



PSY.ISS6 Holism and Reductionism in Psychological Explanation

AQA 7182 · Calculators not allowed · about 60 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** Define 'holism' in the context of psychological explanation and name one psychological approach that illustrates it.

Define holism and give one approach that illustrates it.

(Total for Question 1 is 2 marks)

- 2** Define 'reductionism' in psychological explanation and state two different forms it can take. Define reductionism and name two forms.

(Total for Question 2 is 2 marks)

- 3** Classify the following explanation from the perspective of holism and reductionism: 'A researcher says depression in a patient is caused primarily by a serotonin imbalance and prescribes medication to correct it.' State whether this is holistic or reductionist and give the level of explanation.

Classify the serotonin imbalance explanation as holistic or reductionist and state its level.

(Total for Question 3 is 1 mark)

- 4** Classify the following explanation: 'A behaviour therapist explains a phobia as learned through a classical conditioning episode, where a neutral stimulus became associated with fear.' State whether holistic or reductionist and give the level of explanation.

Classify the conditioning explanation as holistic or reductionist and state its level.

(Total for Question 4 is 1 mark)

- 5** Explain the 'levels of explanation' in psychology for the topic of aggression, naming the lowest, a middle and the highest level and giving one brief example at each level in this context.

Explain levels of explanation for aggression with one example at each level.

(Total for Question 5 is 4 marks)

- 6** Distinguish between biological reductionism and environmental reductionism, using one short example for each to make the difference clear in psychological explanation.

Distinguish biological and environmental reductionism with examples.

(Total for Question 6 is 4 marks)

- 7** A community programme explains rising rates of youth offending by pointing to poverty, poor schooling and peer-group pressures interacting together. Classify this explanation as holistic or reductionist and say which level of explanation it best fits.

Classify the community programme explanation and give its level.

(Total for Question 7 is 4 marks)

- 8** A cognitive therapist says a client's social anxiety results from a combination of negative beliefs about the self and distorted attention for threat. Classify this explanation as holistic or reductionist and state the level of explanation.

Classify the cognitive therapist's explanation and state its level.

(Total for Question 8 is 4 marks)

- 9** Explain one strength of reductionist explanations in psychology, using the concept of scientific testability and an example to support your point.

Explain one strength of reductionism: scientific testability, with example.

(Total for Question 9 is 3 marks)

- 10** Explain one limitation of reductionist explanations, using the idea of oversimplification and its effect on validity in psychological research.

Explain one limitation of reductionism: oversimplification and validity.

(Total for Question 10 is 3 marks)

- 11** Explain one strength of a holistic explanation in psychology, referring to ecological validity and an applied example to illustrate why holism can be valuable in understanding behaviour.

Explain one strength of holism: ecological validity, with example.

(Total for Question 11 is 6 marks)

- 12** Discuss holism and reductionism in psychology. In your answer, explain both positions, give strengths and limitations of each, refer to levels of explanation, and apply these ideas to real-world examples where appropriate.

Discuss holism and reductionism in psychology, with strengths, limitations, levels of explanation and examples.

(Total for Question 12 is 16 marks)

Mark scheme · PSY.ISS6 Holism and Reductionism in Psychological Explanation

Question 1

- **B1** definition: explaining behaviour by reference to the whole person or whole system rather than breaking it into parts, e.g. focusing on interactions between factors oe
- **B1** identifies a suitable approach, e.g. the humanistic approach oe
- **Answer: Holism: explaining behaviour by looking at the whole person or whole system rather than isolated parts. Example: the humanistic approach.**

Question 2

- **B1** definition: explaining behaviour by breaking it down into simpler constituent parts or levels oe
- **B1** names two forms, e.g. biological reductionism and environmental (stimulus-response) reductionism oe
- **Answer: Reductionism: explaining behaviour by breaking it into simpler parts. Two forms: biological reductionism and environmental (stimulus-response) reductionism.**

Question 3

- **B1** biological reductionism; level = biological (genes, neurotransmitters, hormones) cao
- **Answer: Biological reductionism; level = biological.**

Question 4

- **B1** environmental (stimulus-response) reductionism; level = psychological/behavioural cao
- **Answer: Environmental (stimulus-response) reductionism; level = psychological/behavioural.**

Question 5

- **M1** names lowest level as biological and gives an example, e.g. high testosterone linked to aggressive behaviour oe
- **M1** names a middle/psychological level and gives an example, e.g. cognitive biases or learning from reinforcement leading to aggressive responses oe
- **M1** names highest level as social/cultural and gives an example, e.g. cultural norms that tolerate aggression or groupthink in gang cultures oe
- **A1** explains hierarchy: lower levels focus on biological mechanisms, higher levels consider social context and meaning, so explanations operate at different scales oe
- **Answer: Lowest: biological, e.g. testosterone or neural differences linked to aggression. Middle: psychological, e.g. learned aggressive responses or hostile attribution bias. Highest: social/cultural, e.g. cultural norms or peer-group influences that encourage aggression. The levels form a hierarchy from physiological mechanisms up to social context.**

Question 6

- **M1** states biological reductionism explains behaviour in terms of biological structures/processes, e.g. genes, neurotransmitters or hormones oe
- **A1** gives an example, e.g. explaining aggression as caused by high testosterone or frontal lobe dysfunction oe
- **M1** states environmental reductionism explains behaviour as learned stimulus-response associations or reinforcement histories oe
- **A1** gives an example, e.g. explaining aggression as learned by observing aggressive role models or reinforced by rewards oe
- **Answer: Biological reductionism: explains behaviour via biological mechanisms, e.g. aggression linked to testosterone or neural deficits. Environmental reductionism: explains behaviour via learned associations, e.g. aggression learned by modelling or reinforcement.**

Question 7

- **M1** identifies the explanation as holistic oe
- **A1** justifies by noting it refers to multiple interacting social and psychological influences rather than a single component oe
- **M1** states the level as social/cultural or multi-level (social/environmental) oe
- **A1** brief justification linking poverty, schooling and peer pressure to social/cultural level influences oe
- **Answer: Holistic; level = social/cultural (or multi-level), because it cites interacting social and environmental factors such as poverty, schooling and peer pressure.**

Question 8

- **M1** identifies the explanation as more holistic than simple reductionist accounts, because it integrates cognitive processes and the person's subjective experience oe
- **A1** explains it operates at the psychological level (cognitive level), not purely biological or purely social oe
- **M1** notes that it is multi-factorial within the psychological level, so credits holistic orientation within that level oe
- **A1** final statement: holistic (psychological level) cao
- **Answer: Holistic in orientation within the psychological level: it integrates multiple cognitive factors and subjective experience, so it is not a narrow reductionist biological or stimulus-response account.**

Question 9

- **M1** identifies scientific testability as a strength, because reductionist claims can be operationalised and tested under controlled conditions oe
- **A1** gives an example, e.g. testing drug effects on neurotransmitter levels and measuring symptom change in depression oe
- **A1** explains why this matters: allows precise measurement, replication and cumulative scientific knowledge oe
- **Answer: Reductionist explanations are scientifically testable because they break behaviour into measurable parts, for example testing how a drug alters neurotransmitter levels and depressive symptoms. This allows precise measurement, replication and cumulative knowledge.**

Question 10

- **M1** identifies oversimplification as a limitation, e.g. ignoring context, interactions or subjective meaning within complex human behaviour oe
- **A1** explains how this reduces ecological or external validity, e.g. a laboratory finding about hormone level may not map onto real-world behaviour because situational and cultural factors are ignored oe
- **A1** links to consequence: such explanations may mislead interventions if they neglect important higher-level causes oe
- **Answer: Reductionist explanations can oversimplify by ignoring context and interactions, reducing ecological validity. For example, finding a hormone-behaviour link in the lab may not predict behaviour in complex social situations, so interventions based only on the narrow finding may fail.**

Question 11

- **M1** identifies ecological validity as a strength of holism, because it considers behaviour in real-world settings and interactions oe
- **M1** gives an applied example, e.g. community mental health interventions that consider family, culture and economic factors when treating disorder oe
- **A1** explains why this matters: integrating multiple influences produces explanations and treatments that better match complex real-world cases oe
- **M1** acknowledges a trade-off: holistic explanations may be less amenable to simple testing or precise measurement oe
- **A1** explains consequence: this can make scientific evaluation and replication harder, but increases real-world relevance oe
- **A1** links back: therefore holism improves ecological validity and practical usefulness despite reduced experimental control oe
- **Answer: Holistic explanations consider behaviour in its real-world context, improving ecological validity. For example, community mental health approaches that account for family, culture and economic factors often produce more relevant treatment plans than single-factor models. The trade-off is that holism is harder to test precisely, but it yields explanations and interventions that better fit complex real cases.**

Question 12

- **Level 4** (13-16): Detailed and accurate knowledge of holism and reductionism is demonstrated. Evaluation is thorough and balanced, considering methodological, theoretical and practical points and interacting evidence. Levels of explanation are used accurately and applied to clear real-world examples. Arguments are coherent, well organised and use appropriate terminology.
- **Level 3** (9-12): Knowledge is generally accurate with reasonable breadth. Evaluation addresses strengths and limitations of both positions with some balance. Levels of explanation are described and applied, though application may be less developed. Answer is mostly clear and structured.
- **Level 2** (5-8): Knowledge is present but may be incomplete or partially inaccurate. Evaluation is limited or one-sided. Levels of explanation may be described but not well integrated with examples. Organisation may be uneven.
- **Level 1** (1-4): Basic or minimal knowledge. Evaluation is superficial or missing. Little or no application to levels of explanation or real-world examples. Response lacks structure.
- **Level 0** (0): No creditable content.
- **Indicative content:**
 - AO1: Holism defined as explaining behaviour by reference to the whole person or system, with the humanistic approach as a clear advocate, focusing on personal meaning and self-actualisation.
 - AO1: Reductionism defined as explaining behaviour by breaking it into simpler units; biological reductionism (genes, neurotransmitters, hormones) and environmental reductionism (stimulus-response learning) are main forms.
 - AO1: Levels of explanation explained: lowest biological, middle psychological, highest social/cultural; examples such as aggression or depression given at each level.
 - AO3: Strengths of reductionism: scientific testability and parsimony, allowing precise experiments and cumulative findings, illustrated by neurochemical research and drug trials.
 - AO3: Limitations of reductionism: oversimplification, loss of ecological validity, ignoring interactions and subjective meaning, risking inappropriate interventions when higher-level causes matter.
 - AO3: Strengths of holism: ecological validity and richer, more useful explanations for complex behaviour, illustrated by community mental health and systemic family therapy approaches.
 - AO3: Limitations of holism: difficulty of scientific testing, problems with parsimony and lack of precise prediction, risk of unfalsifiable explanations.
 - AO3: Balanced evaluation: many contemporary psychologists adopt an integrative, multi-level approach, using reductionist methods where appropriate and holistic thinking for applied problems; levels of explanation can complement each other.
 - AO3: Methodological issues: laboratory control and replication favour reductionist studies, whereas field studies and qualitative methods better capture holistic phenomena; this matters for evidence and application.
 - AO3: Ethical and practical implications: reductionist biological interventions such as drugs can be effective but may neglect social causes; holistic interventions may be more person-centred but harder to evaluate and fund.