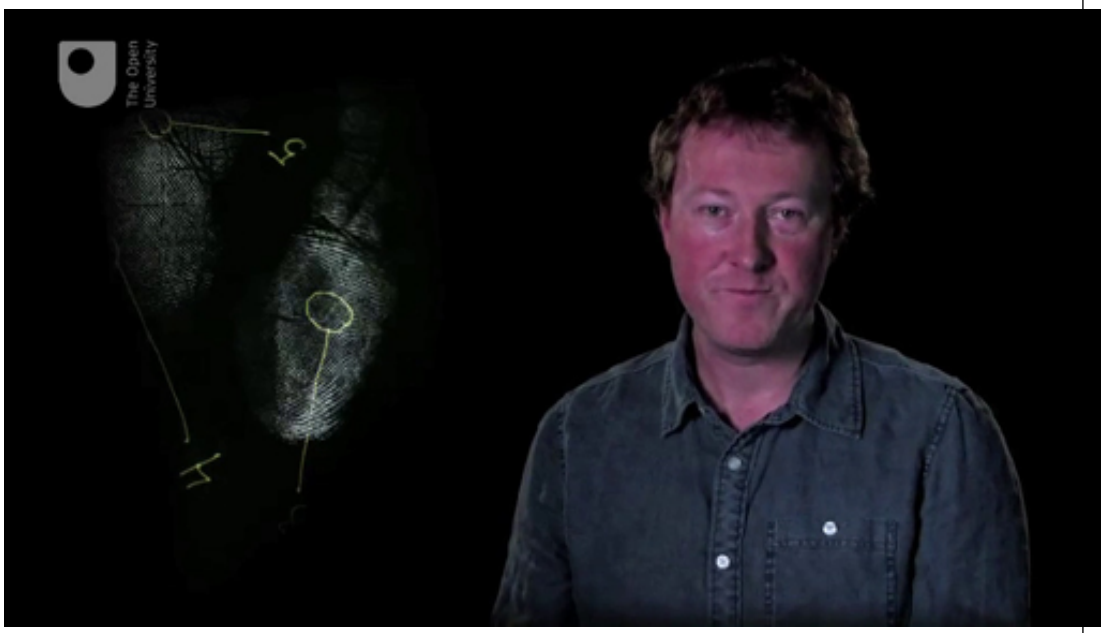

Please note that this course deals with the investigation of serious crimes, including hearing from a victim of rape, and you should give careful consideration to how these sensitive issues might affect you personally.

Before you start, The Open University would really appreciate a few minutes of your time to tell us about yourself and your expectations of the course. Your input will help to further improve the online learning experience. If you'd like to help, please fill in this optional survey.

1 Mistaken identification

Although crime dramas focus more and more on the forensic analysis of physical evidence (e.g. DNA), the human element of the story, particularly the evidence provided by victims/witnesses, remains a compelling component.

In real life, eyewitness testimony plays an incredibly important role in police investigations. As eyewitnesses are human, the accuracy and usefulness of the evidence they provide can only be as good as the human mind allows. Understanding the psychology of how the mind works, particularly how we remember, is therefore a crucial component in helping to evaluate and improve police investigations.

Activity 1 Eyewitness identification

Allow about 15 minutes

Eyewitness identification evidence is a critical component of many criminal investigations, but how accurate is it?

Psychological research has shown that making even small changes to the way police obtain eyewitness evidence can have a profound effect on its accuracy. Watch the following video and follow the instructions.

Video content is not available in this format.

Discussion

Reflect on how you did in the task and think about the implications for how your memory works. Do you think a witness's memory of the perpetrator's face should be trusted as evidence?

1.1 Knowing your own mind

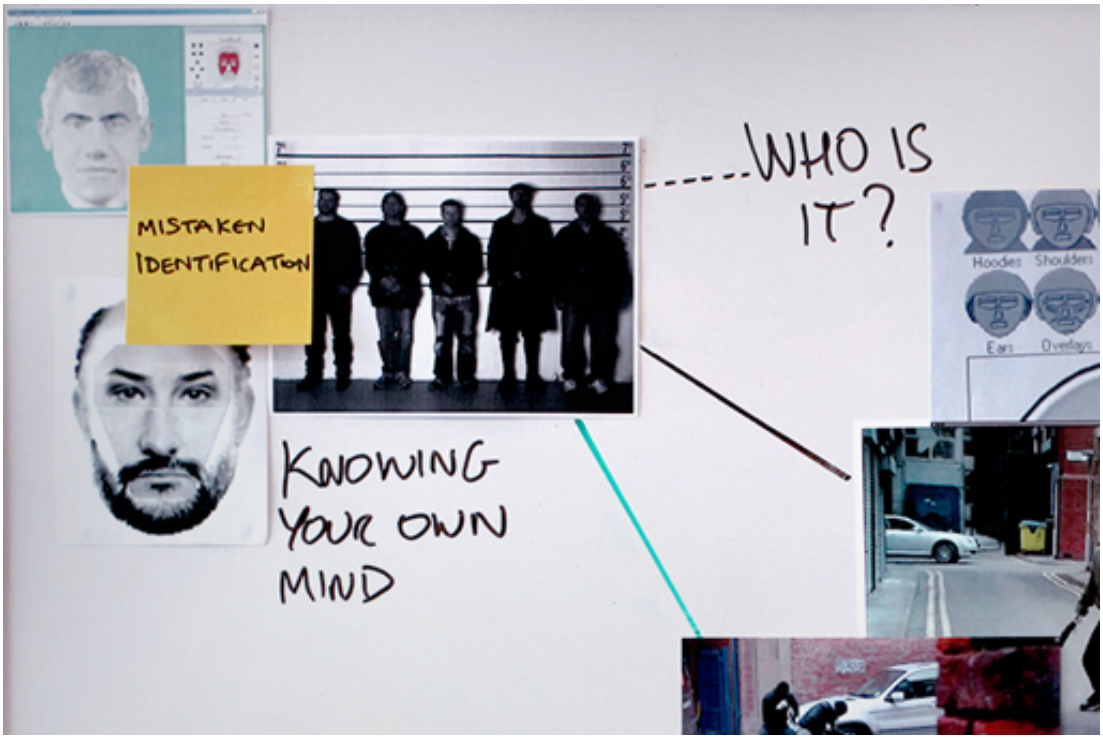

Figure 1

Research has found that showing a witness a line-up and asking them, 'Who is it?', tends to make the witness select someone, even if they're unsure whether it's the person who did commit the crime.

The video which you watched in the previous section demonstrates that changing the way a question is asked can have a dramatic effect on the answer and can help reduce the rate of mistaken identifications dramatically. For example, including an instruction such as, 'The person you saw commit the crime may or may not be present in the line-up, and if you don't think they're present, you should say so', can remove the suggestion that the person definitely is in the line-up. It also removes the suggestion that the witness has to choose someone.

You might be surprised to learn that making such a minor change to an instruction can have such a dramatic effect on memory and decision making. In fact, the way our memories actually work is quite different to how most people imagine. Psychologists refer to our knowledge of how our minds work as 'metacognition', and of how memory works as 'meta memory'.

Next, you will be quizzed on your understanding of how your mind works.

1.2 What you think you know about your memory

Following are some questions your to check understanding of how your mind works. Don't worry, this is not a test, but instead an opportunity to explore some common myths about memory and other mental processes. Try not to reveal the answer until you've tried to answer the question at least once.

Activity 2 Your own memory

Allow about 15 minutes

Q1. Which of the following is impossible?

○ To recognise someone, but not remember where you know them from.

No, this is possible, although can be embarrasing when it happens! This often occurs when you meet someone in an unusual context – such as seeing someone you occasionally work with, in the supermarket.

○ To recognise someone, even though you have not seen them for 20 years.

No, psychological research has found that we can recognise someone who we haven't seen for many decades. Although faces change when they age, the aspects that we use to recognise them often stay sufficiently the same.

○ To recognise someone and remember their name, but not remember any other information about them.

Well done! Psychological research on face recognition has found that if you can remember someone's name, you will also remember other information about them such as where you know them from.

○ To fail to recognise someone because they have changed their hairstyle.

No, although we are still able to recognise people we know very well even if they radically change their hairstyle, it is possible that we can fail to recognise people we know less well – and certainly people we have only seen once before. Psychological research has found that familiar and unfamiliar faces are processed in different ways by the brain.

Q2. Which of the following statements is true?

○ When you learn something new, old memories must be deleted to make room for the new knowledge.

This is not true. When trying to remember information over a very short period, such as a phone number, it may be true that trying to add in new information will mean you forget other information – trying to remember another phone number might cause you to forget the first, for example. In general, and over longer periods, there is no evidence that our memory is limited – learning new things does not cause you to forget other things.

○ It is not possible to remember a phone number that contains more than 13 digits.

This is not true – for example, I bet you could remember this phone number: 01234 5678910 11121314. Although it can be very hard to remember a set of numbers containing more than seven to nine figures, it is not impossible and there are procedures for remembering (known as 'mnemonics' that can be used to remember very long numbers.

○ Remembering one piece of information can trigger a memory of a different piece of information.

Well done! This is a process you have undoubtedly experienced. Hearing a piece of information makes our minds activate links to similar pieces of information, allowing us to recall something we previously could not remember.

○ As colours are 'objective' (e.g. red is red and blue is blue) we remember them accurately and different people will remember them in exactly the same way.

This is not correct – the way we see colour is actually very subjective. Differences in the physical construction of our eyes lead us to see colours differently from one another, and the way we experience colour is dependent upon many psychological factors. Our memories for colour can also be quite bad and we can confuse colours as different as red and green.

Q3. Although people might forget details, our memories always retain the order in which things happen.

○ True

This is incorrect. We can forget both details and the order in which things happen. In fact, we can be particularly bad at remembering the order of events. Rather than remember things based on the order they happen, our minds extract meaning from the world around us and make links between things based on this meaning. This can be very useful when it comes to interpreting what we see and guessing what will happen next, but means order is not necessarily preserved.

○ False

Well done! We can forget both details and the order in which things happen. In fact, we can be particularly bad at remembering the order of events. Rather than remember things based on the order they happen, our minds extract meaning from the world around us and make links between things based on this meaning. This can be very useful when it comes to interpreting what we see and guessing what will happen next, but means order is not necessarily preserved.

Q4. Can a memory of something that never happened be implanted into someone's mind?

○ Yes, this is fairly easy to do.

Research has found that we can be very 'suggestible' and are able to form memories of things that didn't happen if these are suggested by someone else.

○ Yes, but only by using electrodes.

Although it is possible to affect our minds by using electrodes, introducing memories this way is not possible.

○ Not yet, but this might be possible with future technology.

It is currently possible to cause someone to create a memory of something that never happened and this is not dependent upon advanced technology – you just need to ask the right question.

○ No, this is impossible.

Our memories are not like that of a computer, but instead can be changed as a result of learning new information, listening to other people's version of events and also simply by being asked a question that suggests something might have happened.

Q5. Which of the following is the best description of human memory?

○ It is like a video recorder, where information recorded in the past can be played back in the future.

This is not a good description of human memory. Unlike a video recorder, we do not remember everything we see, do not retain the order in which events happen and are

not able to remember every detail precisely. Perhaps most importantly, our memories can change quite dramatically as a result of new information.

- It is like computer memory, where information can be entered and stored in memory and 'chunks' of memory can be accurately retrieved at any point in the future.

This is not a good description of human memory. Computers remember information exactly as it was entered and also remember all the information that is entered into their memory. Humans forget a great deal and often change the original memory when they next remember it.

- It is like a library, where different memories are stored in different books.

This is not a good descrption of human memory. For one thing, our memories are linked to many other memories – which would be like pages being linked to many different books in different ways and these links constantly changing as new information was entered into the library. In addition, humans forget a great deal and, unlike the information stored in a book, our memories are capable of changing over time.

- It is like a story that is not written down but told from person to person, and constantly changes each time it is told.

Although it is impossible to capture the intricacies, sophistication and complexity of human memory in a simple analogy, of those listed here, this is probably the most accurate description. Our memories do change over time, can be different each time we remember them and certainly can change dramatically when shared with another person.

2 Introduction to eyewitness psychology

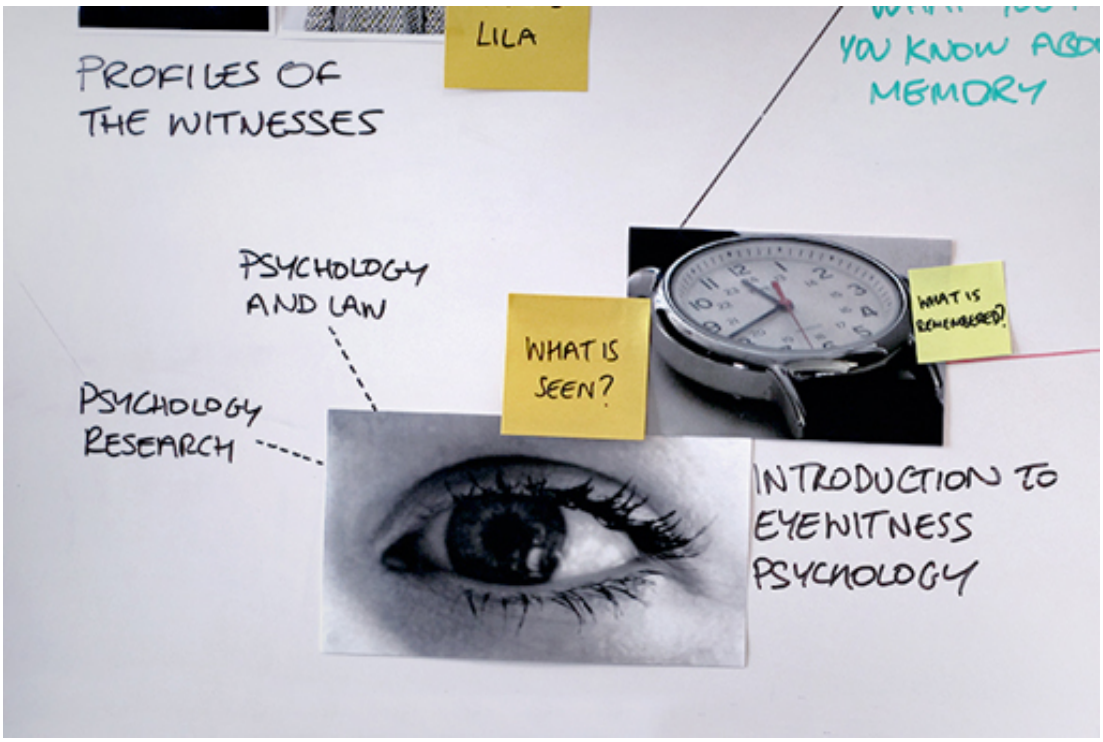

Figure 2

The processes that a witness might go through in any subsequent police investigation are a key focus of this course. What is seen? What is remembered? How can the police best obtain reliable evidence through questioning? How are the suspects identified?

Each of these questions has been the subject of psychological research, which draws on concepts from across the spectrum of psychological theory. This includes theories of memory, showing that it does not work like a videotape or computer, but is instead 'constructed', meaning that memories can change over time, particularly when we are questioned about them.

Psychology and law

Although both psychologists and lawyers are closely concerned with human behaviour, the application of psychology in legal issues is fairly recent. This is because, although the subject matter may overlap, the aims of psychologists and lawyers are very different and their approaches vary.

Psychologists are concerned with obtaining knowledge about psychology by conducting rigorous research, which contrasts with lawyers' use of typically 'commonsense' psychology and the reliance placed on their accumulated experience and legal precedents. Whereas psychology is characterised by empirical methods and scientific analyses, law uses its internal systems to scrutinise its 'evolved' legal processes. It has also been the case that law, as a profession, has remained sceptical of the ability of disciplines such as psychology to have anything to offer (e.g. Nijboer, 1995). Increasingly, however, psychologists work in collaboration with members of the legal profession.

Specialist conferences provide a forum for psychologists and members of the legal profession to come together and communicate with each other. In parallel, there has been a growth in both the number of postgraduate courses in forensic psychology, and the number of psychology or law degrees that include an option in 'psychology and law'.

A number of different terms have been adopted to describe the applications of psychology to law, including 'legal psychology', 'criminological psychology', 'psychology and law' and 'forensic psychology'. This is not surprising as the applications are wide-ranging. For instance, there is the work of psychologists who are concerned with the treatment and rehabilitation of offenders, and offender profiling. Additionally, there is research, often conducted in the laboratory, that examines witness testimony, juror decision making and public perceptions and attitudes towards crime and penal sanctions. This course focuses on just one of these research areas, namely witness testimony, which is one of the more extensively investigated areas.

Psychology research

In some cases, psychologists' research has resulted in changes to the law and legal procedures. For example, reforms to accommodate children's testimony in the courtroom came about largely as a result of research showing that children's evidence was more reliable than had previously been believed. Research has also highlighted some of the psychological stresses placed upon child witnesses and how they might be alleviated (Spencer and Flin, 1993). Alternatively, changes that are introduced to legal procedures may prompt new psychological investigations. For example, the need to examine the role of closed circuit television (CCTV) in identification evidence arose from the installation of CCTV systems in many towns and city centres. Thus, while the findings of psychological research may impact upon policy, changes to policy may also prompt research. Therefore the relationship between law and psychology can be viewed as two-way. Psychology research is also influenced by developments in technology, social policy, and the media (e.g. reporting of public outcry over a particular case or event).

2.1 Causes of miscarriages of justice

Miscarriages of justice are one of the most significant legal issues that have acted as a catalyst for psychological research.

In particular, psychological research has been concerned with miscarriages of justice involving the wrong person being convicted of a crime, resulting in an innocent person being sent to prison, often for many years. This is obviously a terrible consequence and something to be avoided. Remember also that if an innocent person is convicted, the guilty person remains free, making wrongful convictions doubly problematic.

In the following activity you are provided with eight factors that have contributed to wrongful convictions (based on data from Scheck, Neufeld and Dwyer, 2000). Can you work out which is the most problematic?

Activity 3 Miscarriages of justice

Allow about 5 minutes

Arrange the factors in order from the most problematic at the top, to the least problematic at the bottom. To move a factor, click on it and drag it to a new position. There is no limit to the number of moves you can make.

eyewitness misidentification

forensic blood analysis

police misconduct

defective/fraudulent science

false confessions

false witness testimony

informants

DNA inclusions

Match each of the items above to an item below.

1

2

3

4

5

6

7

8

Discussion

How did you get on working out which factors seem to lead to the most miscarriages of justice?

As well as being surprised that police misconduct seems so prevalent and that forensic blood analysis may not be as reliable as it is portrayed in fictional crime drama, you may well have been shocked that mistaken identification is a factor in over 75% of the cases of wrongful conviction that were analysed (in fact the figure was 81%!).

2.2 Miscarriages of justice

Figure 3

The data used in the previous activity was based on analysis of 74 cases where the original person convicted of the crime was later exonerated. Later research conducted by the Innocence Project, and based on 225 exonerations, revealed a similar pattern of results, with eyewitness misidentification remaining the leading cause of wrongful convictions, featuring in over 75% of cases. This analysis also showed that forensic science featured in 23% of the wrongful convictions. It is common for crime dramas to portray forensic science as being completely accurate and reliable, but often the techniques they show owe more to science fiction than they do science fact.

In reality, the accuracy and reliability of forensic science varies greatly according to the particular technique in question. In addition, a great deal of forensic science is reliant on the interpretation and judgements made by a human expert, which can lead to mistakes being made.

A study conducted on fingerprint analysis found that most fingerprint experts would change their decision about whether a latent print was a positive match based on whether other information about the crime suggested the person was guilty or not (Dror and Charlton, 2006). This suggests even forensic evidence such as fingerprint analysis can be prone to human error and may not be as reliable as we think.

For example, in 2004, following fingerprint analysis conducted by several of their experts, the FBI arrested Brandon Mayfield, a US citizen and recent convert to Islam, in connection with the bombings at Alcala de Henares station outside of Madrid (which killed 191 people). Two weeks later Mayfield was released when Spanish police made a positive match between the same fingerprints and another suspect, a match the FBI confirmed as correct.

DNA analysis is a robust technique based on sound scientific principles, but even it can fall foul of human error. For 16 years, German police chased an elusive female serial killer

known as ‘the Phantom of Heilbronn’, as the same female DNA was found at 40 crime scenes, including six murders. It was eventually discovered that the cotton swabs used to collect the samples of DNA had been contaminated by a woman working at the factory making the swabs, and that the crimes were not linked at all! If you want to find out more about this case, have a look at ‘DNA bungle’ haunts German police via BBC News.

2.3 The size of the problem – the Innocence Project

Figure 4

Eyewitnesses frequently identify the wrong person, as you learned in Section 2.1, Causes of miscarriages of justice. This is very worrying indeed. The problem is so significant that it has become the central focus of the Innocence Project, a US organisation dedicated to exonerating wrongfully convicted individuals through DNA testing.

The Innocence Project has an excellent website that contains a great deal of information on how miscarriages of justice occur and case files of all the wrongfully convicted people that the organisation has so far helped find justice.

Visit the Innocence Project website and look at the section labelled Understand the causes. Also have a look at some of the Case profiles to see the impact a misidentification can have on someone’s life.

One of the most famous cases of wrongful conviction that the Innocence Project investigated was that of Ronald Cotton, who was charged with rape and burglary and served ten and a half years in prison (the sentence was for life plus 54 years).

Activity 4 Miscarriages of justice

Allow about 15 minutes

Consider your thoughts about the miscarriages of justice. Has anything shocked you about wrongful convictions? Have your views changed about:

- the usefulness of witness evidence?
- the prevalence of police misconduct?
- the accuracy of forensic science?
- or about police investigations and criminal trials in general?

Provide your answer...

Discussion

Keep a note of your responses to these questions. You might find it interesting to revisit them when you have completed the course.

2.4 Variables affecting reliability of testimony

Figure 5 Variables affecting reliability of testimony

Wrongful convictions occur in a variety of circumstances and across many different types of crime, which the Innocence Project illustrates.

In determining what can affect the reliability of eyewitness evidence, the nature of the crime is itself significant: witnessing someone stealing from a shop is a different experience from witnessing someone physically assaulting another person; and being a

victim of a handbag snatch is very different from being a rape victim. While the findings from research in one particular setting are not necessarily generalisable to all crime scenarios, they do provide useful information to the legal system. Research findings have also identified ways of enhancing the reliability of witness testimony, both in the police station and in the courtroom.

In general, when researching variables that might affect eyewitness evidence, psychological research distinguishes between factors based on whether or not they are under the control of the criminal justice system. This distinction is important as it determines how the results of the research can be applied.

System variables

System variables are those that might affect eyewitness evidence and that are under the control of the criminal justice system. System variables include the way in which the police question a witness and the procedures for asking a witness to identify a perpetrator in an identification parade. Research that investigates system variables can have important implications for policing policy and practice (Wells, 1978). For example, if one set of procedures is found to be more effective in eliciting accurate evidence, then, arguably, it should be adopted as common practice. Thus, research on system variables can be applied by altering the way that investigations and trials are conducted.

Estimator variables

Estimator variables are those that might affect eyewitness evidence and that are *not* under the control of the criminal justice system. This includes such things as whether the perpetrator was wearing a disguise or positioned too far away from the witness to allow for accurate identification. These are obviously factors that cannot be affected by the police or courts.

Although research on estimator variables cannot be used to alter the processes used in investigations and trials, nevertheless the findings can help in determining how likely it is that the witness is able to provide reliable evidence. For example, a witness who saw the perpetrator from a great distance is unlikely to be able to identify the perpetrator accurately. Research on estimator variables can also be very important when the case reaches court, as it is important for the jury to know whether there were factors that might have had an impact on the accuracy of the evidence being provided by the eyewitness.

Comparative law

Another factor to consider when exploring psychology and the law is that the law and different systems of justice vary from one country to another.

For example the legal system in the UK, and in other countries modelled on the English system of common law, is described as adversarial, or accusatorial. Spencer and Flin (1993, p.75) summarise such systems:

> In an accusatorial system each side presents a case before a court the function of which is limited to deciding who has won. The judges have nothing to do with the preliminary investigations, give no help to either side in presenting its case,

> and take no active steps to discover the truth, which emerges – or so the theory goes – from the clash of conflicting accounts.

By contrast, the inquisitorial system found in many European countries and other parts of the world is described as:

> The court is viewed as a public agency appointed to get to the bottom of the disputed matter. The court takes the initiative in gathering information as soon as it has notice of the dispute, builds up a file on the matter by questioning all those it thinks may have useful information to offer – including, in a criminal case, the defendant – and then applies its reasoning powers to the material it has collected in order to determine where the truth lies.
>
> (Spencer and Flin, 1993, p. 75)

The research and police investigations described in this course are firmly located in the accusatorial system of justice that is used in the UK and the USA. This is partly due to the accusatorial system posing more problems for witnesses and the reception of their testimony (e.g. placing what may seem to be undue emphasis on oral evidence live in court on the day of the trial), but also because most of the psychological research in this area stems from the USA and the UK.

2.5 A witness misidentifies her attacker

The following video includes a witness talking about some of her experiences of a rape, so do think carefully about the impact this might have on you before deciding to watch it.

The video contains interviews with Jennifer Thompson and Detective Mike Gauldin. Jennifer was one of the victims/witnesses in the Cotton case that is presented on the Innocence Project website, and Detective Gauldin one of the police officers who investigated the case.

While watching the video, consider the extent to which the factors that contributed to the wrongful conviction were under the control of the police and criminal justice system. In other words, were system or estimator variables the problem, or was it a combination of both?

Video content is not available in this format.

3 Introduction to the investigation

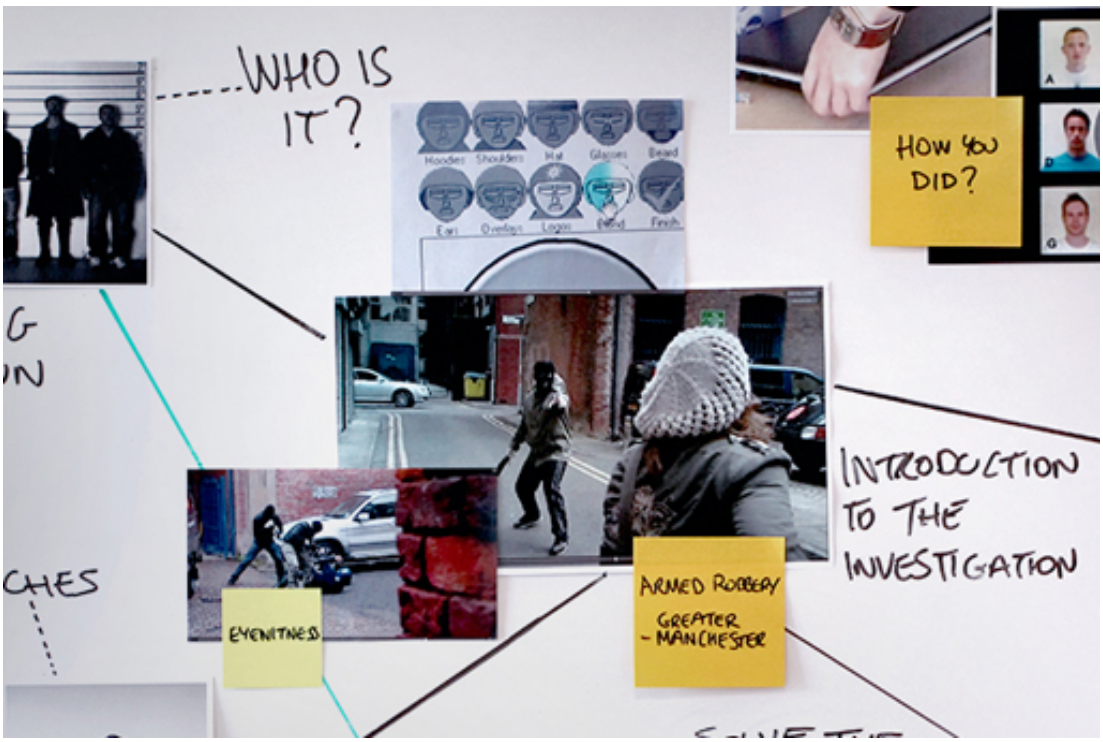

Figure 6

You've seen how real investigations can lead to wrongful convictions and how careful the police have to be when working with witnesses. To help you understand the psychology behind eyewitness evidence, you will get the chance to try to solve a case using nothing but eyewitness testimony.

An armed robbery was (very realistically) staged in front of a group of witnesses and then investigated by the Greater Manchester Police. At the end of the course, it will be your job to try to work out how the crime took place and who the guilty suspects might be. You will then get a chance to watch the crime and see how well the police did in solving it. Will your own investigative powers be a match for those of the police?

At various points you will get to see the witnesses presenting different types of evidence, including audio recordings of their interviews. Your job is to try to work out which pieces of information give an accurate insight into the crime, and which might contain flaws or just be completely wrong.

One of the most important tools police officers use in an investigation is the trusty notebook. As you work through the course, you should keep track of the evidence in a notebook, and also note down any insights you have. This will be an invaluable tool when it comes to trying to solve the crime at the end of the course.

3.1 Profiles of the police officers

Figure 7

You will follow two investigations, conducted by two different police officers. Both officers are entirely fictional. They are also quite extreme caricatures designed to highlight two very different approaches to police investigations.

Detective Inspector Jake Bullet

One investigation will be conducted by Detective Inspector (DI) Jake Bullet. Jake has been a police officer for a long time and is proud of his reputation for securing convictions even in cases with little or no evidence to go on. He values the experience he has gained and is wary of attending training courses and learning new techniques. More than anything he trusts his hunches and believes in following his nose. He approaches most investigations by using his considerable experience and knowledge of the criminal community to form an initial insight into who the criminal might be. He then investigates his prime suspect and has become very adept at building a watertight case that proves the suspect is guilty beyond a reasonable doubt.

Detective Sergeant Lara Sund

The other investigation is conducted by Detective Sergeant (DS) Lara Sund. Lara has participated in a number of serious cases, but has not served as long as Jake. She values her training as a detective and is always keen to attend new training events and learn new investigative techniques. Lara is wary of jumping to conclusions and always tries to avoid making any assumptions about the evidence she gathers. This sometimes means her investigations take longer than her more experienced colleagues, and involve collecting

more evidence. She is a highly trained interviewer, who prides herself on using the latest techniques. She approaches her investigations by collecting as much evidence as she can, reviewing it and then forming hypotheses about what took place, which she then tries to disprove.

DI Bullet and DS Sund are not working together – instead you will be following two entirely separate and unconnected investigations of the same crime.

You will find that although Jake and Lara are investigating the same crime and talking to the same witnesses, the evidence they gather can sometimes be very different. You may draw on both investigations to help you evaluate the evidence that is gathered, and you will also be provided with help from relevant psychological research and theory.
Ultimately, it is up to you to judge the facts and solve the case – will you trust your own hunches, or try and apply psychological knowledge?

Which detective do you think is most likely to solve the crime? Do you think modern police training techniques will help DS Lara Sund collect accurate and reliable evidence, or will the experience and knowledge that DI Jake Bullet has built up from a career spent working the streets prove to be superior?

3.2 Profiles of the witnesses

Figure 8

The investigation focuses on two witnesses.

Lila

Lila is a 54-year-old woman who is 5 feet 2 inches tall and weighs just under 8 stone. She is a very confident person, who describes her memory as being very good. She happily

admits that her memory for trivia is not great, but is proud of her ability to recall past events and details about her friends and family.

Seth

Seth is a 35-year-old man who is 5 feet 8 inches tall and weighs about 12 stone. He views himself as unconfident and is not comfortable being put on the spot. He doesn't think of himself as having a particularly good memory, and therefore tends to bow to others when it comes to recalling past events.

When listening to the two officers question Lila and Seth, remember that the two investigations are not connected. You can think of the investigations as happening in parallel worlds, allowing you to see how the witnesses respond to different investigative policing styles, without their responses to one affecting their responses to the other.

Like the two officers, Lila and Seth are fictional. However, the responses that they give as part of the investigation are based on those that were given by actual witnesses to the staged crime. The interviews conducted by the Greater Manchester Police were recorded, and analysed to reveal the types of responses and errors typically made by witnesses. These responses and errors were then incorporated into reworded extracts that were used to form the accounts that are given here by Lila and Seth. This was done to ensure that the accounts were as authentic as possible.

Next week, you will get the chance to hear and evaluate the initial statements that our two detectives, DI Jake Bullet and DS Lara Sund, managed to obtain from the two witnesses at the crime scene. For the remainder of this week, you will look at the psychology involved in deciding whether to intervene in a crime.

3.3 Why did no one intervene?

Neither Lila or Seth attempt to intervene in the crime, which is hardly surprising given it was an armed robbery!

However, as well as the armed robbery we also staged a crime in a pub, featuring an unarmed fight between two men, which was seen by at least a dozen people. The scene was filmed, and many people who watched the film expressed surprise that not only did none of the witnesses attempt to intervene, not one called for help or even used their phone to call the police.

Not wanting to become involved in a crime or other serious situation is referred to by psychologists as 'bystander apathy', and is a phenomenon that has been well researched. In the film above you see Dr Jovan Byford (a psychologist from The Open University) talk about some of this research and about a famous case in which Catherine 'Kitty' Genovese was attacked and murdered in a street in Queens, New York. Although the facts were later disputed, the report of the murder at the time claimed that 38 of her neighbours witnessed the attack, but did not intervene.

Video content is not available in this format.

3.4 Why just stand by?

Is bystander intervention a general phenomenon, or is the nature of the emergency and who is involved important?

Do you think you would have behaved differently? The bystander effect tends to be something that many people believe would not apply to them, yet the research suggests that when we are put in that position we are very unlikely to intervene. Of course, it can be difficult to generalise from research which focuses on only one event.

In this video, Dr Jovan Byford discusses whether all emergencies are the same, regardless of if they are a murder in New York or students dealing with a smoke filled room, or whether the nature of the emergency might be important. In addition, he looks at how our attributions about the emergency affect our behaviour and whether we intervene or not.

Video content is not available in this format.

4 This week's quiz

Check what you've learned this week by taking the end-of-week quiz.

Week 1 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

5 Summary of Week 1

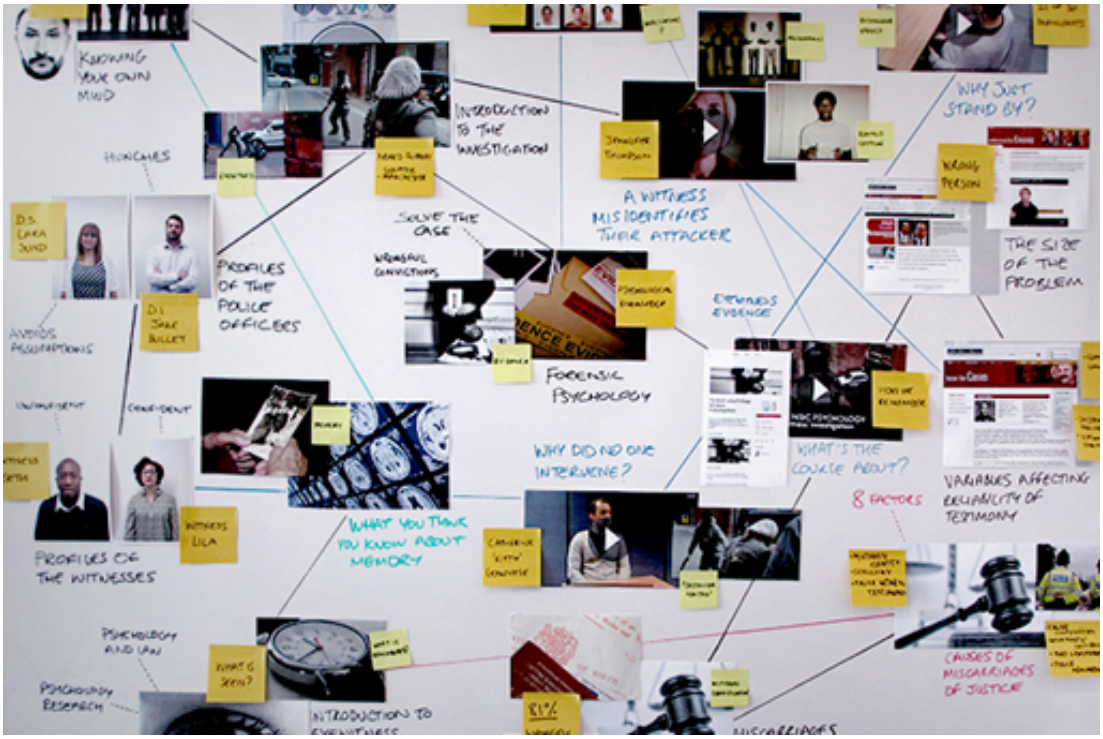

Figure 9

So far you have seen the impact that wrongful convictions can have and that mistaken identification by an eyewitness appears to be the leading cause in such miscarriages of justice. You have also seen that simply changing the instruction given to an eyewitness can have a profound effect on the accuracy of the evidence they provide.

You have been introduced to our two detectives and our two witnesses, and next week you get the chance to begin your investigation as the witnesses provide an initial statement about what took place in the crime.

You can now go to Week 2.

Week 2: Initial statements

Introduction

Welcome to Week 2. Watch the following video in which Catriona and Graham introduce the week.

Video content is not available in this format.

Before you hear the initial evidence provided by our two eyewitnesses, you will explore some psychological knowledge concerning how accurately eyewitnesses provide different types of information.

Last week you saw that the outcome of an identity parade can be dependent upon the specific wording of the question that is asked of the witness. Simply asking ‘Who is it?’ can imply that the perpetrator is definitely present in the parade and, therefore, that the witness should select someone. The question asked of a witness is an example of a system variable, as it is under the control of the police.

However, there are also estimator variables, not under the control of the police, that are important to be aware of when evaluating witness evidence. Even if you cannot control for how long the witness saw the perpetrator, for example, it is still important to know what affect this might have on the accuracy of their memory.

Knowledge concerning the impact that estimator variables have on eyewitness testimony will be important when you come to evaluate the evidence provided by our two eyewitnesses.

1 Remembering different aspects of a crime

Figure 1

As a witness to a crime, there are many factors that can work to our disadvantage. The experience of viewing a crime can be very brief – perhaps even a matter of a few seconds – and we may not even realise that a criminal event is taking place until it is over.

Effective observation

Reliable evidence depends upon the witness being able to observe effectively. For example, accurate face recognition is dependent upon seeing the perpetrator's face for a sufficiently long period of time (e.g. Ellis et al., 1977). Furthermore, the crime may take place in poor lighting and at some distance away. Research demonstrates that beyond a certain distance, and depending on the light, identification may be problematic. Researchers tested participants' ability to recognise a target's face at seven distances and nine illumination levels. Immediately after seeing the target face, participants were asked to identify the face they had just seen from an array of photographs (Wagenaar and Van Der Schrier, 1996). As a result, the following guideline emerged regarding what observation conditions are needed for identification evidence to be sufficiently accurate (known as the 'Rule of 15'):

- the maximum distance is 15 meters from the event
- the minimum illumination is 15 lux.

Lux is a measurement of luminance, where 0.3 lux is equivalent to night time with a full moon; 30 lux is equivalent to a badly lit room; and 300 lux is equivalent to a brightly lit room. It is important to note that this research does not mean that identification will be accurate if the perpetrator was seen from less than 15 metres and at more than 15 lux, just that identification evidence cannot be relied on unless these requirements are met.

This study demonstrates that although estimator variables are not under the control of the police/criminal justice system, research can still investigate their influence and provide useful advice – in this instance, by providing information relating to the feasibility of an accurate identification.

What about other judgements that witnesses might be asked to make?

Estimates of time and distance

Research suggests that, generally, we are not very accurate in our estimates of how long something lasts (temporal duration) or of distance. We may overestimate the length of events of short duration, sometimes by as much as 500%. Many studies (e.g. Block, 1978) have shown that a time interval containing unfamiliar, less predictable, complex or many components (as when solving a complex puzzle) is estimated to be significantly longer than an interval of the same duration that contains more familiar, more predictable, simpler or fewer components (as when doing simple arithmetic).

Estimate of date

Our ability to provide the correct date for an event may also be poor. Research testing participants' ability to date episodes they had personally experienced showed that accuracy in dating was dependent on how long ago the episode occurred (known as the retention interval), and that accuracy decreased rapidly as the retention interval lengthened. When asked about experiences that had taken place in the previous week, participants tended to date accurately 85–90% of the time. For experiences that occurred over three months ago, however, accurate dating dropped to 15–20% (Thompson et al., 1996).

Furthermore, many studies have reported a phenomenon known as 'forward telescoping', a tendency to assign a date to an event that is more recent than the actual date of occurrence. This tendency has been observed as soon as eight weeks after the event occurred. Telescoping is thought to arise because we overestimate the frequency of events occurring during a certain time period, and therefore mistakenly import or bring forward events that actually happened earlier.

Estimating height and weight

Our estimates of people's height and weight are also frequently inaccurate. Researchers asked 588 participants to estimate the height and weight of 1 of 14 males who had previously asked them for directions in a busy city centre (Flin and Shepherd, 1986). They found errors for height judgements to range from an underestimation of 14 inches (35.56 centimetres) to an overestimation of 8 inches (20.32 centimeters). Judgements of weight ranged from an underestimation of 98 lbs (44.45 kilograms) to an overestimation of 36 lb (16.33 kilograms). The results showed that the height of all 14 males was underestimated by 6 inches (15.24 centimetres) by at least one participant.

Generally, these findings indicated a 'trend of underestimating above-average characteristics and overestimating below-average characteristics … indicating a general regression to the population mean' (Flin and Shepherd, 1986, p. 35). Their results also indicated that the participant's own height and weight was used as a norm or anchor against which the height or weight of the male was estimated (although this effect was small in female participants' judgements about height, and absent in their judgements about weight). Therefore, when asking witnesses to estimate such characteristics, it may be helpful to obtain relative judgements. For example, if a perpetrator is seen standing in a doorway, their height may be judged by asking how much shorter than the door the perpetrator was.

1.1 The influence of witness characteristics

Figure 2

It is also important to consider estimator variables to do with who the witnesses were, as well as variables to do with the conditions in which the crime was witnessed. In particular, personality, sex and age have been explored in relation to witness characteristics.

Kapardis (1997) reviewed the evidence regarding the influence of a range of personality characteristics. Much of this evidence tended to consider performance on face identification tasks and the findings are rather tentative. In many cases, the personality characteristic is thought to influence arousal (a psychological and physiological state, in which various parts of the brain show increased activation leading to the person being alert and ready to respond to stimuli) and, as you shall see, it is not always clear how this impacts on witness testimony. For example, neuroticism (a concept from personality theory, characterised by such traits as anxiety and emotional instability) may interact with arousal level to influence memory. The identification accuracy of those low in neuroticism has been found to increase as arousal increases from low to moderate, but the reverse was observed for those high in neuroticism.

Might experience matter? Would a police officer provide more complete and accurate testimony, should they witness a crime? The weight of the evidence suggests that their testimony is no more reliable than that of members of the public. However, a trained police officer may find witnessing a crime less stressful than other people.

Sex

With regards to sex, some studies have shown that female participants provide more reliable 'testimony' than males, whereas others have found the reverse, or no difference. Such inconsistent findings suggest that differences between males and females vary or disappear depending on the factors surrounding the event that the witnesses are observing and reporting. For example, males have been found to be better than females at remembering details of a violent incident in several different studies, but no difference has been observed between males and females when shown a non-violent incident (e.g. Clifford and Scott, 1978). Then again, differences can emerge according to the type of details being reported. Some studies have found that females are more often able to remember or reconstruct the precise date of an event, but exhibit the tendency to overestimate the temporal duration of an event more than males. Therefore, while the sex of the witness may impact upon the evidence provided, its influence is by no means clear-cut and it is not a particularly useful variable to consider when evaluating eyewitness evidence.

Age

It is known that our vision and hearing may deteriorate notably from around 70 years of age, and there may also be a decline in attention with ageing. All of these (especially quality of vision) will impact upon the completeness and accuracy of eyewitness accounts. However, the majority of research on the role of age in reliable witnessing has concentrated on children. Generally, young children have been found to provide less information than adults, and are less accurate than adults with details of time, temporal order, estimates of distance and speed, and estimates of height and weight. These findings are consistent with research that suggests an improvement in a variety of cognitive skills with age. However, children as young as six years may perform at adult level in their reporting of an event, and this is dependent on a range of factors, including what they are questioned about and how they are questioned. In other words, and assuming appropriate questioning techniques are employed, younger children may on average remember less accurately than adults, but some individual children will remember as accurately. However, the majority of research on the role of age in reliable witnessing has concentrated on children (e.g. Ceci and Bruck, 1993).

1.2 Co-witnessing

Figure 3

It is important to consider whether there was more than one witness to a crime, and how each witness' memory and testimony might be affected by talking to other witnesses.

Helen Paterson is a Senior Lecturer in Forensic Psychology at the University of Sydney, Australia, and a world expert on co-witnessing, a term that refers to crimes that are witnessed by two or more people who then share accounts of what happened. Listen to the following co-witnessing interview, in which Helen describes the impact that co-witnessing can have and how this topic has been researched.

Audio content is not available in this format.

Remember that our crime was witnessed by two people, so when evaluating the evidence they provide you should take the effects of co-witnessing into account.

1.3 Impact of estimator variables

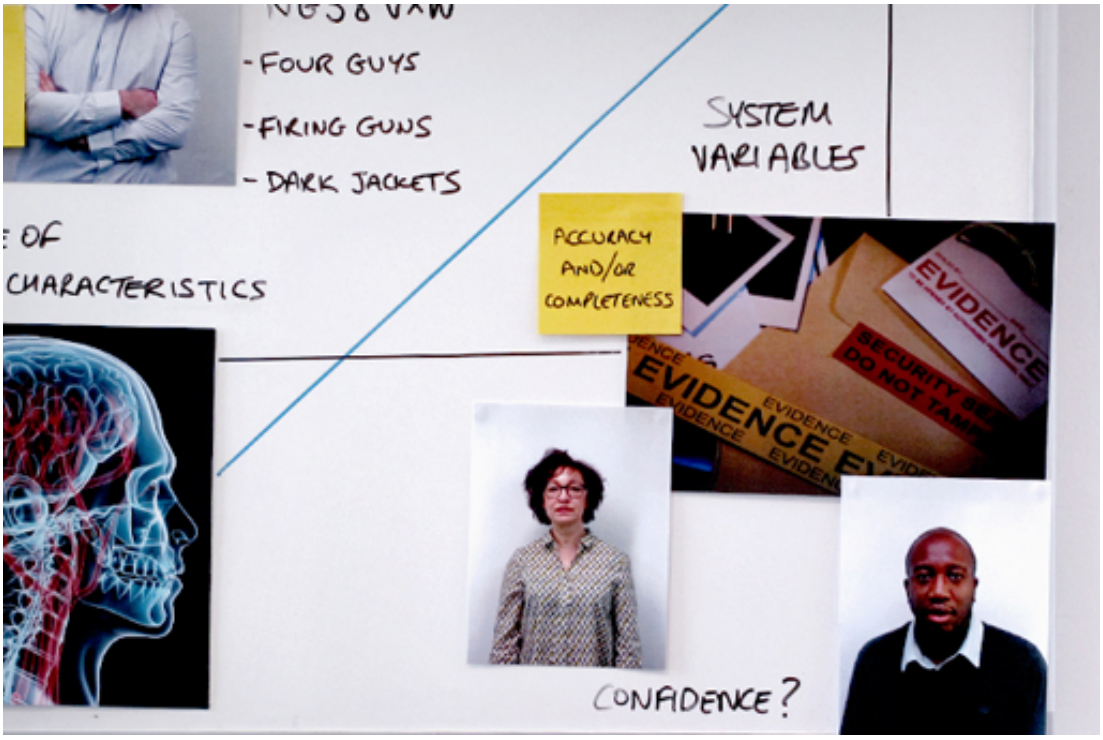

Figure 4

There are many variables that will influence the accuracy or completeness of the testimony of a witness. These variables are estimator variables and therefore not under the control of legal professionals. Knowing their potential influence does help us judge how much weight to place on the information provided by a witness, and also helps us to evaluate whether one witness might be more accurate than another.

Later, you will hear the initial statements provided by our two witnesses to both DI Bullet and DS Sund. When you listen to the evidence, see if you can apply the knowledge you have gained here in order to evaluate it.

Below is a list of some of the key factors that you might want to keep in mind:

- Confidence does not necessarily mean accuracy. Despite her best efforts and being sure she was correct, Jennifer Thompson identified the wrong person.
- Actions may be remembered better than details.
- Variables such as how far the witness was from the crime, what the illumination was and how long the witness was exposed to the event and the perpetrators can all have an effect on the accuracy of witness testimony.
- People are generally not good at judging either time or distance – we often overestimate the duration of short events, particularly if the event is complex.
- We tend to be poor at dating events – forward telescoping means we often assign a date that is too recent.
- Estimates of height and weight are not accurate – we have a tendency to underestimate above-average characteristics and overestimate below-average characteristics. The witness' own height and weight might be used as an anchor against which the height or weight of others are estimated. This means it is a good

idea to ask for relative judgements, e.g. how tall was the perpetrator in relation to the doorway?

- The gender of the witness may impact upon the evidence provided, but its influence is by no means clear-cut.
- Age can have an effect. Over the age of 70, hearing, vision and attention decline, and children will generally provide less information and be less accurate than adults.

You also heard about the potential problems of co-witnessing. This does not fit the estimator/system variable distinction very well, as it is partly, but not entirely, under the control of the police:

- Co-witnessing – allowing witnesses to talk to one another, including interviewing them together, will lead to considerable convergence in their testimonies. Witnesses can form a memory of something happening from listening and talking to another witness. So, consistency in testimony is to be expected if the witnesses have had a chance to share memories. Such consistency should not be seen as confirming the facts reported.

In addition, remember that the way in which a question is asked can have a dramatic effect on the response of a witness. We'll look at questioning later on, but for now remember that the question 'Who is it?' tends to make a witness select someone from an identity parade because the question implies the perpetrator is present, and therefore, that the witness should choose someone. When evaluating the witness statements, consider how the detectives ask their questions. Are they giving the witness the opportunity to respond based on their own memories, or are they suggesting the answer to the witness?

In the next sections, you'll find out about the crime committed and hear the witness statements taken by the two detectives, DI Bullet and DS Sund. First take a look at the timeline of the crime and police response:

Timeline of the crime and police response

16:24, Wednesday afternoon – the police receive a number of emergency calls reporting a possible armed robbery in progress.

Three are from people working in office buildings adjacent to where the crime is taking place who report hearing gun fire; one is from a pedestrian passing by the end of the road who sees an armed, masked man run past; and one is from a car driver who narrowly avoids a collision with a speeding car.

16:26 – An initial response unit is dispatched to the location reported in the emergency calls.

16:32 – The police receive a call from a mobile phone from two eyewitnesses to the crime, who confirm an armed robbery has taken place and also that the robbers kidnapped a young woman, called Liz, a friend of the witnesses who was with them when the crime started.

16:36 – The initial response unit arrives at the crime scene. The two eyewitnesses who made the call are still there, but the robbers have clearly left. The street in which the crime took place is cordoned off.

16:48 – A detective from the Criminal Investigation Department (CID), Detective Inspector Jake Bullet, arrives at the crime scene and, after a brief conversation with the officers already there, talks to and obtains an initial statement from the two eyewitnesses.

2 DI Bullet takes witness statements

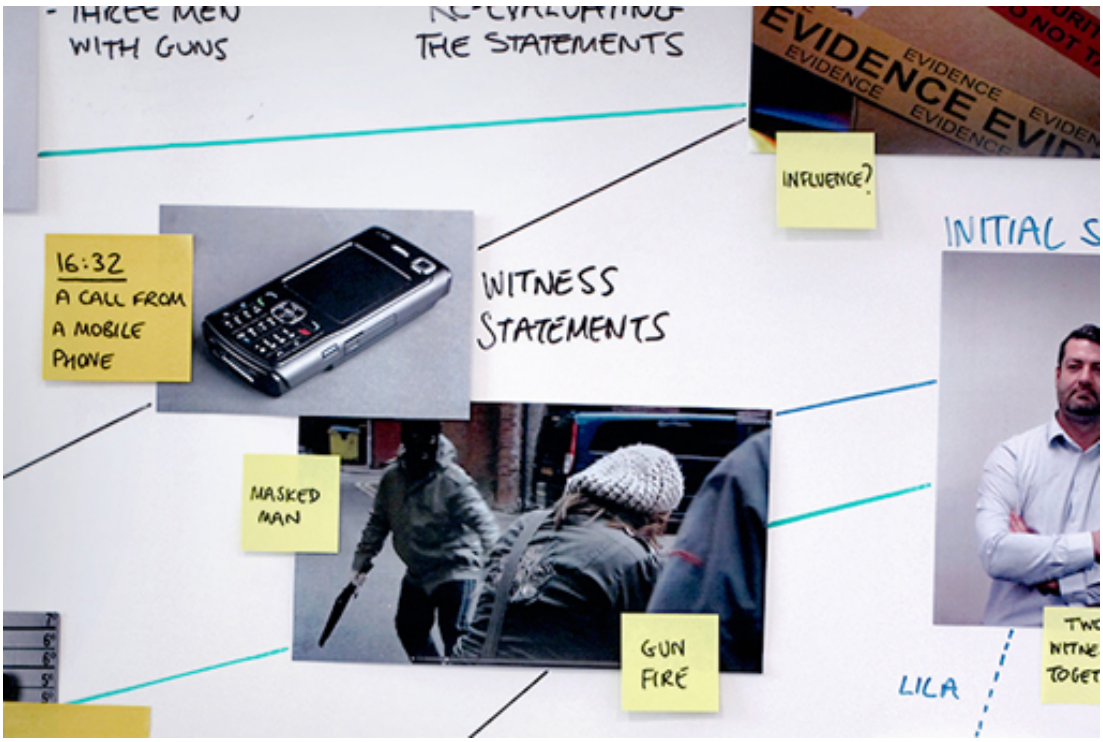

Figure 5

In the next activity you will listen to an audio recording of the initial statement taken by DI Bullet. As you listen to it, make a note of any evidence about the crime that you think might be useful in solving it. Remember, try to evaluate what you hear in terms of what you have learned about eyewitness memory.

Activity 1 DI Bullet: initial statements

Allow about 30 minutes

DI Bullet knows that time is of the essence, particularly in a case that involves kidnapping, and that getting information out to all the officers in the area is of paramount importance. To save time, he therefore decides to talk to the two witnesses together.

Listen to the audio recording as many times as you like and note down the evidence you think is revealed.

Audio content is not available in this format.

Provide your answer...

Discussion

The initial statements from Lila and Seth revealed a wealth of information about the events of the crime and also about the perpetrators. How did you get on noting down potential evidence?

Figure 6

2.1 Evaluating the statements

Figure 7

To help you, two lists of potential evidence have been provided below, one to do with what happened and one about what the perpetrators looked like. Have a look through the lists and try to decide how reliable each piece of information is. Be sure to note down those statements you think might be accurate.

What happened

- Lila confirms that the suspects drove up and jumped out of a car. (Lila)
- The car was new, expensive, large and silver. It had four doors and the number plate was NG58 VXW. (Lila)
- The car stopped 100 feet away. (Lila)
- The crime easily lasted for 10 minutes. (Lila)
- Seth confirms that the perpetrators jumped out of a car. (Seth)
- The perpetrators waved guns around as they jumped out. (Seth)
- Seth confirms the car was large and silver. (Seth)
- The car was an Audi. (Seth)
- There were four perpetrators, one who was a driver. (Lila)
- Three of the perpetrators forced two security guards to the ground. (Lila)
- One perpetrator, who was not wearing a mask, fought with a guard and hit him. (Lila)
- The two masked perpetrators aimed guns at the guards, while the unmasked perpetrator cut free a case chained to one of the guards. (Lila)
- The two masked perpetrators fired shots in the air. (Seth)

- The two masked perpetrators made the two guards get out of their van. (Seth)
- The kidnapper was the driver. (Seth)
- The driver had a shotgun which he was firing in the air while shouting at Liz. (Seth)
- Lila confirms the kidnapper was the driver. (Lila)
- The driver dragged Liz back to the car, bundled her in and drove off. (Lila)

What the perpetrators looked like

- The unmasked perpetrator had very curly, shoulder-length black hair. (Lila)
- The unmasked perpetrator was about 5 foot 3 inches. (Lila)
- The unmasked perpetrator was 22. (Lila)
- The unmasked perpetrator was probably of Indian ancestry. (Lila)
- The masked perpetrators were stocky and looked like bouncers. (Lila)
- The perpetrators were dressed in dark jackets and army trousers. (Lila)
- Seth confirms the unmasked perpetrator is Asian, about 20 and 5 feet 3 or 4 inches. (Seth)
- Seth confirms that the perpetrators looked stocky and like bouncers. (Seth)
- There was something odd about one of the masked perpetrators – they looked almost child-like or like a woman. (Seth)
- The driver was a tall white guy. (Seth)
- The driver had short hair. (Seth)
- The driver was probably in his 30s. (Lila)
- The driver was about 6 foot 4 inches. (Lila)
- The driver was dressed like a soldier. (Lila)
- The driver had a crew-cut hairstyle. (Lila)
- The driver was wearing sunglasses and a cap. (Seth)

2.2 Re-evaluating the statements

Figure 8

You know now that a question can suggest a response, that the co-witnessing effect tends to make evidence from two witnesses very similar, and that people tend to judge height and weight badly as the judgements are made relative to their own build.

To help you evaluate the statements taken by DI Bullet, in the next activity you look at potential ways that evidence can become biased. For each question, you will be provided with a specific statement that was obtained by DI Bullet in the audio you heard. Your job is to decide whether the statement is likely to have been biased by one of these three factors:

- Biased as it was suggested by the question asked – for example, did DI Bullet ask a question in a way that suggested what the answer should be, or suggest information to the witness that they had not mentioned before?
- Biased because of the co-witnessing effect – did the witness remember the information themselves, or had they heard another witness say something similar?
- Biased as witnesses tend to over and underestimate height, weight, distance and time.

Alternatively, the evidence might not have been influenced by any of the above factors, in which case you should select:

- Potentially unbiased.

The statements that appear in the quiz are all taken from the recording of DI Bullet you heard in DI Bullet: initial statements. Do feel free to re-listen to this audio as many times as you like.

Activity 2 Evaluating bias (DI Bullet)

Allow about 10 minutes

Q1. 'Lila states that the suspects drove up and jumped out of a car.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

Well done! DI Bullet asks 'I understand you mentioned that the suspects drove up and jumped out of a car, could either of you describe it?', so his question suggested that the suspects drove up and jumped out of a car.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

No, think about the first time this evidence was heard. To be biased because of the co-witnessing effect, it would need to have been first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased.

No, think about the first time this evidence was heard. To be potentially unbiased the witness must have remembered it without it first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

Q2. 'Seth states that the car was large and silver.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

No, think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

Well done! This piece of evidence was provided only after the witness had heard it stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased.

No, think about the first time this evidence was heard. To be potentially unbiased the witness must have remembered it without it first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

Q3. 'Lila states that the kidnapper was the driver.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

No, think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

This is correct. This piece of evidence was provided only after the witness had heard it stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased.

No, think about the first time this evidence was heard. To be potentially unbiased the witness must have remembered it without it first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

Q4. 'Lila states that the two masked perpetrators aimed guns at the guards, while the unmasked perpetrator cut free a case chained to one of the guards.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

No, think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

Think about the first time this evidence was heard. To be biased because of the co-witnessing effect, it would need to have been first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased.

This is correct. This evidence does not involve any estimation about height etc., and the witness provided the statement without the information first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

Q5. 'Lila states that the driver was about 6 foot 4.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

No, think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

No, think about the first time this evidence was heard. To be biased because of the co-witnessing effect, it would need to have been first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

Well done! The witness is estimating the height of a suspect, and is likely to be biased by their own height.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased.

No, think about the first time this evidence was heard. To be potentially unbiased the witness must have remembered it without it first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

Q6. 'Seth states that the perpetrators looked stocky and like bouncers.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

No, think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

○ Biased because of the co-witnessing effect.

This is correct. This piece of evidence was provided only after the witness had heard it stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

- Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

- Potentially unbiased.

No, think about the first time this evidence was heard. To be potentially unbiased the witness must have remembered it without it first being suggested in a question or having heard it first stated by another witness.

Do re-listen to the audio of DI Bullet taking the statements, and consider how this piece of evidence was obtained.

2.3 Summary of the evidence

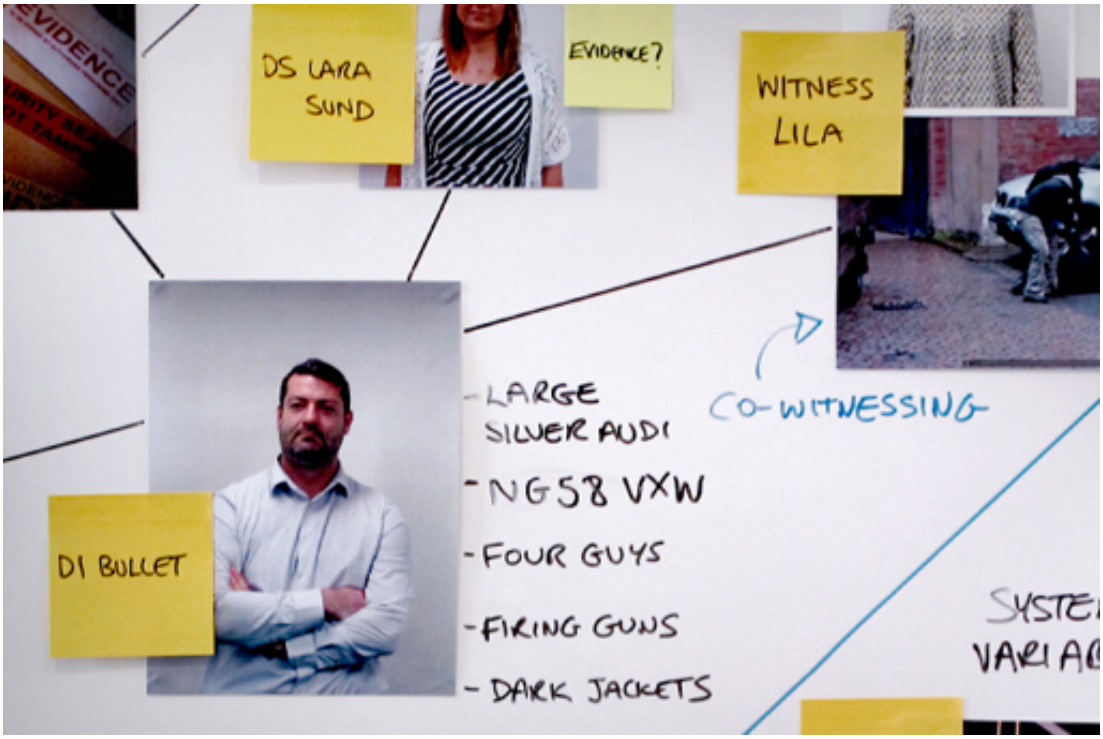

Figure 9

DI Bullet's summary of the evidence was:

> a large silver Audi, new and expensive looking, screeched round the corner and the number plate was definitely NG58 VXW. After that, four guys jump out of the car, all wearing army fatigues and dark jackets, and they start firing guns in the air. Three of them run to the security van and the driver ran towards you, threatening you with a shot gun, grabs Liz and drags her back to the car. The other three fight with the guards, use a tool to cut the chain attaching a case to one of the guards and then steal it. The driver is a Caucasian male in his thirties, 6 feet 3 or 4 inches, dressed like a soldier and with dark hair in a crew

> cut. The guy who steals the case is an Asian male, in his twenties, 5 feet 3 inches, stocky with long, dark curly hair? All were armed with shotguns.

Based on your evaluation of the witness statements, how accurate a picture do you now think this is? One thing to note is that witnesses tend to be better with information about actions than other details, and in this case there tended to be consistency in the accurate information about the actions. Moreover, when you rule out the more unreliable evidence, you can see that the descriptions of the perpetrators are nothing like as clear cut as DI Bullet's summary would suggest.

How would your own notes of the evidence stand up to such evaluation? We have a tendency to trust information if it is confirmed by someone else, but the co-witness effect and suggestive questions mean that we should be wary of two people remembering the same detail after hearing what the other has to say.

Putting accuracy aside, DI Bullet certainly got a lot of information very quickly. How will the more cautious DS Sund fare?

3 DS Sund takes witness statements

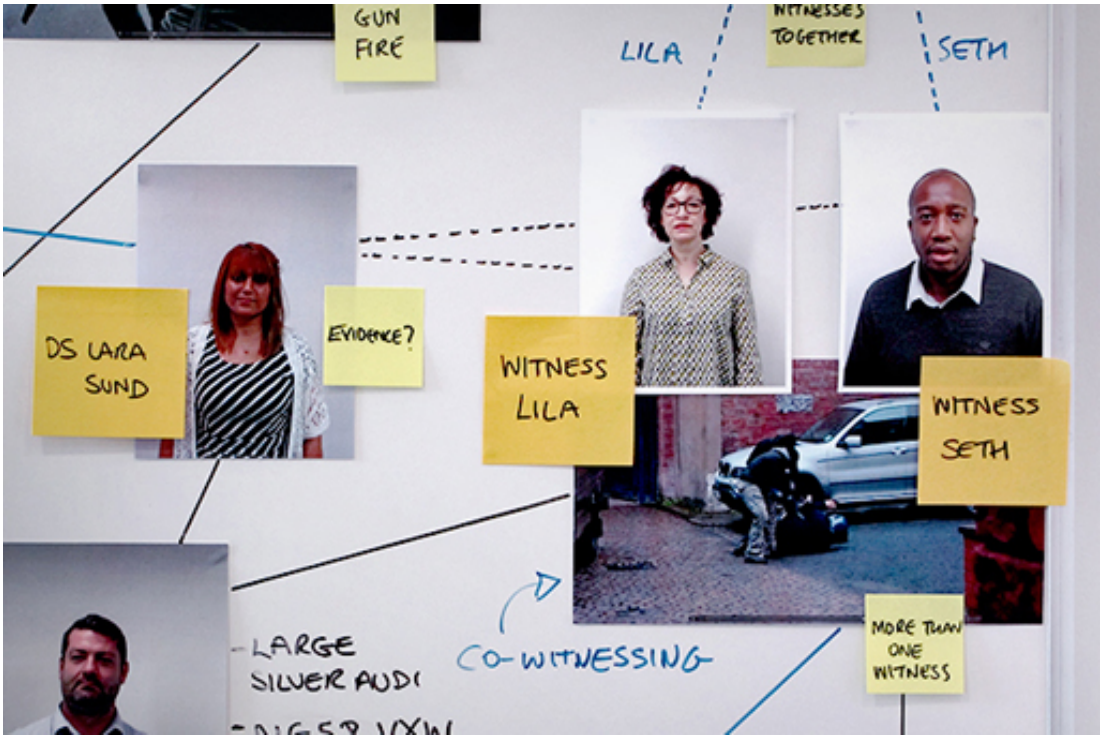

Figure 10

The timeline for DS Lara Sund's investigation is exactly the same as that for DI Bullet's. At 16:48 she arrives at the crime scene to obtain an initial statement from the two eyewitnesses.

Next, you will hear an audio recording of the initial statements taken by DS Sund. As you listen to it, make a note of any evidence about the crime that you think might be useful in solving it. Remember, try to evaluate what you hear in terms of what you have learned about eyewitness memory.

Activity 3 DS Sund: initial statements

Allow about 30 minutes

DS Sund also knows that time is of the essence, particularly in a case that involves kidnapping, and that getting information out to all the officers in the area is paramount.

However, she is also aware that great care must be taken when questioning witnesses and that they should not be allowed any opportunity to hear what each other remembered about the crime.

Listen to the audio recordings as many times as you like and note down the evidence you think is revealed.

Lila

Audio content is not available in this format.

Seth

Audio content is not available in this format.

Provide your answer...

Discussion

The initial statements from Lila and Seth once again revealed a wealth of information about the events of the crime and also about the perpetrators. How did you get on noting down potential evidence?

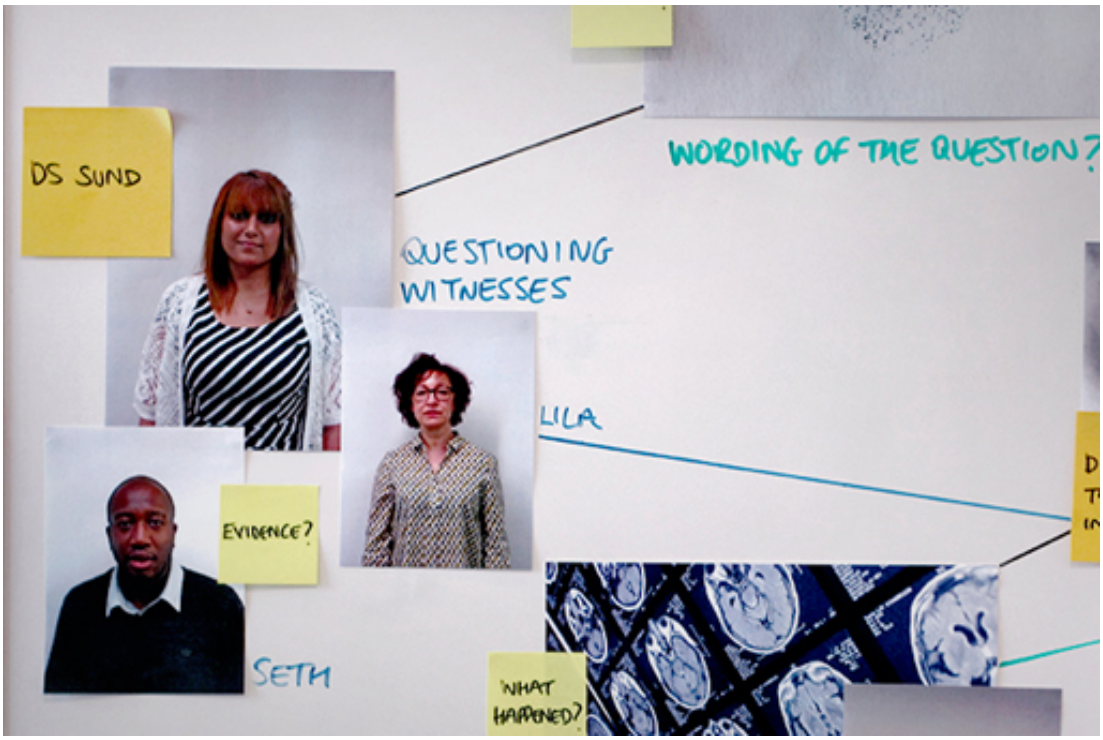

Figure 11

3.1 Evaluating the statements

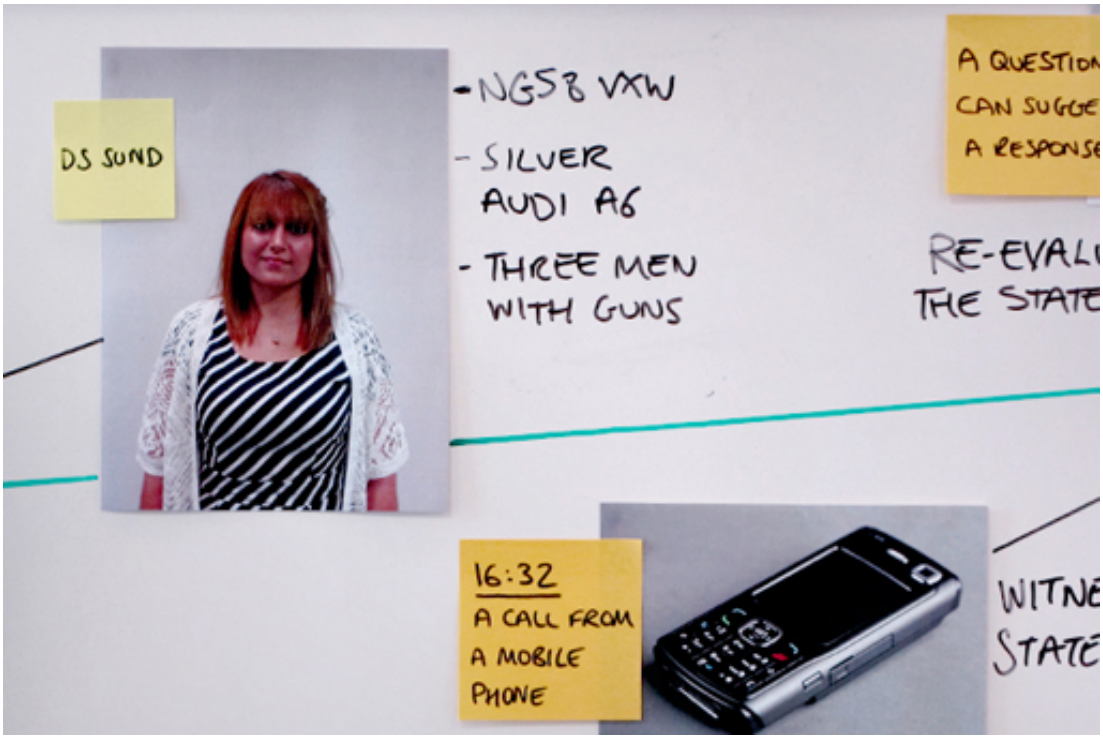

Figure 12

To help you, two lists of potential evidence have again been provided below, one to do with what happened and one about what the perpetrators looked like. Have a look through the lists and try to decide how reliable each piece of information is. Be sure to note down those statements you think might be accurate.

What happened?

- The car was silver and its number plate was NG58 VXW. (Lila)
- The car was a large, silver Audi A6. (Seth)
- There was shouting and three men with guns attacking a security van. (Lila)
- There was a scuffle between one of the men and one of the guards. That man did not have a mask, but the others did. (Lila)
- The unmasked robber forced one of the guards to the ground. He had a case attached to his wrist by a chain, and the guy started cutting through it to take the case. (Lila)
- One of the robbers used a tool to cut the chain attaching a case to one of the guards. (Seth)
- The car reversed into the street during the crime, at the point where one of the robbers grabbed Liz. (Lila)
- At the start of the robbery, the car drove round a corner and the robbers jumped out. (Seth)
- The driver shouted at the others and one of them grabbed Liz. (Lila)

- After stealing the case, two of the robbers ran to the car and the third ran over to Liz and grabbed her. (Seth)
- The driver probably grabbed Liz. (Seth)
- Liz was kidnapped because she was trying to use her mobile phone, probably to call the police. (Seth)

What the perpetrators looked like

- The unmasked robber was male, 22, with thick, curly shoulder-length hair, of Indian ancestry and 5 feet 9 inches. (Lila)
- The unmasked robber had dark hair, darkish skin, was in his mid-30s and possibly from the Middle East. He was average height and build, perhaps a little slim. (Seth)
- The unmasked robber was wearing a riot hat with a plastic screen that was knocked off when he was struggling with the guard. (Lila)
- One of the guard's helmets was knocked off while struggling with the robbers. (Seth)
- The driver was not wearing a mask, was Caucasian, dressed in camouflage and in his early 30s, with short hair and about 5 feet 9 inches. (Lila)
- There was something odd about the driver's eyes; he was wearing really dark sunglasses with a silver frame and was also wearing a cap. (Seth)
- The two masked robbers were of average height, both were quite stocky and wearing dark jackets and army trousers. (Lila)
- The two masked robbers were wearing hoodies and dark trousers. One looked a little odd, possibly rounder than the others and almost feminine. (Seth)

3.2 Re-evaluating the statements

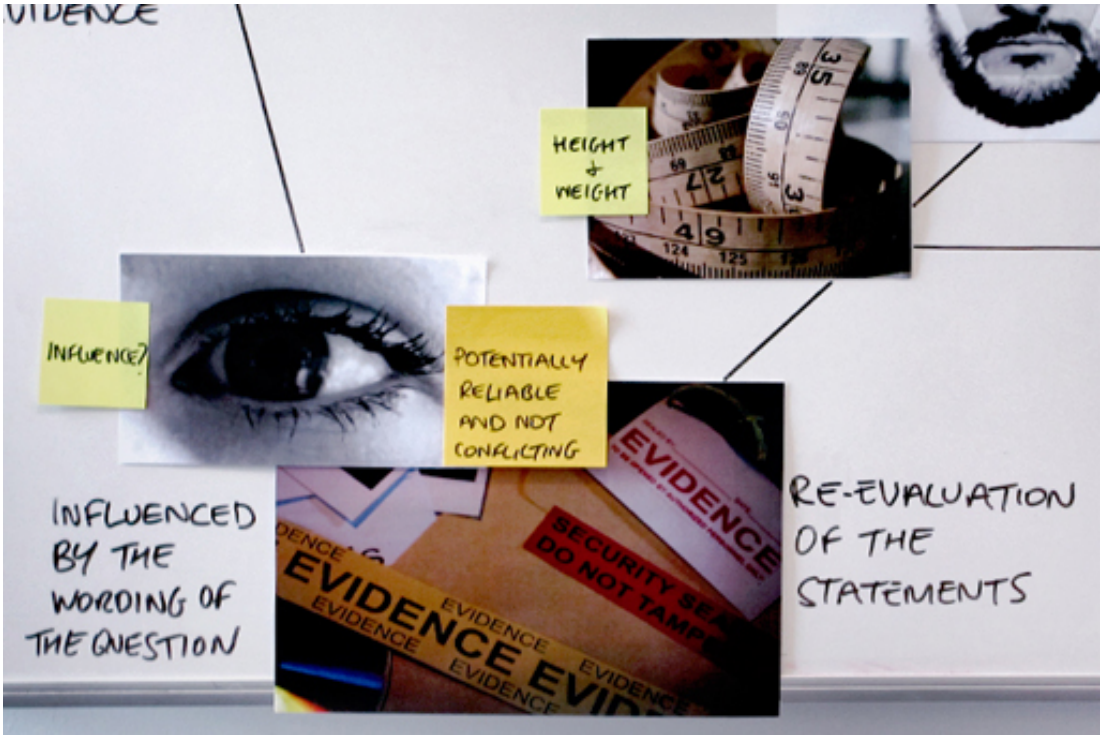

Figure 13

You'll now repeat a similar evaluation exercise that was performed on the evidence from DI Bullet's statements. However, this time we have altered the possible categories as DS Sund was careful to avoid the effects of co-witnessing.

For each question in the quiz, you will be provided with a specific statement that was obtained by DS Sund in the audio you heard. Your job is to decide whether the statement is likely to have been biased by one of these three factors:

- Biased as it was suggested by the question asked.
- Potentially unbiased, but conflicting as the two witnesses recalled different things.
- Biased as witnesses tend to over and underestimate height, weight, distance and time.

Alternatively, the evidence might not have been influenced by any of the above factors, nor conflicting with information provided by the other witness, in which case you should select:

- Potentially unbiased and not conflicting with evidence from another witness.

The statements that appear in the quiz are all taken from the recording of DS Sund you heard in DS Sund: initial statements. Do feel free to re-listen to this audio as many times as you like.

Activity 4 Evaluating bias (DS Sund)

Allow about 15 minutes

Q1. 'Lila states that there was shouting and three men with guns attacking a security van.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased, but conflicting as the two witnesses recalled different things.

This is incorrect. In this instance, the two witnesses did not recall different things. One witness may not have mentioned anything about this particular aspect, but that is not the same as them remembering something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased and not conflicting with evidence from another witness.

Well done! The witness provided this piece of evidence without it first being suggested in a question. In addition, no alternative and different account was provided by another witness.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Q2. 'Seth states that the car was a large, silver, Audi A6.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased, but conflicting as the two witnesses recalled different things.

This is incorrect. In this instance, the two witnesses did not recall different things. One witness may not have mentioned anything about this particular aspect, but that is not the same as them remembering something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased and not conflicting with evidence from another witness.

Well done! The witness provided this piece of evidence without it first being suggested in a question. In addition, no alternative and different account was provided by another witness.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Q3. 'Lila states that the car reversed into the street during the crime, at the point where one of the robbers grabbed Liz.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased, but conflicting as the two witnesses recalled different things.

Well done! In this instance, the two witnesses did recall different things as Seth stated that as the start of the robbery the car drove round the corner and the robbers jumped out.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased and not conflicting with evidence from another witness.

Try again. Think about the first time this evidence was heard. To be potentially unbiased and not conflicting, the witness must have remembered it without it first being suggested in a question and another witness cannot have remembered something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Q4. 'Seth states that Liz was kidnapped because she was trying to use her mobile phone, probably to call the police.' This piece of evidence is:

○ Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

You may find 2.3.4 Evaluating bias (DS Sund) useful.

○ Potentially unbiased, but conflicting as the two witnesses recalled different things.

This is incorrect. In this instance, the two witnesses did not recall different things. One witness may not have mentioned anything about this particular aspect, but that is not the same as them remembering something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased and not conflicting with evidence from another witness.

This is correct. The witness provided this piece of evidence without it first being suggested in a question. In addition, no alternative and different account was provided by another witness.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Q5. ‘Lila states that the two masked robbers were wearing dark jackets and army trousers.’ This piece of evidence is:

○ Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased, but conflicting as the two witnesses recalled different things.

Well done! In this instance, the two witnesses did recall different things as Seth stated that ‘the two masked robbers were wearing hoodies and dark trousers’.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

○ Potentially unbiased and not conflicting with evidence from another witness.

Try again. Think about the first time this evidence was heard. To be potentially unbiased and not conflicting, the witness must have remembered it without it first being suggested in a question and another witness cannot have remembered something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

Q6. ‘Seth states that there was something odd about the driver’s eyes; he was wearing really dark sunglasses with a silver frame and was also wearing a cap.’ This piece of evidence is:

- Biased as it was suggested by the question asked.

Try again. Think about the first time this evidence was heard. To be biased because of a suggestive question, the statement must have been provided after the witness heard a question in which the interviewer mentioned or suggested the evidence.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

- Potentially unbiased, but conflicting as the two witnesses recalled different things.

This is correct. In this instance, the two witnesses did recall different things as Lila stated that 'the driver was not wearing a mask, was Caucasian, dressed in camouflage and in his early 30s, with short hair and about 5 feet 9'.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

- Biased as witnesses tend to over and underestimate height, weight, distance and time.

This is incorrect. The evidence does not involve any estimation of amount.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

- Potentially unbiased and not conflicting with evidence from another witness.

Try again. Think about the first time this evidence was heard. To be potentially unbiased and not conflicting, the witness must have remembered it without it first being suggested in a question and another witness cannot have remembered something different.

Do re-listen to the audio of DS Sund taking the statements, and consider how this piece of evidence was obtained.

3.3 Comparing the evidence

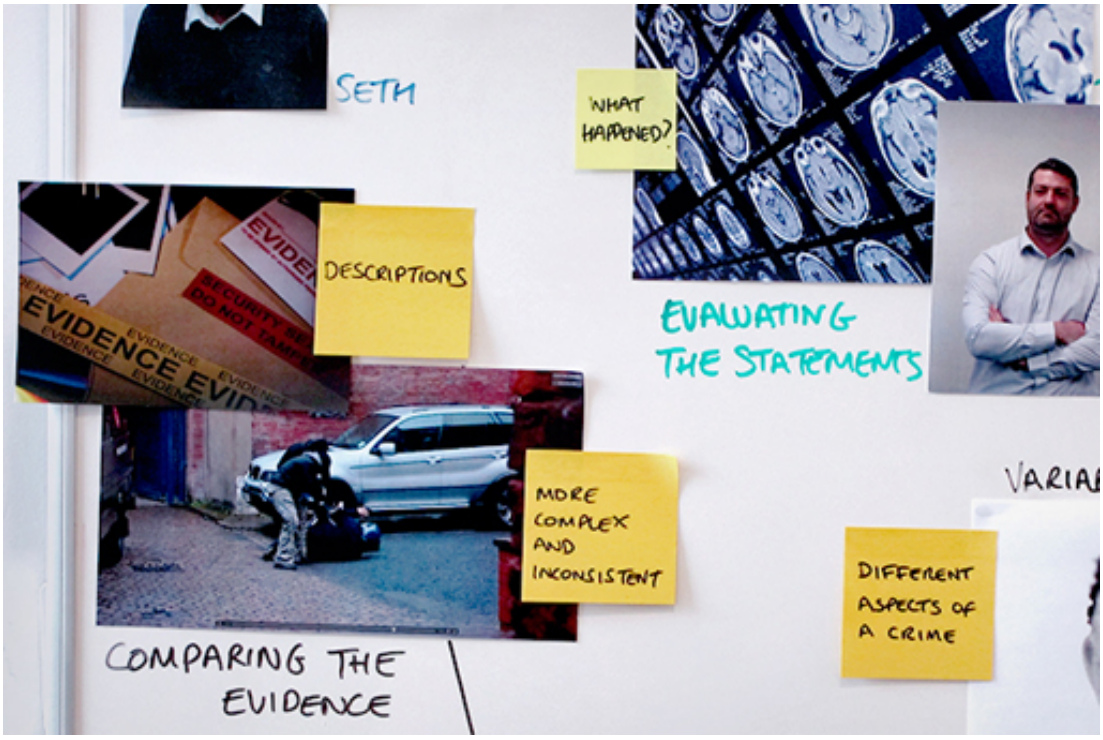

Figure 14

The evaluation of the statements shows that the evidence gathered by DS Sund did not fall into either of the 'biased' categories. This was because she did not ask leading questions that suggested a possible answer, did not let the witnesses talk to each other or hear one another's statements, and was also careful to check estimates of height.

However, while DI Bullet finished by producing a summary containing a series of quite definite descriptions, that he got the witnesses to agree to, a great deal of the evidence gathered by DS Sund was conflicting. For example, Lila remembered a riot helmet being knocked off one of the robbers, while Seth remembered it being knocked from one of the guards. In addition, at one point Seth reported that one of the masked robbers grabbed Liz and at another that it was the driver. These discrepancies were particularly noticeable in the descriptions, while the evidence of what happened was more consistent. This can often be the case, because people tend to be more accurate at remembering actions than they are at providing detailed descriptions.

At first glance, it might appear as if DI Bullet's evidence is more convincing, as it tells a straightforward and consistent story that is supported by statements from both witnesses, while DS Sund's evidence is considerably more complex and inconsistent.

You'll see how both investigations progress later in the course.

Activity 5 Considering the investigations

Allow about 15 minutes

Consider your thoughts on DI Bullet's investigation, his methods and manner of questioning. Did DI Bullet, or his style of investigation, remind you of any fictional detectives?

Do the same for DS Sund.

Provide your answer...

4 This week's quiz

Check what you've learned this week by taking the end-of-week quiz.

Week 2 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

5 Summary of Week 2

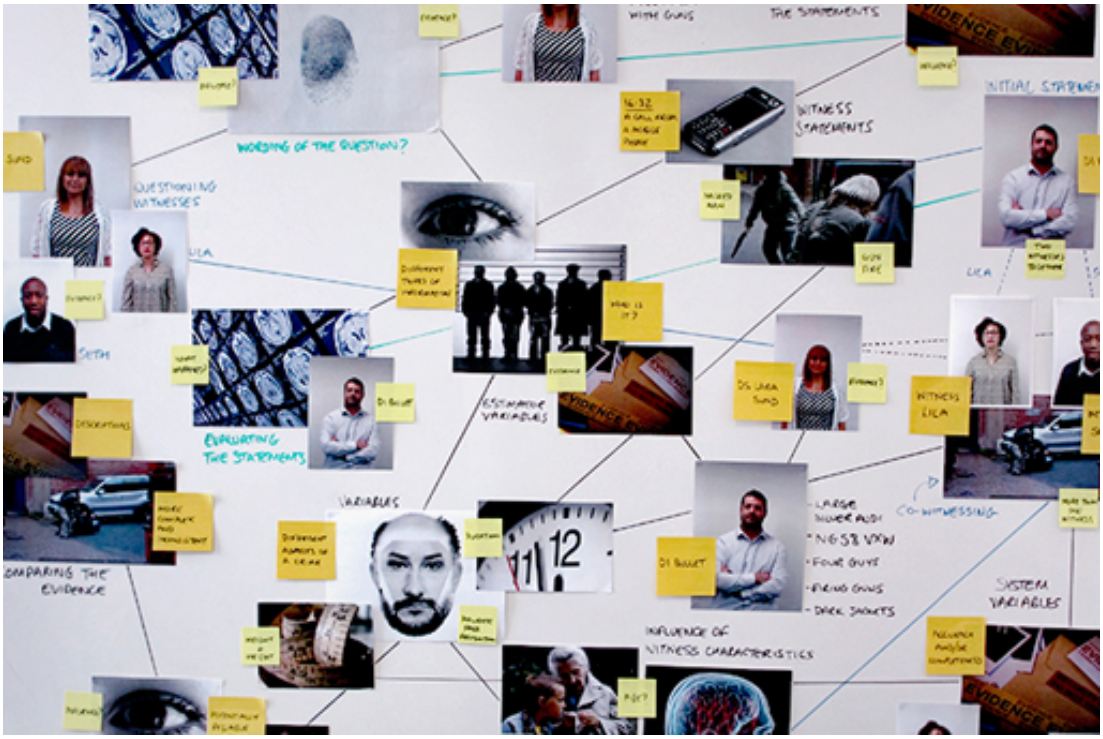

Figure 15

This week you have read about how the specific characteristics of a witness can affect what they remember and how accurately they remember it, and also how different aspects of a crime can be remembered with varying degrees of reliability.

You have heard the initial descriptions of the armed robbery provided by the two witnesses and should already be getting an idea of how different approaches to investigations and questioning can result in very different information being obtained.

Next week, you will explore how the mind notices the world around us, and find out that people can fail to spot things right in front of their eyes, even very unusual things! You will also look at how *suggestible* our minds can be, even to the extent that we can end up remembering things that never happened.

You can now go to Week 3.

Week 3: Seeing and not seeing

Introduction

Start this week by watching the weekly video with Graham and Catriona.

Video content is not available in this format.

For a witness to remember something, they first need to see it and notice it. It goes without saying that you cannot remember something if you did not see it. But is it possible to see something, but not notice it?

In producing their initial statements, both Lila and Seth had to make use of their memory for the crime. In Week 2, you considered the reliability of witness memory, particularly for certain types of information.

The branch of psychology that studies the mental processes used by the brain is known as cognitive psychology, and it divides the way the brain deals with information into sets of different processes:

- **Perception** – refers to how the mind interprets the information that is received by our senses (such as sight and hearing). For example, the light that enters our eyes is

transformed by the brain into electrical impulses that are analysed to allow us to make sense of the world around us.

- **Attention** – is the processes involved in noticing different things around us. As you sit here reading this page, it is likely that the only thing you are attending to is this text, but of course you are also perceiving a great deal of additional information about the world around you. Attentional processes therefore allow us to focus on just part of our environment.
- **Memory** – allows us to encode, store and then later retrieve the information that has been perceived and attended to. Of course, not all the information we see and notice is remembered, and even the information that is stored in memory may be quite different to what we actually saw.

So far you have been concentrating on the memory of an eyewitness, but now you'll consider the roles played by perception and attention. One key question to ask here, is what do witnesses tend to notice, and is it possible for a witness to completely miss a significant event that happens right in front of them?

1 Testing your powers of observation

Not paying attention to something that happens in front of you is something that is undoubtedly familiar to most of us. It can be easy to miss things in fairly mundane situations, so imagine what it might be like in the rapid events of an armed robbery.

The 'Observation test' video tests your powers of observation and attention. The situation is not as fast-paced as an armed robbery, and all you have to do is count how many times a folder is passed from person to person. Think that sounds easy? Give it a go and see how you get on.

Video content is not available in this format.

1.1 Gorilla in the midst

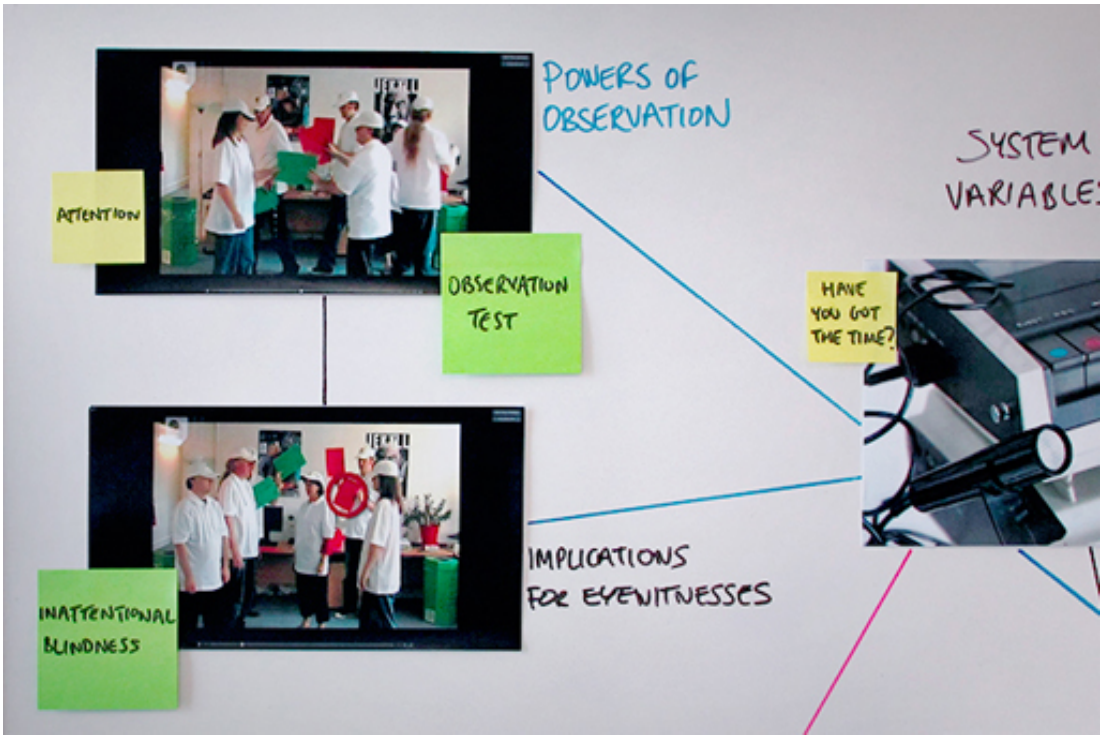

Figure 1

Did you spot the giant mouse in the 'Observation test' video? If you didn't, watch the video again but this time do not try and follow the folder. Don't worry if you didn't spot the giant mouse the first time, a great many people fail to notice it. Psychologists refer to the inability to attend to something fairly significant that happens right in front of you as 'inattentional blindness'.

The amazing thing about inattentional blindness is that your mind can perceive what is happening perfectly well, but you do not attend to it. In other words, your eyes can see the mouse and your brain can process and interpret what your eyes are seeing, but for some reason you do not attend to this information and so are not conscious that it is there.

Probably the best known demonstration of inattentional blindness comes from a study by Simons and Chabris (1999) known as the 'gorilla in the midst'. Our giant mouse video is in fact a recreation of the stimuli used in that study. Simons and Chabris (1999), asked participants to watch a film that began with two teams of players (one wearing white shirts and the other black) each passing a ball between the members of their team. The participants were asked to count how many times the members of one of the teams passed the ball. About 45 seconds into the film, a woman wearing a gorilla costume enters the scene from the left, walks through the teams of players and exits to the right. Overall, just 44% of participants noticed the woman in the gorilla suit. This means that over half of the participants must have seen the gorilla (in that they were looking at the screen when she appeared) but failed to attend to it, with the result that they did not even notice it.

The power of the inattentional blindness effect has implications for eyewitnesses viewing a crime. For example, if participants are too fixated on a folder to notice a giant mouse, eyewitnesses might be too fixated on one part of the crime to notice something significant

happening elsewhere. Before looking at the implications of inattentional blindness, we'll explore an interesting research tool that has been used to study the phenomenon.

The original video used by the researchers can be seen here.

View at: youtube:vJG698U2Mvo

1.2 Eyetracking

Eyetracker technology has proven very useful in developing advertisements and websites, as it allows researchers to see what people look at, in what order and for how long.

In the following video, Hayley Ness (a psychologist from The Open University) demonstrates eyetracker technology. The eyetracker is able to work out the exact point of a computer monitor that someone is looking at, and to track this point of focus as the person looks at different points of the screen.

Video content is not available in this format.

Eyetracking has also proven invaluable to psychologists, as it provides a record of exactly what a participant focuses on. In the 'Eyetracking' video, the participant watches the 'Observation test' video showing her 'inattentional blindess' while her eyes are being tracked. The computer shows where the participant is looking by drawing a blue line. You will see that the participant is fixated on the red folder as it is passed around, and does not focus on the mouse at all.

2 Explanation of change blindness

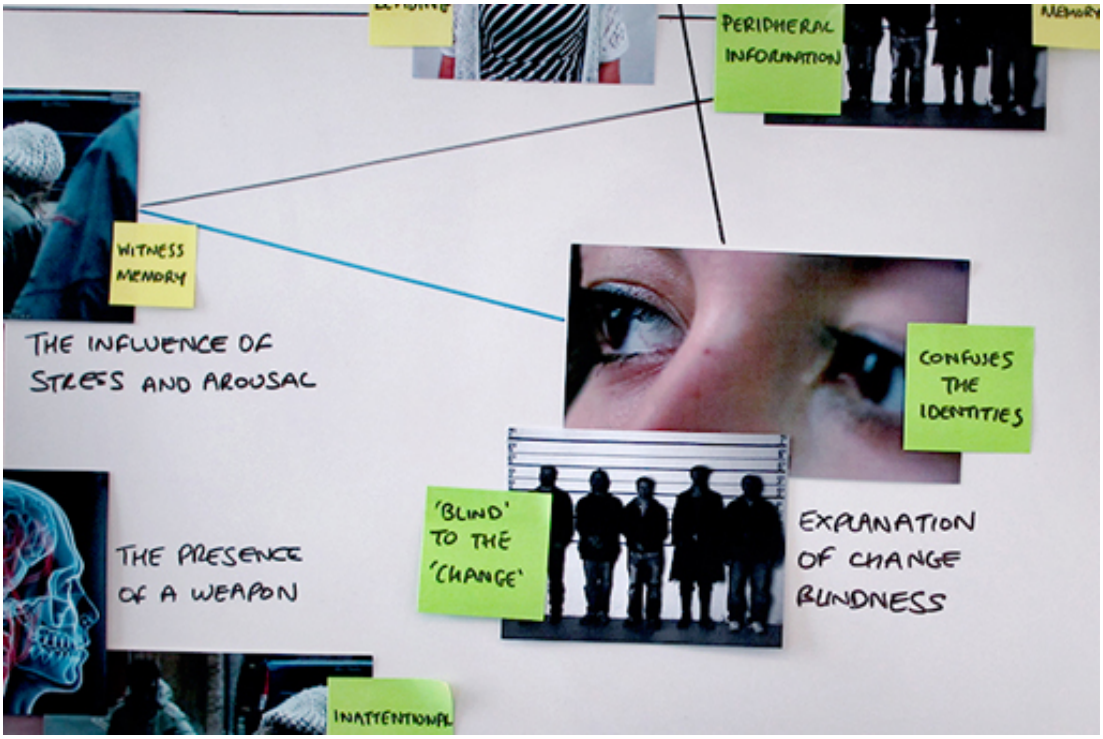

Figure 2

Change blindness is the term used to describe a situation in which someone fails to notice that a key element of their surroundings (including the identity of the person right in front of them) has changed.

One of the most important demonstrations of change blindness was a study by Simons and Levin (1998), which started with one researcher initiating a conversation with a participant. After about 15 seconds, two other researchers carrying a door pushed between the first researcher and the participant so that their view of one another was blocked. While the view was blocked, the first researcher swapped places with one of the researchers carrying the door. Once the door had passed, the new researcher then continued the conversation with the participant.

Only seven of the fifteen participants noticed that the person they were having a conversation with had changed, the other eight participants continued the conversation with the other researcher as if nothing had happened. In other words, those eight participants were 'blind' to the 'change' that had taken place.

The implications of change blindness for an eyewitness viewing a crime are very worrying indeed – it could mean that the witness confuses the identities of those involved.

This problem was demonstrated by Nelson et al. (2011) who showed participants a film in which a female student finishes studying in a student lounge and leaves to buy a drink. While she's out of the room, another woman (Actor A) enters and takes some money from the student's table. Two different endings to this scene were filmed. In the first ending, involving 'no change', Actor A leaves the room, turns a corner and walks through an exit. In the second ending, involving a 'change', when Actor A turns the corner she is replaced by a woman (Actor B) of similar appearance to the first.

Of the 374 participants who viewed the ‘change’ film, only 17 (4.5%) noticed that the identity of the actor changed. Even more worryingly, although 92 of these participants correctly identified Actor A in a line-up, 98 participants selected Actor B. This means that not only can an eyewitness confuse the identity of the perpetrator, they can then go on to identify the innocent person in a line-up.

2.1 Flicker paradigm

A common reaction to reading about change blindness is to think that you would be different, that you would definitely notice if the identity of the person you were speaking to changed.

Of course, seven of the 15 participants in the Simons and Levin (1998) study *did* notice the change in identity. That change was very obvious, but when a more subtle change was employed in the Nelson et al. (2011) study, only 4.5% of participants spotted it.

Activity 1 Spot the differences

Allow about 5 minutes

Changing the identity of a researcher or actor is a fairly obvious change, but change blindness can also occur with smaller details. The ‘Flicker paradigm’ video contains pairs of images, shown one after the other, that differ by several details. Can you spot the differences? Make a note of how many differences you can spot.

See if you can work out why spotting the difference is so tricky?

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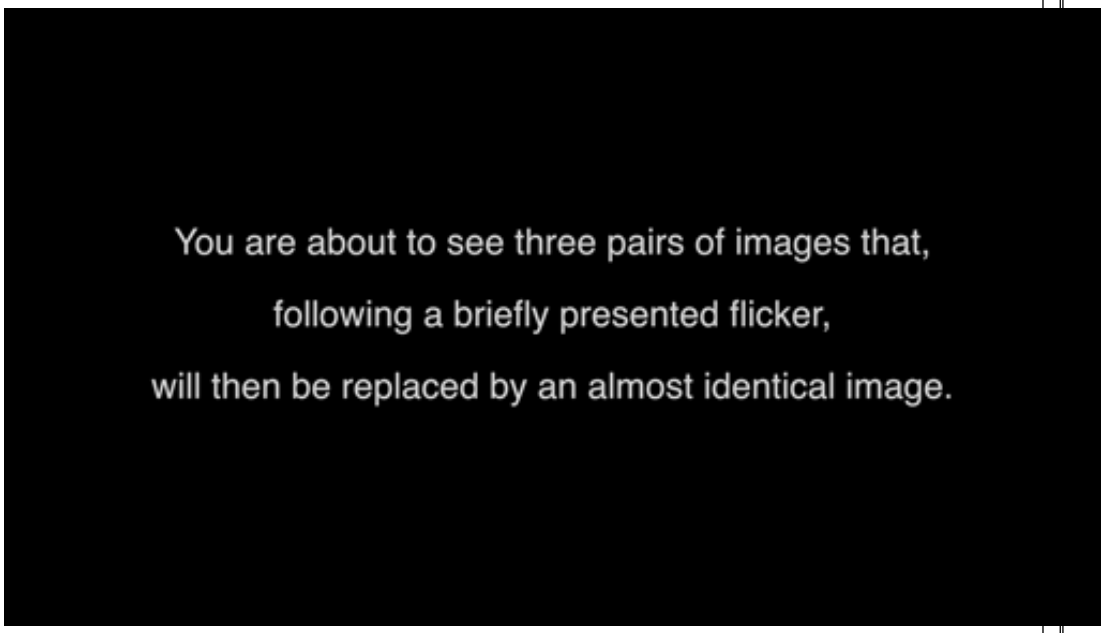
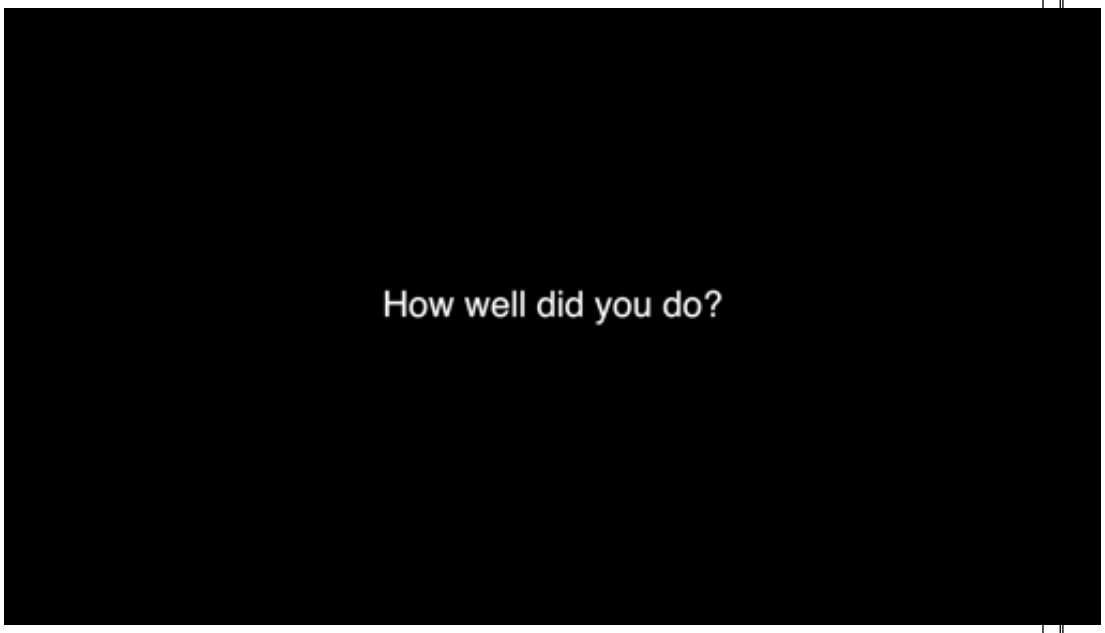


Discussion

How many changes did you spot in the Flicker paradigm? The next video reveals the changes in the images.

Video content is not available in this format.



2.2 Implications of attentional problems for witnesses

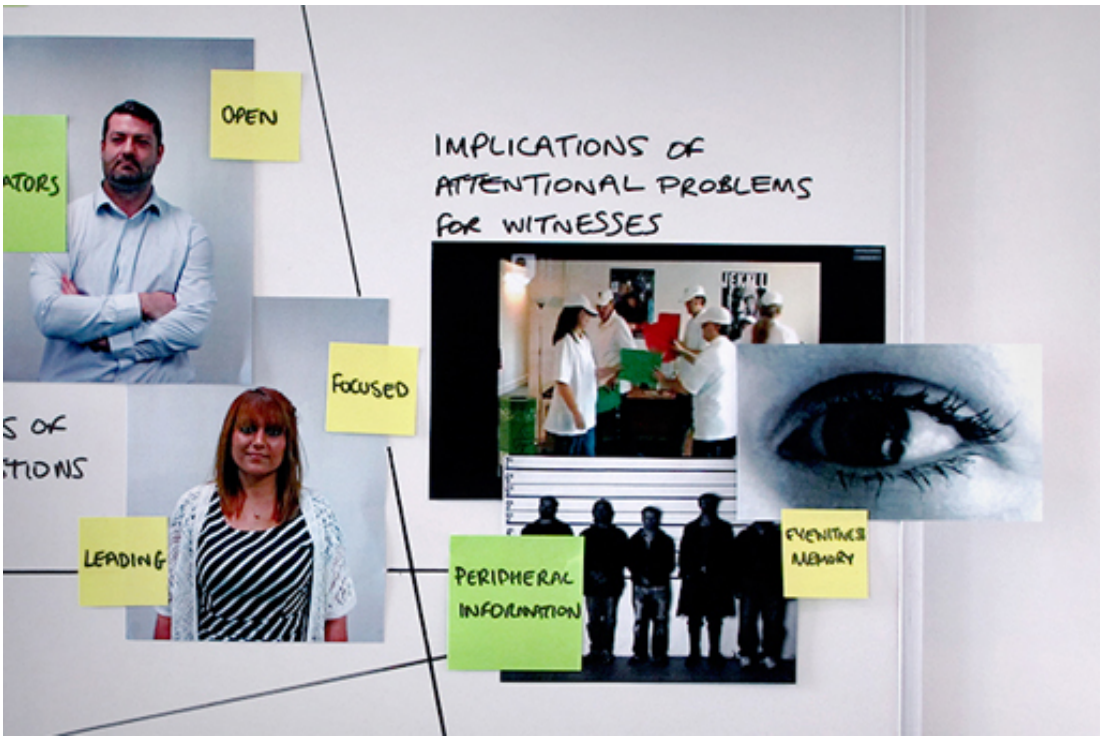


Figure 3

Both inattentional and change blindness have important implications for eyewitness memory. Even if you spotted the giant mouse in the video, do you think you could attend to all aspects of a crime?

You have seen that there are limits to our attentional capacity so it would not be surprising if, especially with a criminal event, our attention is directed towards particular aspects of the crime at the expense of others, thus influencing what is later remembered.

Migueles and García-Bajos (1999) found that when participants watched a film depicting a kidnapping attempt, actions were remembered better than details. The film contained both central information (the kidnapping itself, which happened suddenly and quickly and involved a young woman being forced into a van), and peripheral information (incidents that were not key to the actual kidnapping, such as a boat arriving at a busy port and passengers getting off). Some of the central and peripheral information was classified as describing actions (for example, that a man lifted up the tarpaulin of the van or that a young man who tried to help the girl struggled with the kidnappers) and some was classified as details (for example, that the name of the boat was Samaina or that the hand of one of the kidnappers was bandaged).

Migueles and García-Bajos found that participants viewing the film later reported equal amounts of central and peripheral information overall. However, whereas the peripheral information included similar amounts of actions and details, the central information retrieved contained more actions than details. Such findings suggest that when witnessing a crime our attention may be drawn to central actions at the expense of descriptive details, although in other circumstances our attention may be spread more evenly between actions and details.

Inattentional blindness operates because our attention is drawn towards just one aspect of the environment that we can see in front of us, resulting in us not noticing other things. When witnessing a violent criminal event, a phenomenon referred to as ‘weapon focus’ has been observed, where the use of a weapon – a gun or knife, for example – attracts the attention of witnesses at the expense of their attention to other details, such as the perpetrator’s facial and physical characteristics. After the event, a witness’s memory of these other details is impaired.

This phenomenon is supported by data from a number of experiments using different procedures. For example, in a laboratory experiment, Cutler et al. (1987) showed videos of robberies to participants. In half of these, the robber openly wielded a handgun, whereas in the other half he hid the gun in his jacket. When asked to identify the robber in a line-up, 46% of participants who viewed the videos where the gun was concealed made correct identifications. However, just 26% of participants who saw the gun made correct identifications. One explanation for this difference is that the participants who saw the gun tended to focus on it to the exclusion of other details, including the facial appearance of the perpetrator.

In a study by Maass and Kohnken (1989), participants were approached by an experimenter displaying either a syringe or a pen. Later recognition showed the experimenter’s face was falsely identified in a line-up by 65.9% those participants faced with the syringe compared to only 45.2% of participants faced with the pen. Again, it is likely that the attention of participants in the syringe condition was drawn to the syringe, meaning they did not attend to the facial appearance of the experimenter.

2.4 The influence of stress and arousal

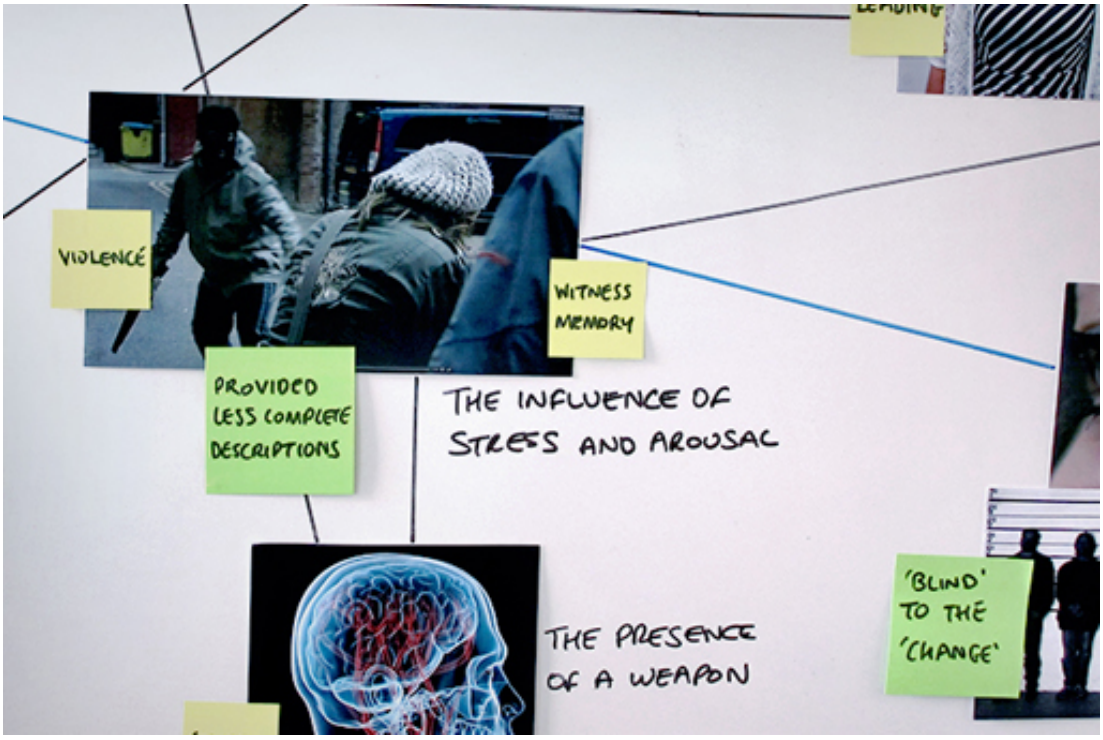


Figure 4

The relationship between violence, arousal and witness memory is by no means clear-cut. In real crimes, the presence of a weapon is likely to be confounded with a higher degree of threat of violence and therefore of stress-induced arousal. One study involving analysis of police records showed that victims of violent crimes, such as rape or assault, provided less complete descriptions of the perpetrator compared to victims of less violent crimes (Kuehn, 1974).

The influence of violence on memory could be explained in terms of emotional arousal or stress. Increased violence may result in higher levels of stress, which may then impact negatively on memory. It has been suggested that memory performance may follow the Yerkes–Dodson Law, long established in psychology (Yerkes and Dodson, 1908), which suggests that although a small to moderate amount of stress may improve performance, a large amount will have a markedly negative impact.

Other evidence casts doubt on such a simple relationship between arousal and eyewitness memory. For example in a robbery in Canada, a thief entered a gun shop, tied up the owner and took money and guns. The owner freed himself, collected a revolver and left the shop to get the licence number of the thief's car. This led to a confrontation: standing six feet away, the thief fired two shots at the owner, then the owner discharged six shots, killing the thief. The owner survived severe injury. Of the 21 witnesses who saw the event, 15 were interviewed on the same day and the remaining six within two days. A detailed description of the incident was constructed from their accounts, forensic evidence, and photographs, etc., so that witness accuracy could be calculated.

Yuille and Cutshall (1986) reported high levels of accuracy in the reporting of this traumatic event by witnesses. With the exception of one witness, all reported event-related stress, but for some this appeared about half an hour after the incident; during the incident itself they were only aware of 'adrenalin effects'. Adrenalin is a hormone that is

released in stressful situations and heightens the heart rate. The five witnesses who had contact with either the thief, store owner or weapon reported the greatest amount of stress. They showed a mean accuracy of 93% compared with 75% for the remaining witnesses. As these five witnesses were also closer to the event, arousal level and proximity were confounded in this case.

Christianson and Hubinette (1993) conducted a wide-scale study involving witnesses to 22 bank robberies. They found no significant relationship between rated degree of emotion and the number of details remembered, and therefore no evidence that high arousal will impact on memory. They approached 110 witnesses, of whom 58 were willing to participate in the study, and of these 20 were victims (bank tellers), 25 fellow employees and 13 customers. The witnesses were interviewed and studied with respect to emotional reactions and memory for detailed information about the robbery. Their accounts were then compared with that initially recorded in police reports.

The findings revealed relatively high accuracy rates after an extended time interval (4–15 months) with respect to specific details about the robbery, namely actions, weapon, clothing etc. However, witnesses showed rather poor memory for certain items: footwear, eye colour and hair colour. Findings also revealed that the victims had higher accuracy rates than the bystander witnesses in relation to the circumstances surrounding the robbery (information about date, day, time and number of customers), but this was not related to differential emotional experiences as victims did not report being more emotionally aroused than bystanders. As a whole the results indicate that the specific details directly associated with a highly emotional real-life event are well retained over time.

The results of the study by Migueles and García-Bajos (1999) suggest that when witnessing a crime, our attention may be drawn to the central actions at the expense of descriptive details. Generally, studies investigating the effect of emotional arousal on memory have revealed a fairly consistent pattern. Participants' memory for certain central, critical details of emotional or violent events tends to be accurate and persistent over time but their memory for peripheral, irrelevant details or surrounding/circumstantial information tends to be less accurate. Easterbrook (1959) suggested that arousal may narrow the focus of attention so that memory for central details will improve, at the cost of memory for peripheral details. The notion of attention narrowing has been used to explain the phenomenon of 'weapon focus'.

2.5 Factors in change blindness

Figure 5

As well as issues to do with how a witness remembers a crime, we have seen that there are also issues to do with how they attend to it:

- Inattentional blindness refers to significant parts of an event going unnoticed, which means, of course, that it is entirely possible for one witness to remember one thing and not another.
- The presence of a weapon might cause witnesses to focus on it at the expense of other aspects of the crime, including the appearance of the perpetrator.
- Central and peripheral information – when witnessing a crime our attention may be drawn to central actions at the expense of descriptive details.
- Stress does not present a simple picture. Just because someone is very stressed does not necessarily mean their memory will be inaccurate. Participants' memories for certain central, critical details of emotional or violent events tend to be accurate and persistent over time but their memory for peripheral, irrelevant details or surrounding/circumstantial information tends to be less accurate.

3 Questioning witnesses

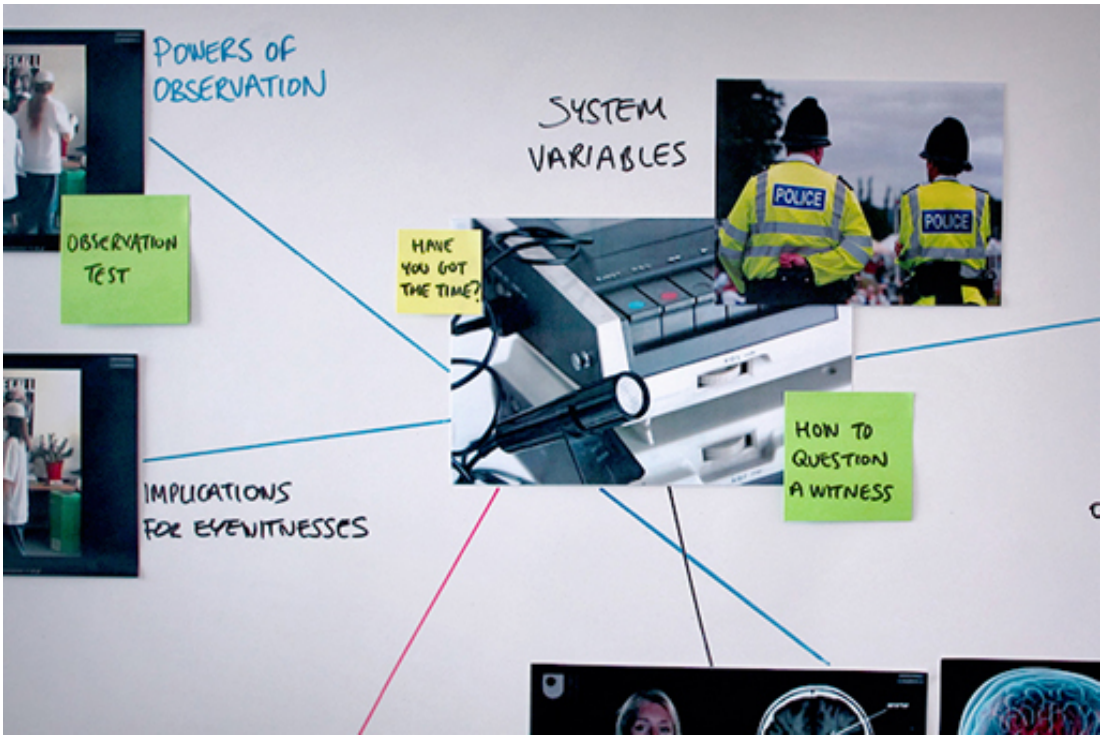


Figure 6

In Week 1, you were introduced to 'estimator variables', which are not under the control of the police. Here we turn our attention to 'system variables', and in particular one of the most important, how to question a witness.

Asking questions is part of our daily routine – 'Have you got the time?', 'What did you do at school today?', 'Are you listening to anything I'm saying?' – and yet we may never have stopped to consider the effectiveness of the questions we ask. Many different social, cognitive, motivational and cultural factors can influence both the way in which we ask a question, and the way in which we answer other people's questions. Our focus now will be on questioning as it occurs in the context of an investigative interview and how questions can affect not only what we report, but actually what we remember.

Indeed, it is possible to ask questions in such a way that a witness will change their memory to incorporate information suggested in the question, or even form a memory of something that they did not see happen. In the next section, you will look at a research tool that has been used to explore such 'false memories'.

3.1 False memory

Try a simple memory experiment.

The 'False memory' video contains five different lists of 15 words, which will be presented one at a time.

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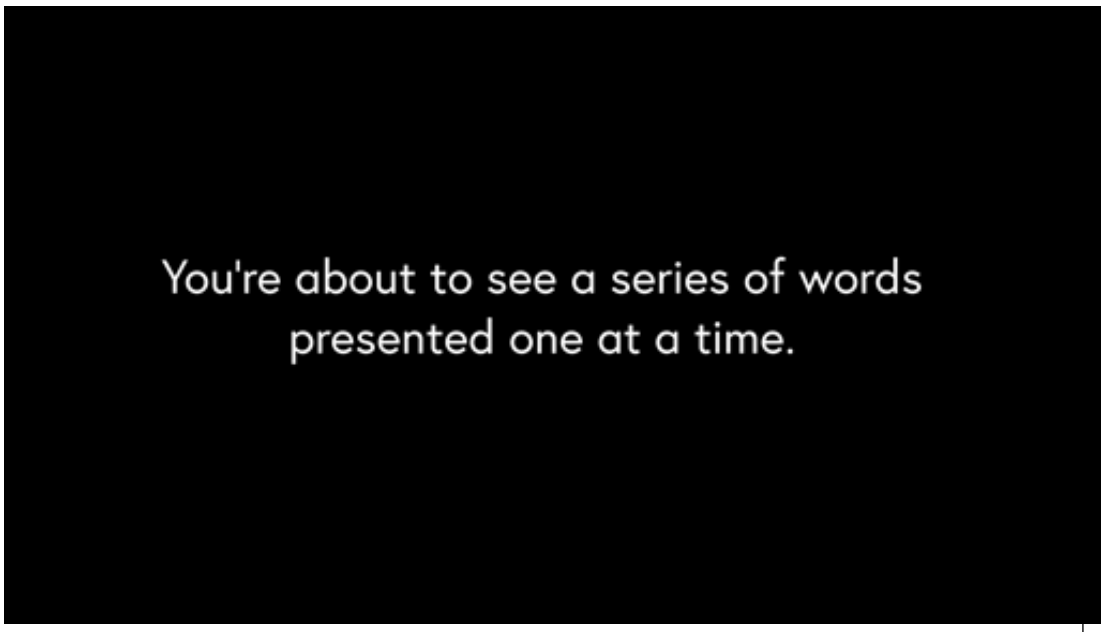

3.2 False memory test

The following activity tests your memory of the words in the video in the previous section.

Activity 2 Testing your memory

Allow about 10 minutes

Q1. Do you remember this word being on the list?

Open

○ Yes

Correct!

○ No

Incorrect - try again?

Q2. Do you remember this word being on the list?

Frame

○ Yes

Correct!

○ No

Incorrect - try again?

Q3. Do you remember this word being on the list?

Wall

○ Yes

Incorrect - try again?

○ No

Correct!

Q4. Do you remember this word being on the list?

Stem

○ Yes

Incorrect - try again?

○ No

Correct!

Q5. Do you remember this word being on the list?

Window

○ Yes

Incorrect - try again?

○ No

Correct!

Q6. Do you remember this word being on the list?

View

○ Yes

Correct!

○ No

Incorrect - try again?

Q7. Do you remember this word being on the list?

Sill

○ Yes

Correct!

○ No

Incorrect - try again?

Q8. Do you remember this word being on the list?

University

○ Yes

Incorrect - try again?

○ No

Correct!

3.3 Meaning of the false memory task

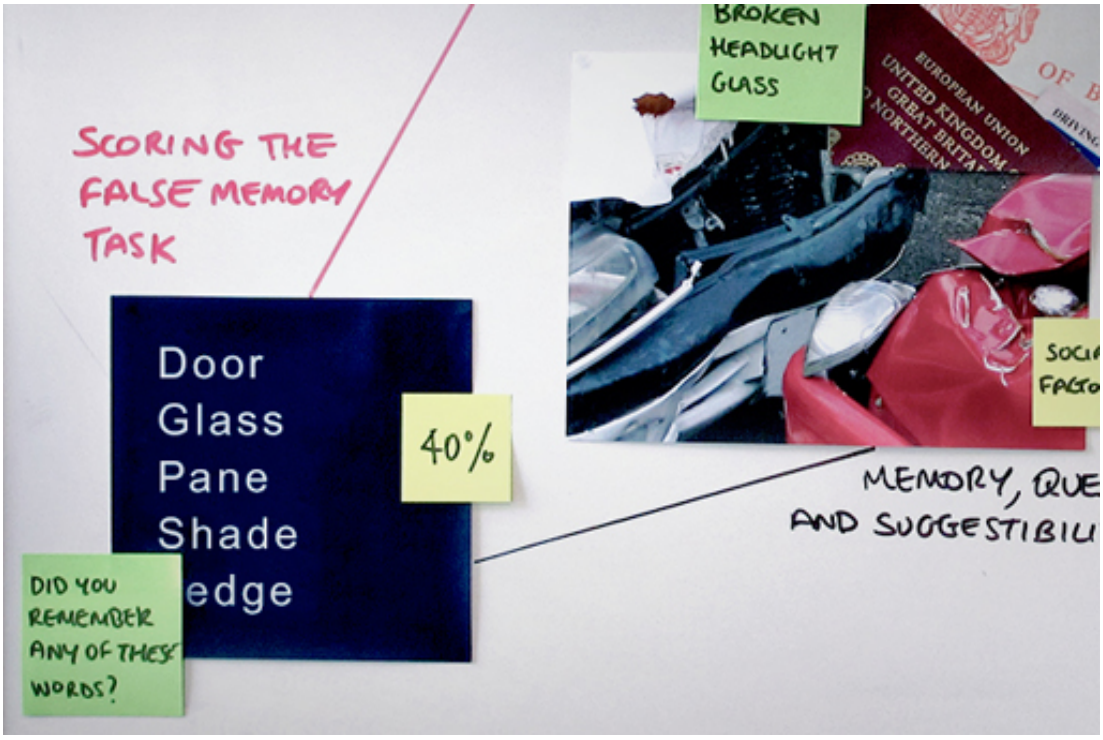

Figure 7

Which words did you remember correctly? Did you remember the word ‘window’?

Actually, it wasn’t present in the animation, yet researchers have found that participants recall the word about 40% of the time, and, when asked, tend to state that they were confident that the word (known as a ‘lure’) had appeared in the list. This test is known as the Deese-Roediger-Mcdermott (DRM) paradigm, after the three researchers involved in developing it (Deese, 1959; Roediger and McDermott, 1995).

The DRM paradigm demonstrates that people can form false memories, that is memories for things (or words) that they did not see. Several explanations have been offered for the effect, including that the neural activation caused by seeing related words ‘spreads activation’ to the lure words, or that the words cause participants to think of the lure and it is this thought that they remember. Whatever the cause, the DRM paradigm shows that human memory is complex, that people can form false memories and demonstrates just how difficult it is to get accurate information from a witness.

3.4 Memory, questioning and suggestibility

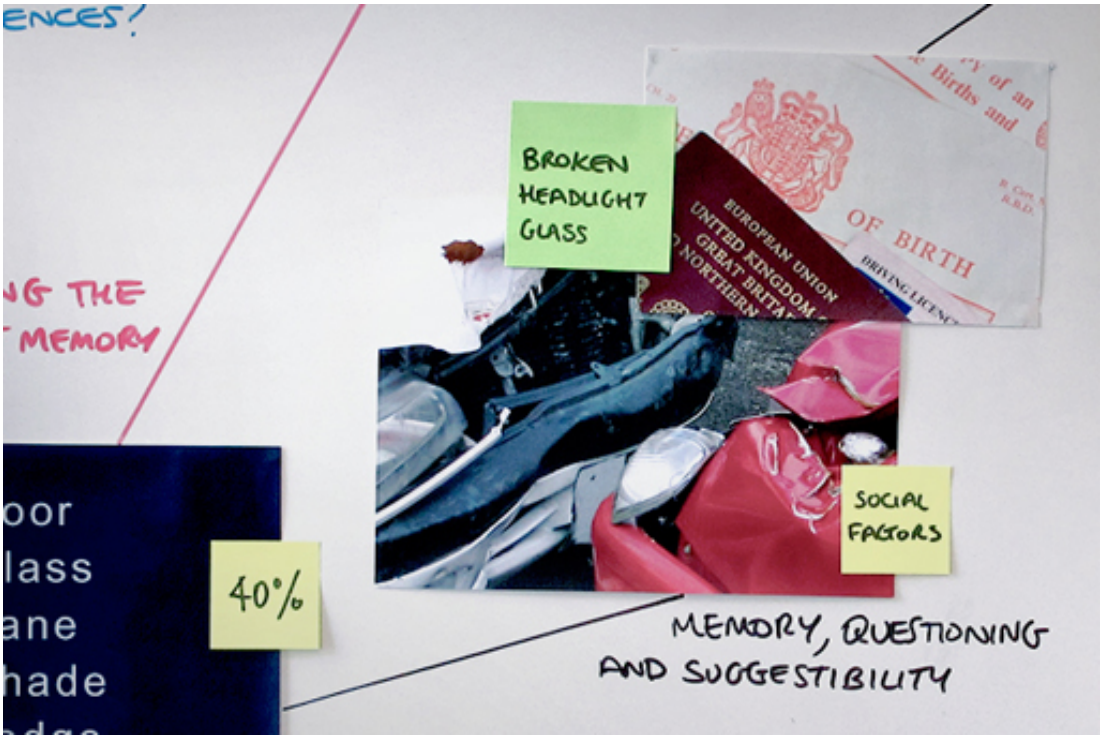

Figure 8

In order for someone to be able to answer a question, they must not only be willing to respond, but also be able to do so. As you saw previously, not everything we 'see' or 'experience' is automatically encoded and stored in memory.

Questions will only be successfully answered if the person involved has relevant information available and accessible in memory. However, the social context in which a question is asked is also influential. Social factors can affect the way an adult or child responds to questions. For example, a witness may try to answer a question by giving an answer that they think is what the interviewer wants to hear. Psychological research has found that children are particularly prone to answer in this way. This can obviously lead to inaccuracies and errors being introduced and witnesses providing information about aspects of the crime or perpetrator that they have no memory of.

Inaccuracies can also occur from the way our memories are organised. Information about events (known as 'episodic memory') is believed to be organised in our minds in what psychologists refer to as event schemas. These allow us to store knowledge about particular events or activities efficiently by making use of information which represents what is 'typical' of such events. For example, rather than remember every specific time we have eaten at a restaurant, we might use a 'restaurant' schema to build a general impression of events that typically take place in a restaurant.

The use of schemas has the potential to distort memories, for example by making it very difficult for a person subsequently to distinguish between specific episodes of an event, or by the person relying on inappropriate assumptions about what typically happens. This is especially relevant in the experience and reporting of crimes that follow a common pattern (e.g. repeated child sexual abuse), and special questioning techniques are required. An example of such a technique is asking the witness to begin by describing more notable

instances of the repeated event, such as the first or last time, or an occasion that was particularly memorable for some reason (Powell and Thomson, 2001).

Regardless of the crime being investigated, it is important that the interviewer does not inadvertently suggest an answer to the witness. Suggestibility has been defined as involving 'the act or process of impressing something (an idea, attitude or desired action) on the mind of another' (Fundudis, 1997, p. 151). When interviewing a witness, it is very important that questions are asked that do not suggest information, but keep the mind of the witness as uncontaminated as possible. Part of the problem facing an interviewer is that we find it very difficult to distinguish between information we saw while an event (such as a crime) is taking place, and information we heard about after the event had finished – which is referred to as 'post-event information'.

A classic study by Loftus and Palmer (1974) investigated the ability of post-event information to influence the reports of an event that the witness subsequently gave. Participants were shown a video of vehicle accidents and were asked questions with a variety of phrasings. For example, some were asked how fast the cars were going when they 'smashed' into each other, while others were asked how fast the cars were going when they 'bumped' into each other. Participants gave higher estimates of speed if they were asked the 'smashed' version of the question than if they were asked the 'bumped' version. Remarkably, in a second experiment, 'smashed' participants were also more likely to report seeing broken headlight glass, even though none of the cars' headlights were seen to break on the video. The reason this happened is that the participants were asked the question 'did you see any broken glass?', which contains post-event information suggesting that there might have been broken glass. The memory of participants who had also been provided with the post-event information that the cars 'smashed' into each other, was therefore altered to incorporate a high speed collision containing broken glass – even though this is not what they had seen.

The findings of studies such as Loftus and Palmer's demonstrate the constructive nature of memory (i.e. that rather than retain an exact picture of what happened, our memories change so as to incorporate new information) and the influence that event schemas can have on memory. It is possible that the participants could not remember whether there was broken headlight glass or not, i.e. there were gaps in their memories. These gaps may have been filled in (constructed) with what seemed 'likely' to the participants based on their schema for car accidents. One would not necessarily expect the headlights to break if the cars had only 'bumped' into each other, but one would certainly expect them to break if the cars 'smashed' into each other.

Memory seems to be constructive by nature and organised using mechanisms such as event schemas that allow us to fill in gaps. Although these may be very useful in everyday life, they pose a problem for investigations because they may involve memories that were constructed after the crime was witnessed and are not restricted solely to information that was encoded at the time the crime was witnessed.

Suggestibility and the way memories are organised mean that a police interviewer must be very careful indeed to ask questions that do not introduce post-event information or lead a witness to construct an answer. Next, you'll look at some different types of questions – some to be used and some to be avoided.

3.5 Types of questions

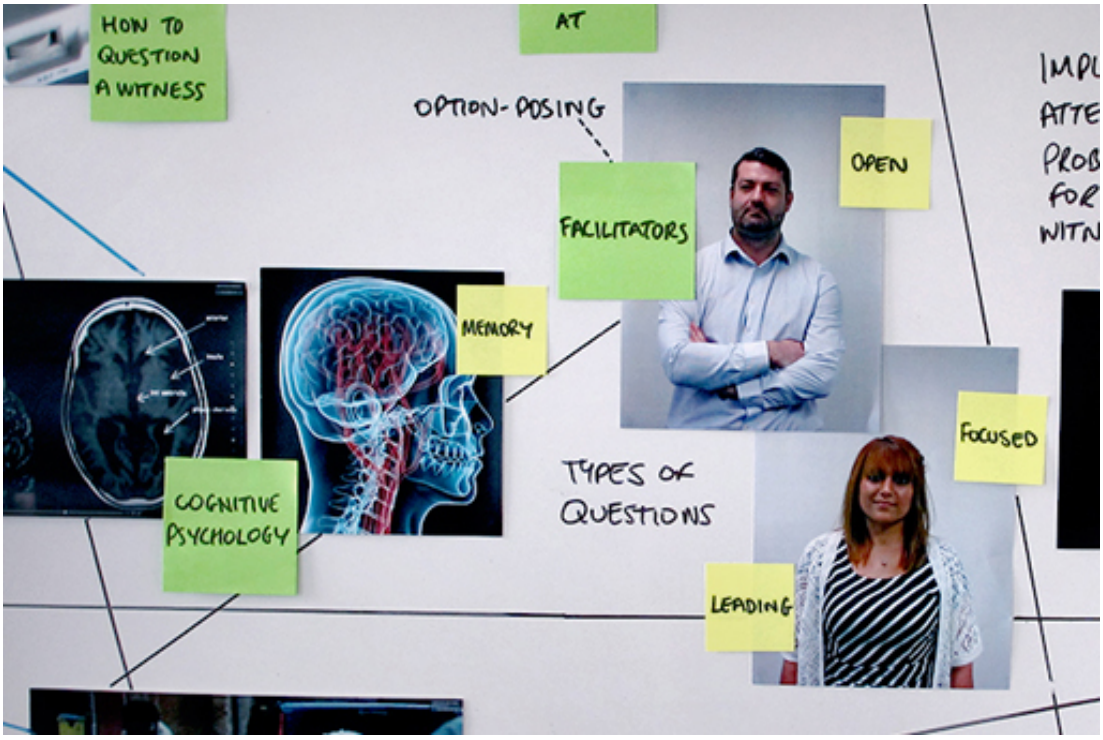

Figure 9

When assessing the interviews that DI Bullet and DS Sund conducted with the two witnesses, it will be important to consider the types of questions used by the detectives. Below are a list of different question types, some 'good' and some definitely 'bad'.

Leading questions

Leading questions tend to strongly suggest what response is expected, and/or assume details that have not been provided by the witness. An example would be asking a witness to a robbery to describe how the perpetrator punched the victim, when the witness has not yet mentioned any physical contact with the victim. Such questions are inextricably linked to the phenomenon of suggestibility. Leading questions are seen as particularly problematic by both psychologists and lawyers in terms of the limited value they can add (and damage they can do) to a witness's account. They can also damage the credibility of the witness's statement. When using leading questions, the possibility that the witness is not answering from memory at all, but is simply repeating information contained in the question, cannot be discounted.

Open questions

Open questions are those that seek an open-ended response from the witness, and that do not limit, focus or direct the witness's response except in the most general way. 'What happened?' is an example of an open question, which requires information to be recalled, but does not prescribe the witness's response in any specific way, and because of this, is more likely to get the most accurate information. Most of the 'Wh-' questions – what,

when, where and who – would be classified as open questions. Lamb and colleagues (2001) have found throughout their studies of child witness interviews that open-ended questions lead to responses that are three to four times longer, and three times richer in relevant details, than responses to other types of questions.

Facilitators

Facilitators are non-suggestive verbal or non-verbal prompts that encourage the witness to continue recalling. Facilitators such as ‘okay’ and ‘hmm’, are designed to encourage the witness to continue their account. Since they, too, are non-leading and non-specific, they can also be effective at maintaining the witness’s narrative without decreasing the accuracy of the account.

Focused questions

Focused questions are ones that focus the witness’s attention on specific details or aspects of the event that the witness has previously described. They may be open-ended or cued invitations to recall specific information. For example, ‘Tell me what the girl looked like’ is an example of a focused question, as long as the person being interviewed has mentioned the girl already, but not what she looked like. Focused questions may increase the number of details provided by the witness, but if they are used too much they can reduce the accuracy of the witness’s account overall (particularly if the witness feels obliged by the question to provide details that they have to guess at just to please the interviewer).

Option-posing questions

Option-posing questions generally limit the response the witness can give to specific options, and usually focus on aspects of the event that the witness has not already described. Option-posing questions involve recognition, such as ‘Was she running or walking?’. They limit the response the witness can provide (here, to ‘running’ or ‘walking’), and are also likely to focus on aspects of the event that the witness has not already mentioned. In this way, they may also be considered ‘leading’, but the term leading question is usually reserved for questions that strongly suggest what response is sought from the witness, or assume details that the witness has not yet provided.

4 Week 3 quiz

Check what you've learned this week by taking this end-of-week quiz.

Week 3 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

5 Summary of Week 3

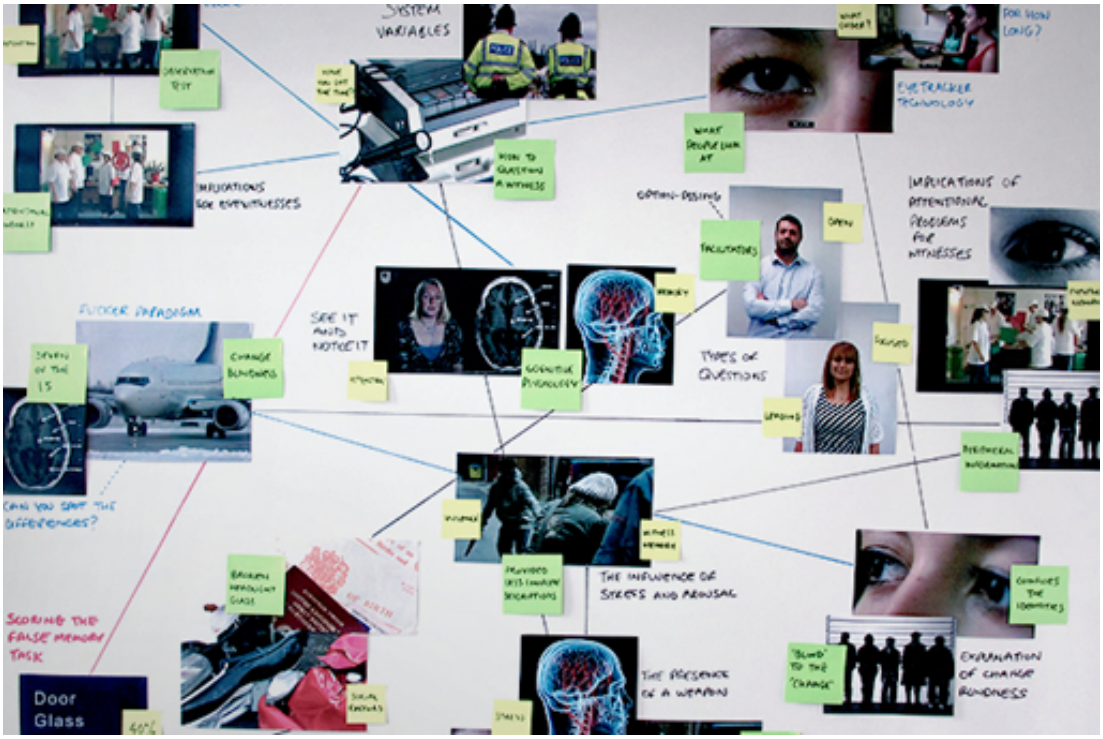

Figure 10

This week you have seen that just because someone sees something, it does not mean they notice it, and that people can fail to spot significant changes in the world around them, even if the person they are talking to suddenly changes into a different person!

The implications for eyewitness testimony are that the attention of a witness can be focused on just one aspect of the crime (particularly a weapon) at the cost of not noticing other significant events, and that an eyewitness can easily confuse the identity of the perpetrator with an innocent person.

You have also seen that our memories are open to suggestion, and that we find it hard to distinguish between information we saw while an event is taking place and post-event information. This can lead to us constructing memories of things that we did not originally see if we are asked a question that suggests new information. This means that investigative interviewers have to be very careful to ask questions in particular ways, e.g. by using ‘open’ questions and avoiding ‘leading’ questions.

You can now go to Week 4.

Week 4: Interviewing witnesses

Introduction

Start this week by watching the weekly video with Graham and Catriona.

Video content is not available in this format.

In the previous weeks we looked at how memory works, the types of errors people make when recalling an event and also the effect that different types of questions can have on memory. This week you will get a chance to apply this knowledge when you listen to and evaluate the interviews that DI Bullet and DS Sund conducted with the two witnesses, Lila and Seth.

You will also discover techniques that can help a witness recall more of the crime and learn about the cognitive interview, which is a way of interviewing based on the results of psychological research, and a technique used by many police forces around the world.

1 DI Bullet: witness interviews

Figure 1

You will now have the chance to listen to recordings of the interviews that DI Bullet conducted with the two witnesses, Lila and Seth.

Activity 1 Noting evidence (DI Bullet)

Allow about 30 minutes

Listen to the interviews as many times as you like, noting down any evidence that you think will help you solve the case. Also, note down anything you notice about the questions DI Bullet asks from what you've already learned about different types of question. You will evaluate these questions later this week.

DI Bullet interviews Lila first.

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DI Bullet interviews Seth next.

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Remember that you can return to the interviews to help you complete the evaluation exercise.

1.1 Evaluating the evidence in the interviews

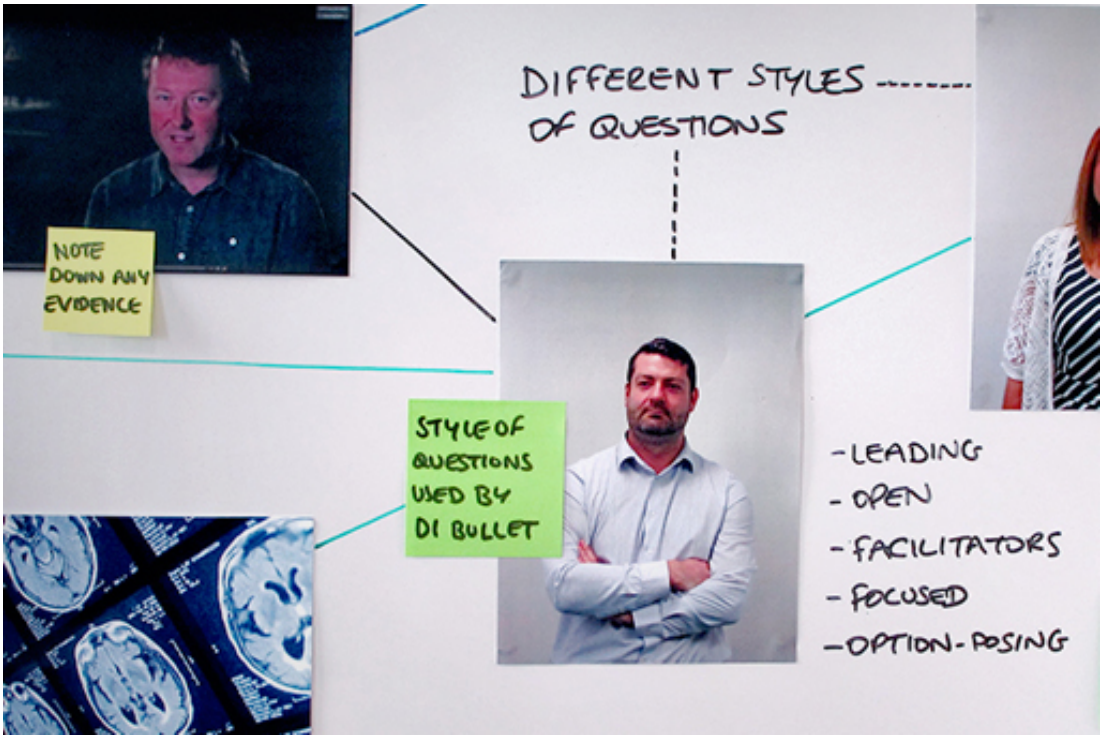

Figure 2

You saw previously that there are different styles of questions, and that the style of question asked has a profound effect not only on the answer given but on what the witness may remember.

To help you evaluate the interviews conducted by DI Bullet, the next activity involves looking at the particular styles of questioning that he used. For each question in the quiz, you will be provided with a question that was used by DI Bullet in the interviews that you heard. Your job is to decide which of four question styles is being used. Identifying the question style will help you evaluate the evidence gained in the interview.

Here is a quick summary of the four question styles to help you with the activity:

Leading questions

These questions tend to strongly suggest what response is expected, and/or assume details that have not been provided by the witness.

Open questions

These questions seek an open-ended response from the witness, and do not limit, focus or direct the witness's response except in the most general way.

Focused questions

These questions focus the witness's attention on details or aspects of the event that the witness has previously described. They direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

Option-posing questions

These questions limit the response the witness can give to specific options, and usually focus on aspects of the event that the witness has not already described.

Activity 2 Evaluating DI Bullet's interview questions

Allow about 15 minutes

Q1. 'Did they all have shot guns?' This is:

○ A leading question

Well done. Leading questions suggest what response is expected, and/or assume details that have not been provided by the witness. Here the question assumes that the robbers had shot guns, when no mention of this had been made previously by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

○ A focused question

Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q2. 'Can you describe any of these men?' This is:

○ A leading question

This is incorrect. Leading questions suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

You may find 4.1.1 Evaluating the evidence in the interviews useful.

○ A focused question

Well done. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. The witness has previously stated, 'four men jumped out'.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q3. ‘What did you notice about the car and can you tell me what happened?’ This is:

○ A leading question

Try again. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness’s response except in the most general way.

○ A focused question

Well done. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. Here the witnesses is being asked to focus on providing information about the car.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q4. ‘So he was in charge? He was telling the others what to do and it was his decision to grab Liz?’ This is:

○ A leading question

Well done! Leading questions suggest what response is expected, and/or assume details that have not been provided by the witness. Here the question suggests both that this particular person was in charge (when the witness had not said this) and that it was his decision to grab Liz (which also had not been stated by the witness).

○ An open question

No, open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness’s response except in the most general way.

○ A focused question

No, focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q5. ‘When you say he looked like a soldier, did he have a soldier’s hair?’ This is:

○ A leading question

No, to be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness. Arguably the question does make a suggestion about the hairstyle of the robber, but this is posed as a specific question about hair.

○ An open question

Try again. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness’s response except in the most general way.

○ A focused question

No, focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

○ An option-posing question

Well done! An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described. Here the question essentially limits possible reponses to either confirm or deny the type of hairstyle, a detail not yet covered by the witness.

Q6. 'This driver guy, the one who was the leader. He was a big guy right? Dressed in army fatigues, and with an army like hair cut?' This is:

- A leading question

Well done. Leading questions suggest what response is expected, and/or assume details that have not been provided by the witness. Here the question assumes that the driver was the leader, that he was big, dressed in army fatigues with an army like hair cut, when no mention of this had been made by this particular witness.

- An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

- A focused question

Try again. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

- An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

1.2 DI Bullet's evidence

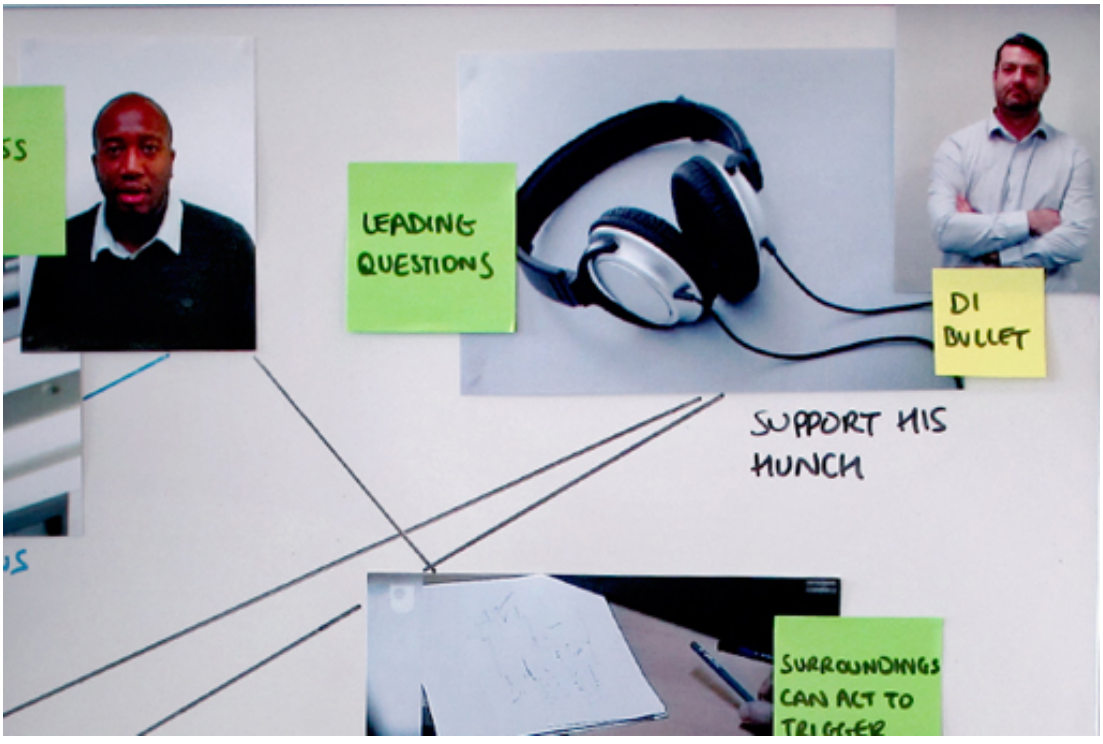

Figure 3

When you first listened to the interviews conducted by DI Bullet you may well have formed an impression that, just as with his statements, he managed to quickly collect quite a bit of very consistent evidence that told a fairly straightforward story. Having now looked more closely at the question style he used, you will have noticed that he relies almost exclusively on leading questions.

His leading questions tend not only to suggest an answer to the witness, but often provide information for them which they have not previously mentioned – such as the driver being bald.

DI Bullet does this because he is using the interviews to collect evidence to support his hunch that the armed robbery and kidnapping were conducted by a criminal gang led by 'The Sergeant'. How well do you think he did? If you heard the evidence gathered from the interviews presented in court, would you find it convincing and would you find yourself thinking that The Sergeant and Fat Baz must be guilty? After all, the descriptions and evidence provided do seem very consistent across the two witnesses, and a fairly precise description of the two perpetrators was produced.

Activity 3 DI Bullet's evidence so far

Consider and note down your thoughts on DI Bullet's evidence so far.

Provide your answer...

2 Psychology of interviewing

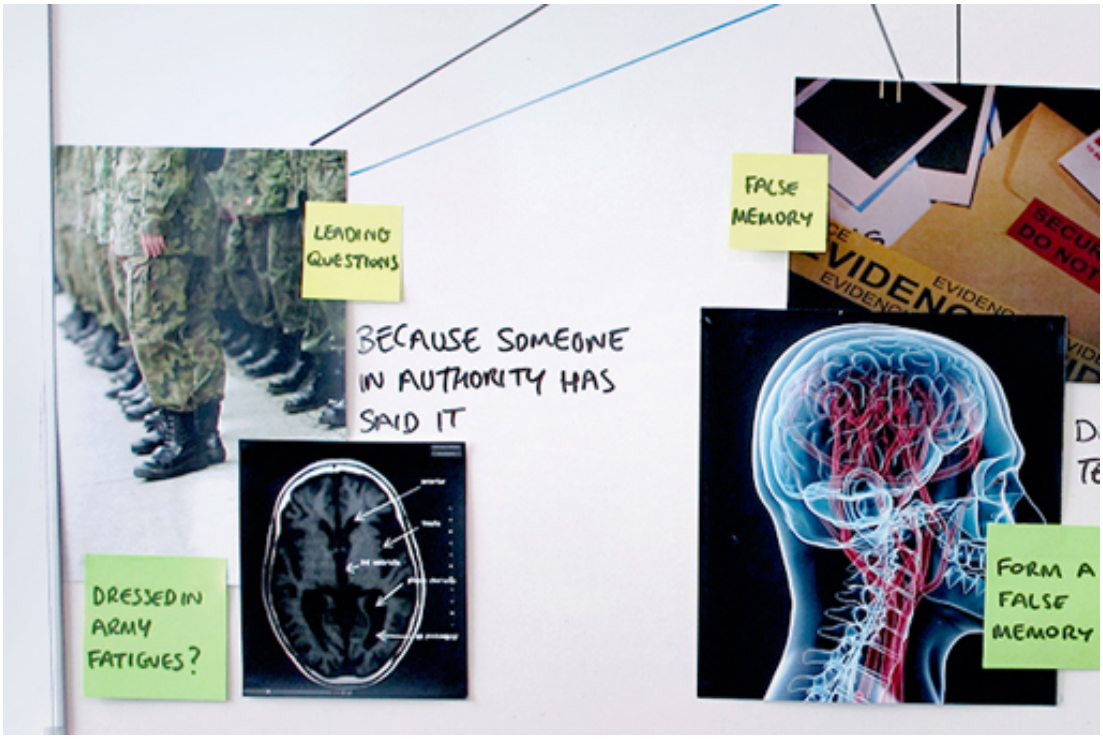

Figure 4

It is very easy to alter someone's memory, even cause them to create an entirely false memory, by asking a leading question containing post-event information.

When assessing DI Bullet's interviews, you saw the problem of suggestibility and leading questions. Just think about some of the questions he asked, such as 'This driver guy, the one who was the leader. He was a big guy right? Dressed in army fatigues, and with an army-like hair cut?', which contains several elements not mentioned by the witness. Although such questions may seem a quick way of confirming whether something is correct or not, they may cause the witness to incorporate the suggested information into their memory and/or confirm the information because someone in authority has said it.

So, psychological research has certainly helped the police in terms of knowing how not to ask a question, but has it supplied any useful techniques that might actually help witnesses remember more accurate information?

In the next section, you will find out about a technique called 'context reinstatement'.

2.1 Context reinstatement

Psychologists have found that people are usually able to remember more information if they are in the same place as when they learned or first encountered that information.

This phenomenon is known as 'context reinstatement' and it appears to improve the amount and accuracy of the evidence supplied by a witness quite robustly. This is because your surroundings can act to trigger memories, particularly if you are remembering an event that was shaped by your surroundings – such as a crime.

The positive effects of context reinstatement would suggest that all witnesses should be interviewed at the crime scene. In practice there are many problems with this, including that the witness may not feel safe; it would be hard to record the interview; and surroundings often change, e.g. lighting changes, people and objects move. To overcome these problems it is advised that the police officer asks the witness to 'mentally reinstate the context of the crime'; that is, to picture the place where the crime occurred as clearly as possible in their mind. Mentally reinstating context seems to be a very effective way of getting witnesses to remember more information.

In the following video you can see a police officer using context reinstatement when interviewing a witness. In this case the officer gets the witness to draw a plan of the room in which the crime happened – which was a (staged) attack in a pub.

Video content is not available in this format.

Context reinstatement, and three other memory-enhancing techniques, were incorporated into an investigative training manual by psychologists Ron Fisher and Ed Geiselmain in 1992. The manual described a process for interviewing known as 'the cognitive interview' and it became the accepted basis for interviewing witnesses.

2.2 The cognitive interview

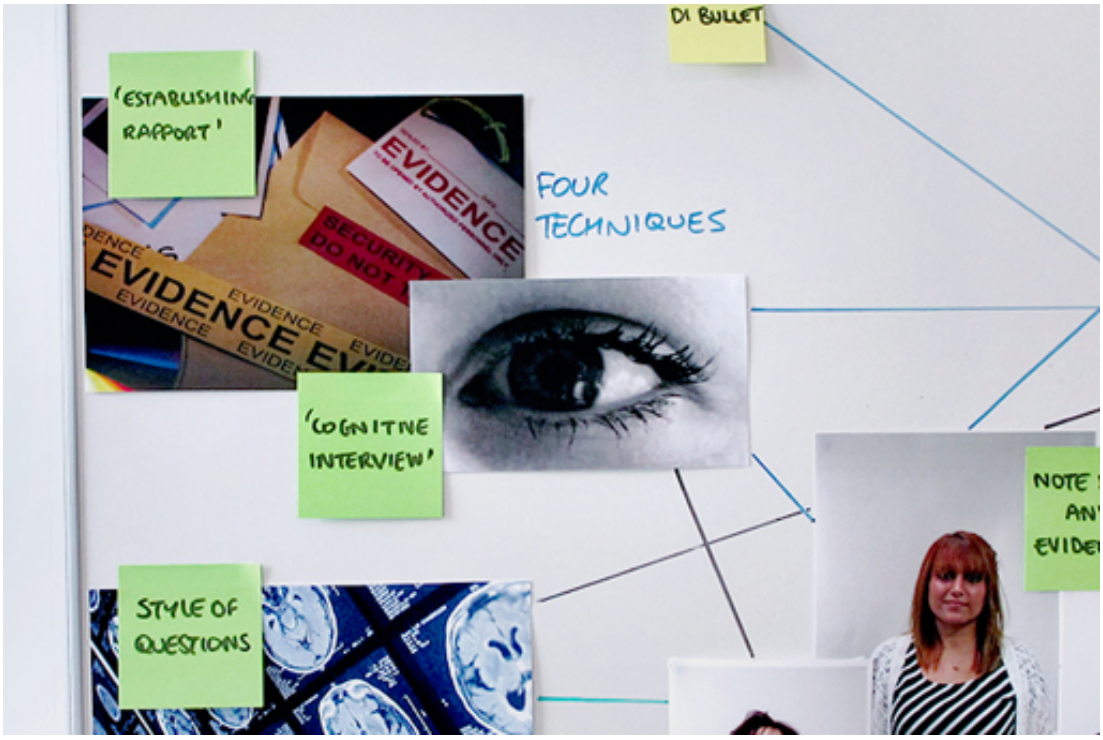

Figure 5

Listen to Becky Milne, from the Institute of Criminal Justice Studies at the University of Portsmouth and a world-renowned expert on interviewing witnesses, describe the cognitive interview (CI).

Audio content is not available in this format.

The CI contains four techniques for improving the information remembered by a witness:

1. report everything
2. reinstate context
3. change order
4. change perspective.

In addition, it is good interviewing practice to spend the initial part of the interview 'establishing rapport' with the witness and explaining the process. Likewise, a good interviewer will not rush a witness, nor interrupt them. They will also be sure to close the interview appropriately, providing the witness with a means of contacting them should they remember any additional information.

2.3 The cognitive interview in practice

In the following video on eyewitness cognitive interview you will see officers from the Greater Manchester Police using elements from the cognitive interview.

The officers are interviewing Eddie, who was a witness to a staged crime involving an attack in a pub. One thing that may strike you as being very different to the types of police interviews you see in crime dramas, is that the officer does very little talking.

Video content is not available in this format.

Psychology research has demonstrated the dangers of asking leading questions and supplying post-event information, which can suggest a response to the witness and even cause them to form a false memory. In addition, research has developed techniques that the police can use to get the most from the memory of an eyewitness, without contaminating their memories. One such interviewing process is known as the cognitive interview.

Next, you will listen to DS Sund interview the two witnesses. When listening to the interview, note down the evidence you think is revealed and evaluate it in light of what you have learned about interview practices and human memory.

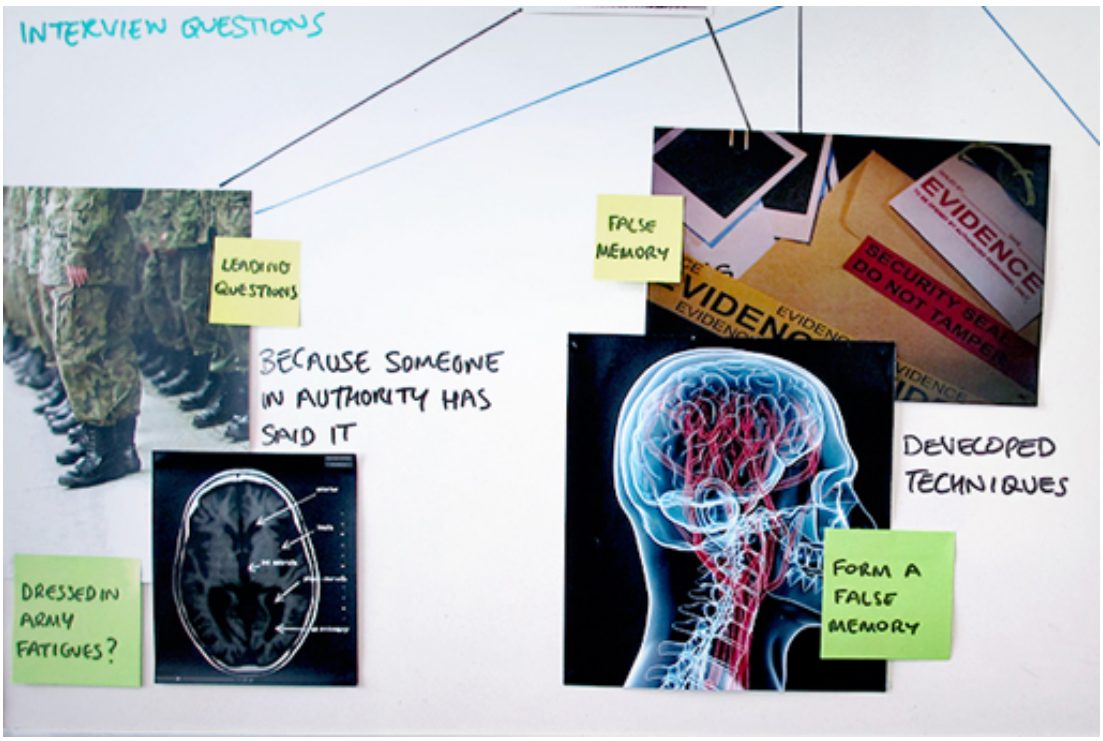
INTERVIEW QUESTIONS
LEADING QUESTIONS
BECAUSE SOMEONE IN AUTHORITY HAS SAID IT
DRESSED IN ARMY FATIGUES?
FALSE MEMORY
EVIDENCE
SECURITY SEAL DO NOT TAMPER
DEVELOPED TECHNIQUES
FORM A FALSE MEMORY

Figure 6

3 DS Sund: witness interviews

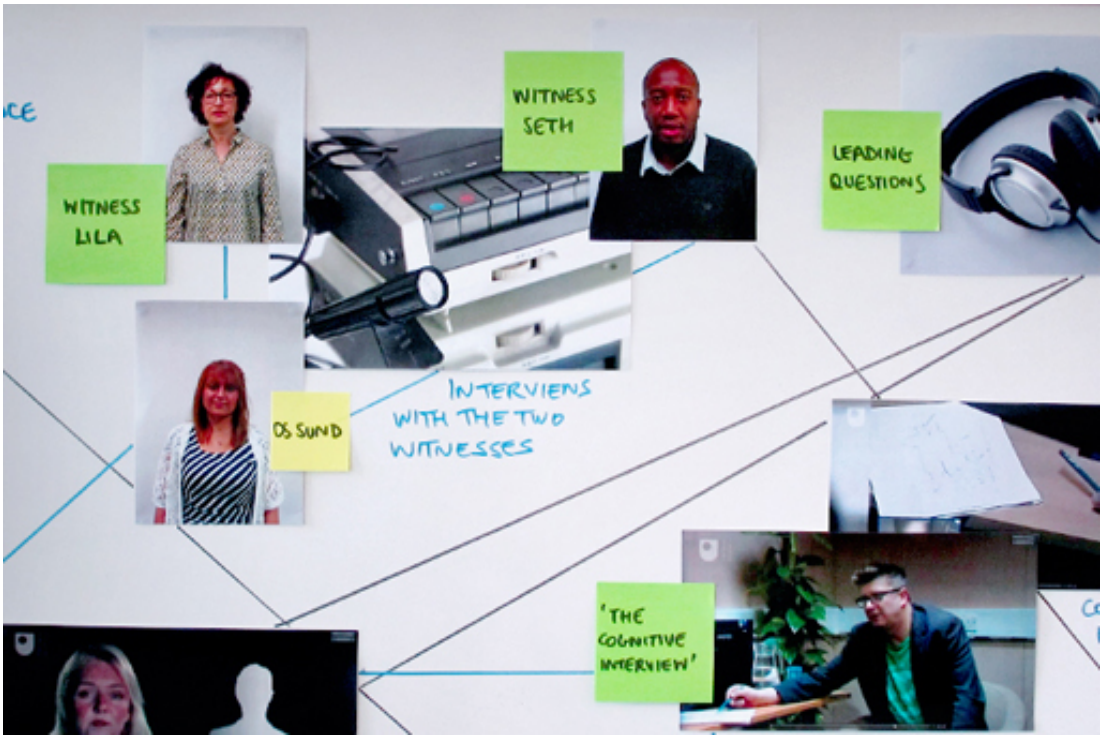

Figure 7

In the next activity you will listen to recordings of the interviews that DS Sund conducted with the two witnesses, Lila and Seth.

Activity 4 Noting evidence (DS Sund)

Allow about 30 minutes

Listen to the interviews as many times as you like, noting down any evidence that you think will help you solve the case. Also, note down anything you notice about the questions DS Sund asks from what you've already learned about different types of question. You will evaluate these questions later this week.

DS Sund interviews Lila first.

Audio content is not available in this format.

DS Sund interviews Seth next.

Audio content is not available in this format.

Remember that you can return to the interviews to help you complete the evaluation exercise.

3.1 Evaluating the evidence in the interviews

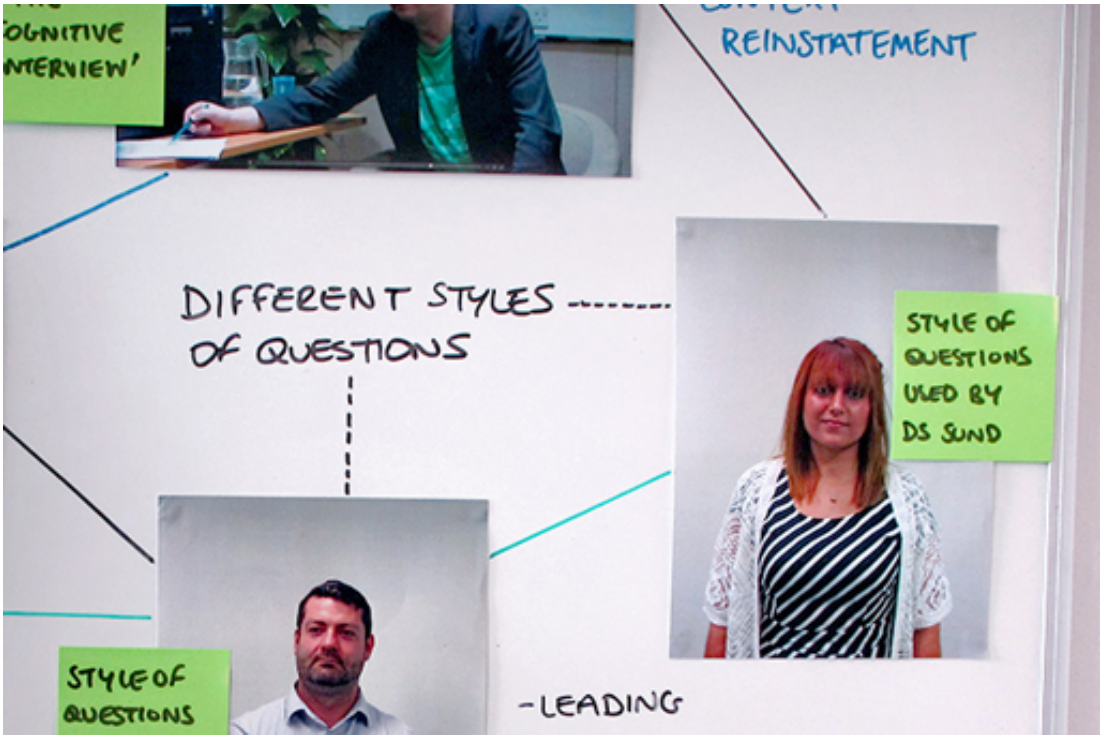

Figure 8

Next, you are asked to work out the style of questions used by DS Sund in the interviews and, just as you did for DI Bullet.

To help you evaluate the interviews conducted by DS Sund, the next activity involves looking at the particular styles of questioning that she used. For each question in the activity, you will be provided with a question that was used by DS Sund in the audios of the interviews that you heard. Your job is to decide which of four question styles is being used. Identifying the question style will help you evaluate the evidence gained in the interview.

Here is a quick summary of the four question styles to help you with the activity:

Leading questions

The questions tend to strongly suggest what response is expected, and/or assume details that have not been provided by the witness.

Open questions

These questions seek an open-ended response from the witness, and do not limit, focus or direct the witness's response except in the most general way.

Focused questions

These questions focus the witness's attention on details or aspects of the event that the witness has previously described. They direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

Option-posing questions

These questions limit the response the witness can give to specific options, and usually focus on aspects of the event which the witness has not already described.

Activity 5 Evaluating DS Sund's interview questions

Allow about 15 minutes

Q1. 'Let's focus on the driver and the car. When did you first see the car?' This is:

○ A leading question

This is incorrect. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

○ A focused question

Well done. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. Here the witnesses is being asked to focus on providing information about the point at which they first saw the car.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q2. 'Can you work backwards from there? What happened before the car drove away?' This is:

○ A leading question

Try again. Leading questions suggest what response is expected, and/or assume details that have not been provided by the witness. Here the question assumes that the robbers were all male, when no mention of this had been made previously by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

○ A focused question

Well done. Focused questions are those that focus the witness's attention on details or aspects of the event that the witness has previously described. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. Here the witnesses is being asked to focus on providing information about what happened just before the car drove away.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q3. ‘You mention the driver, was he wearing a mask?’ This is:

○ A leading question

Try again. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness’s response except in the most general way.

○ A focused question

This is incorrect. Focused questions are those that focus the witness’s attention on details or aspects of the event that the witness has previously described. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

○ An option-posing question

Well done. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described. Here the question essentially limits possible reponses to either confirm or deny whether the driver was wearing a mask.

Q4. ‘Seth, in your own words and taking all the time you need, I want you to describe to me what happened.’ This is:

○ A leading question

This is incorrect. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

Correct! Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness’s response except in the most general way.

○ A focused question

This is incorrect. Focused questions are those that focus the witness’s attention on details or aspects of the event that the witness has previously described. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q5. ‘Let’s start by getting a picture of where this took place. Can you describe the surroundings?’ This is:

○ A leading question

This is incorrect. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

This is incorrect. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

○ A focused question

Correct! Focused questions are those that focus the witness's attention on details or aspects of the event that the witness has previously described. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. Here the witnesses is being asked to focus on providing information about the place where the crime occurred.

○ An option-posing question

This is incorrect. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

Q6. 'You said one of the robbers was standing in the road and you suddenly noticed him. Can you describe that person to me?' This is:

○ A leading question

This is incorrect. To be a leading question, the interviewer must suggest what response is expected, and/or assume details that have not been provided by the witness.

○ An open question

Try again. Open questions seek open-ended responses from the witness, and do not limit, focus or direct the witness's response except in the most general way.

○ A focused question

Well done. Focused questions are those that focus the witness's attention on details or aspects of the event that the witness has previously described. Focused questions direct the witness to search their memory for details or aspects of the event that they have mentioned previously. Here the witnesses is being asked to focus on providing information about a particular person.

○ An option-posing question

Try again. An option-posing question limits the response the witness can give to specific options, and usually focuses on aspects of the event which the witness has not already described.

3.2 DS Sund's evidence

Figure 9

The evaluation exercise reveals that DS Sund used an interviewing style that began with an open question and then moved on to use predominantly focused questions, with very few option-posing questions and, importantly, no leading questions.

What were your overall impressions of the evidence she gained from the interviews? For one thing, her use of the cognitive interview meant the witnesses tended to do the vast majority of the talking, and at no point did the detective interrupt. This lead to the witnesses producing much richer descriptions of what happened. Critically, their descriptions were based on their own memories and were not the product of any post-event information introduced by the officer.

Unlike DI Bullet, who ended up with a consistent and straightforward account, the evidence gathered by DS Sund contains not only more information but more inconsistencies too. Although this may seem problematic, we should expect human memory by its very nature to be complex, for people to remember different information and even to recall additional information as an interview progresses.

Remember your evaluation of the interviews conducted by the two detectives as it may well help you solve the case.

Activity 6 DS Sund's evidence so far

Allow about 15 minutes

Consider and note down your thoughts on DS Sund's evidence so far.

Provide your answer...

4 Week 4 quiz

Now it’s time to complete the Week 4 badge quiz. It is similar to previous quizzes, but this time instead of answering five questions there will be 15.

Week 4 compulsory badge quiz

Remember, this quiz counts towards your badge. If you’re not successful the first time, you can attempt the quiz again in 24 hours.

Open the quiz in a new window or tab then come back here when you’re done.

5 Summary of Week 4

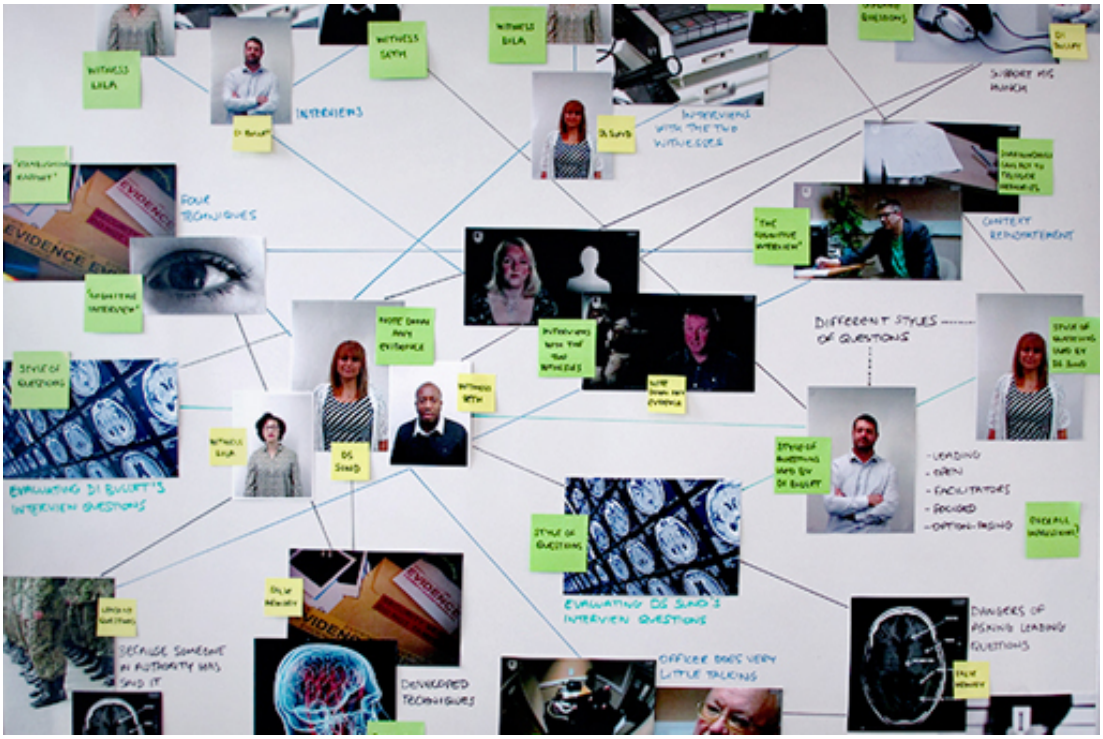

Figure 10

This week you have looked at how interviewing style affects what is recalled by an eyewitness and also how reliable the evidence obtained will be.

One of the most important points is that we should not expect eyewitnesses to provide a coherent, detailed and unchanging account of what happened. Instead, the way our memories work means that a more complex picture will emerge, and one that may well change over time.

Although using a questioning style that tries to overcome the rather messy way in which we remember events might seem an attractive method, particularly as it might produce a more coherent story that can be used more effectively if the case comes to trial, such questions inevitably introduce inaccuracies. Moreover, it is likely that the views and preconceptions of the interviewing detective will bias the memory of the witness and lead to them reporting post-event information rather than information they remember from the crime itself.

Using techniques such as the cognitive interview, which are based on an understanding of how human memory works, can be time consuming, but are a much more effective way of obtaining an unbiased account of what took place.

One of the most important types of evidence that an eyewitness can provide, is identification evidence – obtained by showing the witness a series of similar looking faces and seeing if they can identify the perpetrator of the crime. In Week 1 you saw that eyewitness misidentification is the leading cause of wrongful convictions, so it is clear that identifying the perpetrator is far from straight forward.

Next week we will look at the psychology of face recognition and the mental processes responsible for identification. We will explore how technology is being developed to help

obtain visual evidence, hear from a woman who is unable to recognise faces and you will also be given a chance to test your own face recognition abilities.

You can now got to Week 5.

Week 5: Making and recognising faces

Introduction

Watch the following video in which Graham introduces this week.

Video content is not available in this format.

Our two detectives were careful to get a description of the perpetrators in the initial statements they took from the witnesses. But what can the police do with this description?

Finding a potential suspect and then determining whether that suspect is the perpetrator by seeing whether they are identified by an eyewitness are incredibly important components of a police investigation.

The clothing worn by the perpetrator and general characteristics such as their sex, age, height and build can be very useful when searching for them immediately after the crime has been committed. However, it would obviously be immensely problematic to prosecute someone simply because they had the same jacket, or were the same age and height as the person who committed a crime! Instead, police investigations and criminal prosecutions rely on eyewitnesses recognising and describing the face of the perpetrator, which makes the face recognition abilities of the witness very important indeed.

This week you will be exploring the psychology of face recognition and description, and looking at why eyewitness misidentification is such a prevalent cause of wrongful convictions.

First, you will consider the assistance that a witness may give to the police by describing the identity of a perpetrator. The procedures that the police employ to elicit this help are system variables, and hence controllable. In some cases, where the available evidence does not suggest a suspect, the witness may be asked to search through mug-shot albums containing photographs of known offenders. Alternatively, a composite image of the perpetrator may be constructed with the help of the witness and this is then publicised in the media in the hope that someone familiar with the perpetrator will see the composite image and identify them.

1 Describing a face

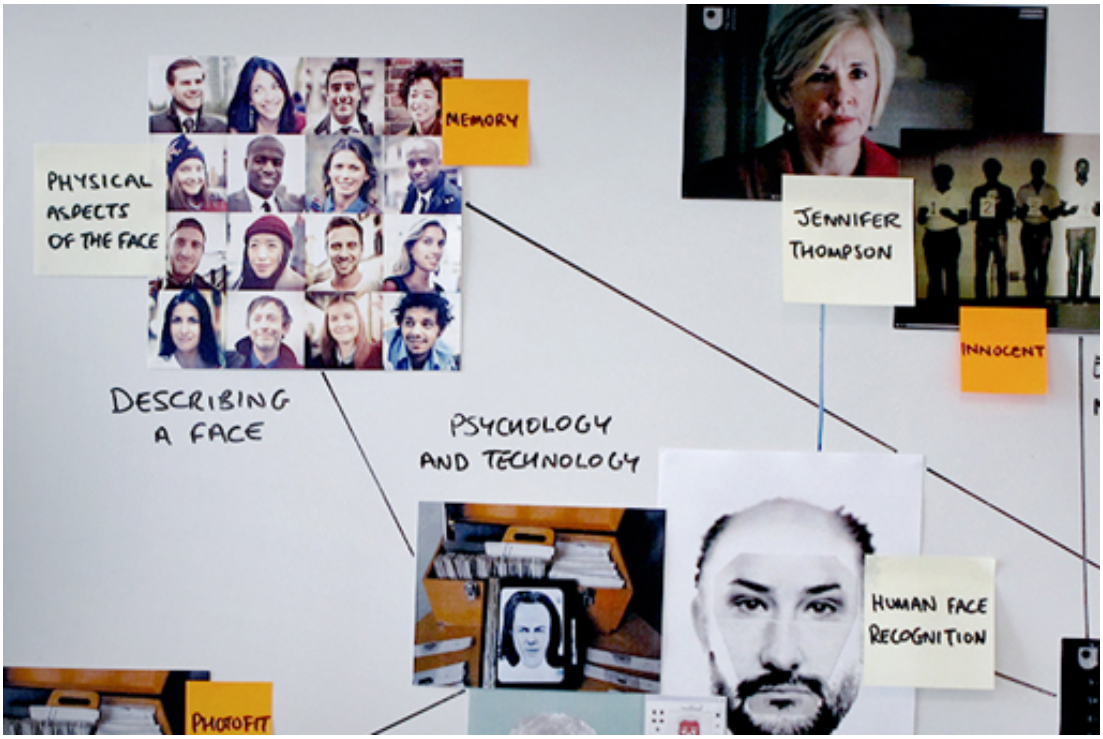

Figure 1

In some crime cases, the only lead that the police have is a witness's memory of the perpetrator. The description obtained by the police from the witness can then be publicised and/or used for the purposes of a computer search of a database containing photographic images. If this process does lead to the identification of a suspect, then an identification procedure (such as a line-up) usually takes place.

The crucial question is: what is the best way to obtain the image the witness has in their memory of the face of the perpetrator? While words can be used to describe information about the body, our vocabulary is rather limited when it comes to conveying the physical aspects of the face.

Activity 1 Famous face

Allow about 15 minutes

To see how difficult it can be to describe a face, trying describing the face of someone famous to a friend or family member. Remember that you can only describe their face and must not mention anything else about them.

In trying to verbally describe a face, or reading the descriptions others have posted, try to think about the problems you experience.

1.1 Why is it so hard to describe a face?

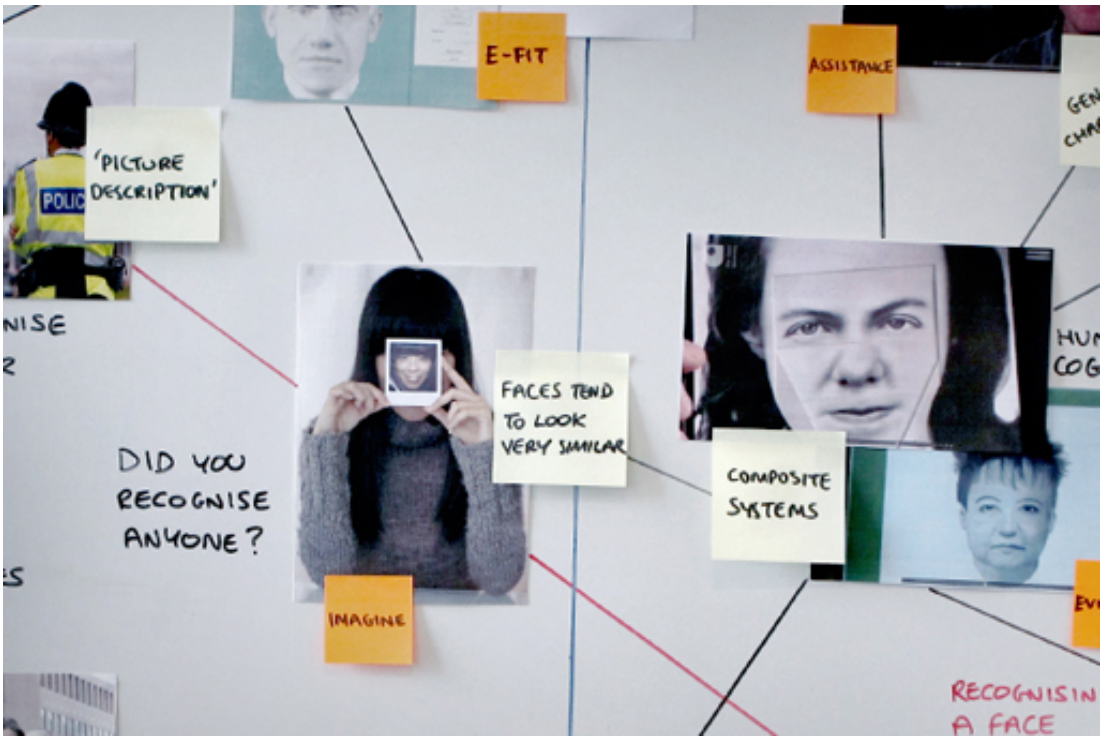

Figure 2

Did anyone successfully recognise the person you were describing in Activity 1?

If only the face is described, it is usually the case that no one is able to recognise who is being described unless that person has an unusual, or famously characteristic feature. For example, the British celebrity Bruce Forsyth is often described as having a large chin, making it possible for him to be recognised from a description that includes ‘very large chin’.

For most faces though, it is almost impossible to recognise them from a verbal (put into words) description. Can you suggest why this might be?

Generally speaking, describing a face can be difficult because:

- Faces tend to look very similar. Saying the face has a nose, two eyes and a mouth does not distinguish it from millions of other faces.
- It is difficult to bring to mind what an individual feature looks like. Many people find it tricky to imagine a face, and ‘zooming’ in on an individual feature is particularly difficult, if not impossible.

- Our vocabulary for describing faces is not very good, probably because describing a face is something we do only rarely. Since most people's features will, by definition, be 'average', describing someone as having an average-looking nose or mouth will not distinguish them from all the other people who have average-looking noses or mouths.

If you were feeling creative or poetic, you might have included a metaphor or simile in your description. For example, Shakespeare's Lady Macbeth described her husband as:

> Your face, my thane, is as a book where men
>
> May read strange matters. To beguile the time
>
> Look like the time; bear welcome in your eye,
>
> Your hand, your tongue: look like the innocent flower,
>
> But be the serpent under't.
>
> (*Macbeth*, Act 1, Scene 5)

But although such descriptions can be evocative, they tend not to increase the chances of the description being recognised.

1.2 Creating a face

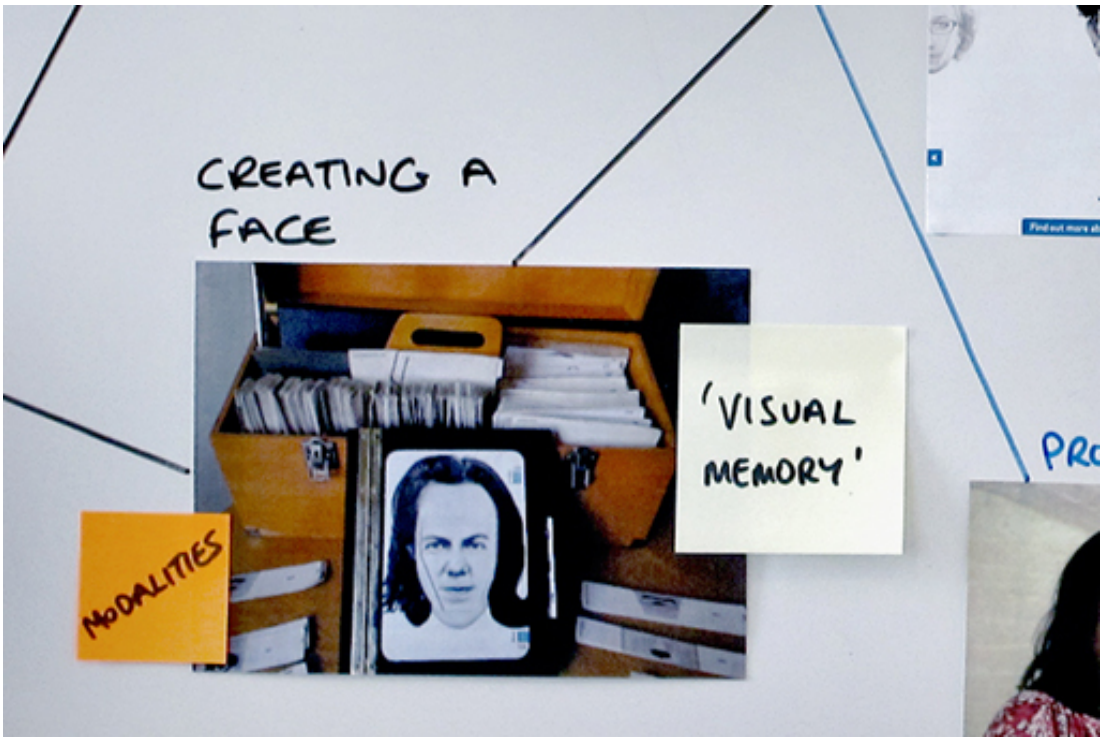

Figure 3

Our memory of a face is a 'visual memory' that we must translate into a verbal description when asked to describe a face. Then someone else has to compare our verbal description to their visual memories. Switching between these different 'modalities' is difficult to do.

Given the problems with verbal descriptions, and to assist in the process of translating the witness's visual memory of the perpetrator's face into a visual image that can be used to find a suspect, the police have employed artists to create a pictorial representation.

In the early 1970s, a package known as 'PhotoFIT', which someone without artistic skills could use, became available. This system, shown in the image above, comprised numerous black-and-white prints of facial features (hairlines/ears, eyes/eyebrows, nose, mouth and chin/cheeks). Based on their verbal description, the witnesses would be shown a choice of such features and asked to select the ones that best represented those of the perpetrator. The selected photographed features were then physically blended together, as in a collage.

Research showed that the images produced tended not to be a good likeness of the target face. Psychologists suggested this was because the construction process involved selecting individual features, and the human mind does not remember faces as a collection of features, but instead represents faces 'holistically', i.e. the whole face is stored in memory.

1.3 Make a famous face

Figure 4

Find out just how difficult it is to create a face one feature at a time.

If you can, try to recreate the face of someone famous using PhotoFit Me – an online photofit system available on OpenLearn. You'll need to access this application via a device that supports Flash (e.g. via your laptop or desktop computer). On an iPad or iPhone device you can use the PhotoFit Me app on iTunes.

PhotoFit Me allows you to include the name of the person you are trying to recreate, but why not leave this blank and for others to work out who it is. Remember that when a

witness is creating a composite image as part of an investigation they have to rely completely on their memory.

Obviously it would be very easy for you to find a picture of your chosen celebrity and create your PhotoFit Me image while looking at this picture. If you would rather do that, then that's fine, but please try to create an image entirely from memory first, as this will give you an insight into just how difficult it is to remember and picture a face in your mind. Rather than revealing the identity of your celebrity when naming your PhotoFit Me image, state instead whether you made it entirely from memory of from a picture.

When you have finished making your PhotoFit Me image, feel free to send it to your friends using the 'Share' button. Remember to add the hashtag #OLforensic if you are posting your image on Twitter or Facebook, so that other learners on the course can find it.

Look through the images created by others on the gallery on PhotoFit Me and via the #OLforensic hashtag, see whether you think those done from a picture are any better than those done from memory – you might be surprised!

In constructing your image, you may well have found two basic problems:

1. you could not use your memory of that person to picture their individual features in your mind
2. even if you had an idea of what the feature looked like, you were unable to find a suitable example in the system.

Research on Photofit reached very similar conclusions. However, even though newer composite systems included more examples of individual features, they could not overcome the first problem, which is that Photofit requires witnesses to do something that their memories are just not designed to do.

1.4 Psychology and technology

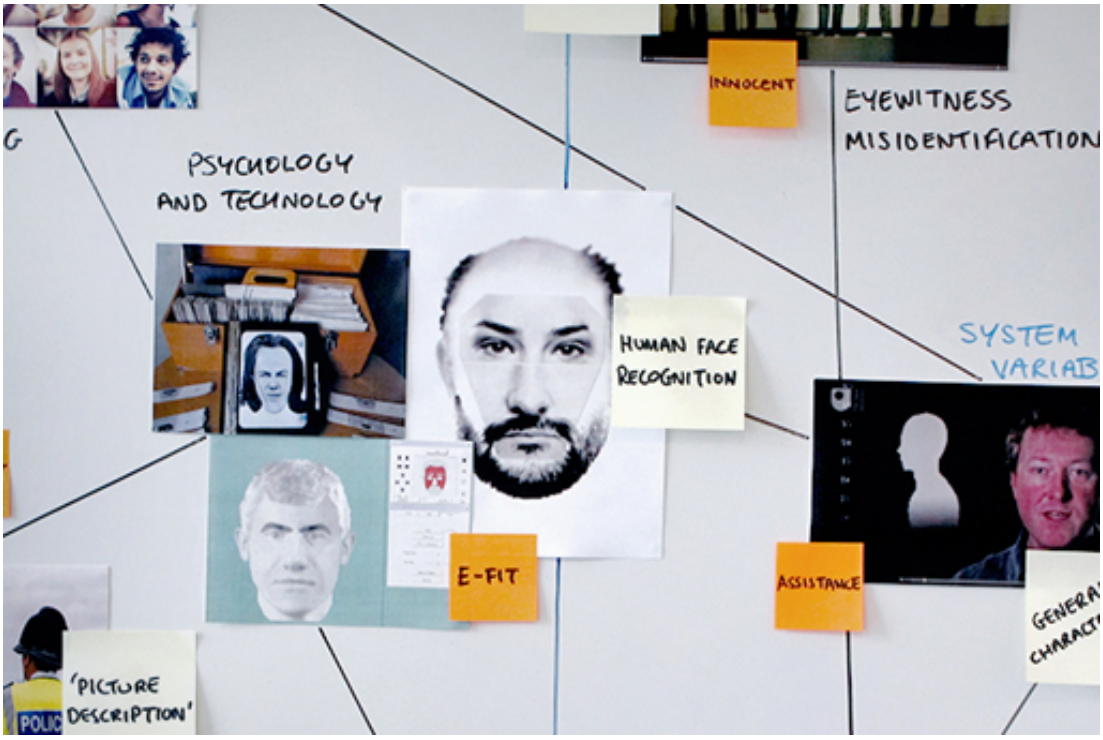

Figure 5

The E-FIT system that replaced PhotoFIT represented a step in the right direction by presenting a witness with a whole face.

With improvements in technology, computerised versions of composite systems took over from PhotoFIT. These systems, which included the Electronic Facial Identification Technique (E-FIT), contained a much larger database of facial features. Perhaps more importantly, E-FIT operated by only ever presenting witnesses with a whole face. Although this was a psychological step in the right direction as it was more of a match for the 'holistic' way the mind remembers faces, one key drawback of the system was that the witness was still required to try and improve the face by changing individual features.

Laboratory research on face perception has shown that it is much harder to recognise a facial feature when it is seen on its own than when it is part of the whole face (Tanaka and Farah, 1993), so the E-FIT system was a better match for how the human mind works than PhotoFIT. Moreover, E-FIT also allowed witnesses to easily change the configuration of the features, that is the relative positions of the features, and psychological research has shown that the configuration of the face is a very important component in human face recognition.

You have just learned some important information about how we recognise and remember faces, that it is very difficult to describe a face verbally, and that early composite systems, such as PhotoFit, were problematic because they constructed faces in a way very different to how the brain works.

Your attempt to construct a PhotoFit Me image may well have left you with the impression that composite images are far from useful. However, remember that it was also very difficult to verbally describe a face, and that verbal descriptions tend to lack in any useful detail. It is also important to remember that composite images are not intended to be an exact copy of the face – instead they are a 'picture description' or 'type-likeness'. The

composite is created in the hope that by showing it to the public, someone familiar with the perpetrator will identify the person depicted and provide the police with a lead.

Figure 6

2 Recognising a face

You've just looked at describing faces and will now turn your focus to the psychology of recognising faces, and find out how this knowledge is being incorporated into the latest composite systems being used by the police.

The next activity is a demonstration of how our minds work by recognising the whole face, rather than by remembering the individual features.

Activity 2 More famous faces

Allow about 10 minutes

Look at the five faces below, that have been constructed by combining the top half of one face with the bottom half of another. Your job is to work out to which celebrities the two halves belong.

Take a guess before clicking to see the faces misaligned then guess again – do you think this makes the task easier? Finally, click to reveal the answer. Did you guess correctly?

Figure 7

Click to expand

Click to view misaligned halves

Click to reveal answer

Figure 8

Click to expand

Click to view misaligned halves

Click to reveal answer

Figure 9

Click to expand

Click to view misaligned halves

Click to reveal answer

Figure 10

Click to expand

Click to view misaligned halves

Click to reveal answer

Figure 11

Click to expand

Click to view misaligned halves

Click to reveal answer

2.1 The face, the whole face and nothing but the face

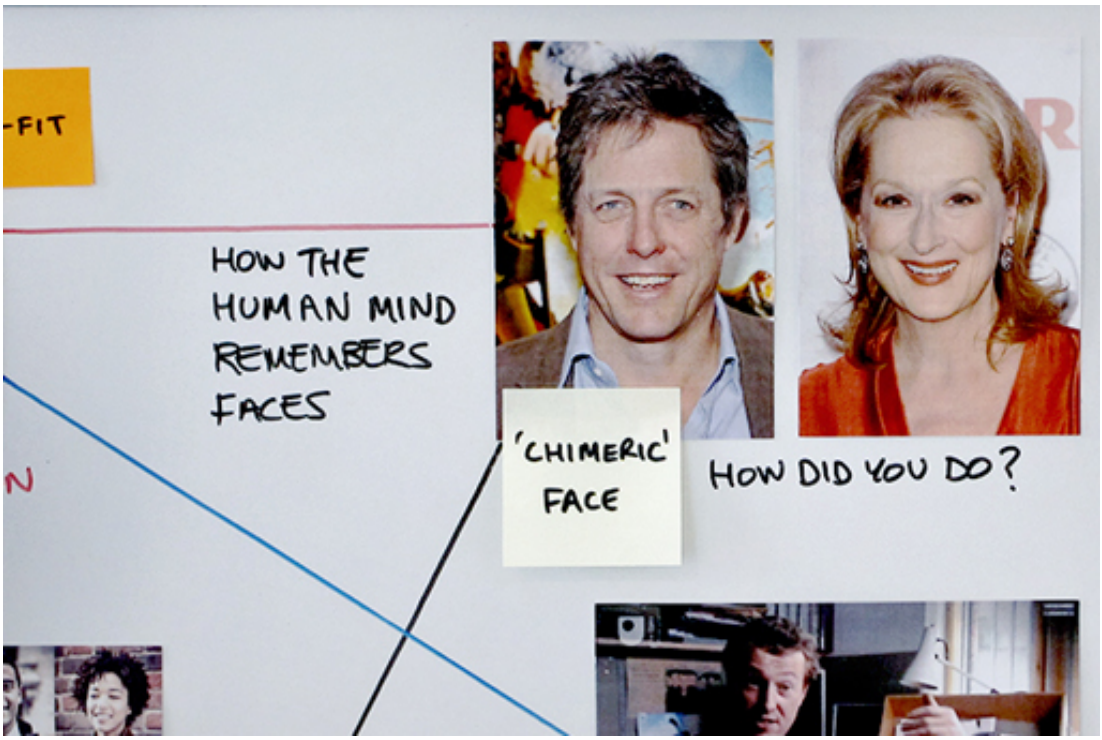

Figure 12

Forming an image from the halves of two others is known as a 'chimeric' face.

How many of the celebrities did you manage to recognise? Did you find it easier to recognise the halves when they were not aligned?

Obviously you would have found it difficult to recognise any of the halves if they were of people you do not know, but other than that you probably found it much easier to recognise the halves when they were not aligned. This is because when they were aligned, your mind saw the halves as forming a single, whole face and it tried to recognise who that face was. Remember, psychological research has found that the brain recognises faces 'holistically', which means we find it difficult to see a face as being composed of two different halves, and instead see it as a single, whole face – even if the two halves are of very different looking people! When the halves are not aligned, the brain does not see the image as a single whole face, allowing you to concentrate on the two halves separately.

If the facial composite systems used by the police are to create a good likeness of the suspect, then it is vital that they are designed to take account of how the human mind remembers faces.

2.2 Famous E-FIT task

Can you recognise the E-FITs that have been created of famous celebrities? (The images are from a study by Brace, Pike, Allen and Kemp, 2006.) Guess then click to reveal the answers.

Figure 13

Click to expand

Click to reveal answers

E-FIT was one of the first computerised composite systems that presented a whole face to the witness rather than collections of separate features. The study by Brace, Pike, Allen and Kemp (2006) evaluated E-FIT using these images of famous faces. This study concluded that although E-FIT did represent an improvement in psychological terms over older systems such as Photofit, there were still aspects of the construction process that were psychologically problematic, including:

- that the witness had to recall what the face looked like; our minds seem much better at recognising faces than they do recalling them (picturing them in the mind)
- the witness had to alter the composite image by selecting individual features
- the process was very reliant on the witness verbally communicating their memories to a police operator.

These problems were to prove very important in designing the next generation of composite systems. Nonetheless, Brace, Pike, Allen and Kemp (2006) did find that 66% of the 96 E-FITs produced in the study were recognised by at least one person.

2.3 Recall and recognition

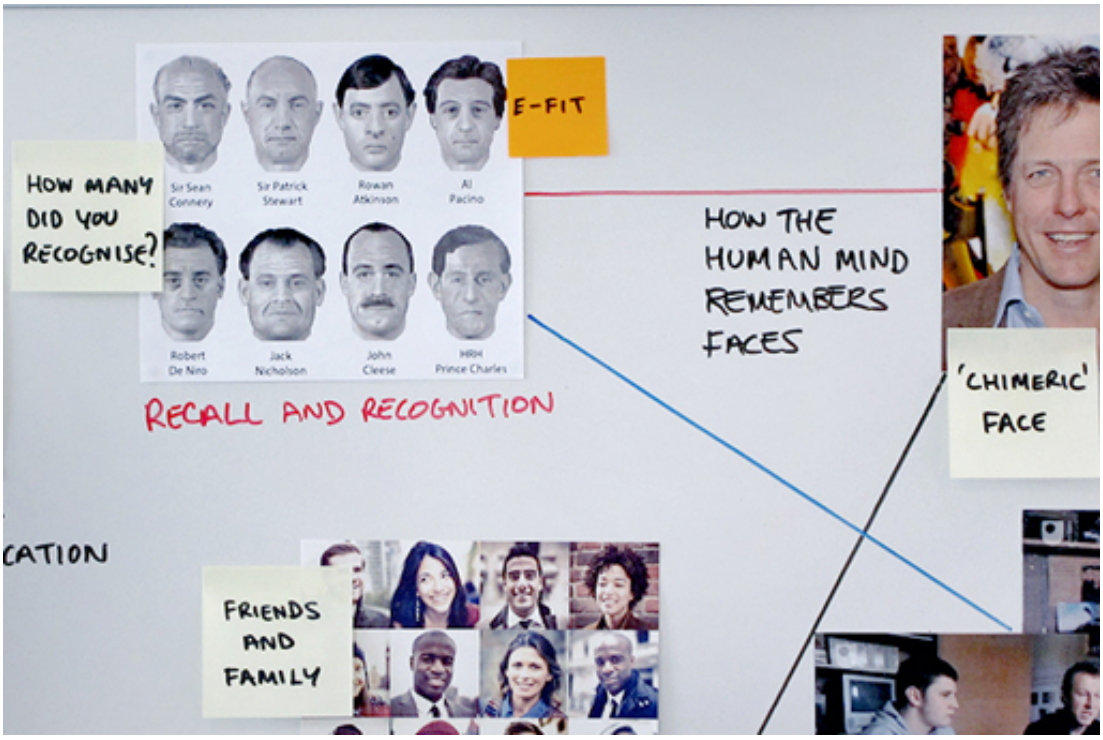

Figure 14

The police only need one person to recognise a composite to provide them with a lead. How many did you recognise? It's unlikely you recognised them all.

Although E-FIT was based on psychological knowledge of how we remember faces, it still relied on a witness picturing the face in their mind and then describing it to an officer.

In Activity 1 you had to *recall* a face and describe it, and you probably found this a very difficult task. In Activity 2, involving two halves of celebrity faces, you attempted to *recognise* faces that were either shown in halves or as a composite image. Despite this, you probably found recognising the faces far easier than you did recalling a face previously. The difference between recall and recognition is an issue that has been explored extensively in psychological research. In general, our brains seem to be far better at recognition. Just think how many different objects and faces you can recognise, how quickly you do this and how rare it is that you make a mistake. By contrast, recall is something we find much more difficult and tend to make far more errors when doing.

As you will see in the next video, the difference between recall and recognition was a key element in the design of the next generation of composite systems.

2.4 Comparing E-FIT and EFIT-V

Watch the following video which explores the comparison between E-FIT and EFIT-V.

Video content is not available in this format.

Is it possible to design a composite system based on recognition rather than recall?

In the ‘Comparing E-FIT and EFIT-V’ video Graham worked with a participant to produce a face using E-FIT and then using EFIT-V, which is the latest composite system to be used by the police. As you will see, EFIT-V is designed to try and utilise face recognition, rather than face recall. The design of EFIT-V once again demonstrates how important it is to have psychological knowledge of how the mind works when it comes to police investigations.

Psychological research has helped create composite systems that make the most of human cognition and get the most from the memories of witnesses.

Composites are used by the police to generate leads when they do not have a suspect and are not intended to be used as identification evidence – that is to say that the similarity of a suspect to a composite image should not be used as evidence that they committed the crime.

Once the police have a suspect, they need to use an alternative method to produce evidence that the person is the perpetrator of the crime, such as asking the witness to attempt to identify the suspect in an identification procedure, such as a line-up. It is these alternative methods that you’ll look at next week.

But before you do that, you’ll explore face recognition further in the next section, including hearing from someone with ‘prosopagnosia’, which is a neurological condition that leaves the person unable to recognise faces.

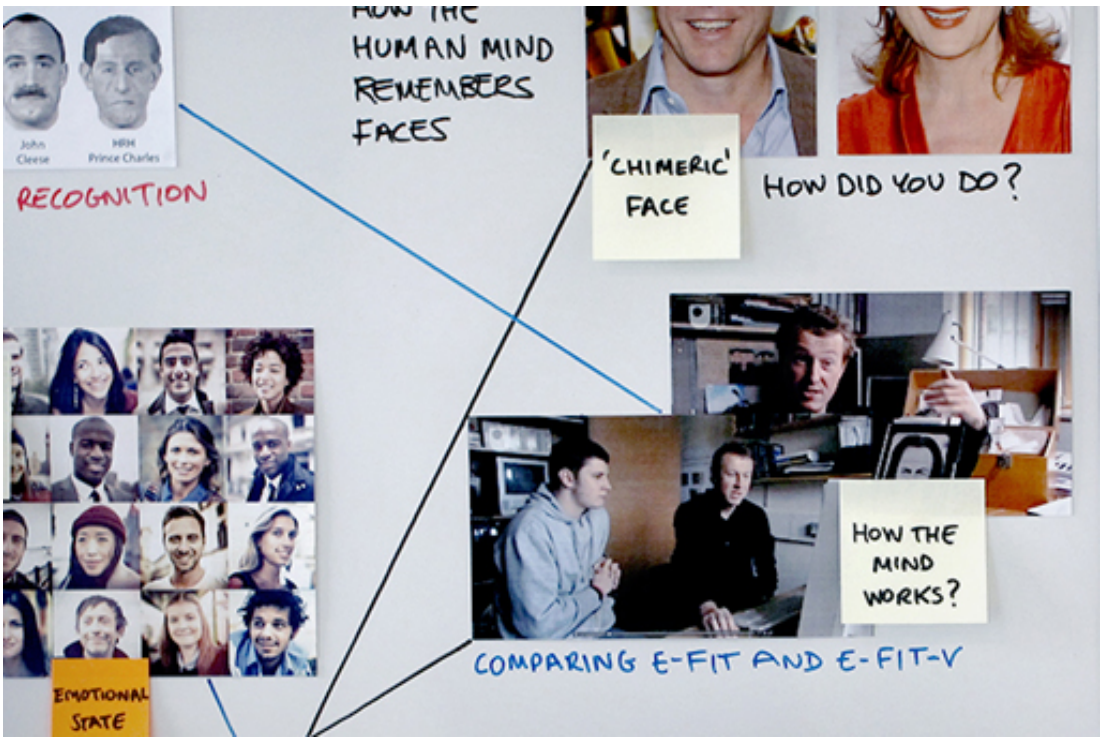
HOW THE
HUMAN MIND
REMEMBERS
FACES
John Cleese
HRH Prince Charles
RECOGNITION
'CHIMERIC' FACE
HOW DID YOU DO?
HOW THE MIND WORKS?
COMPARING E-FIT AND E-FIT-V
EMOTIONAL STATE

Figure 15

3 When face recognition fails

Figure 16

Eyewitness misidentification seems to be the most common cause of miscarriages of justice. As eyewitness identification relies on the ability of the witness to recognise the perpetrator, it is crucial that we understand as much as possible about face recognition.

An eyewitness selecting an innocent person at an identity parade is obviously an example of face recognition somehow going wrong. Of course, there are reasons other than poor face recognition for why witnesses may select the wrong person, including that the officer could suggest they pick a certain face. Alternatively, it is possible that the witness might select the wrong face on purpose, either to protect the suspect or because they are frightened of identifying them. In this course we willl limit our attention to witnesses who, like Jennifer Thompson (the witness you saw in Week 1), think they are identifying the correct person, even though they are selecting an innocent person.

A great deal of psychological research has been conducted on how we recognise faces, and a lot of this work has focused on instances where our face-recognition skills fail us. Some of this research has involved analysing behavioural variables, including how accurately and quickly we recognise images such as the chimeric faces you saw previously. Alternatively, other research has taken a neuropsychological approach and looks at what happens to face recognition when the brain is damaged. You will be looking at both types of research in the rest of this week.

3.1 Turning face perception on its head

It is difficult to recognise a face when it is upside down because we have developed face-recognition skills that are based on the 'configuration' of the facial features, that is the relative spatial position of the features in the face.

When a face is upright, these cues provide us with a quick and accurate means of recognising a face. However, when the face is turned upside down, the configuration of the features is completely disrupted, meaning the brain cannot use its normal method of face recognition. Instead, the brain must rely on other methods, such as analysing the individual features, which are slower and tend to be less accurate.

The following video provides a very neat demonstration of this phenomenon.

Video content is not available in this format.

3.2 Face-recognition disorders

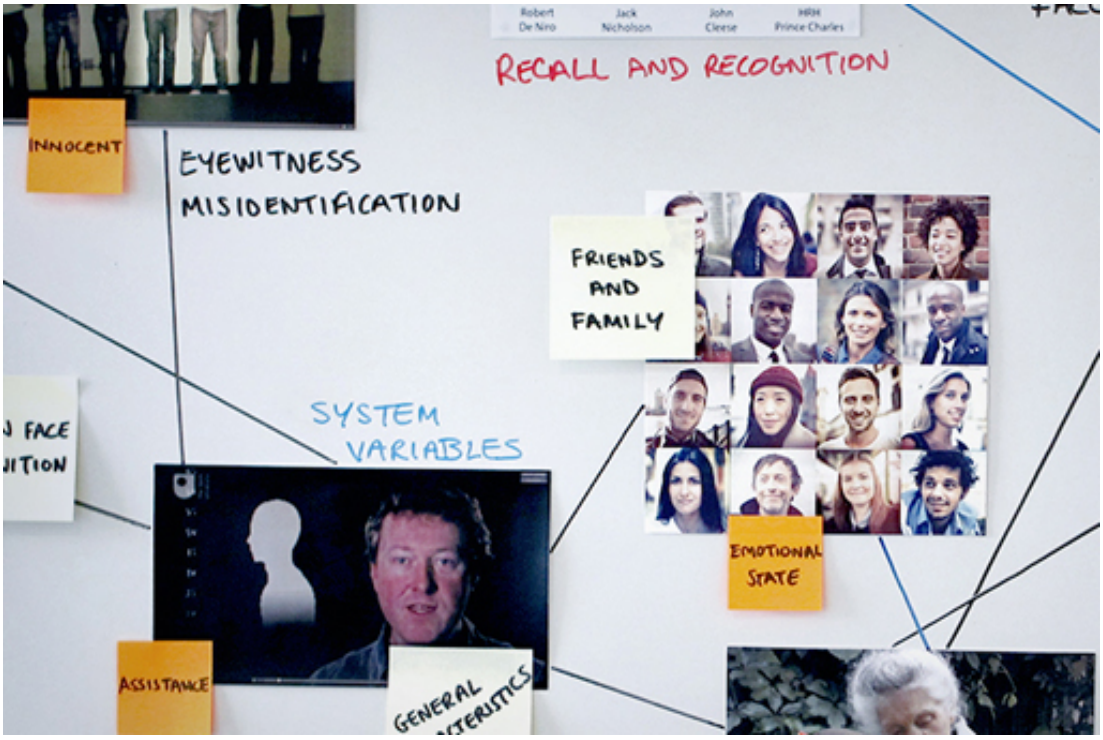

Figure 17

Faces are an extremely important part of our world. They allow us to distinguish our friends and family from people we don't know, to recognise many hundreds of people even if they change their appearance, and also to determine someone's emotional state.

You have seen that this expertise does not extend to an upside-down face and neither does it mean we can recognise someone with whom we are unfamiliar and have only seen briefly once before. This is a problem for the criminal justice system, as it means that even our extraordinary ability to recognise faces may not be up to the task faced by an eyewitness.

Our highly developed face-recognition skills also mean that faces tend to be recognised in a different way to other objects, using different cognitive processes and different parts of the brain. Psychologists think that the area of the brain known as the 'fusiform gyrus', is activated when recognising a face but not when recognising other objects. That means that if this part of the brain becomes damaged, the person could be left being able to recognise objects but *not* being able to recognise faces. This condition is known as 'prosopagnosia' or 'face blindness'. It is thought that as well as being caused by damage to the brain, this condition can be congenital and may affect up to 2.5% of the population – including Brad Pitt and the famous neuroscientist Oliver Sacks.

Next, you will hear what it is like to live with prosopagnosia from someone with the condition.

3.3 Prosopagnosia interview

In the following video you can see Monica Zenonos talking about what it means to have face blindness and what the condition is like to live with.

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3.4 Bias in face recognition

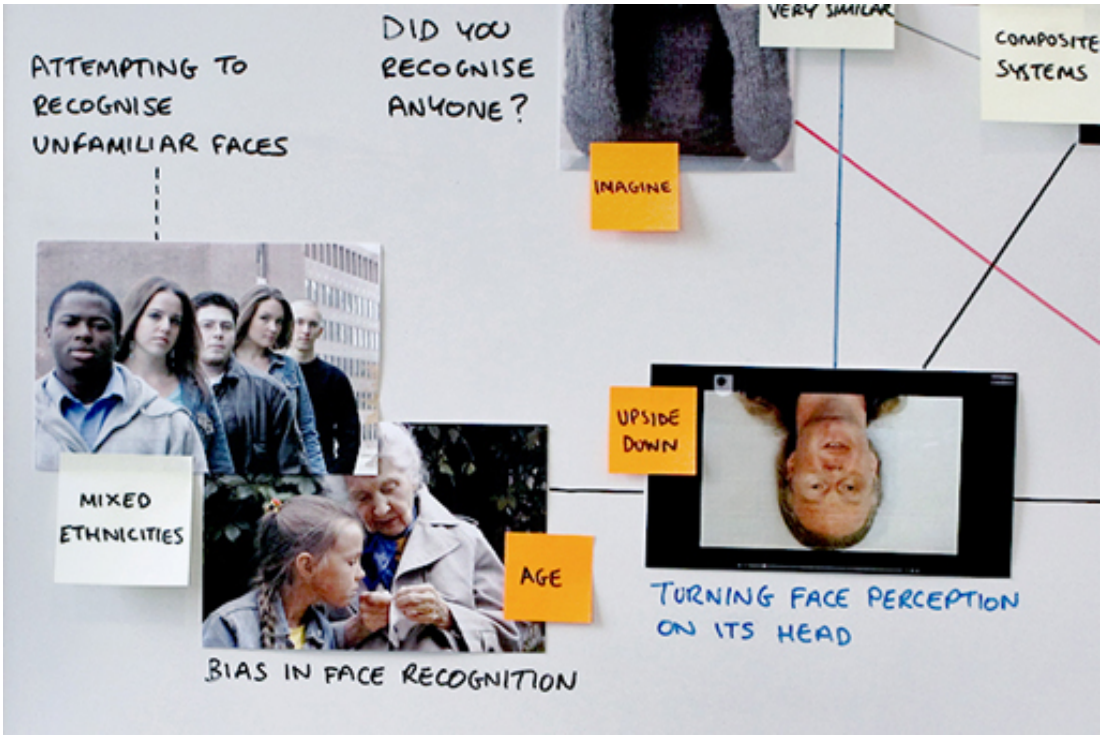

Figure 18

Our ability to recognise faces is highly developed and different to most other objects. The existence of prosopagnosia and the fact that showing faces upside down affects their recognition more than it does other objects, is evidence of that.

Moreover, it seems that we develop skills to recognise the types of faces we come in regular contact with, which is why it is so hard to recognise an upside-down face.

One implication of this is that our face recognition processes are biased towards the faces we see from day to day. That means that these same processes are not so good when it comes to faces that we are not so familiar with. For example, research such as Harrison and Hole's (2009) has shown that we tend to be better at recognising faces from our own age group, or from age groups that we are in regular contact with. In other words, our face recognition skills are biased towards those faces we regularly come into contact with (this explanation is known as the 'contact hypothesis').

The contact hypothesis can also explain why there is a tendency for us to be better at recognising faces from our own race/ethnicity. For example, a large-scale analysis of available studies conducted by Meissner and Brigham (2001) found that own-race faces were 1.4 times more likely to be recognised than faces from another race. In addition, and of particular relevance to eyewitness identification, own-race faces were 1.6 times less likely to be mistakenly identified than faces from a different race.

The amount of contact that someone has with another race will tend to improve their ability to recognise faces from that race, but own-race bias is still a significant problem in countries that have a population of mixed ethnicities, such as the UK and USA. The research certainly suggests, for example, that Caucasian witnesses in the UK and USA will tend to be much more accurate when it comes to recognising white suspects compared to black suspects – and also more likely to incorrectly identify an innocent black suspect.

You have seen that faces are recognised using different cognitive processes than other objects, and heard from someone unable to recognise the faces of even her close family.

Our face-recognition skills are highly developed and cope very well with the everyday demands of recognising people we are familiar with and with analysing expression and emotion. However, the cognitive processes that are very good in most everyday situations may let us down in unusual circumstances. This includes attempting to recognise unfamiliar faces seen only briefly and faces that we do not have a lot of contact with – including faces of other age groups and ethnicities other than our own.

4 Week 5 quiz

Check what you've learned this week by taking this end-of-week quiz.

Week 5 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

5 Summary of Week 5

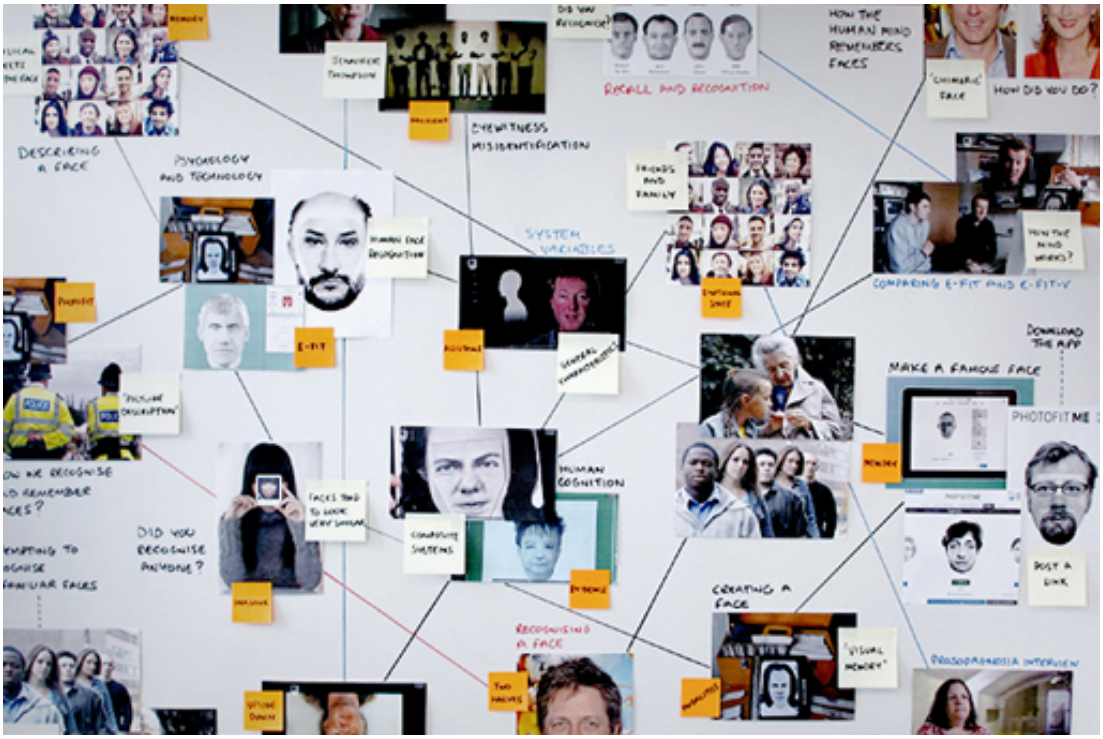

Figure 19

This week you have explored the psychology of face recognition, and seen some of the reasons why eyewitnesses find it so hard to describe and identify the face of the person they saw commit the crime.

Although our everyday experience is that our face recognition skills are extremely accurate, they do not appear to be able to cope so well with many of the demands placed on an eyewitness. This includes describing the face of the perpetrator, constructing a visual image of their face and even recognising their face, particularly if they are of a different ethnicity or age group than our own.

Next week, you'll explore the eyewitness identification techniques used by the police, and see whether psychological knowledge might be of use in improving such techniques. You will also return to our investigation and see how DI Bullet and DS Sund use identification procedures to help progress their cases.

You can now go to Week 6.

Week 6: Visual identification

Introduction

Watch the following video where Catriona introduces the week.

Video content is not available in this format.

Once the police have a suspect, it is common practice to see if the witnesses identify that person as being the perpetrator they saw commit the crime.

Although this may sound quite straightforward, you saw in Week 1 that even the question asked of the witness can lead them to identifying someone who is innocent. What other factors do the police need to take into account, and will the identification procedures conducted by DI Bullet and DS Sund incorporate these factors?

1 Identification procedures

Figure 1

While facial composites (such as the E-FITs you saw last week) may have no evidential value, other identification evidence may be used in court as proof that the accused person is guilty, or alternatively to eliminate a suspect from an investigation.

There are different methods for obtaining identification evidence, however, and which of them is considered a lawful means of identification may vary from country to country.

In some countries, where communities are small and widely spaced, it is often impossible for the police to put on a live identification parade – one in which the witness views the suspect and foils (people who look like the suspect) when they are physically present. Instead, identifications can be made from photo-arrays, where the witness sees a photograph of the suspect and a number of foils, or video parades, where video images of the suspect and foils are shown. Up until 2003, live parades were the most common eyewitness identification method used in the UK, but after 2003 video parades have become the standard technique. In the USA, photo arrays tend to be the most used procedure.

Research conducted in the laboratory has pointed to three factors (all are system variables) that may influence identification accuracy in live, video and photo-based identification parades. They are:

- the instructions given to the eyewitness – such as telling the witness that the perpetrator may or may not be present
- the specific procedure used to show the faces – for example whether the faces are seen altogether or one after the other
- the structure of the identification parade – including how similar the faces in the parade are to one another.

First, and as you saw in Week 1, many studies have shown that indicating through questions that the perpetrator 'is in' the line-up, rather than saying that they 'may or may not be present', increases the rate of mistaken identification (e.g. Cutler et al., 1987).

1.1 Simultaneous vs sequential presentation

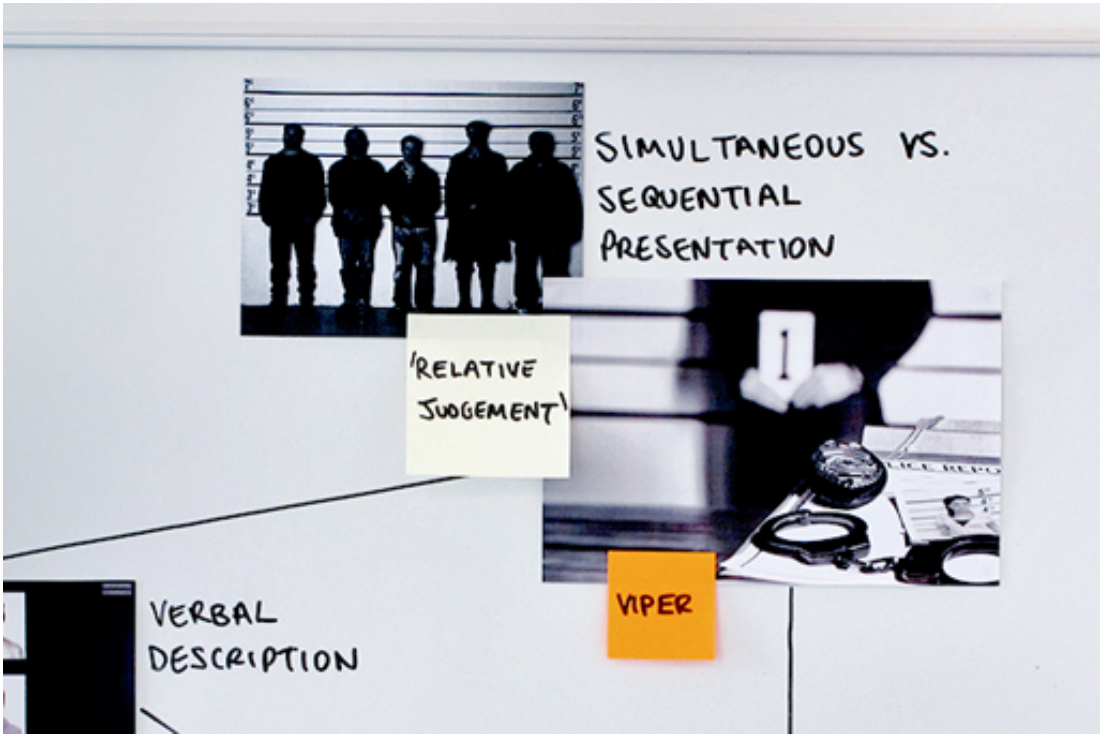

Figure 2

The second factor in the accuracy of identifications is based on psychological studies that have compared a sequential procedure for presenting the line-up members – where the witness looks at each member of the parade one at a time – with the more traditional simultaneous line-up method where all members of the parade are seen together.

In exploring the psychology of identification parades, researchers are careful to use parades that contain an image of the perpetrator (known as 'target-present' parades) and parades that do not (known as 'target-absent' parades). It is important to use target-absent parades to simulate a situation in which the police are investigating an innocent suspect. If you think about it, if the suspect is innocent then the identification parade will not contain an image of the perpetrator.

Results have revealed that if the target is not in the parade, participants tend to be more likely to identify a foil (a member of the parade who is not the suspect) when a simultaneous line-up procedure is used than when a sequential procedure is used (Cutler and Penrod, 1995). A possible explanation for this is that seeing all the faces at once allows you to make a 'relative judgement', in other words to compare the faces and select the image which is the best match to your memory of the perpetrator.

Having selected the best match, there is then a tendency to identify that person, even if they are not a particularly good match to the perpetrator. Displaying the faces one at a time makes it much more difficult for witnesses to compare faces and therefore limits the extent to which they can make a relative judgement. Instead, witnesses have to make an

absolute judgement about each face when seeing a sequential presentation. That is, they have to decide whether each face is that of the perpetrator without comparing it to others.

Although research has shown that sequential presentation can reduce the number of misidentifications made, there is some evidence that a simultaneous presentation might lead to both a higher rate of misidentifications and of identifications of the guilty person (Steblay, Dysart and Wells, 2011). In other words, compared to a sequential presentation, showing all the images simultaneously makes it more likely that a witness will identify someone regardless of whether the perpetrator is in the parade or not.

The video parade systems used in the UK – such as the Video Identification Parade Electronic Recording (VIPER) system – involve a sequential presentation. Some states in the USA are beginning to show photos sequentially, but many still show all the photos together.

1.2 Fair line-ups

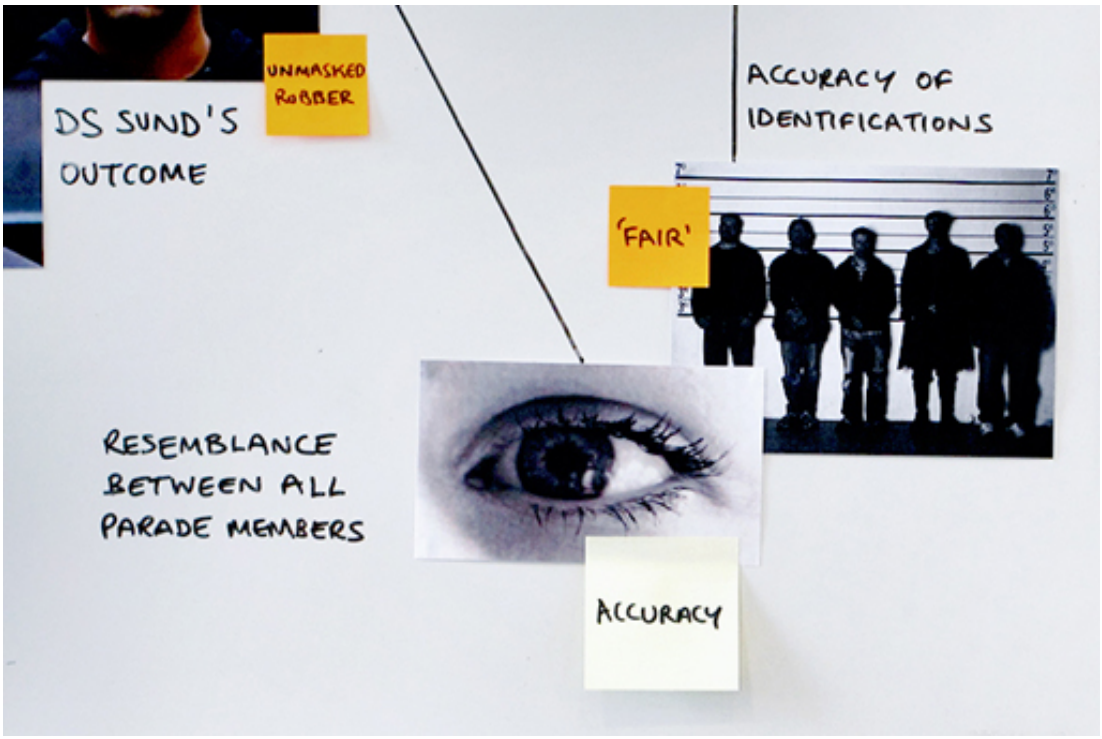

Figure 3

The structure of the line-up must be 'fair' so that there is a reasonable degree of resemblance between all parade members.

This is the third, and perhaps most important, factor in the accuracy of eyewitness identification. It should hopefully be obvious that if a parade contains a dark-haired black female suspect and eight blonde white male foils then it would be a very unfair parade indeed! Although such a parade would not be deemed acceptable, it demonstrates that there is a difference between the number of people in a parade and the number of people in a parade that resemble the suspect – and research has shown that it is very common for parades to contain people that do not resemble the suspect.

One difficulty here is whether the foils in the line-up should be chosen to resemble the suspect (the procedure used in England or Wales), or whether they should match the

general description of the culprit as provided by the witness. Some have argued that to select the foils in the line-up on the basis of their similarity to the suspect creates an unnecessary similarity between the foils and the suspect and can make the task too difficult for the eyewitness.

Wright and Davies (1999) provide the following example that highlights this issue.

> The witness described the perpetrator as a six-foot tall male with brown curly hair. The police have a suspect who fits this description but who also has a scar on his face, something the witness did not mention. If the police select the foils to match the witness's description, and the suspect is innocent, the scar should help safeguard the suspect against being picked out, as the witness has no memory of a scar. However, should the suspect be guilty and the witness has failed to mention a scar when providing a description, then this may help the witness correctly identify him as the perpetrator as he is likely to be the only one with a scar (the witness is able to recognise the scar, even though they did not recall it during their interview). An exception is where this results in the suspect 'standing out' in some way.

In this example, should the suspect be five feet six inches tall rather than six feet tall, then choosing the foils all to be six footers would make the suspect stand out.

Psychologists assess the fairness of an identity parade by showing it to people who have never seen any of the faces before and asking them to pick the person who is the best match to the description of the perpetrator provided by the witness. If the parade is completely fair, then each member of the parade should be equally likely to be chosen. However, if the parade is unfair, then the suspect will be selected an unequal number of times. Research conducted by Valentine and Heaton (1999) used this technique and estimated that in the 'live' line-ups that used to be employed in the UK (prior to 2003) the suspect was selected 25% of the time. If the parades had been completely fair, they should only have been selected 11% of the time. In comparison, when it came to video parades (such as those now used in the UK), the suspect was only chosen 15% of the time, suggesting that they are much fairer than live line-ups. The likely explanation for this is that video parades are constructed from a database of thousands of faces, while live line-ups require an officer to physically find people who look like the suspect.

1.3 Verbal overshadowing

Figure 4

It is possible that asking the witness to provide a verbal description of the culprit may make it harder for them to subsequently identify the culprit in an identification parade. This means the amount and type of evidence obtained from a witness is another factor that can affect the accuracy of eyewitness identification.

If you need to remember an address or phone number and cannot write it down, repeating it over and over can help commit it to memory. Psychologists refer to this as ‘rehearsal’ and rehearsing information is generally seen as very beneficial to memory – it is essentially the basis of exam revision for example. However, while rehearsal can help with our memory for ‘facts’, there is some evidence that it can harm our memory for more complex and subjective experiences such as witnessing a crime.

In Week 5 we explored how difficult it can be to describe a face, and that verbal descriptions of faces tend to be inaccurate. Describing the face of a perpetrator involves rehearsing the information about their appearance – but does rehearsing incomplete or inaccurate information aid or harm memory?

To answer this question, Schooler and Engstler-Schooler (1990) showed participants a video of a crime scenario and then asked one group to provide a verbal description of the face of the perpetrator, a second group to form a visual image of the target’s face and a third group to do nothing. All three groups were then asked to identify the target from a line-up.

Those who were asked to produce a verbal description were significantly less accurate in choosing the target than the other two groups, whose results were similar. In other words, not only did rehearsing the information about the face of the target not aid memory, it actually seemed to make it worse.

The researchers suggested that the group asked to verbally describe the face may then have used this verbal memory of the face when they were asked to identify it – rather than the visual memory that would have been more accurate and that was used by the other two groups. Another way to see this is that by describing the face, a verbal memory was formed that somehow overwrote or 'overshadowed' the original visual memory.

This effect has become known as 'verbal overshadowing' and has been replicated in subsequent research. It is thought to resemble the effect of post-event information, in that the witness's memory of the original crime is 'overwritten' or altered by information encountered afterwards.

1.4 Unconscious transference

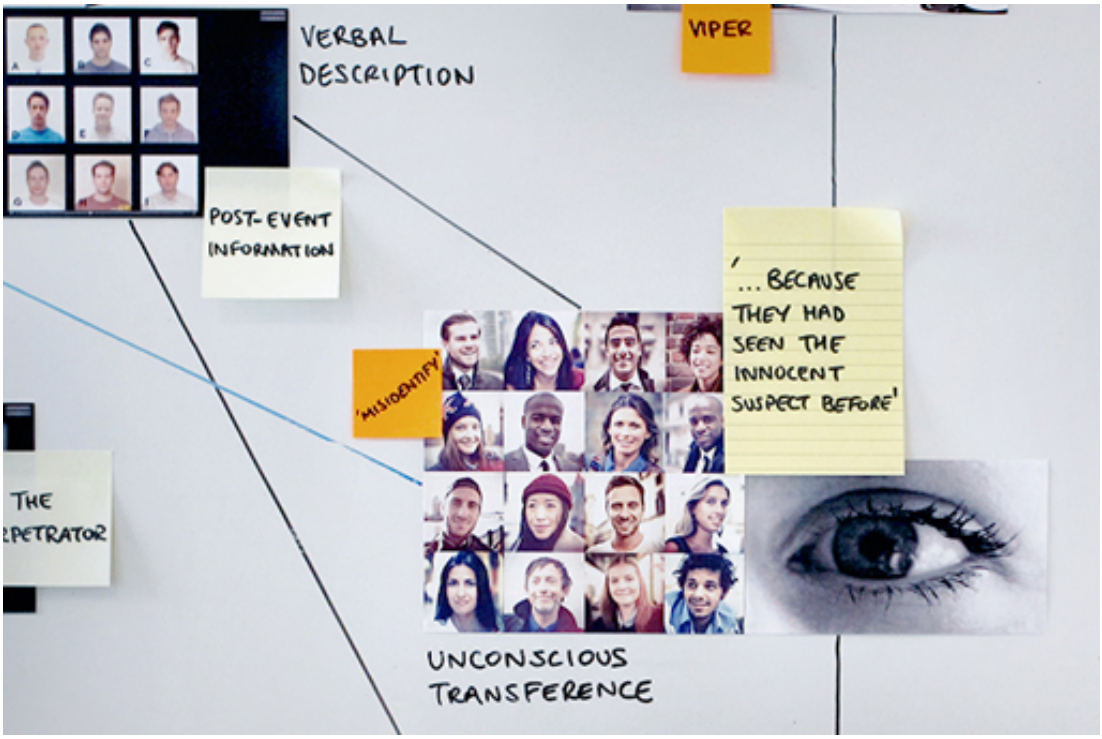

Figure 5

The term 'unconscious transference' refers to the situation where a witness may misidentify a suspect (who is actually innocent) because they had seen the innocent suspect before, but not as the perpetrator of the crime.

When a witness looks at the people in an identification parade, they are, in essence, looking at each face to see if it is familiar. But what if the witness had seen one of the faces before, in a context other than that of the crime being investigated? It is always possible, even if extremely unlikely, that the witness will have seen one of the foils previously and could, as a result of getting a feeling of familiarity when looking at their image, select them from the line-up. Identifying a foil could mean that a guilty suspect walks free, but a far more worrying situation is where the witness has seen an innocent suspect before and therefore selects them. In that instance, the parade will have produced evidence that could be used to convict an innocent person.

Ross et al. (1994) described a real case where a sailor was picked out from a line-up, not because he had committed the crime but because the victim, a railway ticket clerk, had

seen the sailor before when selling a ticket to him. In their experimental work, Ross and colleagues found that participants were three times more likely to ‘misidentify’ a bystander seen in a film of a robbery, than control participants who had seen a version of the film that did not include the bystander.

The odds of a witness having seen an innocent suspect prior to the line-up are hard to calculate, but it is possible that the police investigation itself could have exposed the suspect to the witness. For example, research has demonstrated that searching through a mug-shot album, and seeing the face of someone who then later appears in a parade, may well lead to a witness identifying that person, even if they are innocent and did not take part in the crime (Brigham and Cairns, 1988). Rather than identify the perpetrator, witnesses will identify the suspect whose face they had seen before, even though that person may not have been present near the original incident.

One likely explanation for why a witness would identify an innocent person who they had seen somewhere else, is that the memory for that person is mentally transferred into the memory for the crime. This happens without the witness’s knowledge (i.e it is done unconsciously), and is therefore referred to as ‘unconscious transference’.

2 Identification skills test

Now you will get the chance to test your own eyewitness identification skills using two different identification procedures.

In each of the videos coming up next, you will see a (staged) crime being committed and will then have to identify the perpetrator in an identification parade. Two of the videos involve a parade that is sequentially presented and the other two feature a parade using a simultaneous presentation.

2.1 Crime 1

Watch Crime 1 and see how accurate your identification skills are using the two different techniques. For each parade, record your response in your notebook as you will be given the correct answers at the end.

Please note there is no speech in this video.

Video content is not available in this format.

2.2 Parade 1

Now watch Parade 1 and see if you can identify the perpetrator. Record your response.

Please note there is no speech in this video.

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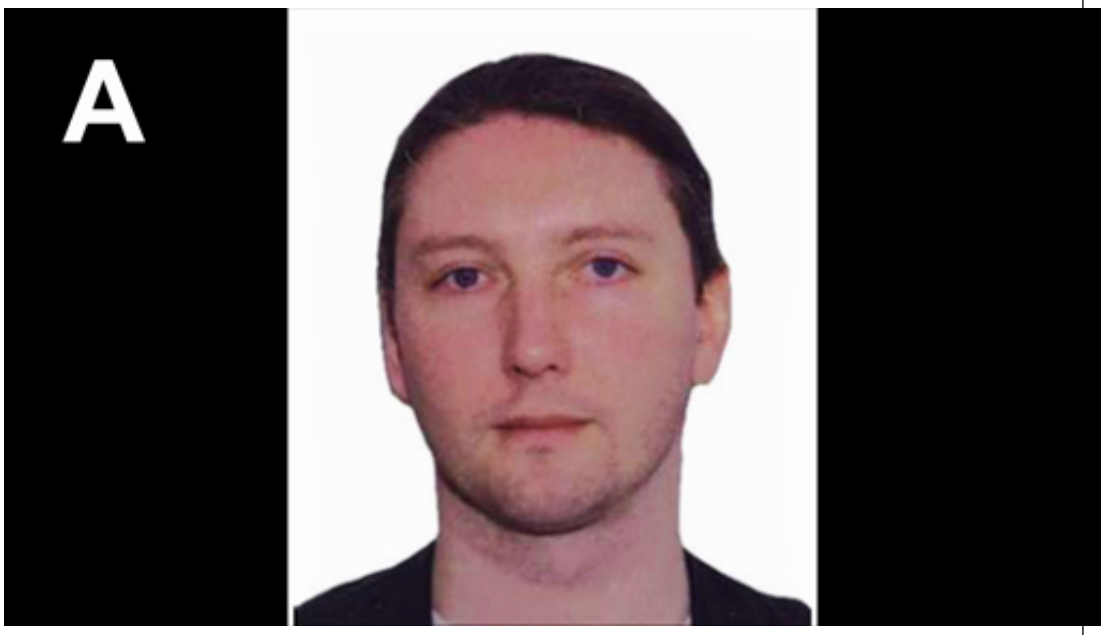


2.3 Crime 2

Now watch Crime 2, which contains a second (staged) crime. When you have finished, go to the next section and watch the identification parade.

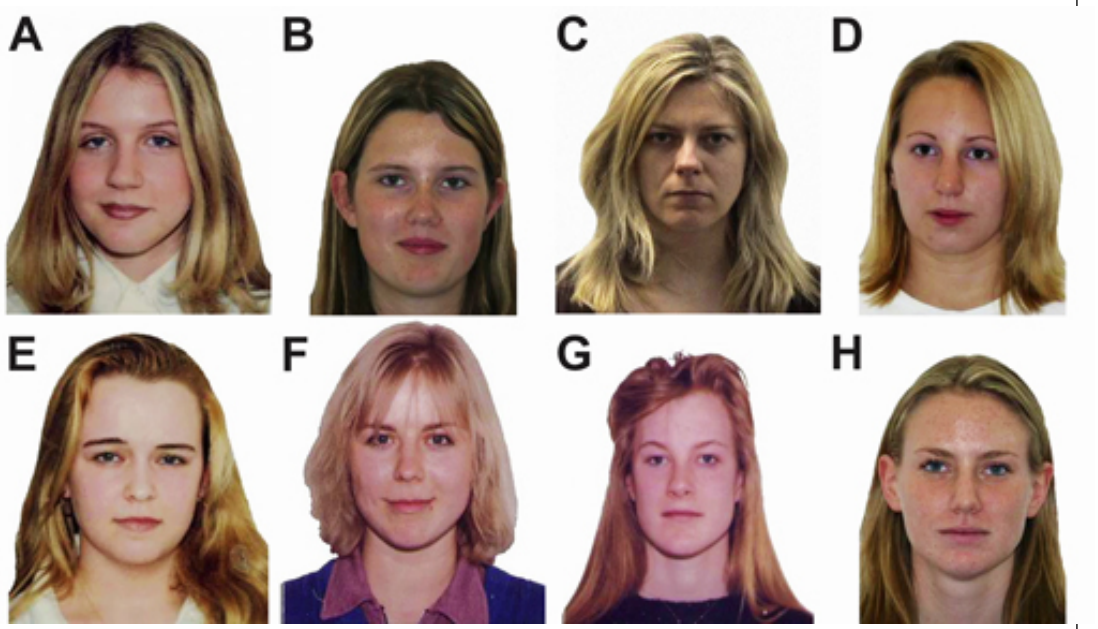
Please note there is no speech in this video.

Video content is not available in this format.

2.4 Parade 2

Now watch Parade 2 and see if you can identify the perpetrator. Record your response. Please note there is no speech in this video.

Video content is not available in this format.



2.5 Crime 3

Now watch Crime 3, which contains a third (staged) crime. When you have finished, go to the next section and watch the identification parade.

Please note there is no speech in this video.

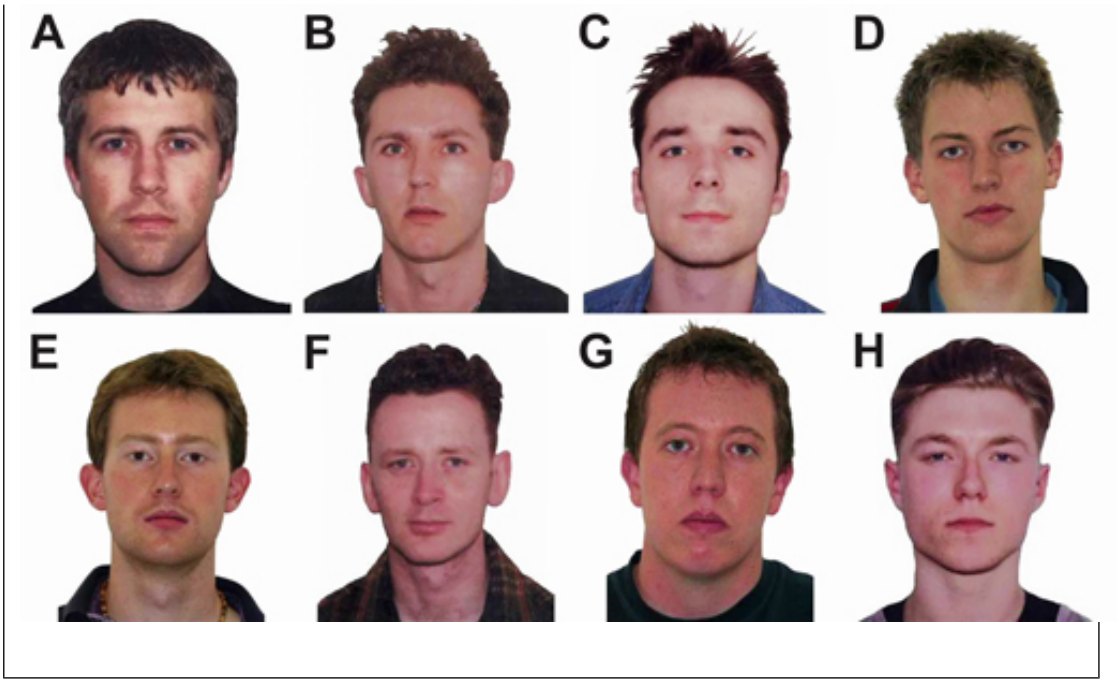
Video content is not available in this format.

2.6 Parade 3

Now watch Parade 3 and see if you can identify the perpetrator. Record your response.

Please note there is no speech in this video.

Video content is not available in this format.



2.7 Crime 4

Now watch Crime 4, which contains a fourth (staged) crime. When you have finished, go to the next section and watch the identification parade.

Please note there is no speech in this video.

Video content is not available in this format.

2.8 Parade 4

Now watch Parade 4 and see if you can identify the perpetrator. Record your response. Please note there is no speech in this video.

Video content is not available in this format.

2.9 Identification skills test: answers

Figure 6

The correct answers for the four staged crimes/ID parades were:

- Crime 1 – this was a sequential presentation – the correct answer was ‘B’
- Crime 2 – this was a simultaneous presentation – the correct answer was ‘C’
- Crime 3 – this was a simultaneous presentation – the correct answer was that the perpetrator was not present
- Crime 4 – this was a sequential presentation – the correct answer was that the perpetrator was not present.

Psychological research suggests that using a simultaneous presentation makes it more likely that a witness will select a face even if the perpetrator is not present. In the current task, that would mean you should have been more likely to make an incorrect identification for for crime 3 (which had a simultaneously presented line-up) than crime 4 (which had a sequentially presented line-up).

Remember that when researching eyewitness identification, it’s important to include a line-up that that does not contain the perpetrator, as this reflects the scenario of an innocent suspect (i.e. someone who is not the perpetrator) being investigated by the police (Steblay, Dysart, and Wells, 2011).

Did your decisions match this prediction? If not, it could be that you put the knowledge you have gained about psychology and investigations to good use!

The factors outlined here indicate the difficulties that witnesses face in providing accurate identification evidence, and also how careful the police have to be in constructing and conducting identification procedures.

3 DI Bullet's investigation so far

Based on his knowledge of local criminals, DI Bullet was fairly certain of who the armed robbers were before he began his interviews with Seth and Lila.

He used the interviews to ask the witnesses about his prime suspects, The Sergeant and Fat Baz. His skill in constructing a case and collecting evidence to support his ideas, meant that, as a result of the interviews, he had testimony from both witnesses that fitted his conclusions very well.

Without any physical evidence to corroborate his ideas, he decided not to proceed directly to arresting the suspects. Instead he wanted to see if he could generate additional evidence, before arresting them. DI Bullet perceives Lila as his star witness and sees Seth's role as only being useful in providing support for the evidence he gains from Lila. He asks Lila to create two Photofit images, one of the driver that kidnapped Liz and one of the unmasked robber. He worked with Lila, reminding her of the descriptions they agreed on at interview:

- Driver – 6 foot 4 inches, Caucasian male, a tough looking, bald guy in his 30s.
- Unmasked robber – 5 foot 3 inches, male, of Indian ethnicity, overweight, in his 20s and with long, black curly hair.

The Photofit images she produced are shown in Figure 6.

Figure 7 Photofit images produced by Lila

To check on the accuracy of the images, DI Bullet then shows them to Seth, who agrees that they are good likenesses. Bullet then asks Seth to search through an album of mug shots (photos of possible suspects) and see if he recognises any of them. The album contains photos of both The Sergeant and Fat Baz, but Seth fails to recognise them and says he is really not sure he can recognise the perpetrators. Concerned he may not have

looked properly, DI Bullet points out a few of the more likely suspects, including The Sergeant and Fat Baz. Seth looks at them carefully, but still says he is uncertain.

DI Bullet posts the Photofit images on the police website and has copies placed on noticeboards around the warehouse area where the abandoned car was found and where he knows The Sergeant and Fat Baz operate. The posters show the images and offer a reward for anyone offering information. Within a week, he has received 32 phone calls from people who have seen the Photofits and think they know who they represent. Three of these callers name Fat Baz and one names The Sergeant.

Believing this might be all the evidence it is possible to gather, DI Bullet arrests The Sergeant and Fat Baz.

3.1 DI Bullet shows the ID parades to Lila

Figure 8

DI Bullet has high hopes that Lila will provide the evidence he needs by identifying both of his prime suspects.

He constructs two identification parades each consisting of nine photographs – these being suspect and eight foils. Finding eight foils for The Sergeant is relatively easy, but he struggles to find sufficient matches for Fat Baz and so has to include three photos of middle-aged men and two teenagers.

To avoid cross-contamination of their evidence, DI Bullet shows the ID parades separately to Lila and Seth. He begins with Lila, placing the nine photos in The Sergeant's identification parade in front of her and says:

> Thank you for doing this Lila. You've been a star witness and I know you won't let me down now. In front of you are nine photos, one of which may be the person you saw kidnap Liz. Look at the photos very carefully. When you think

> you have identified the perpetrator of the crime you witnessed, please point to him.

Lila looks very carefully and takes her time but eventually says she is not sure. DI Bullet responds:

> Look. Don't worry about identifying an innocent person. If you pick any of the eight foils I'll just record this as a negative identification and nothing further will happen to that person. Nothing you can do will get anyone who isn't guilty into any trouble so you've got nothing to lose.

Lila looks a second time, constantly looking to DI Bullet for reassurance that she is not taking too long. After over two minutes of looking she points to the image of The Sergeant and says she thinks it could be him.

> Well done Lila, you've got the right one. Now let's have a go at the other guy you saw.

DI Bullet puts down the photo of Fat Baz and the eight foils. This time Lila only looks for a few seconds before selecting the image of the suspect.

> Great Lila, you got him too. Now remember you said in your statement that you were confident you could recognise the men again? You were right, you did recognise them. You just remember how good your memory is when you testify in court. The defence will try all sorts of games to mess with your head, but all you need to do is to keep repeating that you knew you would recognise them again, and you did. That's all there is to it.

3.2 DI Bullet shows the ID parades to Seth

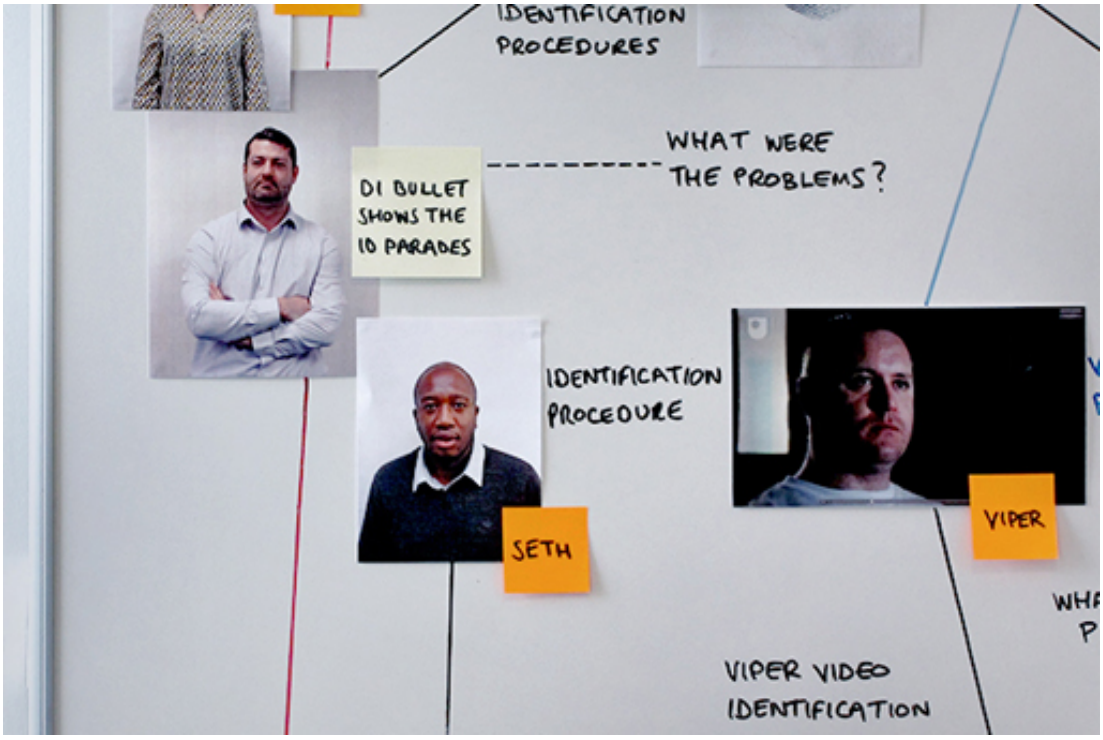


Figure 9

Next, DI Bullet shows Seth into the room and places the nine photos in the identification procedure for The Sergeant on the table.

He says:

> Now Seth. I think this has been a stressful time for you, but I've been very impressed with how you've coped. We're now at the final stage of the investigation. All you need to do is identify the men who you saw commit an armed robbery and kidnap your friend, and then you can go home. Job done. But Seth, we can't let these guys walk free, we've got to get them convicted, so I need you to try as hard as you can, okay? All you have to do is look at these photos carefully and tell me once you have identified the culprit. Simple.

Seth looks at the photos for about 20 seconds and points to the photo of The Sergeant and says:

> As soon as I saw that guy I just knew I'd seen him before. It's him, isn't it?

DI Bullet confirms that yes, that is the suspect, congratulates Seth and then replaces the photos with those of Fat Baz's identification procedure.

> Just do the same again Seth. Look carefully and let me know once you've worked out who it is. You seem to have a great instinct for this, so don't second guess yourself, trust your instincts.

Seth again spends about 20 seconds looking at the photos before confidently pointing to the one of Fat Baz, saying:

That was even easier. I mean, he just stood out.

DI Bullet once again congratulates him on picking the correct person.

3.3 What were the problems with the ID parades?

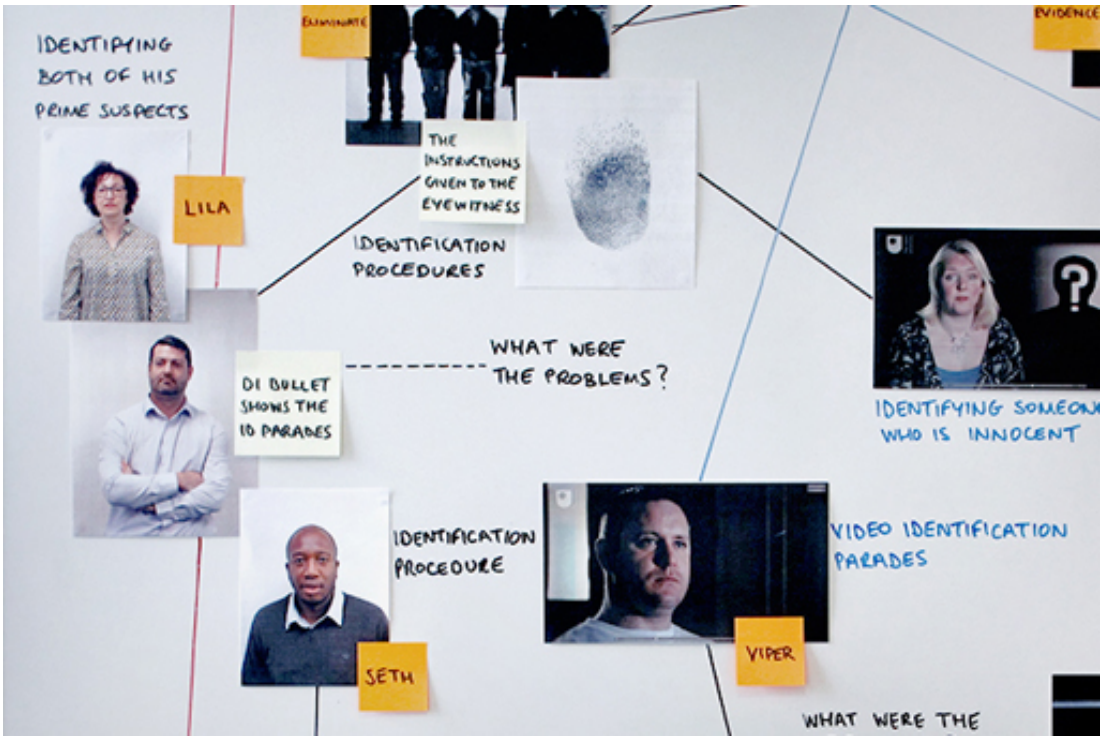


Figure 10

Using the knowledge you have gained about psychology, face recognition and eyewitness identification, do you think the ID parades conducted by DI Bullet were an effective means of obtaining accurate evidence?

Psychological research would suggest that there are some serious problems with the methods used by DI Bullet to conduct his identification parades. Look back over the previous two sections and see if you can work out what these are. Below are some hints for things to look for:

- **Instructions** – did the instructions used involve a leading question, and did they suggest to the witness that the perpetrator was definitely in the parade?
- **Procedure** – what procedure was used? Was it a sequential or simultaneous presentation, and how might this have impacted the witness's decision?
- **Structure** – was the parade a fair one, or might the suspect have stood out for some reason?
- **Verbal overshadowing** – ID parades are supposed to involve the witness comparing their memory of the perpetrator to the faces in the parade. Was that the case here, or might they have been relying on information (such as a verbal description, facial composite or information from the detective) from after the crime took place?

- **Unconscious transference** – if the witness has seen the suspect somewhere other than when committing the crime, it is possible that they are transferring that memory into their memory of who committed the crime. Is it possible that this is happening here?

These are the issues that you've focused on in this course, but they are certainly not an exhaustive list. Do feel free to note down any other problems you think there might have been.

Activity 1 Problems with ID parades

Allow about 15 minutes

Once you have worked out what you think the problems might be note them down.

Provide your answer...

3.4 DI Bullet's outcome

Figure 11

Very happy with the outcome, DI Bullet begins to write up his notes, knowing that he has statements and identification evidence from both witnesses that offer consistent and compelling evidence that will be very convincing when the case comes to trial.

DI Bullet believes that the two perpetrators, whose faces were seen during the robber and kidnapping, are The Sergeant and Fat Baz.

4 DS Sund's investigation so far

DS Sund collected a great deal of information from the two interviews she conducted. From this she was able to piece together a description of what happened in the crime and also what the perpetrators looked like.

She searched the police database for crimes that had been committed in a similar fashion and/or by similar looking people and this generated a few possible leads. To help generate suspects, DS Sund decided to ask Seth to construct a facial composite of the two perpetrators whose faces had been revealed during the course of the crime – these being the driver of the car and the unmasked robber.

Using the EFIT-V composite system, Seth produced the two images in Figure 12. DS Sund then posted these images on various websites and public noticeboards all around the city, along with a brief description of the crime committed. After the images had been displayed for a week, she had received 76 calls from members of the public who thought they recognised one or both of the images. After diligently following up all the possible leads, DS Sund narrowed her list of suspects to six people, who she then interviewed about their possible involvement in the crime and where they had been when it was being committed.

Figure 12 EFIT-V images of suspects produced by Seth

Investigating the information supplied further, she was able to rule out four of the six people as there was evidence that they could not have been at the crime scene at the time the crime happened. The remaining two people knew one another, fitted the descriptions provided by Lila and Seth and did not have an alibi that could be confirmed by anyone other than themselves. One of them also had a previous conviction for an armed robbery.

Without any physical, or other, evidence to go on, DS Sund decided to hold identification procedures. If neither witness was able to identify either of the two suspects, then she would rule them out of her investigation.

4.1 Video identification parades

Watch the following video in which an eyewitness views a video identification parade procedure using the VIPER system.

Video content is not available in this format.

DS Sund used a VIPER parade with Lila and Seth. VIPER parades involve presenting a sequence of clips, one after the other, that show a head and shoulders view of the suspect and foils. Each person is shown looking straight at the camera and then turning from side to side so that their face can be seen from multiple angles. The images are carefully controlled so that the background, lighting, etc. are identical, and foils can be chosen from a large database containing more than 25,000 possible people. Research has shown that this makes such parades 'fair', in that there is nothing that makes the suspect stand out, and the foils look suitably similar to the suspect.

You can find out more about the VIPER system here.

4.2 DS Sund shows the ID parades to Lila

Figure 13

DS Sund decides to show Lila a VIPER video identification parade for the driver first. Before showing the video she reads the following instruction:

> Lila, in a moment I am going to show you a video of nine persons. While the video is being shown you may at any point ask to see a particular part of the video again and ask to have a particular picture frozen which you may wish to study. There is no limit on how many times you can view the whole video or any part of it. When you have seen the video at least twice and you have indicated that you do not want to view it or any part of it again, I will ask you a series of specific questions. Do you understand?

Lila says she does and DS Sund continues:

> The person referred to in your statement to the police, who on Wednesday afternoon in the city square was seen committing an armed robbery and kidnapping, may or may not appear in the images shown. Do you understand?

Lila again says she does. DS Sund then begins the video, which Lila watches carefully, and at the end asks to see two of the images again. Once she has finished looking at the video, DS Sund reads the following instruction:

> Did the person you saw on Wednesday and later referred to in your statement to the police appear in the images just shown to you?

Lila indicates that yes, he does. DS Sund:

> Please tell me his number.

Lila says it is number 7, and DS Sund rewinds the video so that face 7 can be seen. She asks:

> Is this the person you were referring to when you made the identification?

Lila says that yes, it is.

DS Sund then repeats the process with the same instructions for the video identification parade of the unmasked robber. However, when Lila is asked 'Did the person you saw on Wednesday and later referred to in your statement to the police appear in the images just shown to you?', Lila responds that she is not sure.

At that point DS Sund thanks Lila for participating in the procedure and reminds her that she should get in contact if she remembers anything additional or has any concerns.

The person (face 7) selected by Lila from the first parade is the suspect that DS Sund has been investigating, so the result is that Lila provided a positive identification for this parade. As Lila did not select anyone from the second parade, the result was a negative identification.

4.3 DS Sund shows the ID parades to Seth

Figure 14

DS Sund decides to show Seth the two VIPER video identification parades in the same order, first the one for the driver and then the one for the unmasked robber. She once again reads the same instructions before and after showing the video parade.

The first time he watches the video parade for the driver, Seth asks for it to be paused on faces 2, 7 and 8. After the second time of seeing it he asks to see faces 2 and 7 again. When DS Sund asks him 'Did the person you saw on Wednesday and later referred to in your statement to the police appear in the images just shown to you?', Seth responds that he is just not sure.

DS Sund repeats the process for the video parade of the unmasked robber and this time Seth does not ask to see any of the faces again. In response to the questions after the parade, Seth says the person did appear in the images and that it was face 3.

DS Sund then thanks Seth for participating in the procedure and reminds him that he should get in contact if he remembers anything additional or has any concerns.

As Seth did not select anyone from the first parade, the result was a negative identification. The person (face 3) he selected from the second parade was the suspect that DS Sund had been investigating, so the result is that Seth provided a positive identification for this parade.

4.4 What were the problems with the line-ups?

Figure 15

Using the knowledge you have gained about psychology, face recognition and eyewitness identification, do you think the ID parades conducted by DS Sund were an effective means of obtaining accurate evidence?

Unlike the methods used by DI Bullet to conduct his identification parades, psychological research would suggest that DS Sund used a procedure far less likely to lead to a misidentification and far more likely to have obtained reliable evidence. Nonetheless, no procedure is perfect, so think carefully about the procedures used by DS Sund and see if you can identify any problems.

Below are the same list of hints of things to look for:

- Instructions – did the instructions used involve a leading question, and did they suggest to the witness that the perpetrator was definitely in the parade?
- Procedure – what procedure was used? Was it a sequential or simultaneous presentation, and how might this have impacted the witness's decision?

- Structure – was the parade a fair one, or might the suspect have stood out for some reason?
- Verbal overshadowing – ID parades are supposed to involve the witness comparing their memory of the perpetrator to the faces in the parade. Was that the case here, or might they have been relying on information (such as a verbal description, facial composite or information from the detective) from after the crime took place?
- Unconscious transference – if the witness has seen the suspect somewhere other than when committing the crime, it is possible that they are transferring that memory into their memory of who committed the crime. Is it possible that this is happening here?

Activity 2 Problems with line-ups

Allow about 15 minutes

Now, see if you can work out how DS Sund tried to avoid these problems. Note down your ideas.

Provide your answer...

4.5 DS Sund's outcome

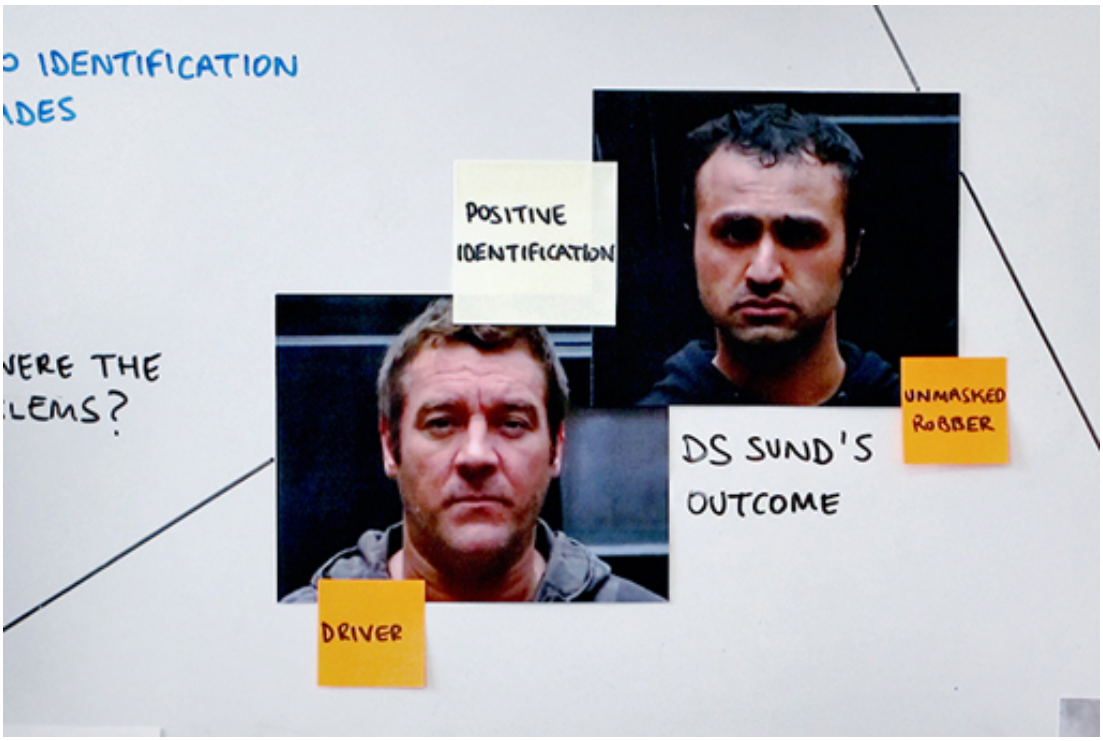


Figure 16

The two suspects being investigated by DS Sund are shown in the image above. The man on the left is suspected of being the driver, and who was identified by Lila, while the man on the right is suspected of being the unmasked robber, and who was identified by Seth.

DS Sund is worried that the only evidence available is that from eyewitnesses. However, she feels that the lack of an alibi and the positive identification of each of her two main suspects, is sufficient grounds to pursue the investigation of these suspects further. She arrests them, orders a search of their houses and begins to interview them further.

5 Week 6 quiz

Check what you've learned this week by taking this end-of-week quiz.

Week 6 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

6 Summary of Week 6

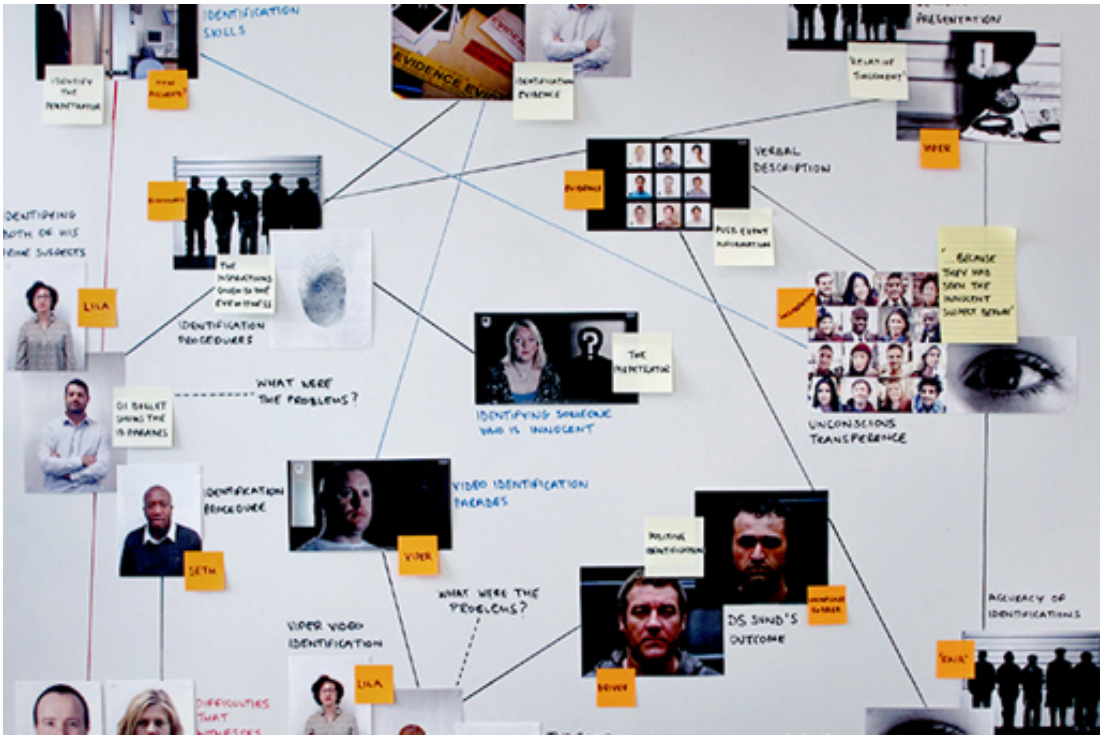


Figure 17

This week you have explored eyewitness identification, and seen how the instructions, procedures and structure of ID parades can have a dramatic effect on the reliability of the evidence obtained.

Although they are investigating the same crime and relying on the same two witnesses, DI Bullet and DS Sund have ended up arresting completely different suspects who were then identified by the witnesses. The worrying thing is that the techniques used by DI Bullet do not appear unreasonable. He has not fabricated evidence, bribed witnesses or used unscrupulous informants. In addition, the case he has built looks more compelling than that of DS Sund, as he has positive identifications from both his witnesses, and their testimonies are remarkably consistent. It is only once the psychology involved is considered, that his approach begins to look very problematic indeed.

In contrast, DS Sund has used techniques based on the results of psychological research and that seek to avoid biasing or contaminating the memories of the two witnesses. In addition, DS Sund approached the investigation with an open mind and followed the evidence, unlike DI Bullet who formed an initial impression and then tried to obtain evidence to prove he was right.

Next week, you will see exactly what happened in the armed robbery and who the perpetrators were. Who will prove to have the more accurate case, DI Bullet or DS Sund? You will also find out how well the Greater Manchester Police managed to solve the case, and be able to compare your own solution to theirs.

You can now go to Week 7.

Week 7: Whodunnit?

Introduction

First, watch the weekly video with Graham and Catriona.

Video content is not available in this format.

This week, you'll evaluate the investigations conducted by DI Bullet and DS Sund and determine how sound their conclusions are. You will also get a chance to solve the crime yourself before seeing what actually happened, and seeing how well real police officers managed to solve it.

You'll be presented with the cases for the prosecution that have been built on the evidence collected by our two detectives, DI Jake Bullet and DS Lara Sund. In a real case, the defence team can bring in experts to give evidence to the jury about certain aspects of the case. Psychologists can be asked to provide expert testimony on many things, including issues of mental health and eyewitness memory. When evaluating the prosecution cases, you will take the part of a psychologist who has been hired by the defence as an expert on eyewitness memory. Your job will be to evaluate the way the evidence was collected and use the knowledge you have about eyewitness memory to show that the prosecution's case is flawed.

In producing your expert evaluation, try and judge which pieces of evidence are the most reliable. These will come in very useful at the end of the activity when you attempt to solve the crime yourself.

1 DI Bullet solves the crime

Figure 1

This is how DI Bullet thinks the crime happened:

- A silver Audi, number plate NG58 VXW, screeches round a corner and into the street.
- Four men jump out and start firing shotguns. The driver is in charge and calls orders to the others.
- The men are dressed in camouflage with dark jackets. Two men are masked.
- The masked men hold guns on two security guards, while an unmasked man tackles one to the ground and cuts the chain attaching a case to the guard's arm.
- While this is happening, the driver approaches Seth, Lila and Liz, threatens them with a shotgun and drags Liz back to the car and pushes her inside.
- The four men then jump into the car which pulls away at speed.
- The car is abandoned a few miles away with Liz still inside.
- The unmasked robber is short (approx. 5 feet 3 inches), of Indian ethnicity, in his early 20s, overweight and has long, dark hair.
- The driver is tall (approx. 6 feet 4 inches), Caucasian, bald and has a muscley build.

The unmasked robber is the man known as Fat Baz. The evidence for this is:

- the description from both witnesses matches him very closely
- the Photofit is a very good resemblance of him
- both witnesses identified him in an identity parade.

The driver is the man known as The Sergeant. The evidence for this is:

- the description from both witnesses matches him very closely
- the Photofit is a very good resemblance of him
- both witnesses identified him in an identity parade.

1.1 The case for the prosecution

Figure 2

The men known as The Sergeant and Fat Baz maintain that they are innocent of the crime of which they are accused during their interviews with DI Bullet and both plead not guilty at court.

The alibi offered by both men is not believed, as the only people that can verify where the two were at the time of the crime have prior criminal records.

The prosecution offer the following evidence:

- statements taken from both witnesses
- recordings of the interviews with both witnesses
- the outcome of the identification procedures attended by both witnesses
- the Photofits are not entered as evidence, but mention of their similarity to the two people accused is made in the opening statement of the prosecuting barrister.

This evidence is offered in support of the conclusions drawn by DI Bullet and of the guilt of the men known as The Sergeant and Fat Baz.

1.2 The case for the defence

Figure 3

The defence team have hired you as an expert psychologist and asked you to work through the prosecution defence and report any problems you can see. Below are the key pieces of evidence being used by the prosecution.

Think about each one carefully in light of all you have learned about the psychology of eyewitnesses and police investigations. Is the evidence sound?

- The initial statements provided by the two eyewitnesses are consistent in terms of describing what happened
- The interviews with both eyewitnesses provide detailed descriptions that are a very good match for the two men accused
- Several members of the public identified the accused from the Photofits
- Both eyewitnesses identified the two men accused in line-ups.

Following is an activity to test your evaluation of the evidence. Each question contains one of the pieces of evidence above and several potential ways of evaluating it. One of these evaluations was provided by a psychological expert on eyewitness testimony that has acted as an expert witness in court. See if your evaluation matches theirs.

Activity 1 Evaluate the prosecution's evidence (DI Bullet's case)

Allow about 15 minutes

Q1. 'The initial statements provided by the two eyewitnesses are consistent in terms of describing what happened.' This piece of evidence is:

- ○ Reliable, because two people remembering the same facts is better than the memory of just one.

This is incorrect. If witnesses are prevented from sharing accounts, then arguably two people remembering the same fact might be better than just one. However, if they do hear what each other has to say, then their evidence cannot be treated as independent.

○ Unreliable, because the crime was violent and research has shown that this puts witnesses under a great deal of stress which leads to them having very poor memories.

This is incorrect. The results of relevant research are not clear cut, but do not support the suggestion that violent crimes are too stressful to ever lead to reliable eyewitness evidence.

Have a look back at 3.2.4 The influence of stress and arousal and 2.1.2 Co-witnessing.

○ Reliable, as it is important to corroborate evidence, and here the evidence from one witness corroborates that from the other.

This is incorrect. Although corroboration is important, as the witnesses heard each other's accounts, it is not possible to use them to corroborate one another.

○ Unreliable, because the two witnesses heard each other's accounts. This would have lead them to alter their own account so as to be consistent with that of the other witness.

Correct! The co-witnessing effect makes this evidence unreliable.

Q2. 'The interviews with both eyewitnesses provide detailed descriptions that are a very good match for the two men accused.' This piece of evidence is:

○ Unreliable, because of the approach to interviewing that was taken, which included many leading questions.

This is the correct answer. Much of the evidence collected by DI Bullet was actually first suggested by him in leading questions in order to confirm his existing theories.

You may find 3.3.5 Types of questions useful.

○ Reliable, because both witnesses provided similar descriptions.

This is incorrect. Not only had the witnesses previously shared accounts, but a lot of the information was provided to them post-event through leading questions asked at the interview.

You may find 3.3.5 Types of questions useful.

○ Unreliable, because witnesses are just unable to provide accurate descriptions of the appearance of a perpetrator.

This is incorrect. Although describing a face and other personal characteristics can be problematic, witnesses are much more accurate at providing descriptions of sex, age and ethnicity, for example.

You may find 3.3.4 Memory, questioning and suggestibility useful.

○ Reliable, because the witnesses were interviewed separately, thus avoiding the effects of co-witnessing.

This is incorrect. Although they were interviewed separately, they had previously had a chance to share account. Moreover, even when interviewed alone, there are many other factors that can lead to the evidence obtained being unreliable.

You may find 3.3.4 Memory, questioning and suggestibility useful.

Q3. 'Several members of the public identified the accused from the Photofits.' This piece of evidence is:

○ Unreliable, because not every person who saw the photofits identified the accused.

This is incorrect. Facial composite images are not used in a way that requires everyone who sees them to identify the same person. Indeed, it is expected that they will generate different suspects.

You may find 5.2.4 Comparing E-FIT and EFIT-V useful.

○ Unreliable, because facial composites generate potential suspects and should not be used as evidence concerning the identity of the perpetrator.

This is the correct answer.

You may find 5.2.4 Comparing E-FIT and EFIT-V useful.

○ Reliable, because several members of the public identified the same person.

This is incorrect. Regardless of how many people think they recognise the same person from the facial composite, this is not how such images are supposed to be used.

You may find 5.2.4 Comparing E-FIT and EFIT-V useful.

○ Reliable, as the composites did resemble the two people being accused.

This is incorrect. They may have resembled the accused, but how many other people did they also resemble, maybe even resemble better than the accused.

You may find 5.2.4 Comparing E-FIT and EFIT-V useful.

Q4. ‘Both eyewitnesses identified the two men accused in line-ups.’ This piece of evidence is:

○ Reliable, as both witnesses picked the same two people.

This is incorrect. Regardless of the decision made by the witness, an identification parade is only reliable if it was conducted in an unbiased fashion.

Have a look back at Week 6.

○ Reliable, because a simultaneous style was used to present the images in the identification parade.

This is incorrect. Research suggests that simultaneous presentation is more likely to lead to a misidentification than if the images are presented one at a time (sequentially).

You may find 6.1.1 Simultaneous vs sequential presentation useful.

○ Unreliable, as not only were biased instructions and unfair parades used, but the witnesses may have identified the accused due to unconscious transference.

This is correct. The instructions used by DI Bullet strongly suggested that the perpetrator was definitely present in the parade, not all of the pictures were a good match for the suspect and the witness had seen photos of the suspects previously in a mug-shot album, which could have lead to unconscious transference.

Have a look back at Week 6.

○ Unreliable, because nine photographs were used and this is just too many for a witness to deal with effectively.

This is incorrect. When you think about it, the more images that are used, the less likely it is that the witness will select an innocent suspect by chance alone. Identification parades containing nine images are routinely used.

You may find 6.1.1 Simultaneous vs sequential presentation useful.

1.3 Summing up DI Bullet's case

Figure 4

How easy was it to evaluate the evidence, and did your evaluation match that of the expert? Although the evidence is consistent and may appear persuasive in suggesting the guilt of The Sergeant and Fat Baz, there were significant flaws throughout the entire investigation. In particular:

- We would expect the statements to be consistent because of the co-witnessing effect. The witnesses heard each other's account, which could easily have led them to change their memories to fit what they heard the other witness say.
- The interviews were based on a very large number of leading questions that introduced a lot of post-event information. Again, this could easily result in the memories of the witnesses changing to incorporate the information supplied in the questions.
- The composites were created using a system that is not a good match for how we remember and recognise faces. The images produced are therefore unlikely to be accurate.
- The identification parades involved a simultaneous presentation and both witnesses were given instructions that would have led them to believe that the perpetrator was present. In addition, they were actively encouraged to select someone.

There is also the fact that the only evidence available was that of eyewitness testimony – which is not really reliable enough to build a case on in the absence of other evidence. It is also important to consider the overall approach to the investigation. DI Bullet had a hunch as to who the perpetrators were following the initial statements. He then conducted the rest of the investigation in order to produce evidence that the two men were guilty, including asking leading questions that conformed to his idea of how the crime unfolded and who committed it.

2 DS Sund solves the crime

Figure 5

It should be clear by now that DS Sund conducted her investigation using a very different approach to DI Bullet, and that the techniques she used were based on psychological knowledge of eyewitness memory. Will you be able to find problems in the way she handled things or will her investigation stand up to your expert scrutiny?

DS Sund is not confident that she has an accurate description of the crime, but based on the evidence she gained from the witnesses, the following is her best estimate of how the crime happened:

- Seth, Lila and Liz enter the street just as two armed men approach a security van.
- One man is masked, and the other is not, though may initially be wearing a helmet that is knocked off in a fight with one of the guards.
- The unmasked robber struggles with one of the guards, pushes him to the ground and removes a case that is chained to the guard using some form of tool.
- While this is happening, a third man approaches the witnesses as Liz has taken out a mobile phone. This man is likely to be masked, either like the other man or possibly wearing a cap and sunglasses.
- As the man grabs Liz, a silver Audi, number plate NG58 VXW, reverses into the street and all four doors open. The driver gets out and the other three men run towards the car and get in. The one near the witnesses drags Liz with him and forces her into the car, which then drives away.
- The men were wearing dark jackets, possibly with hoods, and army fatigues.

- The unmasked robber is 5 feet 9 inches, in his early 20s, of average build, possibly slim, and has dark hair, darkish skin and is of either Middle Eastern or Indian ethnicity.
- The driver is also about 5 feet 9 inches, Caucasian, in his 30s, has short hair and had a muscley build.

The unmasked robber is the man shown in the right-hand image above. The evidence for this is:

- the description from the witnesses does not contain any details that would rule him out
- one of the witnesses identified him in an identity parade.

The driver is the man shown in the left-hand image above. The evidence for this is:

- the description from the witnesses does not contain any details that would rule him out
- one of the witnesses identified him in an identity parade.

2.1 The case for the prosecution

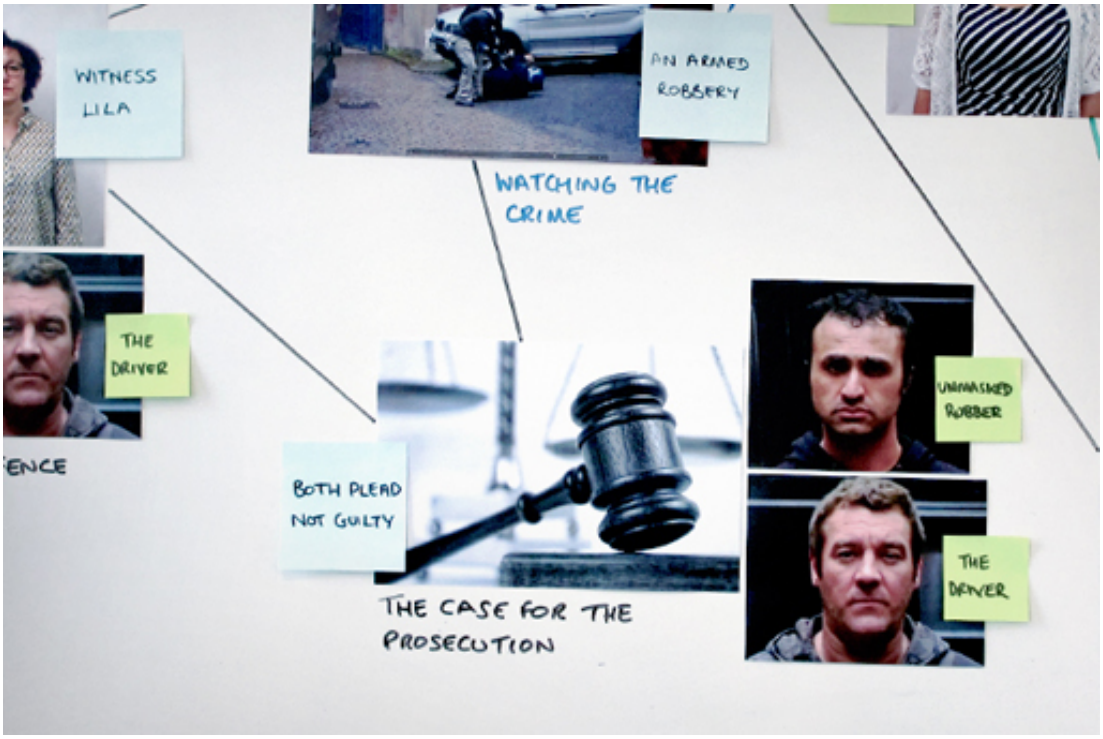


Figure 6

During their interviews with DS Sund, the two men maintain that they are innocent of the crime of which they are accused and both plead not guilty at court. Neither are able to offer an alibi that can be substantiated. The prosecution offer the following evidence:

- statements taken from both witnesses
- recordings of the interviews with both witnesses

- the outcome of the identification procedures attended by both witnesses.

This evidence is offered in support of the conclusions drawn by DS Sund and of the guilt of the two men.

2.2 The case for the defence

Figure 7

The defence team have hired you as an expert psychologist and asked you to work through the prosecution defence and report any problems you can see. Below are the key pieces of evidence being used by the prosecution.

Think about each one carefully in light of all you have learned about the psychology of eyewitnesses and police investigations. Is the evidence sound?

- The initial statements provided by the two eyewitnesses are very consistent in terms of describing what happened.
- The interviews with both eyewitnesses provide detailed descriptions that are a very good match for the two men accused.
- The two men were identified by one of the eyewitnesses.

As with DI Bullet's case, the next activity will test your evaluation of the evidence obtained by DS Sund. Each question contains one of the pieces of evidence above and several potential ways of evaluating it. One of these evaluations was provided by a psychological expert on eyewitness testimony that has acted as an expert witness in court. See if your evaluation matches theirs.

Activity 2 Evaluate the prosecution's evidence (DS Sund's case)

Allow about 20 minutes

Q1. 'The initial statements provided by the two eyewitnesses are very consistent in terms of describing what happened.' This piece of evidence is:

○ Reliable, because the statements were obtained without letting the witnesses share accounts and without the use of leading questions.

This is correct. The witnesses provided similar evidence about what happened without being able to confer and the information came from their memories rather than being suggested by the detective.

○ Unreliable, because the witnesses were not provided with the opportunity to share accounts.

This is incorrect. Witnesses should not be allowed to confer as it is very likely that they will change their accounts as a result.

○ Reliable, because human memory is very accurate at providing detailed accounts of events.

This is incorrect. We should not expect witnesses to provide very detailed accounts of events, nor be dismissive of those who can only provide a few details.

You may find 2.1 Remembering different aspects of a crime useful.

○ Unreliable, because the statements were obtained too soon after the crime, when the witnesses would still have been anxious and therefore stressed.

This is incorrect. The results of research on stress are not clear cut, but do not support the suggestion that violent crimes are too stressful to lead to reliable eyewitness evidence and in general, because we tend to forget more and more as time goes by, it is better to interview witnesses as soon as possible.

Have a look back at 3.2.4 The influence of stress and arousal and 2.1.2 Co-witnessing.

Q2. 'The interviews with both eyewitnesses provide detailed descriptions that are a very good match for the two men accused.' This piece of evidence is:

○ Unreliable, because estimates of height, age and weight are always biased by the witness's own characteristics.

This is incorrect. Although witnesses do tend to use their own weight etc. as an 'anchor' it is possible to overcome this problem by asking them to make judgements relative to known people/objects rather than provide numerical estimates.

Have a look back at Week 4.

○ Reliable, because the witnesses were questioned in a safe environment and not back at the crime scene.

This is incorrect. Although it is certainly important for witnesses to feel safe, 'context reinstatment' suggests that interviewing a witness where the crime happened could actually jog their memory and improve the amount and accuracy of the evidence they provide.

Have a look back at Week 4.

○ Unreliable, because the same interviewer was used in both interviews, the opinions they formed from the first witness would have then contaminated the memory of the second witness.

This is incorrect. Although interviewers need to be aware of this problem, it can be overcome by using appropriate questioning techniques and particularly by avoiding leading or suggestive questions.

Have a look back at Week 4.

○ Reliable, because a cognitive interview was used and the interviewer avoided influencing or contaminating the memory of the witnesses.

This is the correct answer.

Have a look back at Week 4.

Q3. 'The two men were identified by one of the eyewitnesses.' This piece of evidence is:

○ Unreliable, because one of the witnesses failed to identify each of the suspects.

This is incorrect. Remember that it wasn't that the other witness identified someone else, but said that they were not sure. Although we need to be very careful indeed when it comes to eyewitness identification evidence, we should not expect every witness to be able to identify every perpetrator.

○ Unreliable, because a sequential presentation style was employed.

This is incorrect. Research suggests that a sequential presentation style should lead to less chance of an innocent suspect being identified compared to showing all the images at once (a simultaneous presentation style).

You may find 6.1.1 Simultaneous vs sequential presentation useful.

○ Reliable, because the parades used unbiased instructions, a sequential presentation and the construction was fair.

Correct! Research has shown video parades constructed from a large database (such as the VIPER parade used here) to be fair and they also involve showing the faces one at a time. DS Sund was also careful not to use a biased instruction, but to point out that the perpetrator might not be present in the parade.

You may find 6.3.1 Video identification parades useful.

○ Reliable, as the witnesses were close to the perpetrators under good lighting conditions, and according to the 'Rule of Fifteen' this will make their identifications accurate.

This is incorrect. The Rule of Fifteen sets out the minimum distance and lighting conditions that are needed, but it does not follow that identification will always be accurate if these conditions are met – particularly not if biased instructions and unfair line-ups are used.

You may find 2.1 Remembering different aspects of a crime useful.

2.3 Summing up DS Sund's case

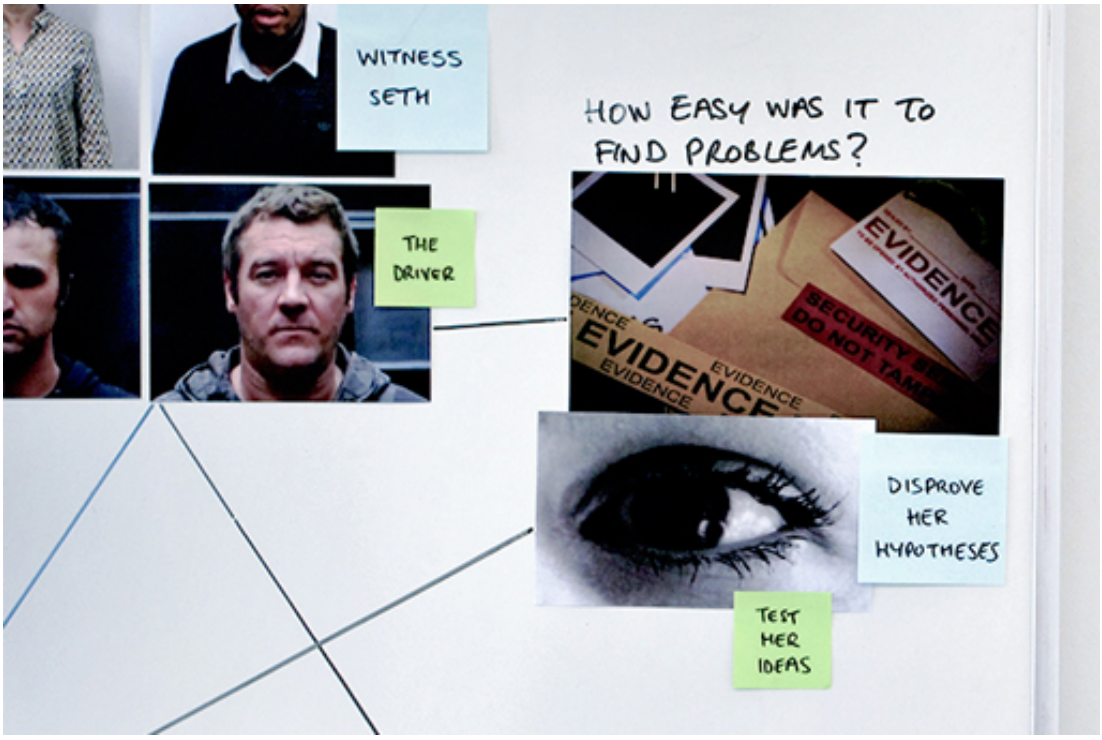


Figure 8

How easy was it to evaluate the evidence and the way it was collected, and did your evaluation match that of the expert?

As with DI Bullet's investigation, there is the fact that the only evidence available was that of eyewitness testimony – which is not really reliable enough to build a case on in the absence of other evidence. However, unlike DI Bullet, DS Sund did attempt to evaluate the evidence objectively and test her ideas about what happened by looking for evidence that would disprove her hypotheses and rule people out of the investigation. In other words, she did not only look for evidence that was consistent with her ideas.

Two problems that you might have identified were:

- there were inconsistencies in the testimonies of the witnesses
- only one of the witnesses identified each of the suspects.

Although these points are worth considering, the question to ask is whether it is better to have one unbiased identification than two identifications from biased procedures. In addition, we should be suspicious not of two witnesses who disagree on certain details, but of witnesses who offer almost identical accounts – as the chances are this is either because of the co-witnessing effect or poor investigative techniques (such as the use of leading questions).

However, how much weight you place on the two investigations and the evidence gathered is entirely up to you.

2.4 Which investigation produced the best results?

Figure 9

In Week 1 you chose between DI Jake Bullet and DS Lara Sund as the detective you thought most likely to solve the case. Has your opinion changed?

3 What do you think happened?

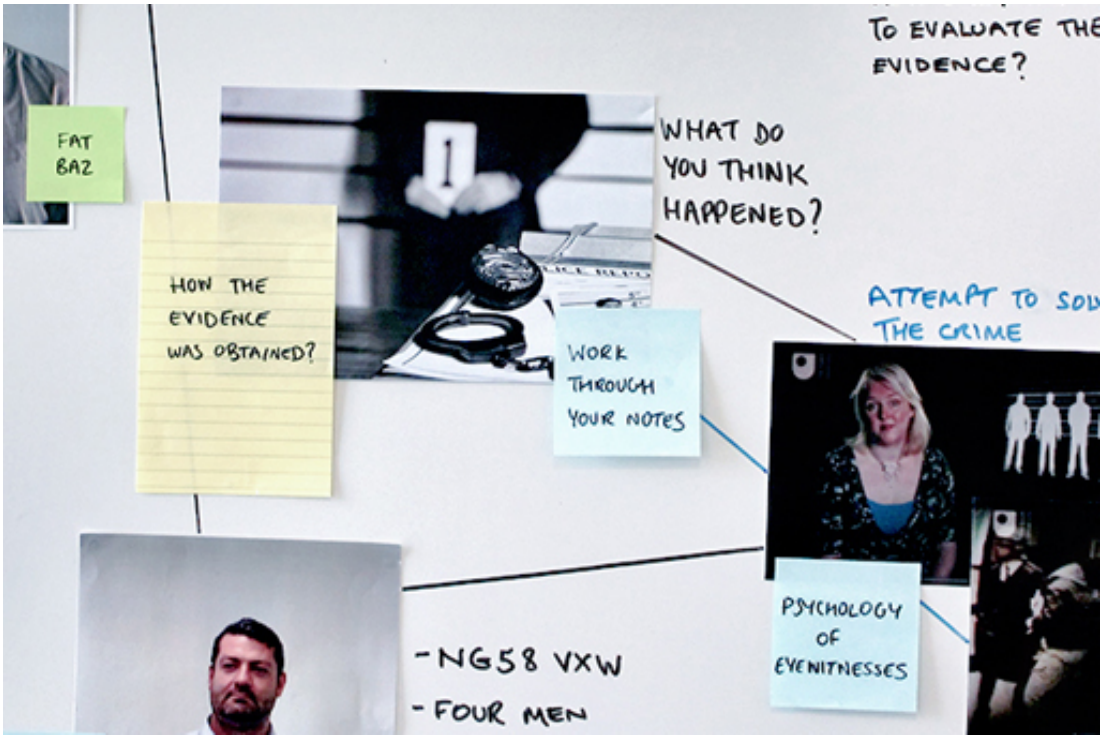


Figure 10

Now it's your turn. You've seen and evaluated all the evidence and made notes about what you think is reliable and not so reliable.

After you have constructed your own solution, you will get a chance to actually view the crime and also see how well real police officers managed to solve it.

Activity 3 What happened

Allow about 1 hour

Work through your notes and write out a description of what you think happened. As you piece together your version of what happened in the armed robbery and kidnapping, bear in mind all the psychological knowledge you've gained and see how well it can be applied. Applying it to the crime is an extremely good way of helping to learn it! It really helps to get it 'into your head'.

All the information you need to produce a very accurate description of what happened has been provided to you. Unfortunately, just as in a real case, you have also been provided with a lot of information that is inaccurate. Can you work out which is which?

The best way of doing this is to look at how the evidence was obtained. Alternatively, you could just trust your instincts …

Here are a few questions that might help you, as they focus in on some of the points that differ between the investigations of DI Bullet and DS Sund:

- Did the crime start with the car pulling into the street and the four perpetrators jumping out, or did the car reverse into the street towards the end of the robbery?

- Did the driver grab Liz, or was it someone else?
- Was the unmasked robber short and overweight, or average height and average to slim build?
- Was the driver bald and 6 feet 4 inches, or was he of average height and have hair?
- Was the driver the leader and shouting orders at the others?

There are many other disputed points, including inconsistencies between the descriptions provided by the two witnesses in DS Sund's investigation.

As well as working out what happened, also try to decide who the perpetrators were. Each detective has provided two suspects. Do you think any of these four is one of the perpetrators, or maybe neither detective has got it correct?

3.1 Watching the crime

Watch the following video.

How did the crime unfold? Did it match your predictions about what took place?

Video content is not available in this format.

The crime was staged as part of a collaboration between The Open University and the BBC and filmed using hidden cameras. The perpetrators, security guards and Liz were all played by actors. The witnesses – you will see that there are more than just two – were members of the public who volunteered to participate.

Next, you will find out how well the Greater Manchester Police managed to work out what happened.

3.2 How well did the police do?

Video content is not available in this format.

Did you solve the crime or, like DI Bullet, did your investigation lead to identifying an innocent suspect?

Although we have written DI Bullet as somewhat of a caricature, his investigative approach of trying to find evidence that supports his initial conclusions and of using biased investigative techniques unfortunately has led to wrongful convictions in real life – as you saw in Week 1 when looking at the Innocence Project. DS Sund's investigation was a lot more accurate and did lead to identifying the correct suspects – and has hopefully demonstrated to you that developing investigative techniques that avoid leading questions and bias identification parades can have a very positive effect indeed.

Once the staged crime had finished, The Greater Manchester Police (who kindly volunteered to take part) were called in to investigate it. The only evidence they had access to was that which they could gather from the eyewitnesses. Unlike you, DI Bullet and DS Sund, they did have access to more than just two witnesses, do you think this would have made their jobs easier or harder?

4 This week's quiz

Check what you've learned this week by taking this end-of-week quiz.

Week 7 practice quiz

Open the quiz in a new window or tab then come back here when you're done.

5 Summary of Week 7

Figure 11

The Greater Manchester Police managed to produce a very accurate account of how the crime occurred, and also used identification procedures to identify the two perpetrators whose faces were visible.

Being able to see a video of what happened after their investigation proved an invaluable tool, as it allowed them to see how well the investigative techniques they employed worked. It is important to note that their investigation was conducted in a similar fashion to that of DS Sund, in that they used the cognitive interview and VIPER video identification parade procedure, both of which helped to avoid leading questions and biased techniques.

However, no matter how good the investigative techniques are and how well they are designed to make the most of psychological knowledge, it is important to remember that eyewitness evidence is very often unreliable – and that telling accurate from inaccurate memories can be impossible!

Next week, you'll explore some of the latest research into the psychology of eyewitnesses and also test the knowledge you have gained throughout this course.

You can now go to Week 8.

Week 8: Conclusion

Introduction

Congratulations on reaching the end of the course! Watch the final weekly video with Catriona and Graham.

Video content is not available in this format.

You have learned about the psychology involved in obtaining evidence from eye-witnesses, and have followed two very different police investigations through to their conclusion. This week, you will look at some new psychological research on eyewitnesses and explore psychology more broadly.

You'll look at some of the latest research being conducted in the area, at the broader work of forensic psychologists and also at how you can learn more about psychology.

1 New research

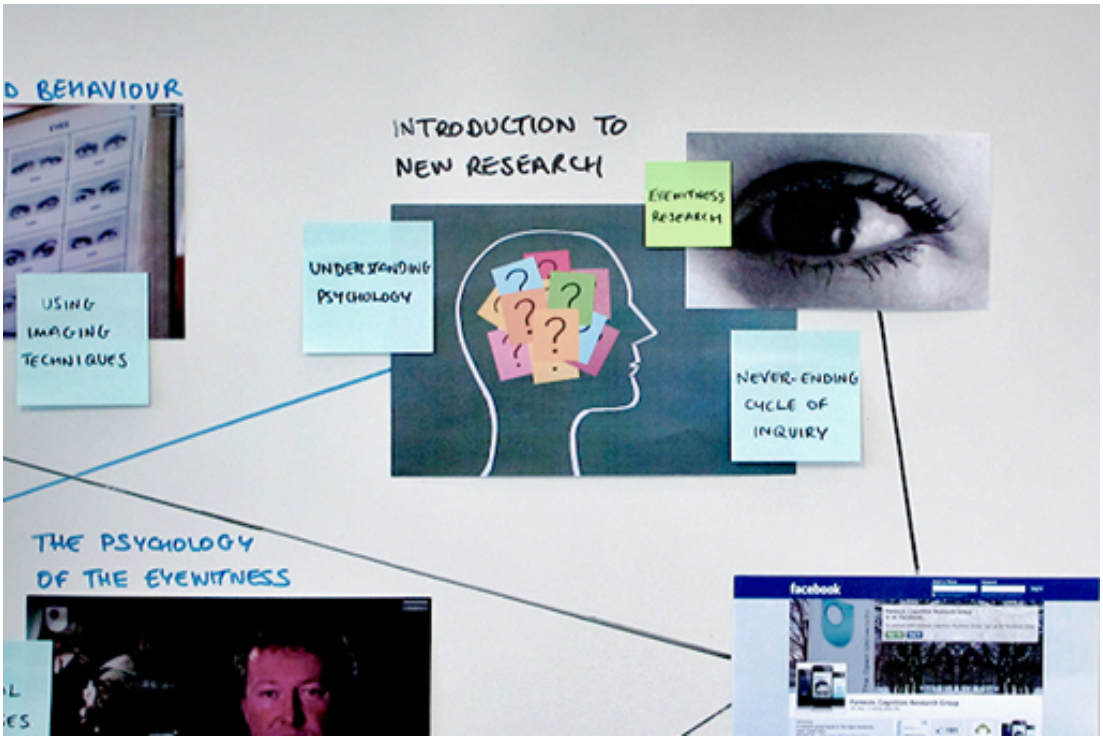


Figure 1

Hopefully you will agree that understanding psychology is critical when working with eyewitnesses, and also that psychological research has helped improve the accuracy of eyewitness evidence a great deal.

Research works in a never-ending cycle of enquiry, with new studies generating new insights which lead to new questions that can only be answered by conducting new studies. As a result, a great deal of new psychological research has undoubtedly been conducted while you've been completing this course.

Next, you'll look at examples of some of the latest eyewitness research to be conducted at The Open University, and hear from the academics who are conducting the research. You will then go on to consider some of the practical and ethical dimensions involved in researching eyewitness psychology.

1.1 Mystery man

In this course you have concentrated on adult eyewitnesses, but a great deal of research has looked at child witnesses.

In the following video Catriona looks at a new technique that could help obtain identification evidence from young children.

Video content is not available in this format.

1.2 Reading minds and behaviour

The research you've explored in this course has been based on measuring eyewitness behaviour – such as identification accuracy and the amount of information recalled in an interview. However, it is possible to study the brain more directly by using imaging techniques.

In the next video, Hayley Ness considers what insights might be gained into the thought processes of an eyewitness by measuring the activity in their brain.

Video content is not available in this format.

1.3 Eyewitness survey

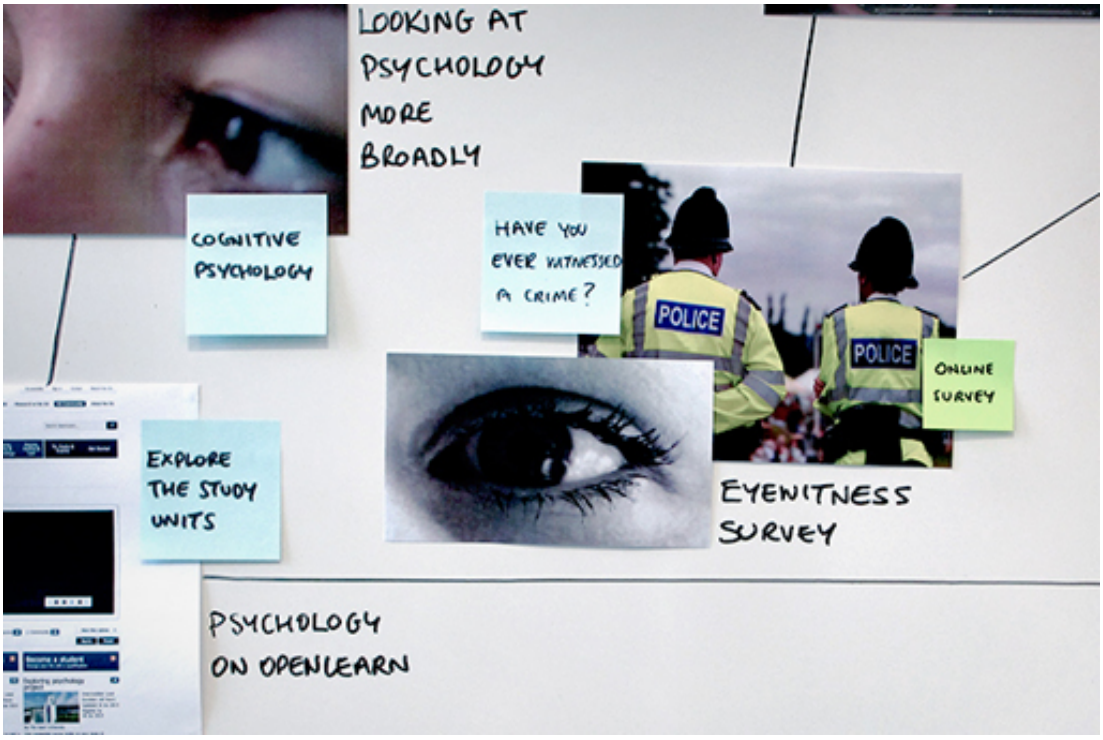


Figure 2

Have you ever witnessed a crime? If so, did you report it to the police?

The Open University is conducting an online survey designed to explore the experiences of witnesses regardless of whether the crime they saw was investigated by the police or not. It is part of ongoing research, so please read the description provided in the link below carefully before consenting to participate.

Please note that although the survey deals with issues relevant to this course, it is not part of this course and you do not need to complete it in order to complete the course. Indeed, you should feel under no obligation to take part in the survey just because you are studying this course.

Take part in the Eyewitness survey.

1.4 Research around the world

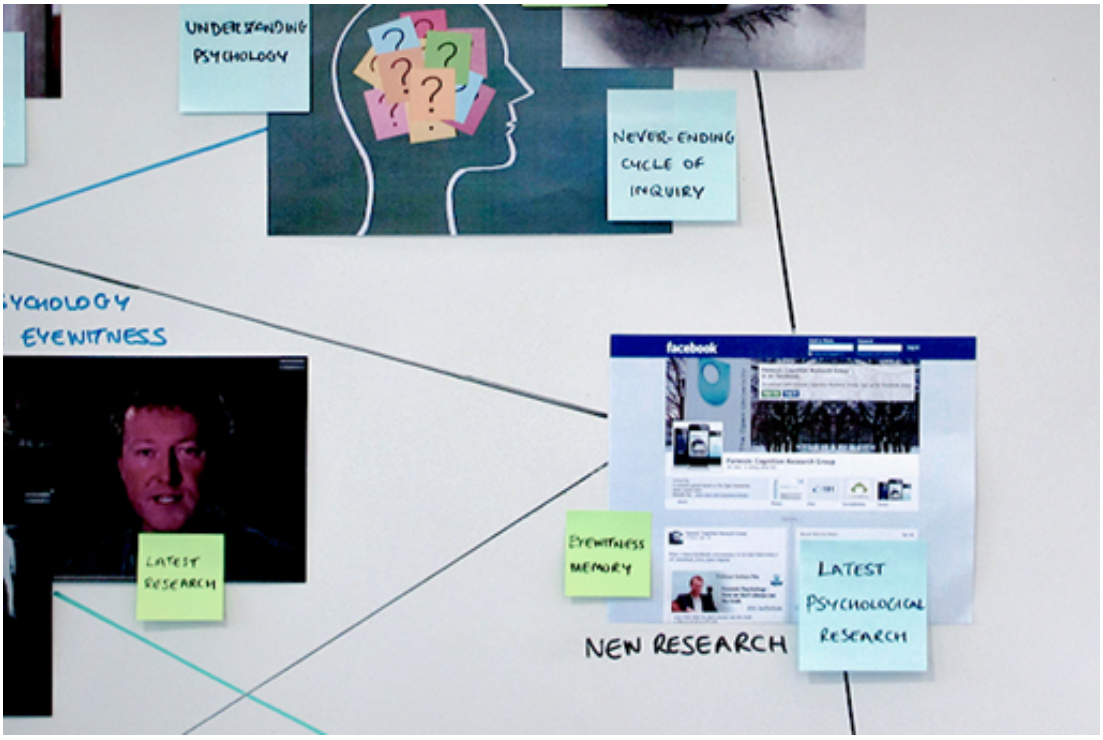


Figure 3

A great deal of research on eyewitness psychology is being conducted around the world, and many researchers provide public access to some of their work.

If you are interested in discovering more about the latest psychological research on witnesses, follow these links to just a few of the many websites available:

- Like the Forensic Cognition Research Group Facebook page
- Find out about the Centre of Forensic Interviewing.

Activity 1 Further research

Allow about 15 minutes

Make a note of links to any other useful resources you've found as you've studied this course.

Provide your answer...

1.5 Issues of realism and ethics in witness research

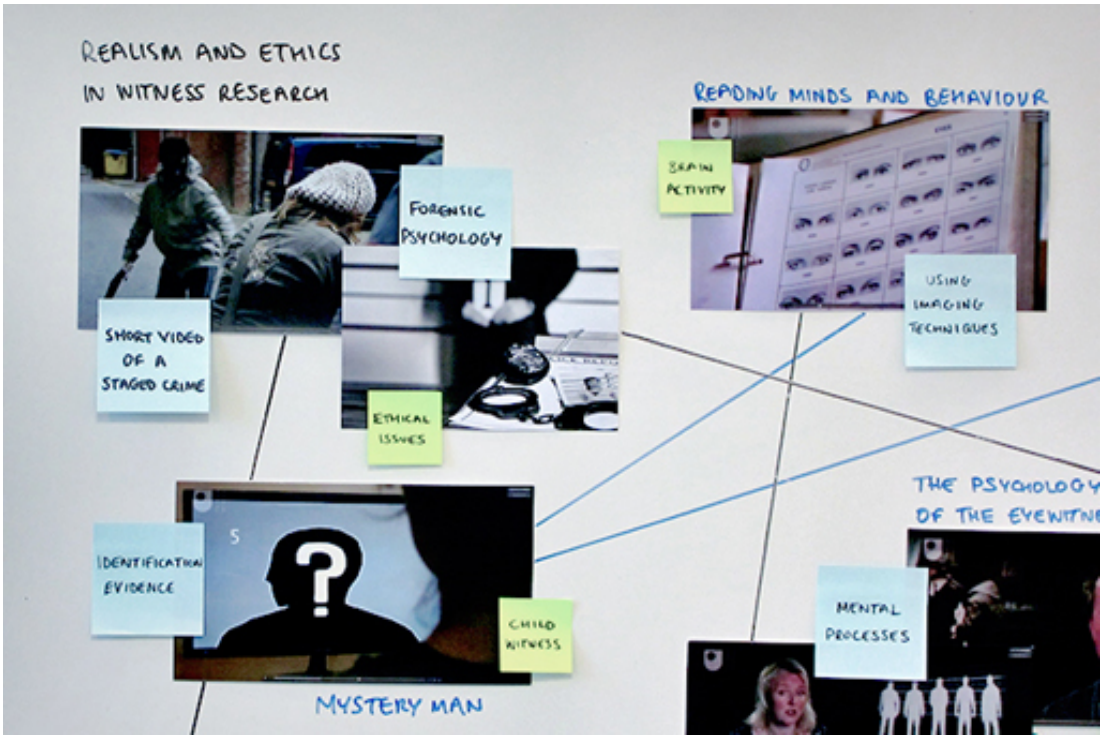


Figure 4

Research carried out in forensic psychology has not gone without criticism. In particular, research that has involved simulations in the laboratory has been questioned on the grounds of its ecological validity – in other words, how true to life it is.

For example, because the law restricts access to real jurors for research purposes, the jury decision-making process has been studied in many cases by asking psychology undergraduates to read a fairly short written description of a criminal case and to make decisions about the guilt/innocence of the defendant.

As you have seen, the identification of perpetrators has been studied by showing participants a short video of a staged crime scenario and then later asking them to select a picture of the perpetrator from an array of photographs. Psychologists themselves have debated the practical utility of the findings of such studies. Researchers have responded to criticisms by supplementing these rather basic simulations with much more sophisticated ones that have greater ecological validity, and by interviewing real witnesses to crimes and real jurors after they have served in a court case.

The use of ‘field studies’ also helps combat the problems associated with ecological validity. For example, rather than show a video and photographs in a laboratory setting, an eyewitness researcher might stage a ‘live’ crime in front of participants and then conduct an identification procedure at a police station.

In addition to ecological validity, eyewitness research may lack realism in that it is extremely difficult, if not impossible, to replicate the seriousness of the decisions faced by a real eyewitness. This is known as ‘consequentiality’, which refers to the fact that unlike a real witness, a participant in a research study knows that the information they provide or the face they select in a parade will not result in either an innocent person being prosecuted nor a guilty person walking free.

Ethical issues are paramount when conducting any psychological research, and particularly important when dealing with an issue as particularly sensitive as witnessing a crime. By its very nature the experience of crime is often frightening and may be painful and researchers face severe limits on the extent to which they can mimic such aspects when conducting a study.

There are a great many ethical factors to consider when planning research on eyewitnesses, including:

- research should not threaten the psychological well-being, health, values or dignity of participants
- participants should give informed consent before taking part in research
- participants should be able to stop participating in the research at any point.

Ethical issues require careful consideration when designing a research study, particularly with regards to how realistic the research can be.

The requirement to gain ‘informed consent’ from a participant before they take part in the research, means the participant must be provided with details regarding what the research involves and what will happen to them. In real life, a witness does not know they are about to see a crime, but in a research study the participant must be informed in advance.

So, research on eyewitness memory has to balance ecological validity with the need to treat participants ethically. Designing research studies that are both ethical and sufficiently realistic that they produce useful results is just one of the skills the psychologists have to learn.

2 Looking at psychology more broadly

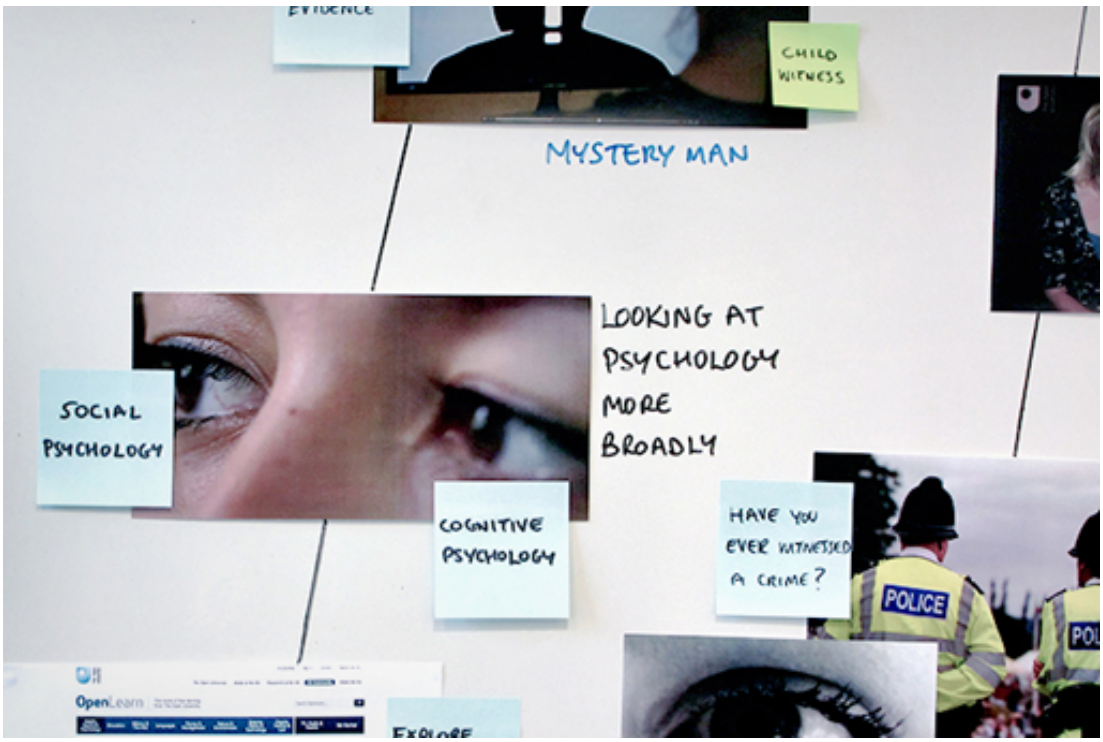


Figure 5

In the final part of this course, you'll look at psychology more broadly, the role of national psychological societies and the courses in psychology that are available at The Open University.

Eyewitness memory is just one part of forensic psychology, which also includes areas such as offender rehabilitation and understanding criminal behaviour. Before specialising in forensic psychology, it is first necessary to gain a good understanding of psychology more broadly and most researchers and practitioners do this by completing an undergraduate degree in psychology.

One reason this is an important first step, is that forensic psychology builds on knowledge gained from the many sub-disciplines of psychology, including:

- cognitive psychology – the study of mental processes (such as memory and attention)
- social psychology – the psychology of social interactions and the influence that these can have on an individual
- developmental psychology – understanding how and why our brains and behaviour change over the course of our lifespans, from young children to senior citizens
- clinical psychology – which is concerned with understanding, assessing and treating mental illness and behavioural problems.

Hopefully, you can see that all of the above represent important knowledge to have when trying to understand eyewitness memory and identification. In addition, an undergraduate degree in psychology also provides an understanding of how to conduct and understand

research in psychology, which is another vital component of working as a forensic psychologist.

2.1 Work of forensic psychologists

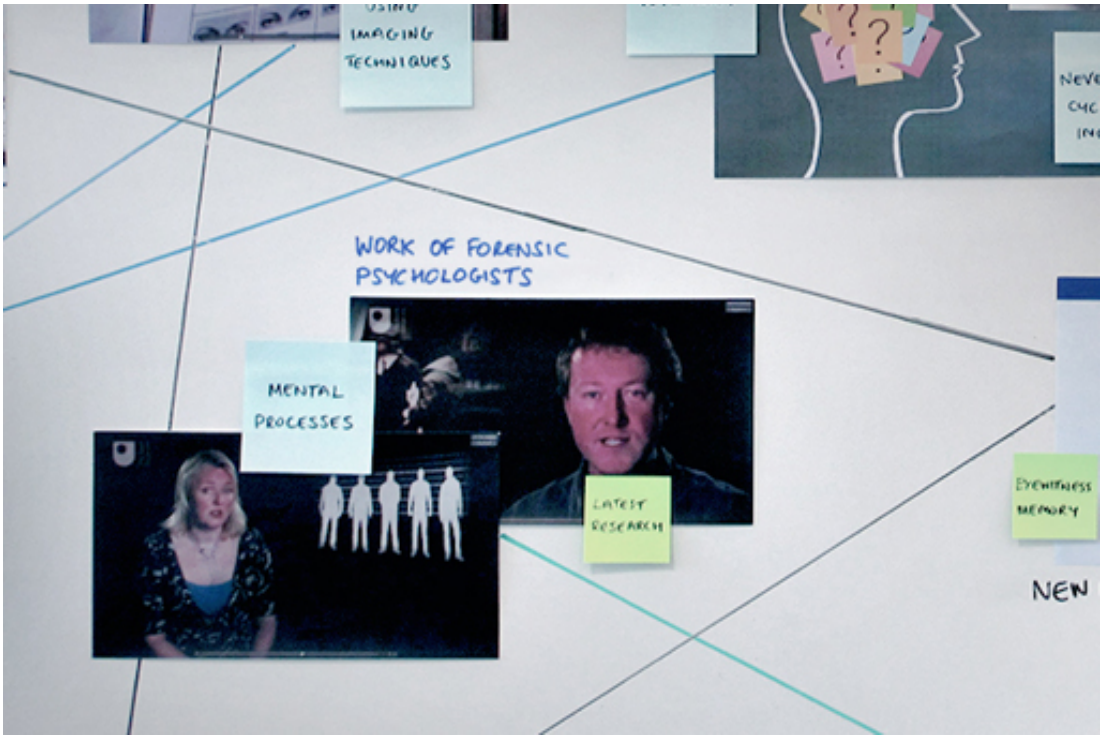


Figure 6

The research you have read about during this course represents just one part of forensic psychology to do with the role of eyewitnesses in a police investigation.

As well as issues to do with eyewitnesses, psychologists also do work of relevance to police investigations by studying detecting deception, interviewing suspects, offender profiling, working with vulnerable witnesses and evaluating forensic science. A great deal of forensic psychology is actually concerned, not with police investigations, but with working with offenders. This includes understanding why people commit crimes, particularly crimes such as sexual and violent offences, working with criminals who have mental health issues and working in prison populations to try and help rehabilitate offenders and avoid recidivism.

In the UK, psychology is supported by The British Psychological Society (BPS).

In the US, psychology is supported by the American Psychological Association (APA).

The BPS and APA, and societies in many other countries, are a great way of discovering psychology, and of finding out about undergraduate and postgraduate courses in psychology.

2.2 Psychology at The Open University

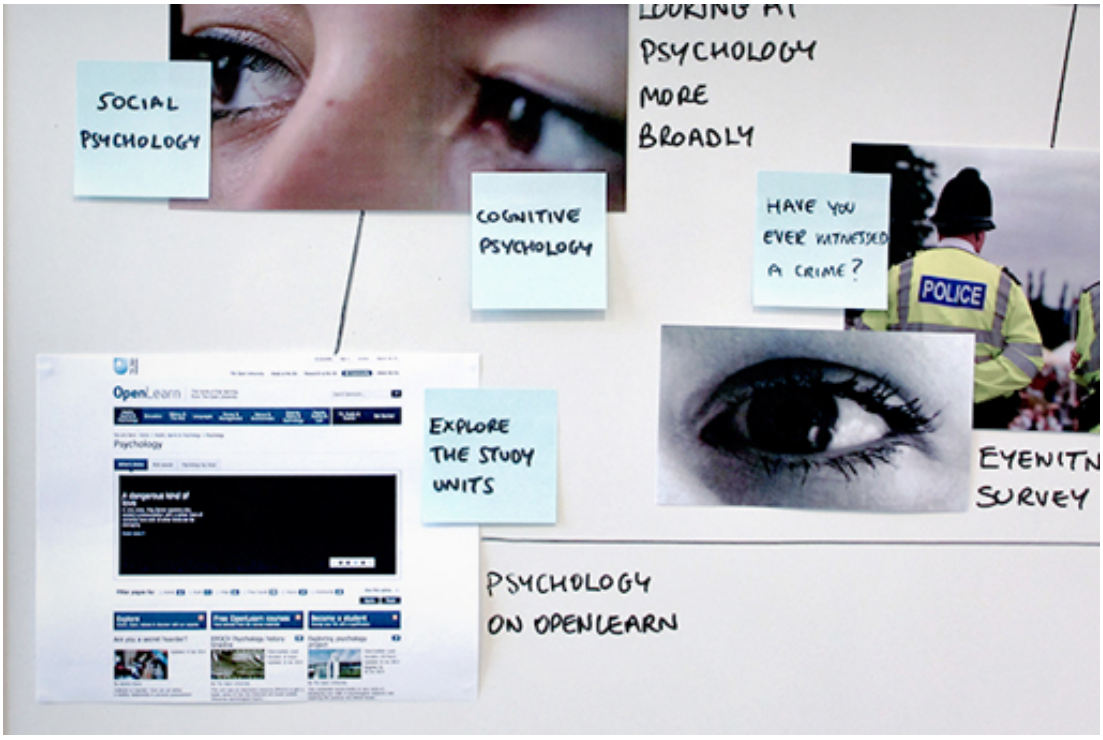


Figure 7

Keen to find out more about psychology? The Open University has a lot to offer, from free courses to undergraduate qualifications.

Explore more interactive resources and free courses available on OpenLearn, such as:

- The psychology of conspiracy theories
- Psychological research, obedience and ethics
- What is obsessive compulsive disorder (OCD)?
- Exploring psychology: cannabis, consciousness and the imagination
- Exploring psychology: disability, identity, twins and gender disorder
- A dangerous kind of love
- Starting with psychology.

Qualifications

The Open University offers a number of undergraduate qualifications in psychology, several of which are accredited by the British Psychological Society.
See all Open University Psychology courses.

3 This week's quiz

Now it's time to complete the Week 8 badge quiz. It is similar to the badged quiz that you took at the end of Week 4, with 15 questions in total.

Week 8 compulsory badge quiz

Open the quiz in a new tab or window, then come back here when you're finished.

4 End-of-course round-up

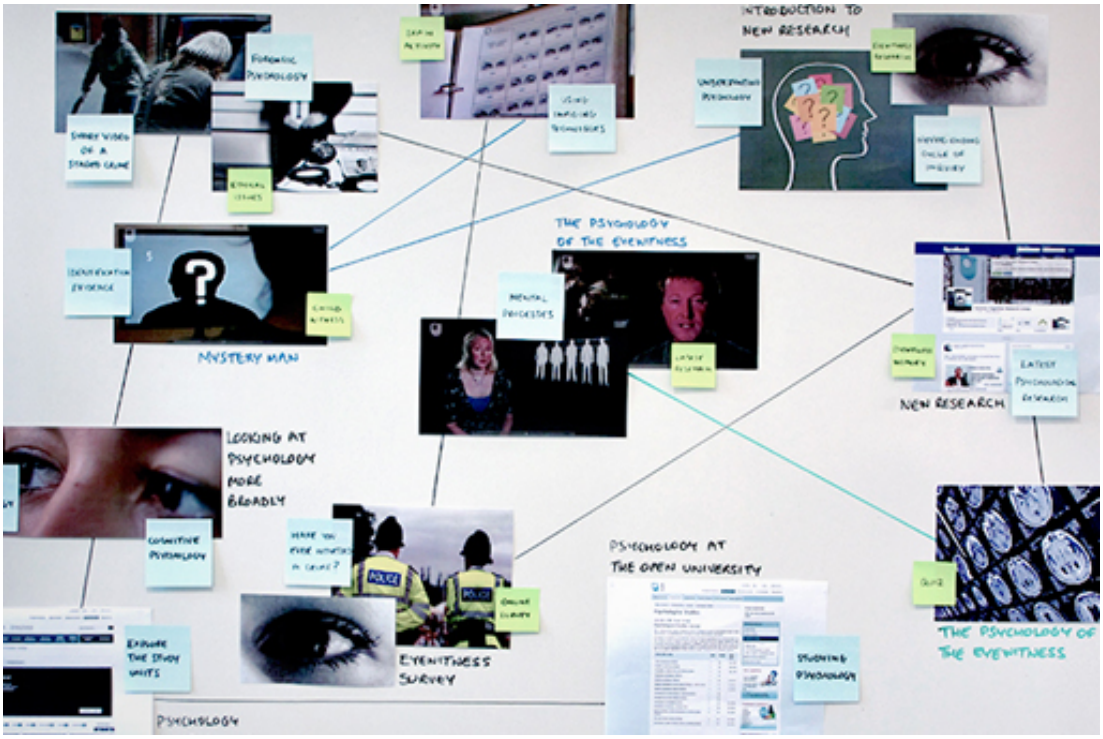


Figure 8

Congratulations on completing the course!

You started this course by looking at the work of the Innocence Project and discovering that eyewitness misidentification is the primary cause of wrongful convictions. Over the past 8 weeks we have explored many of the reasons why eyewitness memory can be so problematic, including:

- the co-witnessing effect
- unconscious transference
- leading questions
- suggestibility
- change blindness
- false memories

You have also seen that our memories do not operate like a computer, but instead are constructive in nature and can be changed when presented with post-event information or the views of another person.

You've learned that we need to be exceptionally careful when dealing with the testimony of an eyewitness and should never rely on eyewitness memory alone.

It also means that police investigations, particularly interviewing and identification techniques, must be based on psychological knowledge if they are to avoid contaminating the memory of a witness and prosecuting an innocent person. A great deal of psychological research has been conducted in this area, and many police forces around the world have been able to improve their procedures as a result.

But we must not be complacent and should always think very carefully about the evidence provided by eyewitnesses.

Hopefully, you have enjoyed this course and it may even have given you some insights into how your own mind works! Psychology is not only a truly fascinating subject, but an extremely useful one too; and one that is valued by a very wide array of employers.

Tell us what you think

Now you've completed the course we would again appreciate a few minutes of your time to tell us a bit about your experience of studying it and what you plan to do next. We will use this information to provide better online experiences for all our learners and to share our findings with others. If you'd like to help, please fill in this optional survey.

Where next?

If you have enjoyed this course you can find more free resources and courses on OpenLearn.

Why not find out more about studying and gaining qualifications at The Open University? Visit the OU prospectus for more information. You might be particularly interested in Psychology.

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Further reading

Watch the selective attention test

Watch the Simons and Levin 'door' study

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