Key terminology in A Level Psychology

Validity

VALIDITY = accuracy of the results. In other words have you measured what you meant to measure?

Did the memory measure the participant's memory? Or does it measure how hard someone is trying to remember? We could be measuring motivation, not memory. A-Levels – what do they measure? Do the results give us a good measure of how clever a person is or maybe how hard they worked or whether they went to a good school or whether they are lucky?

Psychologists can assess the validity of their measures by:

- Face validity - does the item in the test (such as in a psychometric measure) appear to measure what it should? For example, in a measure of depression, do the questions all relate to mood, specifically on a happiness-sadness spectrum. Anybody can be used to test for face validity.
- Construct validity - does the item in the test measure what it means to on a deeper theoretical level? For example, in the original version of the MMPI (Minnesota Multiphase Inventory) there was a question, loaded on the depression scale, that asked for a response to the statement. 'I believe in the second coming'. While this does not at face value measure depression, at the time (1920's) and place (Minnesota, USA) that the test was written it was an almost entirely Christian population, and only a depressed Christian wouldn't believe in the second coming. Therefore, this question has construct validity.
- Predictive validity - does the score on the test you are doing now, predict future results? If it does, then the test is valid. For example, if you do a test at the beginning of year 12 that predicts that you will score an A* at the end of year 13, and this is true (for everyone!), then the test in year 12 is valid.
- Concurrent validity - does the new test give the same/similar score to an existing test of the same thing? For example, if a new IQ were introduced, would it give the same/similar score to one of the existing tests such as the WAIS? If it does, then it can be said to be a valid measure of that thing.

Ecological validity and mundane realism

Ecological validity and mundane realism are related concepts in psychology, but they refer to different aspects of research design and its applicability to real-world situations.

ECOLOGICAL VALIDITY:

- Definition: Ecological validity refers to the extent to which the findings of a study can be generalised to real-life settings. It's concerned with whether the results of a study apply to situations outside the controlled experimental environment.
- Focus: It focuses on the generalisability of the results. Even if an experiment is conducted in an artificial setting, it can still have high ecological validity if its findings are applicable to real-world contexts.

- Example: A study on stress conducted in a lab might have good ecological validity if the type of stress induced in the lab (e.g., through a simulated exam) is similar to what people experience in real-life situations, even if the lab setting itself is artificial.

MUNDANE REALISM:

- Definition: Mundane realism refers to how closely the experimental tasks, conditions, or settings resemble those encountered in everyday life. It's about the surface similarity between the experiment and real-world situations.
- Focus: It focuses on the realism of the experiment's setup. High mundane realism means the tasks or scenarios participants are involved in during the study are very similar to what they would experience in their daily lives.
- Example: If the same study on stress involves participants taking a real, high-stakes exam, it would have high mundane realism because the task closely mirrors a real-world activity.

Key Difference:

- Ecological validity is about whether the study's findings can be generalised to real-world situations, regardless of how realistic the experiment itself is.
- Mundane realism is about how similar the experimental setup is to real-life scenarios.

A study can have low mundane realism (e.g., using a simulated task) but still have high ecological validity if its findings apply to real-world behaviours. Conversely, a study with high mundane realism may not necessarily have high ecological validity if its results don't generalise well outside the specific experimental context.

Reliability

RELIABILITY = consistency of the measuring device (DV)

Reliability in psychology refers to the consistency and stability of a measurement or assessment over time. If a test or experiment is reliable, it will yield the same results under consistent conditions.

Example:
Consider a personality test designed to measure extraversion. If you take this test today and then again in a month, a reliable test would give you similar results each time, assuming your level of extraversion hasn't changed. If the results vary significantly, the test would be considered unreliable.

Psychologists assess the reliability of their measures by:

- Internal reliability - this is how consistently a measure measures within itself. This is often used with questionnaires to compare answers to similar questions to check reliability of scores. For example, if an IQ had half easy questions and half hard questions then everyone would score half marks and be equally intelligent.
- External reliability - this is how consistent a measure is over time when repeated (checked using the test-retest method). For example, an IQ test shouldn't measure someone as a genius one week and average intelligence the next.
- Test-retest - carry out the measurement on two occasions and compare the score. This will check external reliability.

- Inter-rater reliability - two people administer the same measuring device and check the results to compare to see if they are similar. In observations, two or more observers are used to observe the same behaviour and their data is compared to check they are similar. A Spearman's Rho test is used to statistically check for inter-rater reliability, and a sore of +0.8 or greater is significant and therefore reliable.

Reliability is crucial because it ensures that the findings or measurements are dependable and can be replicated, making the research more trustworthy.

Control

Control = research needs control so that researchers can conclude that the IV had an effect on the DV and there was nothing else influencing the results

Changes in the DV might be due to extraneous variables (EV) or are actually due to confounding variable rather than the IV - therefore you cannot conclude that the IV affects the DV.

EXTRANEOUS VARIABLES
These are any variables other than the independent variable (IV) that might affect the dependent variable (DV). They are not the focus of the study, but if not controlled, they can introduce noise or random error.

- Key point: Not necessarily related to both IV and DV.
- Example: In a study on how sleep affects test performance, room temperature might be an extraneous variable. It might affect performance, but it's not related to how much sleep someone got.

CONFOUNDING VARIABLES
A specific type of extraneous variable that systematically varies with the independent variable and affects the dependent variable. This makes it difficult to determine whether the IV or the confound is actually causing the change in the DV.

- Key point: Must be related to both the IV and DV.
- Example: In the same sleep and test performance study, if participants who slept more also had quieter bedrooms, then noise level is a confound—it's linked to both the amount of sleep and the test outcome.

Controlling for extraneous variables helps increase reliability, while identifying and eliminating confounds is essential for internal validity.

EXTRANEOUS VARIABLE EXAMPLES

PARTICIPANT VARIABLES
Characteristics of the individual may influence the results:

- Age, intelligence, experience, motivation. Any personal variables could be an EV but only if an independent measures design is used. For example, one group might be more intelligent.
- Gender. Women and men differ on some behaviour. For example, research has shown that women are more compliant than men. This means that if there are more women than men in a sample then this could mask the effects of the IV on the DV.

CONTROLLING PARTICIPANT VARIABLES

- Use repeated measures design
- Randomly assign participants to groups so participant variables are distributed
- Use matched pairs design

SITUATIONAL VARIABLES

Features of a research situation which influences a participant's behaviour

- Order effects. Using repeated measures design leads to order effects (doing better/worse in the second condition) which is an EV – boredom, practice and fatigue
- Time of day/temperature/noise. The environment can act as an EV. If it is different this could affect the DV. For example concentration may be better in the morning than evening.
- Researcher bias. Effects of the researcher on the participants' behaviour. For example the researcher could be more encouraging in one condition.
- Demand characteristics. Effects of the experimental situation that tell participants what is expected of them, which may affect their behaviour.

CONTROLLING SITUATIONAL VARIABLES

- Standardised procedure
- Standardised instructions
- Single blind – participants are not told the true aims of the experiment

Data collected

There are two types of data in psychological research

QUANTITATIVE DATA is numerical. It deals with quantities and allows for statistical analysis. For example: test scores, reaction times, number of correct answers, or rating scales (like 1 to 10 on mood).

Pros:

- Objective and measurable – easier to analyse statistically.
- Allows for comparisons across individuals or groups.
- Can identify patterns and correlations with large datasets.

Cons:

- Lacks depth – may not capture the full complexity of human behaviour.
- Can oversimplify complex psychological experiences.

QUALITATIVE DATA is descriptive. It deals with qualities and provides insights into experiences, thoughts, or feelings. For example: interview transcripts, open-ended survey responses, or observational notes.

Pros:

- Rich, detailed insights into thoughts, feelings, and behaviours.
- Explores context and meaning, which is vital in many psychological studies.

Cons:

- Subjective interpretation – potential for researcher bias.
- Harder to generalise findings due to small or specific samples.
- Time-consuming to collect and analyse.

In short:

- Quantitative = numbers (measurable)
- Qualitative = words (descriptive)

Both are valuable for understanding behaviour, just from different angles.

Ethics

As psychologists are interested in humans, either in doing research with them or treating them with therapy, to ensure the safety of the people psychologists have developed some guidelines of good practice, which we call ethics.
Many studies are criticised for their lack of ethics. It is not an area that is straight forward, as psychologists are constantly weighing the possible harm against the benefits. The fundamental ethical question in psychological research is "does the end justify the means?" A balance must be struck between the interests of the participants and the value of the research.

A good mnemonic to remember the basic ethical guidelines is:
CAN DO CAN'T DO WITH PARTICIPANTS
Consent, Debriefing, Confidentiality, Deception, Withdraw (right to), Protection (from harm)

The study of ethics is concerned with the judgement about right and wrong. All research can be judged against the ethical code.
The ethics have changed over time so look at the date of the research as it may have been carried out long before the guidelines were implemented

Ethnocentrism

ETHNOCENTRISM = the assumption that your own ethnic or cultural group of superior or more important than others. This can range from racism to more subtle forms of prejudice

For example, it is ethnocentric to carry out research on one cultural group, and then assume that the results automatically apply to other groups; psychologists who do this are ignoring cultural differences and assuming that everyone is like them. This is known as an alpha bias.

Ethnocentrism leads to one group's behaviour being seen as 'normal' and others are labelled as 'abnormal'

Psychology has only recently realised that much of its work might be ethnocentric. The majority of research conducted has been located in Western nations, using Western participants and shaped by Western culture and ideology.

Westerners may well be very different to other cultures and scientists have virtually ignored research using other cultures. The USA has dominated psychological research and the same could be said when applying results from the USA to Europeans, for example.

Nature vs Nurture

If individual differences exist between people, where do these differences come from. Are they due to NATURE (hereditary factors) or to NURTURE (environmental factors)? For example, are males born more aggressive than females, or do they learn this? Few psychologists would argue that it was all due either to nature or nurture; most believe that behaviour is due to an interaction of the two.

It is best to see nature-nurture explanations as two extremes of a continuum, and different psychologists will place themselves in different positions along the way. Biological psychologists tend to think it is 80% nature and 20% nurture, while behaviourist psychologists are at the opposite end. Both nature and nurture views are DETERMINISTIC, so neither gives scope for FREE WILL. It is very difficult to carry out research to determine whether nature or nurture has the greater influence because everybody receives both influences from the moment they are born, and it is almost impossible to separate the two.

Common methods of collecting data are:

1. Twin Studies:
   - Method: Researchers compare identical twins (who share 100% of their genes) with fraternal twins (who share about 50% of their genes) on various traits.
   - Purpose: If identical twins are more similar on a trait than fraternal twins, it suggests a genetic influence. Twin studies help estimate the heritability of traits, which is the proportion of variance in a trait attributed to genetic factors.
   - Example: Studying the intelligence levels of identical and fraternal twins raised together or apart.

2. Adoption Studies:
   - Method: These studies compare adopted children to their biological parents (nature) and adoptive parents (nurture).
   - Purpose: If a child resembles their biological parents more than their adoptive parents on a particular trait, it suggests a genetic influence. Conversely, similarity to adoptive parents suggests an environmental influence.
   - Example: Examining whether adopted children's academic performance is more similar to their biological or adoptive parents.

3. Longitudinal Studies:
   - Method: Researchers follow the same individuals over a long period, observing changes and continuities in behaviour.
   - Purpose: This approach helps identify how genetic predispositions interact with environmental influences over time.
   - Example: Studying how early childhood experiences influence later psychological development, considering both genetic tendencies and environmental factors.

4. Gene-Environment Interaction Studies:
   - Method: These studies examine how specific genes interact with specific environments to influence behaviour.
   - Purpose: To understand that genes might predispose someone to a trait, but the expression of that trait may depend on environmental triggers.

- Example: Researching how stress interacts with genetic predispositions to increase the risk of developing depression.

5. Epigenetics:
   - Method: This field studies how environmental factors can influence gene expression without changing the underlying DNA sequence.
   - Purpose: It demonstrates that while genes provide a blueprint, the environment can alter how genes are expressed, bridging the gap between nature and nurture.
   - Example: Investigating how childhood trauma can lead to changes in gene expression related to stress response.

Individual vs Situational explanations

Where do we look for the cause of the behaviour? The individual or the situation?

It is best to see individual vs situational explanations as two extremes of a continuum, and different psychologists will place themselves in different positions along the way.

Individual: other thesaurus words...
Character, nature, disposition, personality, temperament, make up, outlook
It was their....., which is why they behaved that way.

Situation: other thesaurus words...
Environment, setting, atmosphere, location, surroundings, circumstances
It was the ....., which is why they behaved that way.

FOOTBALL HOOLIGANISM ILLUSTRATES THE PROBLEM OF INDIVIDUAL AND SITUATIONAL EXPLANATIONS
What causes someone to behave as a football hooligan when an opposing team is winning? If you explain this using the individual explanation, then you are saying that the football hooligan is an aggressive person and they will be equally aggressive in other situations, as it is their character. However, if you explain this using the situational explanation then you are saying that the football hooligan is not an aggressive person by nature, but it was the situation that caused their behaviour, e.g. their team losing, the importance of winning that football game, other people raiding the football pitch, being present at the match, being with their best mates makes them need to act 'cool', etc.

Reductionism vs Holism

Reductionism = the assumption that complex human behaviour can be broken down into a simple explanation.

Holism = the assumption that complex human behaviour needs complex explanations, not just one factor causes.

Examples approaches/perspectives:

- Biological approach – reduces the causes of human behaviour to biological explanations, assuming that genes or other biological factors determine how we behave. Genetic reductionists will blame all sorts of behaviour and attitudes (such as aggression, stress etc.) on genetic inheritance.
- Social approach – explains social events in terms of the qualities of the individuals who are involved and the cultures to which they belong.
- Psychodynamic perspective – Freud assumed that the physical illnesses suffered by his patients were the result of them pushing unwanted thoughts and feelings into their unconscious minds; he ignored physiological explanations and reduced illness to a psychological disturbance.

The problem with reductionism in psychology is that it is too simplistic and often ignores other factors. Human beings are extremely complex and it is impossible to reduce the causes of behaviour down to single explanations.

Determinism vs Free will

The free will vs. determinism debate in psychology centres on whether human behaviour is the result of individual choice (free will) or determined by factors beyond one's control (determinism).

FREE WILL:

- Definition: Free will is the idea that individuals have the power to make their own choices and control their actions, independent of external or internal influences.
- Perspective: Proponents argue that people are responsible for their actions because they can choose differently in any given situation. This concept is central to many ethical, legal, and philosophical systems, which rely on the notion of personal accountability.
- Example: Deciding to study for an exam instead of going out with friends is seen as an exercise of free will.

DETERMINISM:

- Definition: Determinism is the view that behaviour is controlled by internal or external forces, such as biology, environment, or unconscious drives, leaving little or no room for free choice.
- Types of Determinism:
  - BIOLOGICAL DETERMINISM: Suggests that genetics and biological processes determine behaviour (e.g., aggression linked to genetic factors).
  - ENVIRONMENTAL DETERMINISM: Argues that behaviour is shaped by environmental factors, such as upbringing, culture, and social influences (e.g., a person's habits influenced by their childhood environment).
  - PSYCHIC DETERMINISM: Rooted in Freudian psychology, it suggests that unconscious desires and past experiences determine behaviour.
- Example: A person might develop anxiety due to a combination of genetic predisposition (biological determinism) and a stressful upbringing (environmental determinism).

COMPATIBILISM (SOFT DETERMINISM):

- Definition: Compatibilism is the view that free will and determinism are not mutually exclusive. It suggests that people can have free will even if some aspects of their behaviour are determined.

- Perspective: This approach acknowledges that while certain factors influence behaviour, individuals still have the capacity to make meaningful choices within those constraints.
- Example: A person with a genetic predisposition to anxiety might still choose coping strategies that help manage their condition, demonstrating free will within the boundaries of determinism.

Impact on Psychology:

- Therapeutic Approaches: The debate influences how psychologists approach treatment. For example, therapies that emphasise personal agency (e.g., cognitive-behavioural therapy) align more with free will, while those focusing on unconscious drives (e.g., psychoanalysis) lean toward determinism.
- Ethical and Legal Implications: The debate also impacts how responsibility and accountability are viewed in contexts like criminal behaviour, where questions about whether actions are freely chosen or determined can influence judgments and penalties.

Psychologists who support the idea of determinism believe that we are mainly passive responders to our past or biology and that we have no free will. Determinists therefore believe that it is possible to predict behaviour by identifying the causes of behaviour. Psychologists who support the idea of free will believe that the determinist argument is de- humanising as it treats people as if they were machines. However, much of the research you will come across whilst studying psychology does not support the view that behaviour is unpredictable. It is possible to identify patterns which, to some extent, do seem predictable.

Usefulness

USEFULNESS = can the research be used to explain behaviour that wasn't previously understood?

In psychology, usefulness, sometimes referred to as real world applications, refers to the practical applicability and relevance of research or theories to real-world problems and situations. It addresses whether psychological findings can be applied to improve people's lives, inform policy, enhance therapeutic practices, or contribute to societal well-being.

Cognitive-behavioural therapy (CBT) is a useful psychological approach because it has been shown through research to effectively treat a variety of mental health conditions, making it valuable in clinical practice.

Useful psychological research contributes to multiple aspects of society, offering practical tools and insights that improve the well-being and functioning of individuals, professionals, and communities. By applying these findings, various groups can make more informed decisions, enhance their effectiveness, and address complex problems more effectively.

Useful research can be applied to the real world in many different ways, for example;

- Research on doctor-patient interactions helps improve communication skills, leading to better patient outcomes and adherence to treatment plans.
- Insights into group dynamics and behavioural psychology assist teachers in managing classroom behaviour, creating a conducive learning environment.

- Psychological studies on social behaviour, decision-making, and public opinion help politicians craft policies that are more likely to be accepted and effective, such as those promoting public health or reducing crime.
- Psychological research on habits, motivation, and emotional well-being provides individuals with tools to improve their mental health, productivity, and personal relationships.

Applications

APPLICATIONS = the findings and conclusion can be used somehow to improve the quality of life in the future.

Usefulness refers to the potential value or benefit that psychological research or theories can provide to a particular field, such as the legal system. It is about whether the research can contribute to solving problems, improving processes, or enhancing outcomes. For example, psychological research on eyewitness testimony is useful because it highlights the limitations and potential inaccuracies in human memory. This research can inform the legal system by showing that eyewitnesses may not always be reliable, which can influence how testimony is weighed in court and lead to reforms in how eyewitness evidence is collected and presented.

Application refers to the actual use or implementation of psychological research or theories in real-world settings. It involves putting the insights from research into practice. For example, applying psychological research on eyewitness testimony could involve law enforcement agencies adopting new procedures for conducting police lineups, such as double- blind lineups where the officer conducting the lineup doesn't know who the suspect is. This application ensures that the research's findings are actively used to improve the accuracy of eyewitness identifications in legal cases.

USING THE LEGAL SYSTEM TO ILLUSTRATE THE DIFFERENCE BETWEEN USEFULNESS AND APPLICATION
Usefulness is about the potential value and relevance of research to a field. Application is about the practical use of that research in real-world scenarios. In the legal system, research on eyewitness testimony is useful because it provides important insights that could improve justice. When these insights are put into practice - such as changing how lineups are conducted - this is the application of the research.