DP IB Psychology: HL

Your notes

Research Methods

Contents

Your notes

Laboratory experiments

- A **lab experiment** is a type of **research method** in which the researcher can exert high levels of **control** over what happens as part of the experimental process
- The researcher controls the **environmental** factors, such as **noise** and **temperature** (possible extraneous variables) so that the effects of the **independent variable (IV)** upon the **dependent variable (DV)** can be **observed and measured**
- Lab experiments use a **standardised procedure** to ensure **replicability** and **reliability**
- All variables are kept the **same/constant**: only the independent variable **changes** between conditions, e.g.,
  - the experiment is run in the **same room**/space per condition
  - the **light, heat, sound** levels are kept constant per condition
  - the researcher treats the participants in the same way (e.g., **tone of voice, body language, clothing**) per condition
- Keeping all variables constant means that the DV can be measured exactly using **quantitative data**

Evaluation of lab experiments

Strengths

- It is easier to establish a **cause-effect relationship** between the IV and the DV than for other methods used in psychology
  - This is due to the use of controls and the **objective** nature of the research
  - Therefore lab experiments are high in **internal validity**
- The use of a **standardised procedure** means that the research is **replicable,** which increases the **reliability**

Limitations

- The use of artificial tasks means that lab experiments **lack ecological validity**
  - If participants are performing tasks in an unfamiliar, 'sterile' setting, this does not reflect how they might behave in real conditions
  - This makes the findings difficult to **generalise** beyond the lab setting
- **Demand characteristics** may **limit the generalisability** of the findings
  - As participants know they are in a study, they may alter their behaviour (e.g., they may feel shy or self-conscious, or they may try too hard)
  - This would **lower** the **external validity** of the study

Field experiments

Your notes

- A field experiment is a **research method** which takes place in a **natural setting**
- The researcher has **less control** over what happens as part of the experimental process due to the use of a real-world location
- The researcher can **control** the environment to some extent but they have to acknowledge the fact that many **extraneous variables** are part of field experiments, e.g.,
  - if the experiment takes place outdoors, the **weather** may be a **factor**
  - if the experiment takes place in a **crowded** environment, there is the **distraction** of other people, noise, traffic, shops, etc.
- Field experiments are not the same as **naturalistic observations**: they still involve the **manipulation of an IV,** e.g.,
  - a **confederate** of the researcher pretends to collapse on a subway train
    - The **IV** is whether the victim appears to be drunk or disabled
    - The **DV** is the number of people who go to the victim's aid
  - a **researcher** implements a 'Kindness' programme with half of the Year 5 students in a primary school
    - The **IV** is whether the students have followed the 'Kindness' programme or not
    - The **DV** is the score they achieve on a **questionnaire** about prosocial behaviour after one month
- Field experiments collect **quantitative data** but there is also more **possibility for** researchers to obtain qualitative data as part of the research process, e.g.,
  - **interviews** with passengers who witnessed the 'victim' collapsing on the train
  - teachers' **observations** of **behavioural differences** in the 'Kindness' programme children across the month of the study
- Any qualitative data collected could be used to **comment** on the quantitative findings and shed light on the actions of the participants

Evaluation of field experiments

Strengths

- As the research is conducted in real settings, the degree of **artificiality** is reduced
  - If participants feel more comfortable in the setting, this means that their behaviour is likely to reflect their behaviour outside of the research parameters
  - This makes field experiments high in **external validity**
- Participants are less likely to experience **demand characteristics** due to the more relaxed and 'natural' environment of a field experiment, which heightens the **validity** of

the findings

Limitations

- **Extraneous variables** are much more likely to interfere with the findings of the study
  - The researcher cannot control all extraneous variables due to the limitations of control possible with field experiments
  - This means that **reliability** is reduced
- It is more **difficult to replicate** field experiments due to the nature of the method
  - This reduces the ability to check for consistency – and hence **reliability** – of the results

Natural experiments

- **Natural experiments** consist of research with **naturally occurring phenomena**
  - the researcher cannot **manipulate** the IV
  - the researcher cannot **randomly allocate** participants to a condition (due to the naturally-occurring IV)
  - the research can take place in the participant's **natural setting** or a **controlled setting**
  - the researcher observes, measures and records the natural changes and responses which have occurred due to the naturally occurring phenomena
- Naturally occurring phenomena which might be used as the basis for a natural experiment include
  - living in a **war zone**
  - suffering from a specific **mental illness**
  - surviving a **plane crash**
- Often naturally occurring phenomena would be **highly unethical** for a researcher to impose on participants, henc; hence,look for people who have **experienced/are experiencing** the specific phenomenon

Evaluation of natural experiments

Strengths

- They allow the researcher to investigate topics which would **otherwise be unethical** to study using a traditional lab experiment, e.g., experiencing a mental illness or a natural disaster
  - This means that natural experiments are high in **ethical validity**
- Natural experiments are high in **ecological validity**
  - The participants report on events and experiences that they have personal, first-hand knowledge of

Your notes

- The researcher does not attempt to control the procedure
- This increases **mundane realism**

Your notes

Limitations

- **Causal relationships** are difficult to determine due to the array of **variables** at play
  - This is a **key limitation** of research which imposes **no controls** on the procedure
  - The researcher **cannot** be sure as to what effect the phenomena have had on the participants – they have to rely on the accounts of the participants
  - This **reduces the reliability** of natural experiments
- Natural experiments may suffer from several types of **bias** which would lower the **validity** of the study, e.g., sample bias

Quasi-experiments

- A **quasi-experiment** is a research method which does **not manipulate the IV**, similar to a natural experiment, as it uses **naturally occurring phenomena**
- The IV is based on a characteristic of the individual, e.g.,
  - **age**
    - An experiment in which **recall** is tested between a group of **young people** compared to a group of **older people**
  - **gender**
    - The performance of **girls** is compared to the performance of **boys** in an experiment testing **emotional intelligence**
- The researcher has **less** control over what happens as part of the experimental procesprocess,ey cannot **randomly allocate** participants to conditions
  - The participants *are* the conditions of the IV e.g.
    - either young/old or female/male
- Quasi-experiments collect **quantitative data** as they can be run in the same way as a 'true' lab experiment

Evaluation of quasi experiments

Strengths

- Due to the lack of manipulation of the IV the results could be said to be higher in **external validity**
  - Comparing the performance of young versus older people on a memory test gives **insight** into the effect of **age on recall**
  - Comparing the ability to identify emotion based on empathy training gives insight as to how this training might benefit other groups or professions

- Quasi-experiments follow a true experimental design, which means that they could be **replicated** with participants that match the original sample in terms of **demographics**
  - E.g., The effect of age on recall could use the same procedure over and over again

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Limitations

- As the participants cannot be **randomly allocated** to a condition, this can lead to **participant variables**, making it difficult to determine **causality**
  - A study which investigates the effect of age on recall might include a group of participants (in either the younger or the older group) who naturally have a much **better memory** than is **representative** of their population
  - This means that quasi-experiments are less **reliable** than true experiments
- Quasi-experiments lack **internal validity**, as there may be other factors which could explain the results
  - The teachers who have been trained in empathy may work in a school in which **emotional intelligence** is valued
  - This means that they would already be at an **advantage** in an emotion-recognition task

Your notes

Naturalistic & controlled observation

- An **observation** is a **non-experimental** method which involves **observing** and **recording** behaviours in either **naturalistic or controlled settings**
- Observers can only investigate **observable** behaviours i.e. what they can **see**, e.g.,
  - a child **hits** a Bobo doll with a mallet
  - a doctor **ignores** a patient asking a question
  - members of a 'doomsday' cult **discuss** the impending apocalypse
- Observers cannot **infer motive, intention, feeling or thought** from an observation , e.g.,
  - a child hits a Bobo doll because they are naturally violent
  - a doctor ignores a patient because the doctor is in a bad mood
  - the cult discuss the impending apocalypse because they have all been brainwashed
- All that can be recorded is the action/behaviour which is then linked to the topic of the investigation with **no assumption of cause-effect**

Naturalistic observation

- A **naturalistic observation** is one in which the researcher observes and records behaviours in a **natural setting**, away from the lab, with **no manipulation or a complete absence of an independent variable (IV)**, e.g.,
  - children are observed interacting in the school playground
  - shoppers are observed choosing items in a supermarket
  - the home crowd is observed at a football match
- Naturalistic observations are used when it would be **inappropriate/unfeasible** to run an experiment to investigate the topic
  - E.g., attempting to **implement** an IV and run a **controlled conditions** experiment to study how children interact in the playground is rife with logistical problems and would essentially **invalidate** itself
- Participants in a naturalistic observation may be **unaware** that they are being observed as they are simply going about their regular, **everyday** activities
  - **Festinger** (1956) and **confederates** infiltrated a 'doomsday' cult which believed that the world would end and that cult members would be saved by escaping on flying saucers
  - This was a naturalistic observation as the researchers **mingled amongst the cult** members and **secretly** recorded their observations in **note** form

Evaluation of naturalistic observation

Your notes

Strengths

- Participants are observed going about their **daily activities**, unaware of being observed
  - This means that their behaviour is natural and unforced
  - Thus this technique is high in **ecological validity**
- As participants are unaware that they are being observed they are unlikely to succumb to the '**Hawthorne effect**'

Limitations

- As participants are unaware that they are being observed this raises **ethical concerns**
  - Participants cannot give **informed consent** or the **right to withdraw and it** may not be possible to **debrief** them
  - This means that naturalistic observations may lack **ethical validity**
- Naturalistic observations **cannot be replicated** due to the nature of the method
  - This makes it difficult to apply **scientific rigour** to them as no **variables** are controlled
  - This means that the method may be overly **subjective**

Controlled observation

- A **controlled observation** is one in which the researcher implements a **level of control**, implementing **replicable procedures** and (sometimes) an IV
- The procedures and **phases** of a controlled observation must be **carefully designed** by the researcher along with the **predetermined behavioural categories** to be measured
  - E.g., **Bandura's** (1961) Bobo doll study used a **standardised procedure** in **lab conditions across three distinct phases**
    - Phase 1 was **exposure** to an **aggressive model or non-aggressive model**
    - Phase 2 was the '**arousal**' phase
    - Phase 3 was the **observation of the child** alone in a room full of toys plus the Bobo doll
  - **Ainsworth's** (1970) 'Strange Situation' study used seven different phases of the procedure with **distinct categories** pre-determined as **key indicators** of the baby's **attachment style** , e.g.,
    - **separation anxiety**
    - **stranger anxiety**
    - **reunion behaviours**

- Participants **know** that they are taking part in a **controlled observation** as they must be **recruited** for the study and then set a specific task which is likely to be quite **removed** from their everyday activities/experience


Your notes

Evaluation of controlled observation

Strengths

- **Replicable procedures** can be set up which **adhere** more to a scientific method
  - The researcher may manipulate an IV
  - Participants are tested using the **same standards and materials**
  - Thus this method has **good reliability**, particularly if more than one observer is used throughout (known as **inter-observer reliability**)
- The researcher can be more confident of a **cause-effect** relationship with a controlled observation
  - In **Bandura's** study only the children who had observed the **aggressive model** performed **imitative** acts on the Bobo doll
  - This supports the **validity** of the researcher's **hypothesis**

Limitations

- The use of controlled conditions and artificial tasks means that controlled observations are low in **ecological validity**
  - **Ainsworth's** study placed a mother and baby pair in an **unfamiliar environment** including a stranger
  - This means that both mother and baby may have been responding in ways which did not truly **represent** their **attachment style**
- **Demand characteristics** may impair a controlled observation
  - The children in Bandura's study may simply have been aggressive because they thought that this was **expected of them** (as they had seen an adult behaving aggressively)
  - This would lower the **validity** of the findings as it would not be a true effect of the IV on the DV

Covert & overt observation

Covert observation

- In a **covert** observation:
  - participants are **not aware** that they are being observed and will not have been **informed** of this in advance
  - participants may not be able to **see** the **researcher** observing them

- The only **ethical** way to conduct a covert observation is to observe behaviour in a **public context** that would be happening anyway, regardless of the observation taking place, e.g.,
  - shoppers in a mall
  - a crowd at a football match
  - office workers in the workplace
- Covert observations are more likely to occur with **naturalistic observations,** as the researcher is keen to **preserve** the **natural and unforced quality** of the behaviour
  - E.g., **Rosenhan** (1973) and **confederates** covertly observed staff and patients of several **mental hospitals** in the USA by **faking symptoms** and being admitted as patients themselves


Your notes

Evaluation of covert observation

Strengths

- As the researcher is hidden from the participants, this means that the behaviour being observed is more likely to be **real and uncontrived**
  - This means that this type of observation is high in **ecological validity**
- As the participants are **unaware** of the researcher, they may behave in ways which would not necessarily emerge if they knew they were 'on display'
  - E.g., **Piliavin et al.** (1969) **staged** an emergency on a New York subway train and observed the reactions of passengers
  - The covert nature of the observation meant that passengers were **unguarded and open** in their responses
  - This increases the **validity** of the findings

Limitations

- There are **ethical issues** with covert observations
  - In **Piliavin's** New York subway study, the passengers were **deceived** into thinking that someone had collapsed in their carriage, which could have caused them great **distress**
  - Thus, covert observations lack **ethical validity**
- It is **problematic** for a researcher if they wish to **replicate** a covert observational study
  - **Rosenhan's** covert observation of mental hospital staff could **not be replicated** due to the **intrusive and unethical** nature of the study
  - **Piliavin's** study could **not be replicated** not only due to ethics but for the very sound reason that anyone **acting suspiciously** on public transport in the 21st century would attract the attention of the security forces!

Overt observation

- In an **overt** observation, participants
  - are **aware** that they are being observed and may have been **informed** of this in advance
  - might be able to **see** the **researcher** observing them
- Overt observations are more likely to occur in **controlled lab conditions** as the researcher is keen to **test the effect of the IV on the DV** e.g.
  - Bandura tested the effect of observing an aggressive adult model on acts of imitative aggression in children
  - Ainsworth tested the effect of separation anxiety and stranger anxiety on young babies
- As each of the above studies was a **controlled observation** it would **not** have benefited the study to use covert methods

Your notes

Evaluation of overt observation

Strengths

- **Ethics** can be **preserved** as the researcher makes themselves known to the participants, who are **aware** that they are being observed
  - **Zimbardo** (1973) conducted a prison experiment using **overt** observation
  - Participants **knew** that they were being observed
  - Knowledge of the overt nature of the observation meant that the participants could more easily exercise their **right to withdraw,** as there was no **pretence** that this was 'real life'

Limitations

- Participants are **aware** that they are being observed and that their behaviour is being measured which could give rise to **participant reactivity**
  - This is a type of **demand characteristic** which involves participants responding **too actively** to the research process i.e. trying too hard/not trying hard enough
  - This in turn damages the **validity** of the findings
- Overt observations may suffer from **researcher bias**
  - The researcher may set up the **observation schedule and tasks** to align too closely with their **hypothesis**
  - If so, the researcher has succumbed to **confirmation bias** as they are striving to **look for behaviours which support their hypothesis** rather than keeping an open mind

Participant & non-participant observation

Participant observation

Your notes

- In a **participant** observation:
  - The researcher (and possibly confederates of the researcher) **join the group** they are observing, becoming part of them
  - Participants may **not** be **aware** that the researcher is an 'outsider' (in fact it is highly likely that the observation is **covert**) e.g.
    - **Rosenhan** and confederates had themselves falsely admitted to mental hospitals and kept a record of what they observed during their time there
    - **Festinger** and confederates infiltrated a 'doomsday' cult and kept a record of their conversations and behaviours
    - **Piliavin** and confederates blended in with New York subway passengers in their study of **bystander** behaviour

Evaluation of participant observation

Strengths

- Participant observations mean that the researcher (and confederates) can get fully involved with the group that they are observing
  - This **increases** the **validity** of the study as access to real **thoughts, feelings, and conversations** is possible (as the participants believe the researcher to be 'one of us')
- As the researcher is so **immersed** in the situation they may become aware of other **topics or theories** that could be investigated in the future
  - In **Piliavin's** New York subway study, the observers noted that many of the female passengers did not help in the emergency which could give rise to further research on **gender roles**

Limitations

- Participant observations could result in the researcher having a **restricted view** of what they wish to observe and thus **missing** some important behaviours
  - In Rosenhan's study, the researcher and confederates did not have **full access** to every part of the hospital and all of the staff
  - This limits the **usefulness** of participant observations
- As the researcher is so immersed in the situation they could begin to lose **objectivity**
  - They may begin to **identify with** those they are observing, particularly with **long-term** studies
  - This would damage the **validity** of the findings

Non-participant observation

- In a **non-participant** observation:

- The researcher stays **separate** and apart from the group they are observing
- Participants may or may not be aware that they are being observed
  - This type of observation can be **overt or covert**
- The researcher takes no part at all in the procedure(s)
  - **Bandura's** study involved the researcher observing the children's behaviour from another room via a **one-way mirror**
  - **Ainsworth** observed baby-mother interactions via a one-way mirror

Your notes

Evaluation of non-participant observation

Strengths

- The researcher can keep an **objective distance** from what is being observed
  - This means that they are unlikely to become **biased or subjective** in their recording of behaviour
  - Thus the **validity** of the study stays intact
- The researcher is more likely to have a **good vantage point** from which to observe behaviour as they are **not restricted** to particular times, rooms, areas or locations which could occur with a participant observation
  - This increases the **scope** of the observation so that **more data** can be gathered

Limitations

- Being **removed** and at a **distance** from the 'action' means that a non-participant observation may **lack key detail and insight** only made possible through the use of participant observational methods
  - This means that a non-participant observation may **lack explanatory power**
- As the researcher is apart from what they are observing it is possible that they could **misinterpret** some behaviours
  - They would **not** be able to ask the participants for clarification as a researcher in a participant observation could
  - This means that non-participant observations may **lack** some **validity**

Your notes

Surveys & questionnaires

- A **survey** is a way of gathering information using a set of questions
  - Surveys use a **questionnaire** either with small samples (one participant in a case study) or large samples (surveying the whole of the UK as to their feelings about global warming)
- A questionnaire is a type of **self-report** which involves participants answering a range of **questions** designed to collect their **thoughts, feelings, attitudes, attributes and opinions**
- Questionnaires may be used:
  - to understand how people **feel** about **issues** such as immigration, social media, the cost of living
  - to measure **psychometric** properties such as IQ, depression, empathy, decision-making
  - conducting a **large-scale** survey to assess the extent to which people are, for example, likely to vote, consult a doctor, use green energy

Open and closed questions

- Questionnaires can consist of either **closed** questions or **open** questions or a **combination** of both types of questions, e.g.,
  - closed question: Are you happy?
  - open question: What would you change about your life to increase your overall happiness?
  - **combination** of closed and open questions: Are you happy? Yes or no? Explain why you answered yes or no
- A closed question offers **limited options** for the participant's response, e.g.,
  - Do you agree that young people are more anxious than previous generations?
    - Answer: Yes or No
  - Which of the following words best describes you?
    - a) Sociable b) Shy c) Reclusive d) Hostile
- Closed questions generate **quantitative data**
  - E.g., the number of 'yes' responses across the questionnaire
  - the number of times a participant ticked b)
  - the total **score** is **calculated** from the scaled questions, e.g., 2 + 4 + 7

- An open question offers **freedom of response**
  - E.g., Tell me about one time when you felt anxious
  - How do you think other people would describe you?
- Open questions generate **qualitative data**
  - **Themes** may emerge from this type of data
  - The thoughts, ideas and feelings of the participant are not 'boiled down' into **neat numerical** data; instead, they record **individual subjective experience**

Your notes

Evaluation of surveys & questionnaires

Strengths

- Surveys and questionnaires are a **quick, easy and convenient** method of gathering data
  - Large samples can be reached via the use of **electronic survey tools**
  - Large samples produce **reliable** results as any **anomalous** results are averaged by the overall **trend** of the data
- Questionnaires use **standardised questions** which means that they can be replicated to check for **reliability**
  - The **test-retest method** can check for **external reliability**
  - The **split-half method** can check for **internal reliability**

Limitations

- There is a tendency for people to **under-report negative** and **over-report positive** aspects of themselves when completing a questionnaire
  - This means that questionnaires can lead to participants succumbing to **social desirability bias**
  - Any form of bias in research impairs the **validity** of the findings
- Questionnaires tend to **under-utilise** open questions, which **limits** their **usefulness**
  - This means that they can show the '*what*' of behaviour (e.g. people become more cautious with age) but not the '*why*' of that behaviour (e.g. why do people become more cautious with age?)

Your notes

Structured interviews

- An interview is a type of **self-report** which involves a participant answering a range of questions put to them by a researcher
  - It is a **one-to-one process** (though it can happen over a **phone, online** or via other **remote channels**)
- Interviews are designed to collect the **thoughts, feelings, attitudes and opinions** of the participant
- Interviews may be chosen as the appropriate research method
  - When the researcher wishes to understand how people feel about **issues** such as immigration, social media, the cost of living
  - As part of a larger **case study** into the **unique** experience/condition of one participant (or a small group)
- In a **structured interview**
  - the researcher uses a series of **pre-prepared closed or open questions** (or a combination of both)
  - the participant's responses are **written** down by the researcher (or **recorded** using **audio/visual** equipment)
  - the researcher **does not veer** from the '**script**' which is why this type of interview is known as a **structured** interview
  - **quantitative data** is collected, e.g.
    - the number of '*yes*' responses to a specific question
  - **qualitative data** in the form of 'follow-up' questions can also be collated, e.g.,
    - *Can you explain why you feel like that?*

Evaluation of structured interviews

Strengths

- The use of **standardised questions** means that the interview can be **replicated** and used by different researchers
  - This minimises the **researcher effect** as all researchers have to 'stick to the script', as it were rather than pursuing responses they find interesting
- Structured interviews may generate more **quantitative** data than unstructured interviews
  - This means that the results can be **statistically analysed**
  - This in turn increases the **reliability** of the findings

Limitations

- A predetermined set of questions may be **restrictive**
  - The participant may say something which should be **explored further** but the format of the structured interview does not allow this
  - This limits the **usefulness** of the method

Your notes

Semi-structured interviews

- A semi-structured interview is as follows:
  - The researcher uses **some pre-prepared** questions but they come to the interview with something of an **open mind** as well
  - The participant's responses are **written** down (or **recorded** using **audio/visual** equipment)
  - The researcher can veer from the '**script**' if the participant:
    - Says something **interesting** or **unexpected**
    - Is finding it **difficult** to discuss a topic
    - Is not being very **forthcoming** and needs extra **encouragement**
- Semi-structured interviews can produce both **quantitative data** and **qualitative data**, as they are a mixture of both structured and unstructured interview styles

Evaluation of semi-structured interviews

Strengths

- This type of interview combines the best of both worlds
  - The interview is given structure via the pre-prepared questions so that is kept on track
  - The unstructured aspect can help **participants to express themselves** any way they wish, sometimes without any **constraints**, which is high in **validity**
- The structured aspect of these interviews may help participants who feel **nervous** or tongue-tied initially

Limitations

- This type of interview could result in 'messy' data
  - The structured responses may be at odds with what the participant has provided in the unstructured sections
  - The **dual nature** of the form may make analysis of the results difficult
- The flexible nature of this type of interview means that researchers may unwittingly ask leading questions which would invalidate the participant's true response

Unstructured interviews

Your notes

Unstructured interviews

- In an **unstructured interview**
  - The researcher comes to the interview with **no pre-prepared set of questions**
    - They keep an **open mind** as to how the interview will proceed
  - The researcher **writes** down (or **records** using **audio/visual** equipment) the participant's responses
  - The interview is treated as a **conversation**, giving the participants as much **freedom** as they wish in their responses
- Unstructured interviews will generally start with the researcher asking an **open question** or posing an **idea** and then allowing the participant to give a free response
  - What do you think about the punishments for criminals?
  - Tell me about a time when you felt anxious about an exam
  - Social media dominates some people's lives. What do think about that?
- Unstructured interviews produce **qualitative data only**
- Unstructured interviews are also known as **narrative interviews**, as the interview is more like the participant telling a story

Evaluation of unstructured interviews

Strengths

- Unstructured interviews are **high** in **ecological validity**
  - Participants have **complete freedom** to respond in any way they choose
  - The interview is **tailored** towards them as an **individual**
  - Thoughts, feelings, fears, hopes and emotions can all be **openly expressed** by the participant with **no manipulation** from the researcher
- The researcher has the **flexibility** to pursue any interesting topics that emerge during the interview
  - The topic can be discussed from several different **perspectives**
  - The original topic can even be **abandoned** if the participant takes the interview into **new and interesting territory**
  - This flexibility is a strength, as it may open up new **insight** into what is being researched

Limitations

- The very **free-flowing** and **unpredictable** nature of unstructured interviews means that the entire process may become **derailed**
  - The participant may wish to go into depth and detail on topics which are **irrelevant** to the research
  - The participant may **change tack** frequently, mixing up **timelines**, **confusing** details, getting '**lost**' in their narrative
  - This **limits** the **reliability** of unstructured interviews
- The researcher may lose their **objectivity** due to the **intimate** nature of unstructured interviews, particularly if more than one interview session is required
  - They begin to feel too **close** to the participant
  - They may begin to **identify with** the participant
  - Participants may succumb to **social desirability bias**
  - This would mean that the **validity** of the interview was **compromised**

Your notes

Focus groups

- **Focus groups** are used when the views, opinions and attitudes of a small group of people are sought by a researcher
- They tend to use between around 6–12 participants
  - Any smaller than this would not generate enough usable data
  - Any larger than this would generate too much, possibly conflicting or difficult-to-collect data
- A **moderator** helps the group to get started on their discussion of a topic
  - They **guide** the participants in their discussion and help to keep the focus of the discussion on the topic
- A focus group is a good way of collecting the **shared experiences** of a group who are best placed to have real insight as to what is being investigated
- A focus group may be used to **observe** how people **interact**
  - E.g., the ways in which **group dynamics** influence opinions and behaviour

Evaluation of focus groups

Strengths

- Focus groups can explore **nuanced** perspectives from a range of people that individual interviews or surveys might miss
- Focus groups are **time-efficient**
  - Gathering data from multiple participants at the same time means that a large amount of qualitative data can be obtained in a single session

Limitations

- The researcher must ensure that they manage the stronger personalities in the group (dominant respondent bias)
  - This occurs when one or two individual dominate the proceedings, possibly influencing the opinions and responses of the other participants
- There is a tendency for people in groups to **converge** in terms of their opinions and attitudes (a type of **conformity** known as **groupthink**)
  - If this occurs in a focus group, it lowers the **validity** of the findings

Your notes

Your notes

The correlation coefficient

- A **correlation** is not a research method but an **analysis of the relationship** between two co-variables.

  In correlational research:

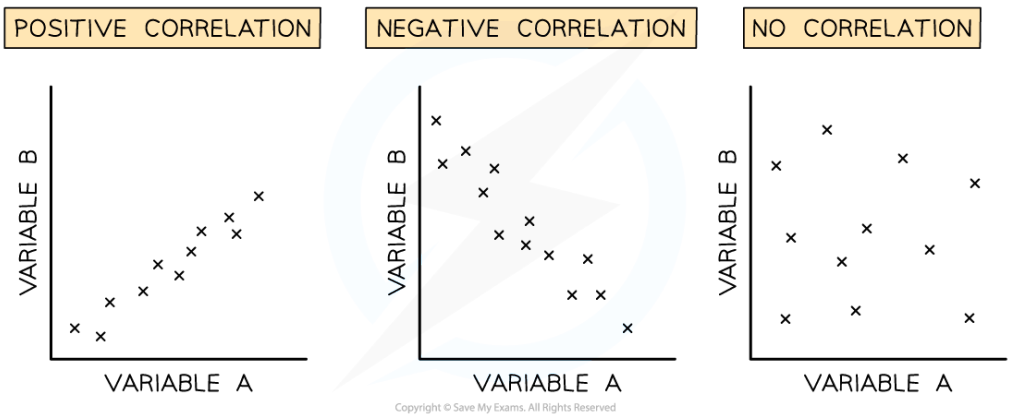
  - Variables are **not manipulated** (no IV).
  - Instead, two co-variables are **measured and compared** to identify relationships

Types of co-variables

- One or both of the co-variables could be **pre-existing**, e.g.,
  - School attendance (days present in Year 11) and number of GCSEs achieved.
  - Average August temperature and number of arrests for violent behaviour in a town
- One or both of the co-variables could be **collected data**, e.g.,
  - Number of arguments with a partner in a month and self-reported stress levels
  - Average hours of sleep in a week and number of caffeinated drinks consumed

How correlations are measured

- Each participant contributes **two scores** (one for each co-variable)
- Data are plotted on a **scattergraph**, with each point representing paired scores
- Scattergraphs typically show one of three outcomes:
  - **Positive correlation:** as one increases, the other increases (e.g., calories consumed and weight gained)
  - **Negative correlation:** as one increases, the other decreases (e.g., hours sitting and fitness level)
  - **Zero correlation:** no relationship (e.g., hair colour and IQ)



Types of correlation

Your notes

- Analysing the relationship between co-variables can be done by
  - visually 'eyeballing' the scattergraph to see the direction of the relationship (positive, negative or none at all)
  - calculating the **correlation coefficient,** which is expressed as a **numerical value**

The correlation coefficient

- A **numerical value** between **–1 and +1** showing both the **strength** and **direction** of a relationship
  - **+1** is a **perfect positive** correlation
  - **–1** is a **perfect negative** correlation
  - **0** is a **no correlation**
- Strength can be described as **weak, moderate, or strong** (applies to both positive and negative)
  - +0.03 is a **weak positive** correlation
  - –0.05 is a **moderate negative** correlation
  - –0.09 is a **strong negative** correlation
- The **correlation coefficient** represents both the **direction** and the **strength** of the r

Evaluation of the correlation coefficient

Strengths

- The correlation coefficient is a **quick and easy** way to analyse data
  - This is a strength, as it enables the researcher to access **large amounts** of data that would otherwise be impossible to gather if they tried to amass this from scratch
  - Large amounts of quantitative data mean that the research is high in **reliability**

- Correlation coefficients allow researchers to make **predictions** as to the relationship between co-variables
    - E.g., knowing that there is a relationship between school absence and GCSE results could be used to identify students **at risk** and to **implement interventions** to help them achieve their potential

Your notes

Limitations

- **Extraneous factors** connected to one or both co-variables may affect the result and lead to **invalid** conclusions being made
    - E.g., number of days of absence from school may be due to **illness** rather than to choice
    - a low GCSE score may be due to a **high turnover of teachers** in one school rather than to student absence
- Correlations cannot establish **cause and effect** — only association
- Correlation coefficients are useful for analysing **linear relationships** (height and shoe size)
    - They are **less successful** when dealing with **non-linear relationships** (number of hours worked and level of happiness)

Your notes

Case studies

- Case studies are **detailed and in-depth** investigations of a **small group** or an **individual**
- Case studies allow researchers to examine individuals who have undergone a **unique** or **rare** experience or who are **unusual** in some way
  - E.g., someone who had a hemispherectomy to treat their **epilepsy**
  - someone who spent their childhood living in a **cult**
  - someone who presents with **dissociative identity disorder**
- **Qualitative data** may be collected using **interviews, observations, open-ended questions** on a **questionnaire**
  - This means that case studies are a good means of reporting **subjective, individual experience** that is highly **personal** and relates only to the participant(s)
- Case studies can also generate **quantitative data**
  - E.g., **memory** tests, **IQ** tests, **closed** questions on a questionnaire
- If a case study employs more than one method (e.g., interviews plus observations plus memory tests), it is referred to as **triangulation**
  - Triangulation of data involves **generating more than one** set or type of data in the same study
  - Triangulation of research involves using **more than one researcher** to collect, analyse (or both) in the same study
- Most case studies tend to be **longitudinal**
  - A participant's experience/progress is tracked and measured **over time**
  - The case study may take weeks, months or even years to complete
- The case of **HM** is an example of a case study of an individual with **brain damage**
  - **Qualitative data** was obtained via interviews and observations of HM both at home and in the hospital
  - **Quantitative data** was obtained via memory tests, IQ tests and **MRI scanning** of his brain
  - By studying HM so closely for years, the researchers were able to conclude that the **hippocampus** plays an essential **role** in the formation of new memories (**short-term** memory specifically)

Evaluation of case studies

Strengths

- Case studies provide **rich,** in-depth data which is high in **explanatory power**
  - Therefore the researcher can gain **insight** into the unique experience of the participant
  - This is a **holistic approach**, where the **whole** individual is considered
  - Thus, case studies are high in **ecological validity**
- Conducting a case study of an individual with an unusual, rare disorder or condition allows researchers to form **conclusions** as to how the **majority** of the **population** functions, e.g.,
  - The study of HM showed the effect on memory of brain damage due to hippocampal **surgery**
    - The lack of a hippocampus in HM (seen via MRI and then **post-mortem examination**) highlighted the importance of this brain structure in the formation of new memories

Limitations

- The findings from case studies only **represent the person** (or small group) who is the focus of the study
  - This means that they **cannot be generalised** to wider populations
- Case studies may suffer due to the **relationship** between the researcher and the participant
  - The researcher may begin to feel too close to the person they are studying, which could result in them **losing their objectivity** and possibly using **bias** in their reporting of the results
    - Any type of bias would impair the **validity** of the findings

Your notes