



SUMMER TRANSITION PACK

AS/ALEVEL PSYCHOLOGY



Year 12
Summer
Induction pack



The Department of
Social Sciences

Southam College- Social Sciences Department-
Psychology teachers

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The Structure of the Course

There is no coursework in Psychology

The AS Year

Paper 1 – PSY1- INTRODUCTORY TOPICS IN PSYCHOLOGY

Social Influence, Memory and Attachment

1 hour 30 minutes exam, 72 marks, 50% of the total AS
Structured questions using: multiple choice, short answer and extended writing (up to 12 marks), totaling 24 marks.

Paper 2 – PSY2- PSYCHOLOGY IN CONTEXT

Approaches in Psychology, Psychopathology and Research Methods

1 hour 30 minutes exam, 72 marks, 50% of the total AS
Structured questions using: multiple choice, short answer and extended writing (up to 12 marks), totaling 24 marks.



The Full A Level

PAPER 1 – PSY1- INTRODUCTORY TOPICS IN PSYCHOLOGY

Social Influence, Memory, Attachment and Psychopathology

2 hour exam, 96 marks, 33.3% of the total A Level
Structured questions using: multiple choice, short answer and extended writing (up to 16 marks), totaling 24 marks.

PAPER 2 – PSY2- PSYCHOLOGY IN CONTEXT

Approaches in Psychology, Biopsychology and Research Methods

2 hour exam, 96 marks, 33.3% of the total A Level
Structured questions using: multiple choice, short answer and extended writing (up to 16 marks), totaling 24 marks.



PAPER 3– PSY3- ISSUES AND OPTIONS IN PSYCHOLOGY

Issues and Debates,

Topic- Schizophrenia

Topic- Aggression

Topic- Relationships

2 hour exam, 96 marks, 33.3% of the total A Level
Structured questions using: multiple choice, short answer and extended writing (up to 16 marks), totaling 24 marks.



100%
Exams

Level 6 needed in
Mathematics,
English, Science

Linear Rules: AS exams DO NOT contribute to final A' level grade

Materials:

You will be given topic booklets throughout the course each year with key information, tasks to take part in and the basic structure of what you need to know. You will also have an exercise book which you will use every lesson and an assessment folder where all assessed work is stored once marked and responded to. These will be used every lesson and so it is vital that you bring these to all of your lessons. Any replacements for lost or misplaced booklets will be charged. In addition, it is essential that students have the following equipment:

- One folder exclusively for psychology (even if this is kept at home)
- A set of dividers to keep topics separated
- lined paper pads as none is provided by the department
- Pens, pencils, ruler, calculator- study equipment is needed

We also strongly recommend that you have the following:

- Coloured pens for mind-mapping and essay planning
- Highlighter pens for reading and annotating articles
- **At least one course** textbook which you will need to purchase for year 1 Psychology – Our chosen book is the Green Haired girl book by Illuminate publishing. I will provide you with a digital version of the textbook but a physical copy for your lessons needs to be purchased by each student please.

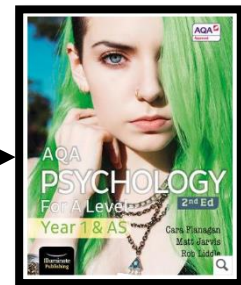
N.B. There is no one perfect book for psychology but these are the 'top three choices'. Students should not feel obliged to buy more (funding support can be available on discussion with the Sixth Form team).

NEW EDITION OF OUR TEXTBOOK- 2nd EDITION- This one

- The chosen book for use during the course-
AQA Psychology for A Level Year 1 & AS
Student Book: 2nd Edition

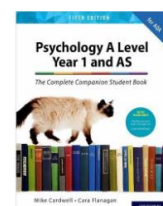
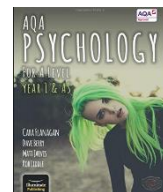
Cara Flanagan (author), Matt Jarvis (author), Rob Liddle (author)
ISBN: 978-1-912820-42-9

Price around £26.99- look out for discount codes though!



THERE IS ALSO FIRST EDITION- It would be preferable to get the one above if possible though but perhaps you have a sibling who had this one below.

- AQA Psychology for A Level Year 1 & AS - Student Book
Cara Flanagan (Author), Dave Berry (Author), Matt Jarvis (Author)
ISBN- 13: 978-1908682406
 - Exam board endorsed.
- P* The Complete Companions: AQA Psychology Year 1 and AS Student Book (Fifth Edition) 2018 Mike Cardwell (Author), Cara Flanagan (Author)
 - A good all round book with a long history of support materials and extra revision guides



Other Optional Costs:

1) Magazine:

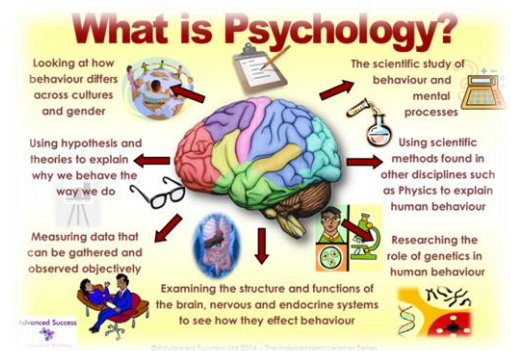
You can purchase a yearly subscription to the Psychology Review, which has articles for students at A Level standard on research in Psychology, linked to not only your specification but all Psychology A Levels. This gives greater depth for some topics, and breadth of knowledge beyond the constraints of the specification. It is a good thing to write about on a UCAS application for any social science. You get four magazines throughout the year and by purchasing through school we get a discounted rate of roughly £13. You do not need to purchase this though.

2) *Student Membership to the British Psychological Society- Student membership* costs around £25 per annum if you are not earning a taxable income. You subscribe for this yourself and the benefits of Student membership of the Society include the below. Again- you do not need to purchase this though but if considering to study Psychology at University it may be of some use :

- **The Psychologist** magazine every month.
- **PsychTalk**, the quarterly magazine with a careers focus from the Society's Student Member Group.
- **The recognition** of belonging to a professional body, the opportunity to get involved, and the Society's support at the start of your career.
- **Membership** of the Society's Student Members Group.

Psychology is about...

Psychology has been defined as the science of mind and behaviour. Essentially, psychology is all about people. We are all amateur psychologists, every time we try and work out why someone acted the way they did or try to predict how someone might behave or react. Psychology tries to find answers to some of these questions by investigating them in a more scientific manner.



If you would like a fuller understanding of both yourself and others, psychology is the subject for you!

Psychology is a subject where there are **no definite answers** rather it tends to focus on various alternative approaches and schools of thought. Therefore the most important skills you can develop is to be able to look at different options, theories and research studies and to judge how appropriate each one is to explaining the behaviour you are looking at.

To do this you will need to be able to:

- **Read** different research studies and theories.
- **Reflect** on you past experiences and **share** these in a whole class setting. However- no opinions are used in our work, only official research!
- **Evaluate** how well they explain the behaviour you are looking at.
- **Interpret** findings of research both in terms numerical and written data.
- Carry out simple **numerical analysis** of presented material.
- **Research** psychological phenomena for yourself using a variety of methods.
- **Speak out** about your experiences, thoughts and opinions.
- Be prepared to **experience** psychological phenomena though practical demonstrations.
- Be an **active participant** in the classroom

You lessons will involve:

- | | | |
|------------------------------|-------------------------------|----------------------------------|
| • Debating ideas | • Tests of knowledge | • Reflecting on your life |
| • Reading articles | • Mock- PPE exams | • Making mistakes |
| • Writing essays | • Independent research | • Being human |
| • Giving your opinion | • Demonstrations | |

Psychology can lead to specific careers such as Clinical, Educational and Forensic Psychologists, counselling and therapy, but it is also a useful qualification to have if you are thinking of any career that involves dealing with people (almost everything!). An understanding of psychological procedures and principles would also be useful in careers such as teaching, health service related occupations, law (including police) and social work. If you are interested in Psychology specific careers as a starting point, take a look here!

<https://www.bps.org.uk/public/become-psychologist/career-options-psychology>

THE FOLLOWING PAGES WILL EXPLAIN YOUR SUMMER PROJECT WORK WHICH IS COMPULSORY- PLEASE TYPE ALL OF YOUR ANSWERS TO THE TASKS ON A WORD DOCUMENT.

Be ready to hand in and be tested on this during the first week second lesson back to school after the summer holidays. Enjoy!

Compulsory summer project tasks to completed for Psychology will now follow on these next pages.

You will be tested on all elements of the topics included during a Head Start test once you start Sixth Form



PLEASE NOTE: I would normally provide you with photocopies of the textbook. However, due to the likelihood of me not seeing students until September due to the current pandemic, I have took a screen shot of the textbook pages instead- see last pages. I do have an online code for our digital student textbook that we have purchased but cannot put this onto this document- because this is on an open website it can be downloaded by anyone so would go against our license! Do your best with the images on the following pages but if you are struggling to read these please email me directly Campbell.s@welearn365.com and I will provide you with the access code you will need to log on yourself to see it clearer. Alternatively, you can purchase the book early before September but if you decide to do this, remember this could be risky due to the conditions of studying this subject being based on your results- grade 6, 6, 6 in Maths, Science and English. You can research online too but try to use official AQA Psychology websites such as Tutor to you.

PSYCHOLOGY SUMMER PROJECT

TOPIC AREA 1: SOCIAL INFLUENCE

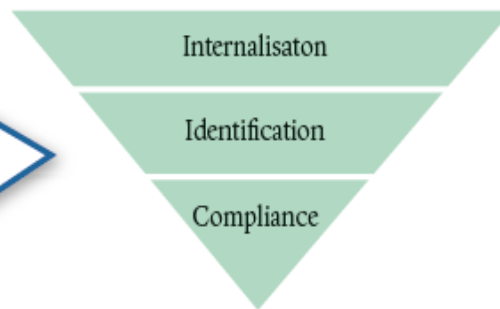
Topic 1 Task 1: See above/end of the booklet pages for the reading to answer the following questions. Write/type out the question and answers to questions 1 and 2,

- a. Define conformity (3 marks)
- b. Explain what is meant by compliance (3 marks)
- c. Explain what is meant by internalization (3 marks)
- d. Explain what is meant by identification (3 marks)









Topic 1 Task 2: After completing your reading, complete the application questions on the sheet below (7 marks in total). Fill in your Responses to the worksheet in the spaces provided.



Do you remember the definitions of each of these terms? Check that you could define each term in an exam!



Now look at the examples below and decide which type of conformity it is and enter your answer next to the illustration.

		INTERNALISATION IDENTIFICATION COMPLIANCE
Liz is by nature a smart dresser but she wears jeans and a sweater to work on 'Dress Down Friday' because she doesn't want to give the impression of being stand offish to her work colleagues who she likes.		
Lewis is eating alone at a Chinese restaurant. Although he finds eating with chopsticks rather tedious and inconvenient, he uses them because he feels too awkward to ask for a fork.		
Harsa puts some money in a charity box even though she doesn't particularly agree with the cause because she feels uncomfortable walking past the collector in the local small supermarket.		
Len slows down to 30 mph as soon as he reaches that speed zone because he believes it is wrong to drive faster than that in a built-up area.		
Winston is visiting the UK from the US. At a concert he stands for the National Anthem because he doesn't want to upset his hosts.		
Jack is on a solo visit to London for the day. At a pedestrian crossing everyone suddenly surges across as soon as there's a gap in the traffic even though the lights are red. Jack follows, feeling uncomfortable but too embarrassed to be the only one not to cross.		
Jenny is at a local restaurant with 5 of her friends. They all say 'Go on try it' after they have all ordered an unusual spicy dish which is the chef's recommendation. She follows suit because she doesn't want to look unadventurous to her friends.		

PSYCHOLOGY SUMMER PROJECT

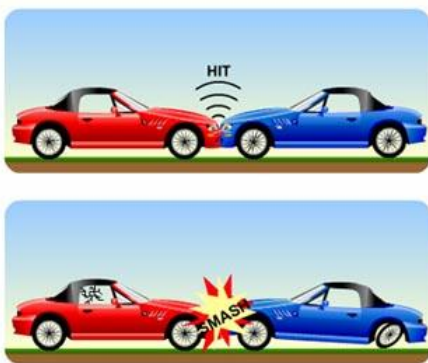
TOPIC AREA 2: MEMORY

Topic 2, Task 1: Read through the following research study and answer the questions. Please type up the answers to these- ensure you write out the questions also. See the additional resource for the extra reading also on this.

Loftus and Palmer (1974) The Effects of Leading Questions on Memory

Loftus and Palmer wanted to test their hypothesis that the language used in eyewitness testimony can alter memory. They aimed to show that leading questions could distort eyewitness testimony as the account would become distorted by cues provided in the question.

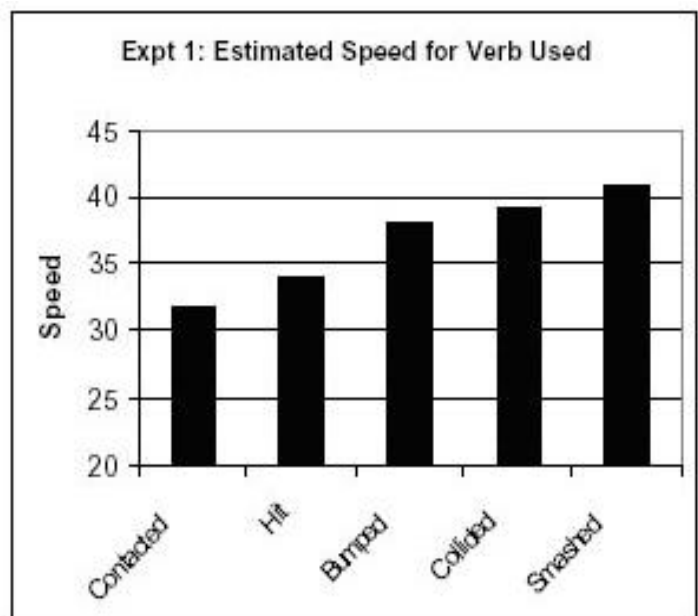
To test this Loftus and Palmer (1974) asked people to estimate the speed of cars using different forms of questions. Estimating vehicle speed is something people are generally poor at and so they may be more open to suggestion.



Forty-five American students formed an opportunity sample. This was a laboratory experiment with five conditions, only one of which was experienced by each participant (an independent measures design).

Participants were shown slides of a car accident involving a number of cars and asked to describe what had happened as if they were eyewitnesses. They were then asked specific questions, including the question “About how fast were the cars going when they (hit/smashed/collided/bumped/contacted) each other. A week after the participants saw the slides they were asked “Did you see any broken glass?” There was no broken glass shown in the slides.

The estimated speed was affected by the verb used. The verb implied information about the speed, which systematically affected the participants’ memory of the accident. Participants who were asked the “smashed” question thought the cars were going faster than those who were asked the “hit” question. The participants in the “smashed” condition reported the highest speeds, followed by “collided”, “bumped”, “hit”, and “contacted” in descending order. When people were asked a week after viewing the film whether they saw any broken glass at the scene (there was none), people in the smashed group were more likely to say yes. Therefore, a leading question that encouraged them to remember the vehicles going faster also encouraged them to remember that they saw non-existent broken glass. The question appears to have changed their memory of what they saw.



This research suggests that memory is easily distorted by questioning techniques and information acquired after the event can merge with original memory causing inaccurate recall. The addition of false details to a memory of an event is referred to as conflation. This has important implications for the questions used in police interviews of eyewitnesses.

Small questions:

- a. What was the aim of Loftus and Palmer's research?
[This should be one sentence]
- b. Describe how Loftus and Palmer conducted their research? Consider the Aim, Procedure
[This should be no more than 75 words]
- c. Why might only using university students in the research be a problem?
[This should be no more than 30 words]
- d. What are the key findings from the research study?
[This should be no more than 30 words]
- e. Conclusion- What does this research suggest about leading questions and memories for events?
[This should be no more than 30 words]
- f. What implications might these findings have for police interviews?
[This should be no more than 30 words]
- g. Evaluate this study by explaining why the artificial tasks in this study might be a problem

[This should be no more than 30 words]

Topic 2 Task 2: Now please ensure you fully learn this study AO1 knowledge and AO3 Evaluation. **Create a revision tool of your choice for this study and experiment two-** look at the Aims, Procedure, Findings, and conclusion. We also need to consider evaluation. We write this in PEE format. We will work on this writing style once you start the course. Please read the evaluation page 59 also include this in your revision tool. You are likely to be asked an extended writing question on this during your head start test.

Guidance; Aim = what was it the psychologists set out to find. Procedure = what did the psychologist do in their research (Step by step). Findings = what did they find from their research, specific results,. Conclusion = what did they summarise from the research.

PSYCHOLOGY SUMMER PROJECT

TOPIC AREA 3: ATTACHMENT



Use the attached resources (textbook pages) to help you.

Topic 3 Task 1: On paper/typed document please complete the following:

- 1). Define attachment.
- 2.) According to Maccoby (1980) there are four key behaviours of attachment. What are these four characteristics?
- 3.) Describe the different attachment types namely;
 - a) Secure attachment.
 - b) Insecure Resistant.
 - c) Insecure Avoidant.

Topic 3 Task 2:

Describe Ainsworth and Bells (1970) Strange Situation study which investigated individual differences in attachment:

Task – Watch the strange situation technique/study on You tube.

Task – Read about the strange situation study using AS Psychology websites (Simply Psychology) or the resources attached.

Task- Draw a comic strip/ step by step instruction guides to illustrate the Strange Situation Procedure i.e. the steps/stages of the study. (on paper and attach) You can do this by hand!!!! Or you can do via the computer as images if you prefer if you feel you are not too artistic!



PSYCHOLOGY SUMMER PROJECT

TOPIC AREA 4: RESEARCH METHODS

Topic 4 Task 1:

1. **Create a word document and complete a glossary of key terminology** for this topic of research methods. It is more important that you understand the term than you have the exact wording of the definition right at this stage. I would suggest to do this on an A3 sized document but A4 is fine. Use a combination of the green haired girl Psychology textbook (online book or if you have a physical copy of the book) and internet if you need- Psychology related pages would be best such as Tutor to you

Quantitative data	Randomisation	Correlation
Qualitative data	Standardisation	Positive correlation
Experimental method	Experimental design	Negative correlation
Laboratory Experiment		Zero correlation
Field experiment	Independent groups Design	Descriptive statistics
Natural Experiment	Repeated Measures Design	Statistical testing
Quasi Experiment	Matched Pairs design	Population
Aim	Counterbalancing	Sample
Hypothesis	Ethical issues	Sampling technique
Variables	Observation	
Independent variable	Self report technique	
Dependent variable	Questionnaire	
Operationalisation		

2. **Topic 4 Task 2:** Read the research methods topic pages below and make reduction notes from your reading on a word document or by hand- this knowledge will be included in the head start test:
 - Types of experiment- pages 172, 173,
 - Sampling- pages 174, 175,
 - Ethical issues and ways of dealing with these- pages 176, 177
 - Self report techniques - questionnaire and interviews – pages 184, 185,
 - Data analysis- kinds of data – pages 190, 191,
 - Data analysis- descriptive statistics – pages 192, 193.

Have a lovely summer and we look forward to welcoming you to your Psychology course in September! Best of luck for results day!

Mrs Campbell-Birch, Mr Knox and Mrs Savage

APPENDIX- RESOURCES/READING IN ORDER TO COMPLETE THE SUMMER TASKS.

SOCIAL INFLUENCE- CONFORMITY

THE SPECIFICATION SAYS...

Types of conformity: internalisation, identification and compliance.

Explanations for conformity: informational social influence and normative social influence.

We all like to think that we know our own minds, that we make our own decisions and can tell when someone is trying to manipulate us. In short, we like to think we act *independently*. But is it possible that this is just an illusion? Psychologists believe that we are all subject to the forces of *social influence*. Many of our everyday decisions are the result of pressures to conform to the opinions and behaviours of other people.

KEY TERMS

Conformity – A change in a person's behaviour or opinions as a result of real or imagined pressure from a person or group of people' (Elliot Aronson 2011).

Internalisation – A deep type of conformity where we take on the majority view because we accept it as correct. It leads to a far-reaching and permanent change in behaviour, even when the group is absent.

Identification – A moderate type of conformity where we act in the same way with the group because we value it and want to be part of it. But we don't necessarily agree with everything the majority believes.

Compliance – A superficial and temporary type of conformity where we outwardly go along with the majority view, but privately disagree with it. The change in our behaviour only lasts as long as the group is monitoring us.

Informational social influence (ISI) – An explanation of conformity that says we agree with the opinion of the majority because we believe it is correct. We accept it because we want to be correct as well. This may lead to internalisation (see above).

Normative social influence (NSI) – An explanation of conformity that says we agree with the opinion of the majority because we want to be accepted, gain social approval and be liked. This may lead to compliance (see above).

Types of conformity

Herbert Kelman (1958) suggested that there are three ways in which people **conform** to the opinion of a majority:

Internalisation

Internalisation occurs when a person genuinely accepts the group norms. This results in a private as well as a public change of opinions/behaviour. This change is likely to be permanent because attitudes have been internalised, i.e. become part of the way the person thinks. The change in opinions/behaviour persists even in the absence of other group members.

Identification

Sometimes we conform to the opinions/behaviour of a group because there is something about that group we value. We identify with the group, so we want to be part of it. This may mean we publicly change our opinions/behaviour to achieve this goal, even if we don't privately agree with everything the group stands for.

Compliance

This type of conformity involves simply 'going along with others' in public, but privately not changing personal opinions and/or behaviour. Compliance results in only a superficial change. It also means that a particular behaviour or opinion stops as soon as group pressure stops.

Explanations for conformity

Morton Deutsch and Harold Gerard (1955) developed a **two-process theory**, arguing that there are two main reasons people conform. They are based on two central human needs: the need to be *right* (ISI), and the need to be *liked* (NSI).

Informational social influence (ISI)

Informational social influence (ISI) is about who has the better information – you or the rest of the group. Often we are uncertain about what behaviours or beliefs are right or wrong. For example, you may not know the answer to a question in class. But if most of the class agrees on one answer, you accept that answer because you feel they are likely to be right. The reason individuals follow the behaviour of the group (the majority) is because people want to be right. ISI is a cognitive process because it is to do with what you *think*.

ISI is most likely to happen in situations that are new to a person (so you don't know what is right) or situations where there is some ambiguity, so it isn't clear what is right. It is also typical in crisis situations where decisions have to be made quickly. It also occurs when one person (or group) is regarded as being more of an expert.

Normative social influence (NSI)

Normative social influence (NSI) is about norms, i.e. what is 'normal' or typical behaviour for a social group. Norms regulate the behaviour of groups and individuals so it is not surprising that we pay attention to them. People do not like to appear foolish and prefer to gain social approval rather than be rejected. So NSI is an emotional rather than a cognitive process.

MEMORY- MISLEADING INFORMATION- FACTORS AFFECTING EWT

FACTORS AFFECTING EYEWITNESS TESTIMONY: MISLEADING INFORMATION

THE SPECIFICATION SAYS...

Factors affecting the accuracy of eyewitness testimony: misleading information including leading questions and post-event discussion.

The next three spreads consider how memory research can be applied to a very important topic – the reliability of **eyewitness testimony**. We begin by looking at the effects of **misleading information** on what eyewitnesses recall after experiencing an incident.

KEY TERMS

Eyewitness testimony (EWT) – The ability of people to remember the details of events, such as accidents and crimes, which they themselves have observed. Accuracy of EWT can be affected by factors such as misleading information, leading questions and anxiety.

Misleading information – Incorrect information given to the eyewitness usually after the event (hence often called 'post-event information'). It can take many forms, such as leading questions and post-event discussion between co-witnesses and/or other people.

Leading question – A question which, because of the way it is phrased, suggests a certain answer. For example: 'Was the knife in the accused's left hand?'. This suggests the answer is 'left hand'.

Leading questions

Procedure Elizabeth Loftus and John Palmer (1974) arranged for participants (students) to watch film clips of car accidents and then gave them questions about the accident. In the **critical question** (a **leading question**) participants were asked to describe how fast the cars were travelling: 'About how fast were the cars going when they hit each other?'

This is a leading question because the verb 'hit' suggests the speed the car was going. There were five groups of participants, each was given a different verb in the critical question. One group had the verb *hit*, the others had *contacted*, *bumped*, *collided*, *smashed*.

Findings The **mean** estimated speed was calculated for each participant group. The verb *contacted* resulted in a mean estimated speed of 31.8 mph. For the verb *smashed*, the mean was 40.5 mph. The leading question biased the eyewitness recall of an event.

Why do leading questions affect EWT?

The **response-bias explanation** suggests that the wording of the question has no real effect on the participants' memories, but just influences how they decide to answer. When a participant gets a leading question using the word '*smashed*', this encourages them to choose a higher speed estimate.

Loftus and Palmer (1974) conducted a second experiment that supported the **substitution explanation** – the wording of a leading question actually changes the participant's memory of the film clip. This was demonstrated because participants who originally heard '*smashed*' later were more likely to report seeing broken glass (there was none) than those who heard '*hit*'. The critical verb altered their memory of the incident.

Post-event discussion

When co-witnesses to a crime discuss it with each other (**post-event discussion**), their eyewitness testimonies may become contaminated. This is because they combine (mis)information from other witnesses with their own memories. Research has demonstrated how this happens.

Evaluation

Useful real-life applications

A great strength of all research into misleading information is that it has hugely important practical uses in the real world, where the consequences of inaccurate EWT can be very serious indeed. For example, Loftus (1975) believes that leading questions can have such a distorting effect on memory that police officers need to be very careful about how they phrase their questions when interviewing eyewitnesses.

Research into EWT is one area in which psychologists believe they can make an important positive difference to the lives of real people, for instance by improving the way the legal system works and by appearing in court trials as expert witnesses.

The tasks are artificial

A real limitation of Loftus and Palmer's study is that their participants watched *film clips* of car accidents. This is a very different experience from witnessing a real accident, mainly because such clips lack the stress of a real accident. There is some evidence that emotions can have an influence on memory (see the next spread).

This is a limitation because studies that use such artificial tasks may tell us very little about how leading questions affect EWT in cases of real accidents or crimes. It could even be that researchers such as Loftus are too pessimistic about the accuracy of EWT – it may be more reliable than many studies suggest.

Individual differences

There is evidence that older people are less accurate than younger people when giving eyewitness reports. For example Anastasi and Rhodes (2006) found that people in age groups 18–25 and 35–45 were more accurate than people in the group 55–78 years. However, all age groups were more accurate when identifying people of their own age group (called **own age bias**).

Research studies often use younger people as the target to identify and this may mean that some age groups *appear* less accurate but in fact this is not true.

Evaluation extra

Demand characteristics

Zaragoza and McCloskey (1989) argue that many answers participants give in **lab** studies of EWT are the result of **demand characteristics**. Participants usually do not want to let the researcher down, and want to appear helpful and attentive. So when they are asked a question they don't know the answer to, they guess, especially if it's a yes/no question. Imagine you are a participant in a study. You have seen a film of a street robbery and now you are answering some yes/no questions. One is: 'Did you see the blue car?' There was no blue car in the clip, but you still answer 'yes' to this question because that seems a more helpful answer.

Consider: Explain why demand characteristics are a problem for studies of EWT.

Consequences of EWT

Foster *et al.* (1994) point out that what you remember as an eyewitness can have some very important consequences in the real world, but the same is not true in research studies.

Consider: What difference do you think this makes to how leading questions affect the accuracy of EWT in the real world compared to in studies?

ADDITIONAL RESOURCE- MISLEADING INFORMATION

Accuracy of eyewitness testimony: Misleading information

Eyewitnesses (or earwitnesses) frequently play a critical role in criminal investigations, yet there is a good reason to suspect that their testimony may not be reliable. The importance of this issue is highlighted by the Innocence Project (www.innocenceproject.org) who claim that 72% of convictions overturned by DNA testing involved **eyewitness testimony** (EWT) that was not accurate.

There are various reasons why eyewitness testimony may not be accurate. One of these concerns anxiety, which is explored on the next spread. On this spread we look at the effect of **misleading information** that may affect what you remember and/or recall about an event. There are two examples of this: **leading questions** and **post-event discussion**.

LEADING QUESTIONS

Key study: Loftus and Palmer (1974)

Experiment 1: procedure

Forty-five students were shown seven films of different traffic accidents. After each film the participants were given a questionnaire which asked them to describe the accident and then answer a series of specific questions about it. There was one **critical question**: 'About how fast were the cars going when they hit each other?' One group of participants was given this question. The other four groups were given the verbs *smashed*, *collided*, *bumped* or *contacted* in place of the word *hit*. This critical question was a leading question because it suggested the answer that a participant might give.

Findings

The findings are shown in the table on the right, which demonstrate that leading questions affect the response given by participants.

Experiment 2: procedure

The leading question may bias a participant's response or may actually cause information to be altered before it is stored.

To test this, a new set of participants was divided into three groups and shown a film of a car accident lasting 1 minute, and again asked questions about speed. The participants were then asked to return one week later when they were asked a series of 10 questions about the accident, including another critical question, 'Did you see any broken glass?' There was no broken glass in the film but, presumably, those who thought the car was travelling faster might be more likely to think that there would be broken glass.

Findings

The findings (in the second table on the right) show that the leading question did change the actual memory a participant had for the event.

Verb	Mean speed estimate
smashed	40.8
collided	39.3
bumped	38.1
hit	34.0
contacted	31.8

▲ Speed estimates for the different verbs.

	Verb condition		
	Smashed	Hit	Control
Yes	16	7	6
No	34	43	44

▲ 'Yes' and 'No' responses to the question about broken glass.



▲ How fast were the cars going when they hit each other?

POST-EVENT DISCUSSION

The memory of an event may also be altered or contaminated through discussing events with others and/or being questioned multiple times.

Conformity effect

Co-witnesses may reach a consensus view of what actually happened. This was investigated by Fiona Gabbert and colleagues (2003). Participants were in pairs where each partner watched a different video of the same event so that they each viewed unique items. Pairs in the condition were encouraged to discuss the event before each partner individually recalled the event they watched. A very high number of witnesses (71%) who had discussed the event went on to mistakenly recall items acquired during the discussion.

Repeat interviewing

Each time an eyewitness is interviewed there is the possibility that comments from the interviewer will become incorporated into their recollection of events. It is also the case that an interviewer may use leading questions and thus alter the individual's memory for events. This is especially the case when children are being interviewed about a crime (LaRooy et al., 2005).

What is eyewitness testimony?

Psychologists tend to use the term 'eyewitness memory' instead of 'testimony' when carrying out research to test the accuracy of eyewitness testimony.

Eyewitness memory goes through three stages:

1. The witness encodes into LTM details of the event and the persons involved. Encoding may be only partial and distorted, particularly as most crimes happen very quickly, frequently at night, and sometimes accompanied by rapid, complex and often violent action.
2. The witness retains the information for a period of time. Memories can be lost or modified during retention (most forgetting takes place within the first few minutes of a retention interval) and other actions between encoding and retrieval may interfere with the memory.
3. The witness retrieves the memory from storage. The presence or absence of appropriate retrieval cues or the nature of the questioning may significantly affect the accuracy of what is recalled.

Real-life conformity effect

The Oklahoma bombing was an infamous crime in the US in 1995. One witness claimed to have seen the murderer, Timothy McVeigh, with an accomplice. No other witnesses could describe this person but later they too claimed to have seen the same person.

Eventually the first witness realised that their recollection was wrong and did the other two witnesses make the same mistake? The first confident witness unintentionally influenced them, leading them too to believe there was a person.



MEET THE RESEARCHER

Elizabeth Loftus is Distinguished Professor at the University of California, Irvine. Her experiments have revealed how memories can be changed by things that we are told after the event. The legal field has been a significant application of her memory research.

ATTACHMENT- STRANGE SITUATION

THE SPECIFICATION SAYS...

Ainsworth's 'Strange Situation'. Types of attachment: secure, insecure-avoidant and insecure-resistant.

Ainsworth worked with Bowlby on the development of attachment theory. Her particular contribution was to produce a method, still used today, to assess the strength of attachment between an infant and others. This method of assessment is called the Strange Situation.

KEY TERMS

Strange Situation – A controlled observation designed to test attachment security. Infants are assessed on their response to playing in an unfamiliar room, being left alone, left with a stranger and being reunited with a caregiver.

Secure attachment – Generally thought of as the most desirable attachment type, associated with psychologically healthy outcomes. In the Strange Situation this is shown by moderate stranger and separation anxiety and ease of comfort at reunion.

Insecure-avoidant attachment – An attachment type characterised by low anxiety but weak attachment. In the Strange Situation this is shown by low stranger and separation anxiety and little response to reunion – an avoidance of the caregiver.

Insecure-resistant attachment – An attachment type characterised by strong attachment and high anxiety. In the Strange Situation this is shown by high levels of stranger and separation anxiety and by resistance to be comforted at reunion.

The Strange Situation

The **Strange Situation** was developed by Mary Ainsworth (1969). The aim was to be able to observe key attachment behaviours as a means of assessing the quality of a child's attachment to a caregiver.

Procedure

The Strange Situation is a **controlled observation** procedure designed to measure the security of attachment a child displays towards a caregiver. It takes place in a room with quite controlled conditions (i.e. a **laboratory**) with a **two-way mirror** through which psychologists can observe the infant's behaviour.

The behaviours used to judge attachment included:

- **Proximity seeking:** an infant with a good attachment will stay fairly close to the caregiver.
- **Exploration and secure-base behaviour:** good attachment enables a child to feel confident to explore, using their caregiver as a secure base, i.e. a point of contact that will make them feel safe.
- **Stranger anxiety:** one of the signs of becoming closely attached is a display of anxiety when a stranger approaches.
- **Separation anxiety:** another sign of becoming attached is to protest at separation from the caregiver.
- **Response to reunion** with the caregiver after separation for a short period of time under controlled conditions.

The procedure has seven episodes, each of which last three minutes.

Beginning: Child and caregiver enter an unfamiliar playroom.	
1. The child is encouraged to explore.	Tests exploration and secure base.
2. A stranger comes in and tries to interact with the child.	Tests stranger anxiety.
3. The caregiver leaves the child and stranger together.	Tests separation and stranger anxiety.
4. The caregiver returns and the stranger leaves.	Tests reunion behaviour and exploration/secure base.
5. The caregiver leaves the child alone.	Tests separation anxiety.
6. The stranger returns.	Tests stranger anxiety.
7. The caregiver returns and is reunited with the child.	Tests reunion behaviour.

Findings

Ainsworth *et al.* (1978) found that there were distinct patterns in the way that infants behaved. She identified three main types of attachment:

- **Secure attachment** (Type B). These children explore happily but regularly go back to their caregiver (proximity seeking and secure base behaviour). They usually show moderate separation distress and moderate stranger anxiety. Securely attached children require and accept comfort from the caregiver in the reunion stage. About 60–75% of British toddlers are classified as secure.
- **Insecure-avoidant attachment** (Type A). These children explore freely but do not seek proximity or show secure base behaviour. They show little or no reaction when their caregiver leaves and they make little effort to make contact when the caregiver returns. They also show little stranger anxiety. They do not require comfort at the reunion stage. About 20–25% of toddlers are classified as insecure-avoidant.
- **Insecure-resistant attachment** (Type C). These children seek greater proximity than others and so explore less. They show huge stranger and separation distress but they resist comfort when reunited with their carer. Around 3% of British toddlers are classified as insecure-resistant.



Securely attached children are happy to be reunited with their caregiver. Other children may show avoidance or resistance at reunion and are classified as insecure-avoidant or insecure-resistant respectively because of this.

RESEARCH METHODS- TYPES OF EXPERIMENT

TYPES OF EXPERIMENT

THE SPECIFICATION SAYS

Types of experiment: laboratory and field experiments, natural and quasi-experiments.

All experiments involve a change in an independent variable, with the researcher recording or measuring the subsequent effects on the dependent variable.

How the IV changes, and under what circumstances, varies from one type of experiment to another. There are four different types of experiment used in psychology, each with its own strengths and limitations.

KEY TERMS

Laboratory (lab) experiment – An experiment that takes place in a controlled environment within which the researcher manipulates the IV and records the effect on the DV, whilst maintaining strict control of extraneous variables.

Field experiment – An experiment that takes place in a natural setting within which the researcher manipulates the IV and records the effect on the DV.

Natural experiment – An experiment where the change in the IV is not brought about by the researcher but would have happened even if the researcher had not been there. The researcher records the effect on the DV.

Quasi-experiment – A study that is almost an experiment but lacks key ingredients. The IV has not been determined by anyone (the researcher or any other person) – the 'variables' simply exist, such as being old or young. Strictly speaking this is not an experiment.



Natural experiments

Natural experiments are when the researcher takes advantage of a pre-existing independent variable. This kind of experiment is called 'natural' because the variable would have changed even if the experimenter was not interested. Note that it is the IV that is natural not necessarily the setting – participants may be tested in a lab. In a field experiment the setting is natural.

Strengths

Natural experiments provide opportunities for research that may not otherwise be undertaken for practical or ethical reasons, such as the studies of institutionalised Romanian orphans (Rutter, see page 90).

Natural experiments often have high external validity because they involve the study of real-life issues and problems as they happen, such as the effects of a natural disaster on stress levels.

Limitations

A naturally occurring event may only happen very rarely, reducing the opportunities for research. This also may limit the scope for generalising findings to other similar situations.

Another issue is that participants may not be **randomly allocated to experimental conditions** (this only applies when there is an **independent groups design**). This means the researcher might be less sure whether the IV affected the DV. For example, in the study of Romanian orphans the IV was whether children were adopted early or late. However, there were lots of other differences between these groups, such as those who were adopted late may also have been the less attractive children who no one wanted to adopt.

Quasi-experiments

Quasi-experiments have an IV that is based on an existing difference between people (for instance, age or gender). No one has manipulated this variable, it simply exists. For instance, if the anxiety levels of phobic and non-phobic patients were compared, the IV of 'having a phobia' would not have come about through any experimental manipulation.

Strengths and limitations

Quasi-experiments are often carried out under controlled conditions and therefore share the strengths of a lab experiment.

Quasi-experiments, like natural experiments, cannot randomly allocate participants to conditions and therefore there may be **confounding variables**.

Apply it

Concepts: 'True' experiments

In a true experiment the IV is under the direct control of the researcher who manipulates it and records the effect on the DV.

Laboratory experiments

Laboratory experiments are conducted in highly controlled environments. This is not always a laboratory (lab) – it could, for example, be a classroom where conditions can be well controlled.

Strengths

Lab experiments have high control over **extraneous variables**. This means that the researcher can ensure that any effect on the **dependent variable (DV)** is likely to be the result of manipulation of the **independent variable (IV)**. Thus, we can be more certain about demonstrating cause and effect (high **internal validity**).

Replication is more possible than in other types of experiment because of the high level of control. This ensures that new extraneous variables are not introduced when repeating an experiment. Replication is vital to check the results of any study to see whether the finding is **valid** and not just a one-off.

Limitations

Lab experiments may lack **generalisability**. The lab environment may be rather artificial and not like everyday life. In an unfamiliar context participants may behave in unusual ways so their behaviour cannot always be generalised beyond the research setting (low **external validity**).

As well as this, participants are usually aware they are being tested in a lab experiment (though they may not know why) and this may also give rise to 'unnatural' behaviour (see **demand characteristics** described on page 168).

Furthermore, the tasks participants are asked to carry out in a lab experiment may not represent real-life experience; for instance, recalling unconnected lists of words as part of a memory experiment (low **mundane realism**).

Field experiments

In **field experiments** the IV is manipulated in a natural, more everyday setting (in the field, not necessarily in a field).

Strengths

Field experiments have higher mundane realism than lab experiments because the environment is more natural. Thus field experiments may produce behaviour that is more valid and authentic. This is especially the case as participants may be unaware they are being studied (high external validity).

Limitations

However, there is a price to pay for increased realism due to the loss of control of extraneous variables. This means cause and effect between the IV and the DV in field studies may be much more difficult to establish and precise replication is often not possible.

There are also important **ethical issues**. If participants are unaware they are being studied they cannot **consent** to being studied and such research might constitute an invasion of **privacy**.

RESEARCH METHODS- SAMPLING TECHNIQUES

THE SPECIFICATION SAYS...

Sampling: the difference between population and sample; sampling techniques including random, systematic, stratified, opportunity and volunteer; implications of sampling techniques, including bias and generalisation.

Psychological investigations require one important ingredient – people!*

Groups of people (participants) that form part of research studies are selected through the process of 'sampling'. There are five important sampling techniques used in psychology and these are discussed on this spread.

*Or sometimes animals.

KEY TERMS

Population – A group of people who are the focus of the researcher's interest, from which a smaller sample is drawn.

Sample – A group of people who take part in a research investigation. The sample is drawn from a (target) population and is presumed to be representative of that population, i.e. it stands 'fairly' for the population being studied.

Sampling techniques – The method used to select people from the population.

Bias – In the context of sampling, when certain groups may be over or under-represented within the sample selected. For instance, there may be too many younger people or too many people of one ethnic origin in a sample. This limits the extent to which generalisations can be made to the target population.

Generalisation – The extent to which findings and conclusions from a particular investigation can be broadly applied to the population. This is made possible if the sample of participants is representative of the population.

Populations and samples

The **population** refers to the large group of individuals that a particular researcher may be interested in studying, for example students attending colleges in the North West, children under six with autism, women in their thirties, etc. This is often called the **target population** because it is a subset of the general population.

For practical and economic reasons, it is usually not possible to include all members of a target population in an investigation so a researcher selects a smaller group, known as the **sample**.

Ideally, the sample that is drawn will be **representative** of the target population so that **generalisation** of findings becomes possible. In practice, however, it is often very difficult to represent populations within a given sample due to their diverse nature.

Inevitably then, the vast majority of samples contain some degree of **bias**.

Samples are selected using a **sampling technique** that aims to produce a representative sample. We will look at the main techniques used by psychologists.



Random sample

A **random sample** is a sophisticated form of sampling in which all members of the target population have an equal chance of being selected.

To select a random sample, firstly, a complete list of all members of the target population is obtained. Secondly, all of the names on the list are assigned a number. Thirdly, the sample is generated through the use of some **lottery method** (a computer-based randomiser or picking numbers from a hat).

Systematic sample

A **systematic sample** is when every n th member of the target population is selected, for example every 3rd house on a street or every 5th pupil on a school register.

A **sampling frame** is produced, which is a list of people in the target population organised into, for instance, alphabetical order. A sampling system is nominated (every 3rd, 6th or 8th person, etc.) or this interval may be determined randomly to reduce bias. The researcher then works through the sampling frame until the sample is complete.

Stratified sample

A **stratified sample** is a sophisticated form of sampling in which the composition of the sample reflects the proportions of people in certain sub-groups (strata) within the target population or the wider population.

To carry out a stratified sample the researcher first identifies the different strata that make up the population. Then, the proportions needed for the sample to be representative are worked out. Finally, the participants that make up each stratum are selected using random sampling. For example, let's say in Manchester, 40% of people support Manchester United, 40% support Manchester City, 15% support Bolton and 5% support Leeds. In a stratified sample of 20 participants there would be eight United fans, eight City, three Bolton fans and one solitary Leeds supporter. Each of these would be randomly selected from the larger group of fans of their team, e.g. Bolton fans selected from Bolton supporters, if there are enough.

Evaluation

Random sample

A random sample is free from researcher bias. The researcher has no influence over who is selected and this prevents them from choosing people who they think may support their **hypothesis**.

However, random sampling is difficult and time-consuming to conduct. A complete list of the target population may be extremely difficult to obtain.

Furthermore, you may end up with a sample that is still unrepresentative – the laws of probability suggest that random sampling is likely to produce a more representative sample than, say, opportunity sampling. However, it is still possible that the random method may select, for example, 20 female psychology teachers from Lancashire called Joyce.

In addition, selected participants may refuse to take part (which means you end up with something more like a volunteer sample). This particular issue applies to all of the methods below.

Systematic sample

This sampling method avoids researcher bias. Once the system for selection has been established the researcher has no influence over who is chosen (this is even more the case if the system is randomly selected).

It is also usually fairly representative. For example, it would be possible, but quite unlucky, to get an all-male sample through systematic sampling.

Stratified sample

Stratified sampling avoids researcher bias. Once the target population has been sub-divided into strata, the participants that make up the numbers are randomly selected and beyond the influence of the researcher.

This method produces a representative sample because it is designed to accurately reflect the composition of the population. This means that generalisation of findings becomes possible.

However, stratification is not perfect. The identified strata cannot reflect all the ways that people are different, so complete representation of the target population is not possible.

Opportunity sample

Opportunity sampling is convenient. This method saves a researcher a good deal of time and effort and is much less costly in terms of time and money than, say, random sampling.

On the negative side, opportunity samples suffer from two forms of bias. First, the sample is unrepresentative of the target population as it is drawn from a very specific area, such as one street in one town, so findings cannot be generalised to the target population. In fact, in psychology, the most common sample that is used is students who happen to be studying psychology and are very available to researchers! Think how biased that is.

Second, the researcher has complete control over the selection of participants and, for instance, may avoid people they do not like the look of (**researcher bias**).

Volunteer sample

Collecting a volunteer sample is easy. It requires minimal input from the researcher ('they come to you') and so is less time-consuming than other forms of sampling.

Volunteer bias is a problem. Asking for volunteers may attract a certain 'profile' of person, that is, one who is helpful, keen and curious (which might then affect how far findings can be generalised).

RESEARCH METHODS- ETHICAL ISSUES

Ethical issues in the design and conduct of psychological studies

Ethical issues arise in psychology when a conflict or dilemma exists between participants' rights and researchers' needs to gain valuable and meaningful findings. This conflict has implications for the safety and wellbeing of participants.

For instance, a researcher may not wish to reveal the true purpose of a research study to participants in order to study more 'natural' behaviour. But is it acceptable to mislead participants in this way – it might involve lying to them? Is it acceptable to tell participants they failed a test in order to study responses to failure? Is causing psychological distress to participants ever justified? What if they were made aware of this beforehand, would that make a difference?

Let us consider four of the major ethical issues that face participants and researchers in psychology.

Informed consent

At a basic level, prospective participants in studies should know what they are getting into before they get into it. **Informed consent** involves making participants aware of the aims of the research, the procedures, their rights (including the **right to withdraw** partway through the investigation should they so wish), and also what their data will be used for. Participants should then make an informed judgement whether or not to take part without being coerced or feeling obliged.

From the researcher's point of view, asking for informed consent may make the study meaningless because participants' behaviour will not be 'natural' as they know the aims of the study.

Deception

Deception means deliberately misleading or withholding information from participants at any stage of the investigation. This is linked to the above. Participants who have not received adequate information when they agreed to take part (or worse, have been deliberately lied to) cannot be said to have given informed consent.

Despite that, there are occasions when deception can be justified if it does not cause the participant undue distress. For instance, in our energy drink study it would probably be legitimate not to tell participants that there is another group drinking a different substance, as knowing this may affect their behaviour.

Protection from harm

As a result of their involvement, participants should not be placed at any more risk than they would be in their daily lives, and should be protected from physical and psychological harm. The latter includes being made to feel embarrassed, inadequate or being placed under undue stress or pressure. An important feature of protection from harm, as mentioned above, is participants being reminded of the fact that they have the right to withdraw from the investigation at any point.

Privacy and confidentiality

Participants have the right to control information about themselves. This is the right of **privacy**. If this is invaded then confidentiality should be protected. **Confidentiality** refers to our right, enshrined in law under the Data Protection Act, to have any personal data protected.

The right to privacy extends to the area where the study took place such that institutions or geographical locations are not named.

THE SPECIFICATION SAYS...

Ethics, including the role of the BPS code of ethics; ethical issues in the design and conduct of psychological studies; dealing with ethical issues in research.

One of the most important considerations in psychology is how to conduct worthwhile and innovative research whilst at the same time respecting the dignity and wellbeing of participants.

Here, we discuss the major ethical issues in psychology and how professional psychologists deal with these in accordance with the guidelines set down in the BPS code of ethics.

KEY TERMS

Ethical issues – These arise when a conflict exists between the rights of participants in research studies and the goals of research to produce authentic, valid and worthwhile data.

BPS code of ethics – A quasi-legal document produced by the British Psychological Society (BPS) that instructs psychologists in the UK about what behaviour is and is not acceptable when dealing with participants. It is built around four major principles: respect, competence, responsibility and integrity.



Ways of dealing with ethical issues

BPS code of conduct

The **British Psychological Society (BPS)**, like many other professional bodies, has its own **BPS code of ethics** and this includes a set of **ethical guidelines**. Researchers have a professional duty to observe these guidelines when conducting research (they won't be sent to prison if they don't follow them but they may well lose their job).

The guidelines are closely matched to the ethical issues on the facing page and attempt to ensure that all participants are treated with respect and consideration during each phase of research. Guidelines are implemented by **ethics committees** in research institutions who often use a **cost-benefit approach** to determine whether particular research proposals are ethically acceptable (see Apply it below).

Dealing with informed consent

Participants should be issued with a consent letter or form detailing all relevant information that might affect their decision to participate. Assuming the participant agrees, this is then signed. For investigations involving children under 16, a signature of parental consent is required. There are other ways to obtain consent, which are described on the right.

Dealing with deception and protection from harm: debriefing

At the end of a study, participants should be given a full **debrief**. Within this, participants should be made aware of the true aims of the investigation and any details they were not supplied with during the study, such as the existence of other groups or experimental conditions.

Participants should also be told what their data will be used for and must be given the **right to withhold data** if they wish. This is particularly important if retrospective consent is a feature of the study (see right).

Participants may have natural concerns related to their performance within the investigation, and so should be reassured that their behaviour was typical or normal in extreme cases, if participants have been subject to stress or embarrassment, they may require **counselling**, which the researcher should provide.

Dealing with confidentiality

If personal details are held these must be protected. However it is more usual to simply record no personal details, i.e. maintain **anonymity**. Instead, researchers usually refer to participants using numbers or initials when writing up the investigation. In a **case study**, psychologists often use initials when describing the individual or individuals involved (see the study of HM on page 48).

Finally, it is standard practice that during briefing and debriefing, participants are reminded that their data will be protected throughout the process.

Apply it

Concepts: Cost-benefit analysis

It is the responsibility of ethics committees to weigh up the costs and benefits of research proposals to decide whether the research study should go ahead. Benefits might include the value or ground-breaking

RESEARCH METHODS- SELF REPORT- QUESTIONNAIRES/INTERVIEWS

SELF-REPORT TECHNIQUES

THE SPECIFICATION SAYS

Self-report techniques: questionnaire, interview, structured and unstructured

Sometimes the most straightforward way of understanding why people behave in the way that they do is to ask them. This is the self-report method in psychology and it comprises questionnaires and interviews, two separate techniques that we shall consider on this spread.

KEY TERMS

Self-report technique – Any method in which a person is asked to state or explain their own feelings, opinions, behaviours and/or experiences related to a given topic.

Questionnaire – A set of written questions (sometimes referred to as 'items') used to assess a person's thoughts and/or experiences.

Interview – A 'live' encounter (face-to-face or on the phone) where one person (the interviewer) asks a set of questions to assess an interviewee's thoughts and/or experiences. The questions may be pre-set (as in a structured interview) or may develop as the interview goes along (unstructured interview).



A multiple choice one is a good example of a questionnaire that uses closed, rather than open, questions.

Questionnaires

Questionnaires – not surprisingly – involve a pre-set list of written questions (or items) to which the participant responds. Psychologists use questionnaires to assess thoughts and/or feelings. A study may simply consist of a question to find out about the kind of dreams people have or a long list of items designed to assess an individual's personality type.

A questionnaire may be used as part of an experiment to assess the **dependent variable**. For example, whether views on the legalization of specific recreational drugs are different in older and younger people.

Open and closed questions

There are a number of different possible styles of questions in a questionnaire but these can be broadly divided into **open questions** and **closed questions**.

An open question does not have a fixed range of answers and respondents are free to answer in any way they wish. For instance, we might ask participants in our essay class, experiment how they felt during the investigation or why they thought they became more talkative (assuming they did). Open questions tend to produce **qualitative data** that is rich in depth and detail, but may be difficult to analyse.

A closed question offers a fixed number of responses. We might ask our participants if they felt more talkative as a result of the energy drink and restrict them to two options: 'yes' or 'no' (**quantitative data**). Alternatively we might get them to rate how sociable they felt after consuming the drink on a scale of 1 to 10 (**quantitative data**). Quantitative data like this is usually easy to analyse but it may lack the depth and detail associated with open questions. Note that closed questions that produce qualitative data can be turned into quantitative data by, for example, counting the number of 'yes' and 'noes'.

Interviews

Although some interviews may be conducted over the phone, most involve a face-to-face interaction between an interviewer and an interviewee. There are two broad types of **interview**: **structured** and **unstructured interview**.

Structured interviews

Structured interviews are made up of a pre-determined set of questions that are asked in a fixed order. Basically this is like a questionnaire but conducted face-to-face (or over the phone) in real-time. I.e. the interviewer asks the questions and waits for a response.

Unstructured interviews

An unstructured interview works a lot like a conversation. There are no set questions. There is a general aim that a certain topic will be discussed, and interaction tends to be free flowing. The interviewee is encouraged to expand and elaborate their answers as prompted by the interviewer.

Semi-structured interviews

Many interviews are likely to fall somewhere between the two types described above. The sort of interview that one is most likely to encounter in everyday life – a job interview – is a good example of a **semi-structured interview**. There is a list of questions that have been worked out in advance but interviewers are also free to ask follow-up questions when they feel it is appropriate.

Evaluation

Strengths

Questionnaires are cost-effective. They can gather large amounts of data quickly because they can be distributed to large numbers of people (note that it is the number of people that is important as this determines the volume of data collected). A questionnaire can be completed without the researcher being present, as in the case of a postal questionnaire, which also reduces the effort involved.

The data that questionnaires produce is usually straightforward to analyse and this is particularly the case if the questionnaire comprises mainly fixed choice closed questions. The data lends itself to statistical analysis, and comparisons between groups of people can be made using graphs and charts.

Limitations

A major problem is that the responses given may not always be truthful. Respondents may be keen to present themselves in a positive light and this may influence their answers. For example, if asked 'How often do you use your phone' most people would underestimate the frequency. This is a form of **demand characteristic** called **social desirability bias**.

Questionnaires often produce a **response bias**, which is where respondents tend to reply in a similar way. For instance, always taking 'yes' or answering at the same focused end of a **rating scale** (discussed on the next spread). This may be because respondents complete the questionnaire too quickly and fail to read questions properly. A particular form of response bias, **acquiescence bias**, is discussed below right.

Evaluation

Structured interviews

Structured interviews, like questionnaires, are straightforward to **replicate** due to their standardised format. The format also reduces differences between interviewers.

It is not possible, however, given the nature of the structured interview, for interviewers to deviate from the topics or elaborate their points, and this may be a source of frustration for some.

Unstructured interviews

There is much more flexibility in an unstructured than in a structured interview. The interviewer can follow up points as they arise and is much more likely to gain insight into the worldview of the interviewee.

However, analysis of data from an unstructured interview is not straightforward. The researcher may have to sift through much irrelevant information and drawing firm conclusions may be difficult.

As with questionnaires, there is a risk that interviewees may lie for reasons of social desirability. However, a skilled and experienced interviewer should be able to establish sufficient rapport with the participant so that even when sensitive and personal topics are discussed, any responses given are more truthful.

Apply it

Concepts: Questionnaires or interviews

RESEARCH METHODS- TYPES OF DATA

DATA ANALYSIS: KINDS OF DATA

THE SPECIFICATION SAYS

Qualitative and quantitative data: the distinction between qualitative and quantitative data collection techniques. Primary and secondary data, including meta-analysis.

When an investigation is conducted, data is collected. This is words, numbers, images, sounds without context, etc. Once context (meaning) is added then data becomes 'information'. Data analysis is the process of turning data into information.

KEY TERMS

Qualitative data – Data that is expressed in words and non-numerical (although qualitative data may be converted to numbers for the purposes of analysis).

Quantitative data – Data that can be counted, usually given as numbers.

Primary data – Information that has been obtained first-hand by the researcher for the purposes of a research project. In psychology, such data is often gathered directly from participants as part of an experiment; self-report or observation.

Secondary data – Information that has already been collected by someone else and so pre-dates the current research project. In psychology, such data might include the work of other psychologists or government statistics.

Meta-analysis – 'Research about research', refers to the process of combining results from a number of studies on a particular topic to provide an overall view. This may involve a qualitative review of conclusions and/or a quantitative analysis of the results producing an effect size.

A qualitative perspective

How must the soldiers be feeling?

What themes are explored in the picture?

What style of painting is this?

Qualitative and quantitative data

Qualitative data

Qualitative data is expressed in words, rather than numbers or statistics, and may take the form of a written description of the thoughts, feelings and opinions of participants (or a written account of what the researcher saw in the case of an observation). Thus, a transcript from an **interview**, an extract from a diary or notes recorded within a **counselling** session would all be classed as qualitative data.

Qualitative methods of data collection are those that are concerned with the interpretation of language from, for example, an interview or an **unstructured observation**.

Quantitative data

This is data that is expressed numerically. Quantitative data collection techniques usually gather numerical data in the form of individual scores from participants such as the number of words a person was able to recall in a memory **experiment**. Data is open to being analysed statistically and can be easily converted into graphs, charts, etc.

Which one is best?

Neither really, it depends upon the purpose and aims of the research. Also there is significant overlap between the two: researchers collecting quantitative data as part of an experiment may often interview participants as a way of gaining more qualitative insight into their experience of the investigation. Similarly, there are a number of ways in which qualitative information can be converted to numerical data.

Primary and secondary data

Primary data

Primary data (sometimes called field research) refers to original data that has been collected specifically for the purpose of the investigation by the researcher. It is data that arrives first-hand from the participants themselves. Data which is gathered by conducting an experiment, **questionnaire**, interview or **observation** would be classed as primary data.

Secondary data

Secondary data is data that has been collected by someone other than the person who is conducting the research. In other words, this is data that already exists before the psychologist begins their research or investigation. Data such as this is sometimes referred to as 'desk research' and it is often the case that secondary data has already been subject to **statistical testing** and therefore the **significance** is known.

Secondary data includes data that may be located in **journal articles**, books or websites, statistical information held by the government (such as that obtained in the Census), population records or employee absence records within an organisation are all examples of secondary data.

Evaluation

Qualitative data

Qualitative data offers the researcher much more richness of detail than **quantitative data** (below). It is much broader in scope and gives the participant/respondent more licence to develop their thoughts, feelings and opinions on a given subject.

For this reason, qualitative data tends to have greater **external validity** than quantitative data: it provides the researcher with a more meaningful insight into the participant's worldview.

That said, qualitative data is often difficult to analyse. It tends not to lend itself to being summarised statistically so that patterns and comparisons within and between data may be hard to identify.

As a consequence, conclusions often rely on the subjective interpretations of the researcher and these may be subject to bias, particularly if the researcher has preconceptions about what he/she is expecting to find.

Quantitative data

Essentially the criticisms of quantitative data are the opposite of those above: quantitative data is relatively simple to analyse, therefore comparisons between groups can be easily drawn. Also, data in numerical form tends to be more objective and less open to bias. On the other hand, quantitative data is much narrower in scope and meaning than qualitative data. It thus may fail to represent 'real-life'.

Evaluation

Primary data

The main strength of primary data is that it fits the job. Primary data is authentic data obtained from the participants themselves for the purpose of a particular investigation. Questionnaires and interviews, for instance, can be designed in such a way that they specifically target the information that the researcher requires.

To produce primary data, however, requires time and effort on the part of the researcher. Conducting an experiment, for instance, requires considerable planning, preparation and resources, and this is a limitation when compared with secondary data, which may be accessed within a matter of minutes.

Secondary data

In contrast to primary data above, secondary data may be inexpensive and easily accessed requiring minimal effort. When examining secondary data the researcher may find that the desired information already exists and so there is no need to conduct primary data collection.

The flip side is that there may be substantial variation in the quality and accuracy of secondary data. Information might at first appear to be valuable and promising but, on further investigation, may be out-dated or incomplete. The content of the data may not quite match the researcher's needs or objectives so the old adage, 'if you want something done well, do it yourself',

DATA ANALYSIS: DESCRIPTIVE STATISTICS

THE SPECIFICATION SAYS

Descriptive statistics: measures of central tendency – mean, median and mode; calculation of mean, median and mode; measures of dispersion: range and standard deviation; calculation of range.

We have seen how data may come in two forms: qualitative or quantitative. Here we shall focus on the latter. There are various ways of summarising and analysing numerical data in order to draw meaningful conclusions. These are collectively known as **descriptive statistics** – which include measures of central tendency and measures of dispersion and also graphs (on the next spread).

KEY TERMS

Descriptive statistics – The use of graphs, tables and summary statistics to identify trends and analyse sets of data.

Measures of central tendency – The general term for any measure of the average value in a set of data.

Mean – The arithmetic average calculated by adding up all the values in a set of data and dividing by the number of values there are.

Median – The central value in a set of data when values are arranged from lowest to highest.

Mode – The most frequently occurring value in a set of data.

MEAN – MEDIAN – MODE – RANGE

13, 13, 13, 13, 14, 14, 16, 18, 21

MEAN 15

Measures of central tendency

Measures of central tendency are 'averages' which give us information about the most typical values in a set of data. There are three of these to consider: the **mean**, the **median** and the **mode**.

Mean

The mean is what most of us will recognise as the average. It is calculated by adding up all the scores or values in a data set and dividing this figure by the total number of scores there are.

For instance, in the following data set of scores:

5, 7, 9, 10, 11, 12, 14, 15, 17

The total is 107 divided by the number of scores (10), which gives us a mean value of 10.7.

The mean is the most sensitive of the measures of central tendency as it includes all of the scores/values in the data set within the calculation. This means it is more representative of the data as a whole.

However, the mean is easily distorted by extreme values. If we replace 17 in the data above with the number 98, the mean becomes 18.8 which does not really seem to represent the data overall!

Median

The median is the middle value in a data set when scores are arranged from lowest to highest. In an odd number of scores, the median is easily identified. In an even number of scores (just as the ten numbers above) the median is halfway between the two middle scores. These are 10 and 11, so the median is 10.5.

The strength of the median, unlike the mean, is that extreme scores do not affect it, so whether 98 replaces 17 in the data above or not, the median remains the same. It is also easy to calculate (once you have arranged the numbers in order). However, it is less sensitive than the mean as not all scores are included in the final calculation.

Mode

The mode is the most frequently occurring score/value within a data set. In some data sets there may be two modes (**bi-modal**) or no mode if all the scores are different.

Although the mode is very easy to calculate, it is a very crude measure. Notice how in the set of scores above, the mode is 7, which is quite different from the mean and the median (and not really representative of the data as a whole).

For some data – data in categories – the mode is the only method you can use. For example, if you asked your class to list their favourite dessert, the only way to identify the most 'typical' or average value would be to select the **modal group**.

Measures of dispersion

Measures of dispersion are based on the spread of scores, that is, how far scores vary and differ from one another. We shall focus on two of these: the **range** and the **standard deviation**.

Range

The range is a simple calculation of the spread of scores and is worked out by taking the lowest value from the highest value and (usually) adding 1.

Thus, the range for the data on the left is $(17 - 5) + 1 = 13$.

Adding 1 is a mathematical correction that allows for the fact that raw scores are often rounded up (or down) when they are recorded within research. For instance, someone may complete a simple task (such as crossing out all the letter 'e's in a paragraph) in 45 seconds. However, it is unlikely they took exactly 45 seconds to complete this task (in fact it may have taken them anywhere between 44.5 and 45.5 seconds), so the addition of 1 accounts for this margin of error.

The advantage of the range is that it is easy to calculate. However, it only takes into account the two most extreme values, and this may be unrepresentative of the data set as a whole. For instance, pupils in a maths class achieved the following test scores:

0, 47, 49, 50, 50, 50, 51, 53, 54, 56, 56, 57, 100

The range here is 101: one student was ill during the test and scored nothing, the top-scoring student had been given the paper for homework by mistake! This illustrates the problem with the range that it may not give a fair representation of the general spread of scores as, in this example, most students achieved around half marks in the test and the range, more accurately was 11.

Standard deviation

A much more sophisticated measure of dispersion is the standard deviation. This is a single value that tells us how far scores deviate (move away from) the mean.

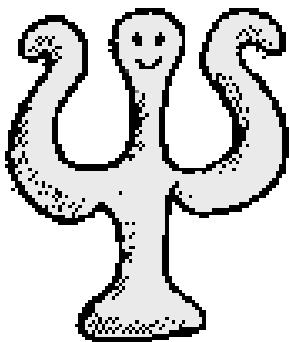
The larger the standard deviation, the greater the dispersion or spread within a set of data. If we are talking about a particular condition within an experiment, a large standard deviation suggests that not all participants were affected by the IV in the same way because the data are quite widely spread. It may be that there are a few **anomalous** results.

A low standard deviation value reflects the fact that the data are tightly clustered around the mean, which might imply that all participants responded in a fairly similar way. The standard deviation is a much more precise measure of dispersion than the range as it includes all values within the final calculation. However, for this reason – like the mean – it can be distorted by a single extreme value.

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THIS DURING YOUR FIRST PSYCHOLOGY
LESSON**

Have a lovely summer and we look forward to welcoming you to your Psychology course in September! Best of luck for results day!

Mrs Campbell-Birch, Mr Knox and Mrs Savage



The Department of
Social Sciences

