Issues & Debates

Guide to develop your AO3 skills for evaluation using Issues & Debates

CONTENTS

Issues & Debates

Generalisation/ Sample Bias

When considering the findings we must look at the sample from which these results are based. A large sample does not always indicate a generalisable outcome. However, if the results of a study can be shown to have more similarity across a large sample, this may explain how most people behave in this given situation. We have to look at the individuals within the sample itself, what are the demographics of the group; are they a mix of males and females; do they represent a range of age groups? We also have to look beyond the individual characteristics, for instance are they selected from only one culture? A generalisable sample would need to be representative of the target population. One of the best ways of getting such a sample is to use stratified sampling where the smaller sample group is in direct proportion to the wider target population. A biased sample causes problems for the conclusions and applications of the research and may limit their usefulness.

Examples of sampling bias are; **ethnocentrism** (culture) and **androcentrism** (males only).

Examples of sampling methods which may show sampling bias; **opportunity**, **systematic** and **volunteer**.

Sampling bias occurs when the results from an investigation are slanted/ advantageous towards one particular group of people, therefore they do not truly represent the entire population. This compromises the **external validity** and can be known as **population validity**. This restricts the **generalisation** of the findings only to groups that share similar characteristics with the sample selected. It is important to try and reduce sampling bias where possible as there could be other widespread implications from generalising.

It is worth remembering that not all samples are biased, some small scale research using rare cases of individuals may be applicable to this particular group. For example, studying a small group of people with brain-damage causing retrograde amnesia, might be more useful for others with the same condition.

Most research studies will aim to generalise their findings to the wider population. If the sample is representative of this target population it is believed to be more generalisable. Cross-cultural studies may also be less culturally bias but the individuals in the sample could all share similar characteristics, which limits the generalisation.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is limited in terms of generalisation. The sample used in the study by… is not representative of the wider population because… This has implications for… which means that...'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'The sample in this study is not representative of the wider population because… Therefore, this has implications for…'

Gender Bias

Issues around gender differences in Psychology can have important implications for males and females in society. Gender bias results when one gender is treated less favourably than the other.

It can, however, be useful to explore gender differences, as in the case of Bandura (1961) with his experiment using the bobo doll. This showed how boys and girls respond differently to aggressive role models.

Understanding gender differences also allows for good practical applications, especially when considering the prognosis for males and females suffering from mental health issues. Their biological differences mean that they may experience symptoms differently and may require different treatments.

Some studies on gender biased and may exaggerate (**alpha bias**) or minimise (**beta bias**) gender differences.

Alpha bias is where findings or conclusions are based on exaggerating the differences between males and females. This is highlighting that they are different in both their biology and characteristics, and that we should not generalise them as one group. It means that stereotypical male and female characteristics may be emphasised. In some cases it is useful to have single-sex samples particularly if the research is investigating any biological differences, such as hormones. More often, alpha bias leads to stereotyping and promotes one gender as more superior.

Beta bias is the opposite, where findings or conclusions minimise the differences between males and females and treat everyone the same. It is the tendency to downplay or ignore differences between genders, instead assuming that what applies to one gender applies equally to the other. This contributes to gender bias by overlooking the unique experiences and needs of both males and females. In some areas, such as education and employment it is beneficial to assume males and females are alike, however in other cases it is counterproductive. In many classic studies in Psychology this often happened when findings obtained from all-male samples were applied to females without additional validation. For example, Milgram (1963) used 40 white American males in his study into obedience to authority. The findings showed 65% of the participants gave potentially lethal electric shocks by reaching 450 volts. These conclusions could not be generalised to females, as only males were selected. However, in 1974, in a variation Milgram replicated his procedure with an all-female sample and strikingly found identical results.

Another type of gender bias is **androcentrism**, which is taking the findings from males and applying them to females. If a study chooses to use an all-male sample it is likely that this will result in gender bias towards females. Many early studies in Psychology used male participants for both social and practical reasons and formed conclusions based on these individuals. Freud's ideas are seen as inherently gender biased, as he explained gender development in terms of the psychosexual stages and focused more on male development through the Oedipus complex. Similarly, Kohlberg (1958) based his stages of moral development around male moral reasoning and had an all-male sample. He then inappropriately generalised his findings to women (beta bias).

We know that males and females might respond differently to research situations, so studies should not always assume standardised procedures, there may be cases where the differences must be considered.

This is particularly true of biological studies where physical differences are highlighted in the procedure. Ingalhalikar et al (2014) argues that the popular social stereotype that women are better at multitasking may have some truth. There is some evidence that women have better connections between the left and right hemisphere. This study provides support for the biological differences but caution should be taken when exaggerating these differences. Gender bias can lead to implications which could create or reinforce prejudice and stereotypes in society.

The term for bias in an all-female sample is called **gynocentric**.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is limited in terms of gender bias. The sample used in the study by… is not representative of the wider population because… an all-male sample was used which is problematic for generalisation because… This has implications for… which means that...'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'The sample in this study is not representative of the wider population because the participants are all male/ female…This makes the sample androcentric/ gynocentric… This means the findings cannot be generalised to others and this makes it difficult to form conclusions about… this is an example of alpha/ beta bias.'

Cultural Bias

Cultural issues are important to consider when making generalisations in Psychology. Cultures may differ from one another in many ways, so that the findings of psychological research conducted in one culture may not apply directly to another. The idea of **universality** suggests the findings of research studies can be generalised to everyone, regardless of culture. However, it is clear that culture plays a significant part and influencing our behaviour. Research studies must be planned in order to account for cultural differences and try to avoid any bias.

Sumner (1906) coined the term **ethnocentrism** to describe a form of cultural bias in research. He argued that ethnocentrism is the belief that the values and traditions of your own race or country are better than those of others. Taking this view makes cultures believe they are superior to others. Most studies in Psychology are ethnocentric as they are usually carried out within one culture such as America or the UK.

Cultural bias can occur when research studies do not use a **representative** spread of participants from across a variety of cultures and instead go on to form conclusions based on the findings from just one culture. This reduces the **population validity**.

Henrich et al (2010) reviewed hundreds of studies in leading Psychology journals and found that 68% of participants came from the USA, and 96% from industrialised nations. This highlights the extreme cultural bias we see in this field. This can have wider implications for non-western societies and may skew our understanding of human behaviour.

A classic example documented by Gould (1982) highlighted the cultural bias of IQ testing by Yerkes in America during the first world war. He explained how the findings from biased IQ testing resulted in social eugenics, like the American immigration restriction act (1924) preventing all non-Americans from seeking nationality.

In an earlier study, Smith & Bond (1993) demonstrated how differences were seen between collectivist and individualist cultures (like the USA) when performing Asch-type experiments on conformity.

There are different theoretical constructs for understanding cultural bias, such as **emic** and **etic** approaches. Berry (1969) drew a distinction between emic and etic approaches in the study of human behaviour. An **emic approach** functions from inside a culture and identifies behaviours that are specific/ unique to that culture. This suggests that there are differences between cultures. Whereas an **etic approach** looks at behaviour from outside a given culture and sees behaviour as universal. An etic approach does not consider individual or cultural differences, instead focuses on the similarities between cultures. Etic constructs assume that most human behaviour is common to all humans but that cultural factors influence the development or display of this behaviour. Mary Ainsworth's research using the strange situation is an example of an etic approach, as she only studied American children and assumed that attachment types could be applied universally.

A problem appears when psychologists overlook the importance of cultural diversity in understanding human behaviour, which can result in theories or ideas that are scientifically inadequate.

Cross-cultural studies aim to reduce **ethnocentric bias** by taking a wider spread of cultures and countries in their sample. Research like van Ijzendoorn & Kroonenberg (1988) is an example of this. They included eight different countries in their review of the strange situation method. Despite cross-cultural research representing more cultures or countries, there is still the risk of ethnocentric bias as not every culture can be represented.

Cultural relativism can also play a part in cultural bias. Here each culture is viewed as independent with culturally specific societal norms, so what is deemed normal in one culture may not be in another. This is prevalent when we consider research in Clinical Psychology and look at explanations for mental health, such as deviation from social norms.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is limited in terms of cultural bias. The sample used in the study by… is not representative of the wider population because… as the sample was taken from only one culture/ country, therefore there are limitations on its generalisation because… These studies can be seen as ethnocentric…This has implications for… which means that...'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'The sample in this study is not representative of the wider population because the participants are all from the same culture/ country…This makes the sample ethnocentric… This means the findings cannot be generalised to other cultures and this makes it difficult to form conclusions about…This highlights issues of cultural bias.'

Reliability

Reliability is the extent to which something is consistent over time and when replicated produces similar outcomes. Reliability relies on **strict control** over variables and conditions, particularly in the experimental setting. This is why laboratory experiments tend to be high in reliability. To ensure replication researchers use **standardised procedures** to make sure everything is kept the same for all participants.

Inter-rater reliability is a method of measuring the external consistency of a test or measure within an investigation. This method is carried out by different 'raters' giving consistent estimates/ measures of behaviour. They must all agree on the outcome. Therefore, inter-rater reliability occurs when two or more researchers record and agree on the same behavioural outcome. A correlation (**Cohen's Kappa**) of above 0.8 is considered to be reliable. Similarly **inter-observer reliability** occurs in the same way but through observational research.

In the research by Bandura (1961) children's level of pre-existing aggression was assessed by more than one rater. This determined how the children were subsequently allocated into conditions. Also Ainsworth (1970) used more than one rater to assess levels of stranger and separation anxiety in children experiencing the strange situation method. These raters had to agree on the behaviours observed in order for the findings to be considered reliable.

Test re-test reliability occurs when the same test is conducted on more than one occasion and achieves the same outcome.

Split-half reliability is used to assess the reliability of a measure or questionnaire. When split into two parts the results from each section are compared for similarity. Correlational values indicate the level of agreement.

In experimental research the procedure is the main focus of reliability. In this case it is the researchers responsibility to ensure procedures are standardised and conditions are controlled for all participants.

In observations, the behavioural categories must be operationalised to ensure they are measurable. This increases the reliability.

In questionnaires, split-half and test re-test reliability are important. Questionnaires must be consistent for all participants, and those using fixed choice or scale questions tend to be more reliable. They should also be designed to be consistent over time.

In interviews, the best way to ensure reliability is to standardise the procedure, this could be by using the same questions or having the same interviewer. This means structured interviews tend to be more reliable.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is limited in terms of reliability. The procedure used in the study by… was not standardised and therefore… In addition, studies like this often lack control over the variables, which results in reduced reliability. This means that… Also having low reliability has implications for… This limits the credibility of the theory because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This study lacks reliability as the procedure was not carried out under strictly controlled conditions in the lab. This means that extraneous variables may play a part in the influence on the results. In addition, the procedures were not standardised for all participants, giving some an advantage over others. This limits the credibility of the overall findings and this has implications for…'

Validity

Validity is the extent to which something measures what it claims to. It is about **truth** and **realism**.

Internal validity considers the internal procedures and measures used in an investigation with an aim of establishing **cause and effect**. If the variables in an experiment are strictly controlled, manipulated and measure what they intend to, internal validity is high.

Face validity is the degree to which a procedure, especially a psychological test or assessment, appears effective in terms of its stated aims. On the face of it, is it measuring what it claims to? For example, if we turned over the page on an IQ test and saw questions related to problem solving we would expect this test to have high face validity.

Construct validity assesses how well a test or research tool accurately measures the abstract theoretical concept (construct) it is intended to measure. If a questionnaire was designed to measure happiness, it will only have construct validity if the questions included truly investigate the concept of happiness.

Other issues within the procedure of an investigation which can also affect the validity, are **demand characteristics** or the **social desirability effect**.

Demand characteristics are when participants change their behaviour in order to please the researchers. This can happen when participants receive subtle cues indicating how to behave. It can be seen in experiments and observations.

The **social desirability effect** describes the tendency of survey respondents to answer questions in a manner that will be viewed favourably by others. Therefore they change their opinion to appear socially desirable. This can be seen in questionnaires and interviews. For example, if we gave a questionnaire to parents about punishment and learning, we may get more responses that imply they do not punish their children, which may not be reality. This makes survey methods very **subjective**.

Research findings may also be affected by **experimenter** or **observer bias**. Here those involved in running the investigations may convey messages (some subconsciously) to the participants, which may result in changes in their behaviour. These factors reduce the validity of the investigation.

External validity considers how the procedures and findings can be **applied** outside of the investigation. For example, **ecological validity** measures the extent to which the investigation setting represents real life. If the environment is natural for the participants, ecological validity will be high. So ecological validity refers to the extent to which the findings of a research study are able to be **generalised** to real-life settings. In Psychology most lab experiments lack ecological validity as the setting is artificial for participants.

Similarly if the tasks which participants are asked to complete are something they would do in normal day-to-day life, the study is believed to have high **mundane realism**. For example, students participating in memory studies will have higher mundane realism.

Population validity considers how representative the sample is to the wider population. If the sample represents those in the target population it is said to have high population validity. We can look at the individuals in the sample itself, are they reflective of everyone in that wider population? Can their findings be applied to others in society?

Temporal validity is the degree to which the findings of a study still apply today. If the study is outdated it would lack temporal validity. Many classic studies in Psychology may lack relevancy today, and several would be impractical or unethical to replicate.

Criterion validity measures whether the results from a test correspond to an established, real-world outcome or criterion that the test is designed to predict. If we take the gold standard for A-level exams, we expect students achieving a grade A* on their exam to be on a level with other students also achieving a grade A*. In some cases we cannot establish criterion validity as we have to rely on more subjective assessments like questionnaires. If we were measuring feelings of upset or anger, there is no set standard, as each individual can experience anger differently.

Predictive validity determines how well a test predicts a future outcome. For example, mock exams are used to predict students future final grades. If the scores are the same, the mock exams had high predictive validity.

Concurrent validity refers to the extent to which tests gain similar results as other previous tests that has been carried out at the same time. Therefore, it assesses how well a new test aligns with an established, validated test which measures the same psychological construct. It is comparing the test to an established benchmark, ensuring it effectively measures what it claims to measure in the present time. For example, if a clinical psychologist wanted to evaluate an individual's self-report of depressive symptoms, this test could be compared to a doctor's clinical diagnosis given at the same time.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is limited in terms of validity. The procedure used in the study by… was not carried out in a natural setting and therefore lacks ecological validity. In other supporting research, the method lacks control over the variables, which reduces the internal validity. This means that… Also having low validity has implications for… This limits the credibility of the theory because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This study lacks validity in that self-report measures are used, which are subjective. This means there could be issues with social desirability, which may influence the results. This limits the generalisability of the overall findings and this has implications for…'

Ethics

Ethical guidelines are standards of conduct that are necessary in psychological research. The **British Psychological Society (BPS)** have outlined specific guidelines in a code of conduct. This code, which has been produced by the Ethics Committee focuses on primary ethical principles;

1. **Respect**
2. **Competence**
3. **Responsibility**
4. **Integrity**

Each principle is described by a statement of key values and is accompanied by a set of standards which lay out the precise form of ethical conduct and behaviour. For human research these are;

- **Informed Consent**
- **Right to Withdraw**
- **Confidentiality & Privacy**
- **Protection from Harm**
- **Deception**
- **Debriefing**

These guidelines are used with adult participants in psychological research. When using children in research it is important to ensure that ethical guidelines are followed carefully, especially around issues of **informed consent**, **protection from harm** and **privacy**. The **United Nations Convention on the Rights of the Child** (**UNCRC**) is an international human rights treaty that grants all children and young people (aged 17 and under) a comprehensive set of rights.

The UK signed the convention on the 19th April 1990 and it came into force on the 15th January 1992. It has 54 articles that set out the civil, political, economic, social and cultural rights that all children are entitled

to. The convention also aims to explain how adults and governments must work together to make sure children have access to their rights. Generally when children are used in research, parental informed consent is essential. Article 12 suggests that children have the right to provide their consent too. It also suggests that every child has the right to express their views, feelings and wishes in any matter affecting them, and that they must be taken seriously. This convention ensures that children have the same **ethical rights** as adults in the research process.

Animal ethics should also be considered in research studies. The **Animals (Scientific Procedures) Act 1986**, along with the **Home Office** govern the use of animals in research in the UK. Research programmes are subject to inspection to ensure they meet the requirements of the **law**. The main aim is to ensure the protection from unnecessary harm or distress, and to make sure the animals are housed appropriately.

Animal suffering is reduced using the 3R's. These are;

- **Replacement** (if non-animal replacements can be used they should)
- **Reduction** (using the minimum number of animals to achieve the outcome)
- **Refinement** (refining procedures to minimise risk of suffering)

Early studies in Psychology used animals in cases where it was unethical or impractical to use human participants. They were also used to investigate general principles of behaviour, as shown by Skinner (1938) in his experiments on rats testing operant conditioning. Animal studies in Clinical Psychology have helped with the development of drug therapy, and many clinical trials are tested on animals before being legislated for humans. However, there is always the issue of **generalisation** from research using animals, but despite this many studies have offered valuable contributions to society, as humans and animals share several structural and functional similarities in the brain.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which can be criticised in terms of ethics. The procedure used in the study by… did not follow the ethical guideline of… which is problematic because… Also several ethical issues has implications for… This limits the credibility of the theory because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This study has ethical issues, for example…. This guideline was broken which means that… and this has implications for…'

Socially Sensitive Research

Socially sensitive research (SSR) involves studies which might evoke strong emotional responses from participants, or where there could be potential consequences or **implications** for the community involved. Socially sensitive research is gathering data on issues which may be more **sensitive** or **controversial** or could be in areas where people hold more **privacy**. Examples of socially sensitive research include studies on daycare, cognitive testing in children, and IQ tests and racial stereotypes.

Psychologists have an important role to play in providing high quality research on socially sensitive issues. Socially sensitive research can impact society by shedding light on important social issues, influencing **public policy** and **decision-making**, and promoting **social justice** and **equality**. However, it can also raise **ethical concerns** regarding privacy, confidentiality, and potential harm to vulnerable populations.

However, if conducted appropriately and ethically socially sensitive research offers more **value** for society. The role of informed consent in SSR is to ensure that participants are fully aware of the purpose, risks, and benefits of the study, and voluntarily agree to participate without coercion or deception. In addition, the role of debriefing is to provide participants with information about the study's purpose, address any potential harm or discomfort experienced, and ensure their understanding and consent for their involvement.

Sieber & Stanley (1988) used the term social sensitivity to describe research where potential **social consequences** for the participants or the group of people represented by the research may have been evident. A classic study documenting a review in Psychology was written by Gould (1982) who found that intelligence testing of American army recruits during WW1 was biased and led to serious consequences for immigration. The study highlighted the lack of intelligence in the 1.75 million army recruits, many of whom were from immigrant decent. The initial findings by Robert Yerkes were presented to the American government who instigated an **Immigration Restriction Act (1924)** which lasted until the start of WW2. As this study used culturally biased, westernised intelligence tests to gather their data, and the findings led to such negative implications, it is seen as socially sensitive.

In attachment research there can be issues with social sensitivity. Bowlby's research into maternal deprivation placed the mother at the centre of the attachment bond, suggesting she was the cause of any psychological problems seen in her children, if they were separated for a short time. This had consequences supporting traditional gender roles, where mothers were discouraged from leaving their children to go out to work.

However, Sieber & Stanley (1988) suggest that researchers should not avoid investigating socially sensitive issues but should take certain precautions.

Research into the area of mental health can also have implications for social sensitivity, as it usually involves working with more vulnerable individuals who suffer from mental health issues. Despite this one strength of SSR is that it can have benefits for the group it is studying, this could lead to successful **practical applications**, especially in clinical research.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which can be criticised in terms of social sensitivity. The procedure used in the study by… has implications for… which may be problematic because… However, by conducting SSR like… it gives us a greater understanding of... which is beneficial to society.'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This research study has problems with social sensitivity because…/for example… This means that… and suggests there are implications for… This may limit the generalisation of the findings because…'

Usefulness/ Practical Applications

Psychological research offers a **useful** contribution to our understanding of human behaviour. The findings often allow for conclusions to be formed which propose practical applications in real life. These findings can be used to give advice or guidance to individuals or specific groups of people. For example, research by Loftus (1975) has helped our understanding of the reliability of eyewitness testimony. She found that leading questions can distort our memory of events. This has applications for the police and court system to ensure that witness statements are credible. Piliavin et al (1969) carried out research into bystander behaviour on the New York subway. Contradictory to other theory, they found that diffusion of responsibility did not occur, and that people are willing to help others in an emergency.

Most studies in Psychology have **real life applications** in some way, particularly in the field of mental health, which actively explores the effectiveness of treatment programmes. Such studies have highlighted the significance of both drug treatment and psychological therapy in reducing symptoms of mental health conditions like **schizophrenia** or **depression**. This is extremely useful for doctors and patients alike.

Social learning theorists like Albert Bandura showed how children are influenced by the role models they observe. In his experiment with the bobo doll, children were seen to imitate the behaviour of role models particularly if they were displaying aggressive behaviour. This gave us a greater understanding of how behaviour is influenced by those around us and how impressionable children are. This lead to applications when considering media influences on children and explains why we have a 9pm watershed in the UK, and why films/ movies have certification ratings like PG, 12 and 18.

In the conclusions of most psychological studies, researchers will outline the **usefulness** and suggest any **practical applications** that they believe are appropriate from their findings. These results can have widespread implications for individuals or groups in society and offer us a valuable contribution to the knowledge and understanding of human behaviour.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation is supported by research evidence which is extremely useful because... There are also real world practical applications such as… This means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This research study has problems with taking the results and forming practical applications because…/for example… This means that… This may limit the generalisation of the findings because… However, in some ways it could be considered useful because…'

Psychology as a Science

Psychology is believed to be a science as it follows the **cyclic method** that all sciences follow. This begins with a **theory** or idea from which **hypotheses** are drawn. These predictions are then tested under **experimental** conditions to support or refute (falsify) the claims. **Evaluations** are conducted afterwards to help form conclusions and relate the findings back to the original theory. This can either support the idea or create new lines of investigation.

The **hypothetico-deductive model** has been proposed as a description of scientific method. According to this description scientific inquiry and research proceeds by means of formulating hypotheses that can be either proved or disproved through experimentation and observation. It uses **induction** to make generalisations from facts, usually from the findings in the research evidence. It also suggests that we make **deductions** from initial ideas in the theory, but that this can lead to false statements. For example, we could say that 'flowers are red' and that 'tulips are flowers', so deduction would assume that 'all tulips are red' but this is not the case. This can lead to incorrect conclusions arising from the research.

In Psychology research evidence conducts statistical analysis in order to form significance statements. We can, however, make mistakes and these are known as 'type 1' and 'type 2' errors. A **type 1 error** is incorrectly accepting the research hypothesis and in doing so rejects the null hypothesis. This is known as a **false positive**. Whereas a **type 2 error** (**false negative**) is incorrectly accepting the null hypothesis and rejecting the research hypothesis, when in fact the results are significant. The risk of errors increases by the level of probability in significance testing. In most psychological investigations we use a **5% probability level ($p<0.05$)** but by using a lower probability level the risk of type 1 errors can be reduced. This means that results are more objective as a more stringent level of probability is used (less risk of chance). However, in doing so, the risk of a type 2 error could increase. For example, if we use a probability of 1% ($p<0.01$), this suggests we are 99% certain our outcome is determined by our manipulation and only 1% due to chance. It is important to strike a balance between the risk of making type 1 and type 2 errors. It may be worse to make a type 1 error, as this false positive could led researchers to believe something is true when in fact it is not.

Science uses **objective methods** in order to collect data, which in most laboratory experiments is primarily quantitative data. It also uses **specialised equipment** like brain scans to investigate behaviour. The

biological area in Psychology adopts a scientific approach to explaining behaviour. Psychology uses scientific methods to observe, predict and explain **human behaviour** and **mental processes**. These methods include **experiments**, **observations**, **self-reports** and **case studies**. Both **quantitative** and **qualitative** data can be collected which help provide reliable conclusions in order to make generalisations about behaviour.

Thomas Kuhn (1962) argued science should have one set of shared beliefs (**paradigm**) and suggested that Psychology is made up of too many conflicting paradigms (approaches) to be called a 'true science'.

Another factor in science is **falsification** proposed by Karl Popper (1959). This aims to refute theories; prove them to be wrong. If a theory is falsified it becomes discredited and should be rejected. However, we cannot disprove a theory without **stringently testing** the idea using precise hypotheses. For example, we cannot prove that Sigmund Freud's theory of psychosexual development was not true as it is impractical and unethical to test it objectively.

Have a look at how this issue could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation provides support by adopting a scientific view. The supporting research evidence is carried out scientifically which is useful because... Taking a scientific perspective helps to add credibility to this theory because…This means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This research study is conducted using specialised scientific equipment which makes the results more objective and reliable. It was also carried out under controlled conditions in the laboratory, ensuring that extraneous variables were kept to a minimum, this gives the research more scientific credibility because…'

Nature – Nurture

The **nature debate** is the view that all our behaviour is determined by **innate** characteristics from our biology, such as our genes. Modern scientific methods have allowed researchers to advance further in understanding biological influences in **genetics**, **biochemistry** and **brain structure**.

Early **evolutionary explanations** of human behaviour exemplify the nature debate and suggest that behaviour evolved because of its survival value. John Bowlby initially adopted an evolutionary approach to attachment and argued that humans are pre-programmed to attach to a caregiver for survival. Early nativists such as Descartes (1596-1650) claimed that all human characteristics are innate. In the field of Psychology, nativism is the view that certain skills or abilities are "native" or hardwired into the brain at birth.

Twin and **adoption studies** are used in support of the nature debate. Studies which show strong concordance rates between twins (particularly MZ) create more argument for genetic similarities. Nature refers to the idea of **heredity**, which is the genetic transmission of both mental and physical characteristics

from one generation to another. Nestadt et al (2010) suggested a heritability rate of 0.76 for OCD, which is a relatively strong correlation. This suggests it is likely to run in families. However, most concordance rates fall far from 100% suggesting that environmental factors must also play a part in behaviour.

By taking the nature view to explaining behaviour we can scientifically test the ideas providing robust and reliable evidence. These ideas can be used with more certainty to help us understand behaviour. For example, if we can identify a biological cause for mental health issues, it could go some way to help treat or even prevent them in future generations.

However, just taking one side of the debate is very reductionist.

In contrast the **nurture debate** argues all behaviour is the result of **external influences** in our social **environment**. The behaviourist perspective is a clear example of this, with types of **conditioning** and the work of Albert Bandura on the **social learning theory**. Support for the nurture view come from 'empiricists' who hold the view that all knowledge is gained through experience. Empiricists like John Locke (1635-1704) argued that the mind was a blank slate, which is then shaped by the environment.

Taking a nurture view allows us to explore the social factors and environmental influences that impact on behaviour. This lets us use behaviour modification to change or adapt behaviours that are undesirable. For example, schools, hospitals and prisons use behaviour modification through schemes like token economy programmes. Based on the principles of operant conditioning this rewards people for desirable behaviour.

Instead of defending extreme nature or nurture views, most psychological researchers are now interested in investigating the ways in which nature and nurture interact. It is limiting to describe behaviour solely in terms of either nature or nurture and attempts to do this underestimate the complexity of human behaviour.

An **interactionist approach** may be more appropriate which considers both sides of the nature-nurture debate when explaining behaviour. The **diathesis-stress model** is a good example of this. It claims that we are born with biological predispositions and when combined with environmental stressors, changes our behaviour. This might explain the variation seen in families with members who suffer from mental health issues where others do not. Later in his career, Bowlby (1958) suggested that attachment types can be determined by parental interaction, which is an external, environmental factor. This shows that attachment may be a combination of nature and nurture.

According to Plomin (1994) people can create their own 'nurture' influences by actively seeking different environments. This could in time have a beneficial outcome on the following generations and their 'nature'. In some cases people choose certain environments, which are appropriate for their 'nature' but may not be beneficial. For example, children who are more naturally aggressive may seek other children or situations which allow them to act more aggressively. This is called niche picking. **Niche picking** is a psychological idea that people choose environments that complement their heredity.

Have a look at how this debate could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation provides support for the nature/ nurture debate by… The supporting research evidence also agrees because… this is useful because... Taking a nature/ nurture perspective helps to add credibility to this theory because…This means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This research study is supports the nature/ nurture side of the debate because… The findings suggest that … This means that…'

Reductionism – Holism

Reductionism takes complex ideas or explanations and reduces it down to its simplest form. Reductionism states that in order to understand why people behave the way they do; it is best to break the behaviours down into smaller parts so that we can see the underlying causes for that behaviour.

For example, if we take a reductionist view of the cause of schizophrenia, we could say that it is caused by one explanation; elevated levels of dopamine in the brain. Taking a reductionist view like this can be extremely helpful, as we could offer specific drug treatment which lowers dopamine levels in the brain.

Reductionism is based on the scientific idea of **parsimony**. This is the idea that all behaviour should be explained using the most basic principles. Parsimony Psychology is generally defined as finding the simplest, accurate explanation for cognitive processes and human behaviour.

The reductionist approach suggests that there are different **levels of explanation**. If we consider these on a hierarchy with **reductionism** at the bottom (low level) and **holism** near the top (high level), we can assume that reductionist approaches are considered low-level explanations because they break down complex behaviours into simpler components. Whereas holistic explanations are considered high-level because they consider a wide range or combination of factors when explaining behaviour.

If we start at the bottom, the lowest level of reductionism considers physiological (biological) explanations, where behaviour is explained in terms of genes, biochemicals and brain structure. The middle level of reductionism considers psychological explanations (e.g. cognitive and behavioural) and the highest level of reductionism considers social and cultural explanations.

There are also different types of reductionist views. **Biological reductionism** refers to the way that psychologists try to reduce behaviour to a physical level and explain it in terms of genetics, neurons, neurotransmitters, hormones and brain structure. Konrad Lorenz (1935) is considered to reductionist in his evolutionary theory of attachment after demonstrating imprinting in goslings.

In contrast, **environmental reductionism** is the idea that all behaviour can be explained by reducing external factors to simple causes or influences, usually within our social environment. Albert Bandura

(1961) is considered to be reductionist in his social learning theory after demonstrating children will imitate same-sex role models.

Psychic reductionism uses the principles of the psychodynamic approach to reduce behaviour down into more simpler parts. Sigmund Freud (1909) explained the phobia of Little Hans as a result of unconscious conflicts within the phallic stage of psychosexual development.

Cognitive Psychology with its use of the computer analogy reduces behaviour down to the level of a machine, mechanistic reductionism (often called **machine reductionism**). This ignores any conscious decision-making or emotion in behaviour.

One strength of the reductionism side of the debate is that it holds **scientific credibility** and many ideas have explored the underlying biological causes of behaviour. Laboratory experiments allow researchers to manipulate variables under controlled conditions, giving **reliable** results and conclusions. However, one weakness of the reductionist view is that it **oversimplifies** complex phenomena. For example, it is likely that behaviour is caused by a combination of contributing factors not just one.

The other side of the debate is **holism**, which was originally based on Gestalt psychologists who suggested that the '**whole is greater than the sum of its parts**'. Adopting a holistic view is studying behaviour through analysing the person as a whole without breaking down their behaviours into distinct, separate parts.

Humanistic Psychology takes a holistic approach to explaining behaviour. This views the individual as a whole and consider all the contributing factors which may influence their behaviour. For example, in Criminal Psychology, the technique of 'psychological formulation' explores multiple factors which may influence an individual's decision to commit crime. This is an in-depth, personalised analysis which explains an individual's offending behaviour by examining biological factors as well as their life/ social circumstances; relationships, past events, and how they interpreted these events.

A strength of adopting a holistic view is that we gain a **greater insight** into why people behave as they do, giving us more **valid** explanations for their behaviour. However, by taking a holistic view, we **cannot establish** very clear specific **cause and effect** around behaviour. This **does not lend** itself to **scientific, empirical testing** in the same way as taking a reductionist view.

Have a look at how this debate could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation provides support for reductionism because… The supporting research evidence also agrees because… this is useful because... Taking a reductionist view helps to add credibility to this theory because…This means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This findings from this research study allow more reductionist views to be formed because… The findings suggest that … This means that… This can have practical applications in…'

Free Will – Determinism

The **free will/ determinism** debate outlines the extent to which our behaviour is the result of forces over which we have no control or whether people decide for themselves whether to act or behave in a certain way.

Free will suggests that we all make **choices** and are in full control of our own behaviour. It emphasises the importance of the individual and why studying individual differences is useful. However, it can be difficult to scientifically test the concept of free will and many psychologists suggest free will alone is not responsible for our behaviour. This approach relies on personal responsibility and plays a central role in the humanistic approach. If we consider why people commit crime, the free will debate would argue that individuals choose to commit crime.

Free will explains how people possess the freedom to choose their behaviour and are active agents in their own lives. One of the first studies to conduct research on how the brain correlates with free will was pioneered by Libet et al (1983), which focused on the unconscious intentions taking place in decisions and regarded them as free and voluntary. However, Schurger et al (2016) investigated the concept of human agency by exploring neural activity in the brain and argued that conscious decisions are not truly 'free'. In contrast they suggest that many factors determine the decision-making process instead.

Determinism argues that behaviour is controlled by forces over which we have no control. The determinism debate proposes that all behaviour is pre-determined by specific factors and is therefore predictable. The main arguments for determinism are the principle of causality, the scientific understanding of cause and effect, and the idea that all events have prior causes.

The principle of causality states that every event has a **cause**. For example, when people experience mental health issues, determinism would investigate the underlying reasons for those issues. For instance, if a person is experiencing negative emotions and feels depressed, a psychologist would explore what may have triggered these feelings. Some see the source of this determinism as being outside the individual (**environmental determinism**) whereas others see it from coming inside such as unconscious motivation or genetic determinism (**biological determinism**). Moreover, Freud believed that the unconscious mind was responsible for many aspects of human behaviour and so **psychic determinism** uses ideas from this approach to explain behaviour.

Studying **cause and effect** allows investigation under controlled conditions, where variables are manipulated and measured, as demonstrated by experiments conducted in a laboratory. This is more likely to be possible when studying biological causes for behaviour and can have useful practical applications for people. For example, if research indicates that schizophrenia is caused by biological factors such as elevated dopamine levels inside the brain, then medication can be used to help treat people. However, determinism does not account for individual differences. By creating general laws of behaviour, deterministic views underestimate the uniqueness of human beings and their freedom to choose their own destiny.

Determinism reduces individual responsibility by suggesting that all actions and choices are pre-determined by external factors, such as genetics or the environment, and therefore individuals have no true control over their actions. In the study by Raine et al (1997), he raised concerns about the

conclusions from his research with NGRI murderers. Despite his findings showing there were structural differences in their brains, he argued this could not be given as the sole reason behind why the criminals committed murder.

Determinism can be viewed on a spectrum instead from hard to soft. **Hard determinism** sees free will as an illusion and instead believes that every event and action has a specific cause. Whereas **soft determinism** represents a middle ground, where people do have a choice, but that choice is constrained by external factors.

Have a look at how this debate could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'The explanation provides support for free will/ determinism because… The supporting evidence also agrees because… this is useful because... Taking a deterministic view helps to add credibility to this theory because…This means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This findings from this research study allow more deterministic conclusions to be formed because… In this case the findings suggest that … This means that…'

Individual – Situational

The **individual debate** believes the everyone is different and unique and these differences explain our behaviour. It considers individual differences by exploring all aspects of behaviour such as biology, cognition and social and cultural factors. This side of the debate can take a more holistic view whereby studying people as a whole, we get a more valid understanding of why they behave as they do.

The individual debate is sometimes referred to as the **'dispositional'** explanation for behaviour. For example, an individual explanation for the findings in Milgram's (1963) research into obedience to authority would suggest the participants were just mean or cruel people for choosing to give electric shocks. This idea supported Adorno (1950) who claimed that some people have authoritarian personalities and this might explain why more people obeyed the authority figure.

Eysenck (1964) also takes an individual view when applied to criminal behaviour. His personality inventory found that individuals with high extraversion, neuroticism and psychoticism traits were more likely to criminals. This argument ignores external factors which may contribute to behaviour.

Adopting an individual view of behaviour allows for research to be conducted from an **idiographic** perspective; taking people as unique and appreciating their differences.

In contrast, the **situational debate** argues that behaviour is the result of factors within the social environment. If we consider Milgram's (1963) study again, this side of the debate would argue that there were external factors in the situation which made people obey. For example, the manipulation of verbal

prods when participants asked to leave or that they were paid money to participate. In this experiment conducted at Yale University the researcher is also wearing a lab coat to add scientific credibility to the study. All of these external, situational factors could be the reason that 65% of the participants went all the way to 450 volts on the electric shock generator.

Adopting a situational view of behaviour allows for research to be conducted from a **nomothetic** perspective; making general laws about behaviour after studying large groups of people.

As with most debates, it is probable that behaviour is influenced by a combination of individual and situational factors.

Have a look at how this debate could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'This theory provides support for the situational side of the debate because… This is demonstrated by… the supporting evidence also agrees because… this is useful because... Taking a situational view to explaining behaviour like this helps to… this means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This findings from this research study allow more individual/ situational conclusions to be formed because… In this case the findings/ conclusions suggest that … This means that…'

Idiographic – Nomothetic

Taking an **idiographic approach** to explaining behaviour aims to discover what makes each of us unique. Psychologists using this technique will study individual differences in behaviour. Idiographic approaches tend to collect more qualitative data through methods such as case studies, informal interviews and unstructured observation. They are a valid way of explaining behaviour as they give a true insight into why people behave as they do.

The idiographic approach focuses more on the subjective experience of the individual, which can have more useful applications in real life. For example, studying individual cases like brain-damaged patient H.M (Scoville & Milner, 1957) has given us a greater understanding of how short-term and long-term memories are processed.

However, adopting an idiographic approach can be very time consuming when compared to the alternative nomothetic approach. Many longitudinal studies take this approach and focus on individuals/ small groups which although gives a good understanding of behaviour, loses its **credibility** when people drop out.

On the other hand, **nomothetic approaches** are the study of people in groups with an aim to establish laws or generalisations for all human behaviours. The nomothetic approach looks at how our behaviours

are similar to each other as human beings and tends to collect more quantitative data. Therefore, experiments, correlation, psychometric testing and other quantitative methods are favoured from a nomothetic point of view. Nomothetic approaches tend to be more **reliable** as they focus on making **objective**, generalisations based on observable or measurable factors.

Most studies with large sample groups in Psychology take a nomothetic approach and perspectives like behaviourism (learning theory), cognitive and biological Psychology adopt this view by discovering laws or establishing generalisations which can be applied to everyone. The nomothetic approach is seen as more scientific than the idiographic approach.

Bandura (1961) took a nomothetic approach to suggest that children are influenced by role models and in particular same-sex role models. He also argued that boys will act more aggressively than girls after observing a role model. This idea can be generalised to other children.

Some research studies combine both idiographic and nomothetic approaches, depending on their research methods. The idiographic approach contributes to the nomothetic approach by providing information about the individuals within the groups. Despite this, Millon & Davis (1996) suggest research studies should start with a nomothetic approach and once general 'laws' have been established, it can then move to a more idiographic approach. This would be useful for helping our understanding of human behaviour.

Have a look at how this debate could be used as evaluation in context to a theory or study.

How to use this as an evaluation point in a THEORY/ EXPLANATION

'This theory provides support as it adopts a nomothetic approach to behaviour because… This is demonstrated by… the supporting evidence also agrees because… this is useful because... Taking a nomothetic approach to explaining behaviour like this helps to… this means that… However, it could be seen as less useful because…'

How to use this as an evaluation point in a RESEARCH EVIDENCE

'This findings from this research study which takes an idiographic approach is useful because… In this case the findings/ conclusions suggest that … This means that…'