8.5 Biological, Environmental and Psychic Determinism and the Scientific Approach

AQA 7182 · about 55 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 In a classroom study, Amelia copies the answer of a popular peer after seeing that peer get praised by the teacher. Classify this as biological, environmental or psychic determinism and justify briefly.

(Total for Question 1 is 3 marks)

2 Outline biological determinism as it is taught on AQA 7182, naming one biological mechanism that can be said to 'cause' behaviour.

(Total for Question 2 is 2 marks)

3 Outline psychic determinism as presented in the psychodynamic approach, naming one unconscious influence Freud described that could determine behaviour.

(Total for Question 3 is 2 marks)

4 Explain how behaviourist experimental methods use operationalisation and control to establish cause and effect when testing an environmental determinist hypothesis about learned phobias.

(Total for Question 4 is 6 marks)

5 Explain how Freud's concept of unconscious motives could be used to argue for psychic determinism in an explanation of someone's repeated self-sabotaging behaviour, and give one reason why a court or scientist might be sceptical of this claim.

(Total for Question 5 is 6 marks)

6 16-mark essay: discuss determinism in psychology with reference to biological, environmental and psychic determinism and the scientific approach. Include strengths and limitations and legal implications.

(Total for Question 6 is 16 marks)

7 Explain how hormonal changes could be used as a biological determinist explanation for changes in mood across adolescence, and give one evaluation point about how convincing this evidence is.

(Total for Question 7 is 4 marks)

8 Outline what is meant by falsifiability and explain briefly why falsifiability is important when evaluating determinist claims in psychology, giving one concrete example.

(Total for Question 8 is 4 marks)

Mark scheme · 8.5 Biological, Environmental and Psychic Determinism and the Scientific Approach

Question 1

Environmental determinism cao	**B1**
justifies by referring to social learning/modelling and reinforcement from teacher praise oe	**M1**
explains that copying follows an observed behaviour and positive reinforcement rather than a genetic or unconscious drive oe	**A1**

Answer: Environmental determinism. Amelia models the praised peer and is reinforced by teacher approval, so learning from the environment explains the behaviour.

Question 2

defines biological determinism as behaviour caused by biological factors such as genes, hormones or neurochemicals oe	**M1**
gives one biological mechanism, e.g. genetic inheritance, testosterone levels, or neurotransmitter imbalance oe	**A1**

Answer: Biological determinism explains behaviour as the result of biological factors such as genes, hormones or neurochemicals; for example, higher testosterone levels have been linked to increased aggression.

Question 3

defines psychic determinism as behaviour determined by unconscious drives and early childhood experiences oe	**M1**
names one unconscious influence, e.g. repressed conflicts, defence mechanisms, or unresolved psychosexual stage issues oe	**A1**

Answer: Psychic determinism holds that unconscious drives and early experiences determine behaviour; for example, repressed conflicts from early childhood may influence adult relationships.

Question 4

states that operationalisation makes variables measurable, e.g. defining a phobic response as heart rate increase or avoidance time oe	**M1**
explains how operationalisation allows precise manipulation and measurement of IV and DV, reducing ambiguity oe	**A1**
states that control of extraneous variables and random allocation reduce alternative explanations oe	**M1**
explains how this strengthens causal inference, since other possible causes are held constant oe	**A1**
gives a procedural example, e.g. lab study pairing a neutral stimulus with an aversive stimulus to create a conditioned fear response with a control group that does not receive pairing oe	**M1**
explains why the example supports environmental determinism, e.g. because it shows learning history can produce phobic responses under controlled conditions oe	**A1**

Answer: Behaviourist methods operationalise variables such as a phobic response (heart rate, avoidance time) so IVs like stimulus pairing can be precisely manipulated and DVs measured. Random allocation and control of extraneous variables reduce alternative explanations. For example, a lab conditioning procedure that pairs a neutral stimulus with an aversive event, compared with an unpaired control group, shows that learning history can produce fear, supporting an environmental determinist causal claim.

Question 5

explains that Freud would attribute repeated self-sabotage to unconscious conflicts or defence mechanisms originating in early childhood oe	**M1**
applies this to behaviour, e.g. unresolved early experiences leading to repetition compulsion or unconscious guilt causing self-defeating choices oe	**A1**
identifies a reason for scepticism, e.g. lack of falsifiability or reliance on retrospective interpretation oe	**M1**
explains why this matters for courts or scientists, e.g. because unfalsifiable or subjective claims are hard to test and may not satisfy legal standards for causal evidence oe	**A1**
offers an alternative or limitation, e.g. other explanations such as learning history or current cognition could account for the behaviour oe	**M1**
explains the implication, e.g. multi factorial explanations weaken an exclusively psychic determinist defence oe	**A1**

Answer: Freud would explain repeated self-sabotage as the product of unconscious conflicts or defence mechanisms rooted in early experience, such as an unresolved compulsion to repeat or unconscious guilt. Courts and scientists may be sceptical because such psychoanalytic claims can be difficult to falsify and often rely on retrospective interpretation, making them hard to test and present as reliable causal evidence; alternative accounts like learning history or current cognitive biases can also explain the same behaviour.

Question 6

Level 4 Knowledge of the three determinist positions and the scientific approach is accurate and detailed. Discussion is balanced and evaluative, integrating empirical evidence and methodological critique. The candidate links the scientific emphasis on causal explanation, operationalisation and falsifiability to strengths and limits of determinism. Legal implications are considered with developed examples and evaluation. Argument is clear, coherent and uses appropriate terminology.	**13-16**
Level 3 Knowledge of determinist positions and the scientific approach is clear but may lack some depth. Discussion includes strengths and limitations with some use of evidence. Legal implications are addressed but may be less developed. Answer is mostly organised and uses psychological terms appropriately.	**9-12**
Level 2 Knowledge is present but limited or partial. Discussion is descriptive rather than evaluative and may contain inaccuracies. Links to the scientific approach or legal implications are attempted but underdeveloped. Structure and terminology may be inconsistent.	**5-8**
Level 1 Very limited knowledge. Discussion is brief, fragmented or mostly list like. Little or no evaluation. Legal implications and scientific links absent or incorrect. Poor organisation and limited use of terminology.	**1-4**
Level 0 No creditable content.	**0**

Indicative content:

- AO1: Biological determinism claims behaviour is caused by biological factors including genes, hormones and neurochemistry, with examples such as MAOA genotype correlations, testosterone links to aggression, or neurotransmitter explanations for depression.
- AO1: Environmental determinism, emphasised by behaviourism, holds that behaviour is shaped by conditioning, reinforcement and modelling; examples include classical conditioning of phobias and operant conditioning studies showing reinforcement increases behaviour.
- AO1: Psychic determinism from the psychodynamic approach attributes behaviour to unconscious drives and early experiences, e.g. repressed conflict producing adult symptoms or repetition compulsion.
- AO1: The scientific approach in psychology seeks causal explanations using operationalisation, controlled methods and falsifiability; controlled experiments, precise measurement and testable hypotheses support causal claims.
- AO3: Strengths of determinism linked to science include the ability to generate testable hypotheses, produce interventions (biological treatments, behavioural therapies), and allow prediction and control which is useful in applied settings such as mental health or education.
- AO3: Limitations include reductionism and ignoring interaction of multiple causes, e.g. gene environment interplay; biological explanations may be correlational and not prove causation; psychic explanations may lack falsifiability and rely on subjective interpretation.
- AO3: Methodological critiques where scientific claims are strong include issues of ecological validity, ethical constraints on experimental manipulations of some biological or psychic factors, and the difference between laboratory control and real world complexity.
- AO3: Legal implications include deterministic evidence used in mitigation, such as arguing reduced culpability due to neurobiological deficits, and reasons courts may reject such claims, such as requirement for clear causal evidence and concerns about excusing behaviour.
- AO3: Balanced evaluation should consider softening determinism by acknowledging multifactorial models and interactionist approaches, and reflect on moral and social consequences of emphasising determinism, for instance impacts on notions of responsibility, stigma, and public policy.

Question 7

explains that rising hormones such as testosterone or oestrogen can alter brain function and therefore influence mood and behaviour oe	**M1**
gives an example, e.g. correlation between puberty-related hormonal changes and increased risk taking or mood swings oe	**A1**
evaluation: notes that hormonal correlations do not prove causation or that environmental factors also change during adolescence oe	**M1**
explains why this matters, e.g. because social context and peer influence could confound hormone-mood associations, limiting the strength of a biological determinist claim oe	**A1**

Answer: Hormonal changes such as rises in testosterone or oestrogen can affect neurotransmission and brain development, plausibly influencing mood and behaviour in adolescence; however, hormone data are often correlational and adolescence also involves social changes that could confound the relationship, so hormonal evidence alone is not definitive proof of biological determinism.

Question 8

defines falsifiability as the requirement that a theory makes testable predictions that could, in principle, be shown to be false oe	**M1**
explains that deterministic claims are scientific only if they can be tested and potentially falsified, not stated as unfalsifiable post hoc explanations oe	**A1**
gives a concrete example, e.g. a claim that a specific neurotransmitter imbalance increases aggression can be tested by manipulating or measuring that neurotransmitter and observing outcomes oe	**M1**
explains why example matters, e.g. because testability allows the claim to gain support or be rejected, improving scientific credibility oe	**A1**

Answer: Falsifiability means a theory makes testable predictions that could be proven false; deterministic claims are scientific only if they can be tested in this way. For example, the idea that a particular neurotransmitter level increases aggression can be tested by measuring or manipulating that neurotransmitter and checking aggression, so the claim is falsifiable and scientifically useful.