16.2 Biological and Psychological Explanations of Offending Behaviour

AQA 7182 · about 55 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Outline one neural explanation of offending behaviour that focuses on the prefrontal cortex. Say what the prefrontal cortex does and give one type of supporting evidence.

(Total for Question 1 is 2 marks)

2 Identify two ethical issues connected with using genetic or neural explanations of offending in criminal justice, and briefly explain one way each issue could be addressed.

(Total for Question 2 is 4 marks)

3 Outline Eysenck's theory of the criminal personality, naming its key dimensions (extraversion, neuroticism and psychoticism) and explain briefly how high scores on extraversion and neuroticism are proposed to increase the risk of offending.

(Total for Question 3 is 4 marks)

4 Outline two cognitive explanations of offending behaviour from the specification: moral reasoning levels and cognitive distortions. Give one brief example for either explanation.

(Total for Question 4 is 3 marks)

5 Outline Sutherland's differential association theory as a psychological explanation of offending, stating the main mechanism and one implication for how offending is learned.

(Total for Question 5 is 3 marks)

6 Explain two strengths and one limitation of biological explanations of offending behaviour, using evidence and considering ethical or practical implications.

(Total for Question 6 is 6 marks)

7 Discuss biological or psychological explanations of offending behaviour. In your answer you should refer to at least two explanations from the specification, include relevant evidence, consider strengths and limitations, and reach a supported conclusion.

(Total for Question 7 is 16 marks)

8 Read the short offender description and then apply the most appropriate explanation or explanations from those studied. Description: Kwame, aged 19, dropped out of school at 15 and joined a group of older peers who frequently shoplift. He has a history of impulsive acts and was noted to have difficulties with anger control. Neuroimaging after an arrest showed reduced activity in his prefrontal cortex. When interviewed he minimises the harm caused and says theft is normal where he grew up. Explain which biological and which psychological explanations best account for Kwame's offending, and use the prompt to support your answer.

(Total for Question 8 is 6 marks)

Mark scheme · 16.2 Biological and Psychological Explanations of Offending Behaviour

Question 1

states that reduced functioning or damage to the prefrontal cortex is linked to poor impulse control and increased aggression or antisocial behaviour oe **B1**

gives supporting evidence such as neuroimaging findings showing lower prefrontal activity in violent offenders, or case studies where frontal lobe damage led to disinhibited behaviour oe **B1**

Answer: Reduced functioning or structural differences in the prefrontal cortex, which is involved in impulse control and decision making, are linked to greater impulsivity and aggressive or antisocial behaviour; this is supported by neuroimaging studies and case evidence where frontal lobe damage produced disinhibited behaviour.

Question 2

identifies an ethical issue, e.g. stigma or discrimination against individuals with a genetic risk for offending oe **M1**

explains a mitigation, e.g. ensure genetic information is kept confidential and not used to deny rights, with clear legal safeguards oe **A1**

identifies a second ethical issue, e.g. misuse of biological data in sentencing or deterministic attributions that reduce perceived responsibility oe **M1**

explains a mitigation, e.g. guidelines and training for courts and practitioners emphasising probabilistic nature of findings and need to consider context oe **A1**

Answer: Ethical issues include stigma or discrimination against those with genetic risk factors, which can be mitigated by confidentiality and legal safeguards, and misuse of biological data in sentencing or reducing perceived responsibility, which can be addressed by professional guidelines and training highlighting the probabilistic nature of genetic and neural findings.

Question 3

identifies Eysenck's dimensions: extraversion, neuroticism and psychoticism oe **M1**

states Eysenck proposed criminals tend to score high on extraversion and neuroticism, and sometimes psychoticism oe **M1**

explains that high extraversion means a need for stimulation and underactive inhibition, so individuals seek arousal and may be less conditioned by punishment oe **A1**

explains that high neuroticism leads to emotional instability and a tendency to react strongly to stress, increasing the chance of impulsive or aggressive acts oe **A1**

Answer: Eysenck proposed a criminal personality based on extraversion, neuroticism and psychoticism. High extraversion involves a need for stimulation and weaker conditioning to punishment, making rule-breaking more likely, while high neuroticism means emotional instability and impulsive reactions under stress, also increasing offending risk.

Question 4

outlines moral reasoning explanation, e.g. offending linked to lower levels of moral reasoning where individuals judge actions in terms of consequences to the self rather than rules or social order oe **M1**

outlines cognitive distortions, e.g. hostile attribution bias where offenders misinterpret others' actions as hostile, or minimalisation where offenders downplay the harm caused oe **M1**

gives one brief example for either moral reasoning or a named cognitive distortion, e.g. minimalisation: a burglar saying the owner deserved it oe **B1**

Answer: Lower levels of moral reasoning mean judging actions by personal gain rather than abstract rules, and cognitive distortions such as hostile attribution bias or minimalisation allow offenders to interpret others as threatening or to downplay harm, for example a thief claiming the victim deserved it.

Question 5

states the core idea that criminal behaviour is learned through association with others who hold pro-criminal attitudes and techniques oe **M1**

explains the mechanism: learning occurs via social interaction and imitation of values, attitudes and skills that favour offending oe **M1**

gives one implication, e.g. frequency and intensity of associations with delinquent peers increases likelihood of offending oe **B1**

Answer: Differential association theory says offending is learned through association with others who hold pro-criminal values and teach criminal techniques; the more frequent and intense such associations, the more likely a person is to adopt offending behaviour.

Question 6

identifies a strength, e.g. scientific methods such as neuroimaging provide objective data linking brain differences to offending behaviour oe	**M1**
explains why this is a strength, e.g. objective measures allow causal hypotheses and targeted interventions such as programmes focusing on impulse control oe	**A1**
identifies a second strength, e.g. genetic research can identify probabilistic risk factors that help explain individual differences in offending vulnerability oe	**M1**
explains advantage, e.g. combining genetic with environmental data supports gene environment interaction models and more personalised prevention strategies oe	**A1**
identifies a limitation, e.g. biological explanations risk biological determinism and reductionism, ignoring social and psychological influences oe	**M1**
explains consequence, e.g. this can lead to unethical policies or stigma and may divert attention from social prevention measures oe	**A1**

Answer: Strengths: biological explanations use objective scientific methods such as neuroimaging to link brain differences to offending, supporting causal hypotheses and potential interventions; genetic research identifies probabilistic risk factors that, combined with environmental data, can inform prevention. Limitation: biological accounts can be reductionist and risk deterministic interpretations that ignore social influences, raising ethical concerns and potential stigma.

Question 7

Level 4 Knowledge of biological and psychological explanations of offending is detailed and accurate. The discussion is thorough and analytical, integrating evidence for and against explanations, considering methodological limitations and ethical implications. Evaluation is balanced and used to reach a reasoned conclusion that is well supported.	**13-16**
Level 3 Knowledge is clear and mostly accurate. The answer offers a reasonable discussion with some analysis and evaluation, including relevant evidence and some consideration of limitations. A conclusion is reached but may be less developed or balanced.	**9-12**
Level 2 Knowledge is present but may be partial or simplified. Discussion and evaluation are limited or descriptive, with little integration of evidence. Any conclusion is weak or not fully supported.	**5-8**
Level 1 Knowledge is minimal and answers are brief or fragmented. Little or no evaluation is present and any conclusion is unsupported or absent.	**1-4**
Level 0 No creditable content.	**0**

Indicative content:

- AO1: Biological explanations could include Lombroso's atavistic form as a historical biological account, candidate gene explanations such as MAOA variants, twin and adoption study evidence suggesting heritability, and neural explanations linking prefrontal cortex differences to impulse control and aggression.
- AO1: Psychological explanations could include Eysenck's theory of the criminal personality (extraversion, neuroticism, psychoticism), cognitive explanations such as low levels of moral reasoning and cognitive distortions like hostile attribution bias and minimalisation, differential association theory which explains crime as learned through association, and psychodynamic accounts such as an inadequate superego.
- AO3: Evaluate the evidence, for example twin and adoption studies that suggest a genetic contribution but are limited by shared environment confounds and non-random placement; neuroimaging studies that show correlations between brain differences and offending but cannot alone prove causation and may be affected by prior substance use or head injury.
- AO3: Consider Eysenck's theory strengths such as linking personality measures to behaviour and using empirical questionnaires, but limitations include mixed empirical support and cultural or age-related variability; cognitive explanations have utility in explaining how offenders justify actions and in leading to cognitive behavioural interventions, but measuring moral reasoning and distortions can be subjective.
- AO3: Discuss differential association theory strengths in explaining how criminal techniques and values are transmitted through social groups and its policy implications for social interventions, but limitations include difficulty in falsifiability and less emphasis on individual biological vulnerability.
- AO3: Consider ethical and practical implications of biological accounts, for example risks of stigma, determinism, and potential misuse in courts, and the value of integrating biological risk with environmental and psychological explanations via gene environment interaction models.
- AO3: Consider applications such as targeted prevention, rehabilitation approaches focusing on cognition and social context, and the caution required when translating biological findings into policy.
- Conclusion: Strong answers will weigh the explanatory power of biological versus psychological accounts, argue for an interactionist perspective that combines genetic, neural and social learning or cognitive factors, and justify this position with balanced evidence and consideration of limitations.

Question 8

identifies neural explanation: reduced prefrontal cortex activity linked to poor impulse control and aggression oe **M1**

applies to Kwame by linking his history of impulsivity and anger control problems to the reduced prefrontal activity found on neuroimaging oe **A1**

identifies differential association theory or social learning as a psychological explanation for learning criminal behaviour through association with peers oe **M1**

applies to Kwame by linking his joining older peers who shoplift and his statement that theft is normal to learning pro-criminal norms and techniques oe **A1**

identifies cognitive distortions, for example minimalisation, as a psychological explanation oe **M1**

applies to Kwame by linking his minimisation of harm to a cognitive distortion that neutralises guilt and facilitates continued offending oe **A1**

Answer: Biologically, reduced prefrontal cortex activity explains Kwame's poor impulse control and difficulties with anger, increasing risk of offending. Psychologically, differential association theory explains how joining older peers who shoplift taught him pro-criminal norms, and cognitive distortions such as minimalisation explain his downplaying of harm, allowing him to justify theft.