13.4 Biological and Psychological Explanations for Obesity: 30-minute Pack

AQA 7182 · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Outline how restraint theory can explain episodes of overeating and weight gain in people dieting for weight control, applied to obesity rather than anorexia.

(Total for Question 1 is 3 marks)

2 Outline and evaluate the boundary model and its relevance to overeating and obesity, keeping the focus brief and applied specifically to obesity rather than eating disorders.

(Total for Question 2 is 6 marks)

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3 Discuss biological, psychological and social explanations for obesity. In your answer consider the relative contribution of biological versus psychological and social factors, and reach a supported judgement.

(Total for Question 3 is 16 marks)

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Mark scheme · 13.4 Biological and Psychological Explanations for Obesity: 30-minute Pack

Question 1

states restraint theory proposes deliberate cognitive control of eating to restrict intake, termed dietary restraint oe	**M1**
explains that when restraint is broken, for example after a 'forbidden' food is eaten, this can lead to disinhibited overeating or bingeing oe	**A1**
applies to obesity by noting repeated cycles of restraint and disinhibition can produce net weight gain over time oe	**A1**

Answer: Restraint theory proposes that cognitive efforts to restrict intake make people vulnerable to disinhibited overeating when cognitive control fails; for people aiming to lose weight, repeated cycles of strict restraint followed by loss of control can produce overall excess calorie intake and weight gain, contributing to obesity.

Question 2

outlines the boundary model idea that eating is regulated between upper and lower boundaries influenced by physiological hunger and satiety and by cognitive factors like restraint oe	**M1**
applies the model to obesity, e.g. repeated cognitive restraint can lower the threshold for disinhibition so people overshoot the upper boundary and overeat, contributing to weight gain oe	**A1**
evaluates with a strength, e.g. integrates biological and cognitive factors so is useful for explaining interactions and guiding combined interventions oe	**M1**
explains why this strength matters, e.g. shows why treatments should target both physiological signals and cognitive restraint patterns to reduce relapse into overeating oe	**A1**
evaluates with a limitation, e.g. empirical support is mixed and the model is descriptive rather than mechanistic about how boundaries shift in different individuals oe	**M1**
explains why this limitation matters, e.g. without precise mechanisms it is harder to design targeted biological treatments and to predict who will benefit from cognitive approaches oe	**A1**

Answer: The boundary model proposes eating is regulated between physiological lower and upper boundaries, with cognitive restraint and external cues determining where those boundaries lie; in obesity, chronic restraint and cue-rich environments can make people repeatedly exceed the upper boundary leading to overeating. Strength: it integrates biological and cognitive explanations and supports combined interventions. Limitation: empirical tests are mixed and the model does not specify exact mechanisms for boundary shifts, limiting precise predictive use.

Question 3

Level 4 Knowledge of biological, psychological and social explanations is accurate and detailed. Discussion and evaluation are thorough and well balanced, considering evidence supporting and challenging each explanation. There is clear synthesis about the relative contributions with a reasoned and defended judgement. Application and use of terminology are precise and the answer is coherent.	**13-16**
Level 3 Knowledge is generally accurate with some detail. There is a balanced discussion with evaluation, though some points may be less developed. The relative contribution is considered and a conclusion is reached but may be less strongly defended. Application is present and terminology is used appropriately.	**9-12**
Level 2 Knowledge is limited or partial. Discussion and evaluation are present but superficial. Consideration of relative contribution is attempted but weak. Answers may be descriptive rather than analytical and application may be limited.	**5-8**
Level 1 Very limited knowledge, little or no relevant evaluation. Discussion lacks coherence and there is no meaningful judgement on relative contribution. Answer may be brief or list-like.	**1-4**
Level 0 No creditable content.	**0**

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Indicative content:

- AO1: Biological explanations include genetic influences such as FTO gene variants and high heritability estimates from twin/adoption studies; neural/hormonal mechanisms include leptin resistance, ghrelin effects and hypothalamic pathway dysfunction affecting hunger and satiety.
- AO1: Psychological explanations include restraint theory and the boundary model which link cognitive control and disinhibition to overeating, and behavioural accounts such as operant conditioning and habit formation via reinforcement of palatable food consumption.
- AO1: Social explanations include cultural norms, portion size, food availability, socioeconomic status and marketing that shape eating behaviours and exposure to energy-dense foods.
- AO3: Evaluation of biological: strengths include objective, replicable genetic and physiological findings that can inform medical treatments; limitations include risk of genetic determinism and that genes interact with environment so genetic accounts alone cannot predict obesity outcomes.
- AO3: Evaluation of psychological: strengths include explanatory power for dieting cycles and binge episodes and clear intervention targets (CBT, habit change); limitations include some models being descriptive and individual differences in response to restraint or cues.
- AO3: Evaluation of social: strengths include good explanatory power for population-level trends and clear policy implications (portion control, regulation); limitations include variability between cultures and difficulty establishing causal direction.
- AO3: Integration and interaction: evidence often shows gene-environment interaction, for example genetic predisposition is expressed more strongly in obesogenic environments; psychological factors such as restraint may interact with biological hunger signals, producing cycles of weight gain.
- AO3: Consideration of relative contribution: a balanced view argues biological factors set vulnerability while social and psychological factors determine expression and course; a purely biological or purely social account is insufficient.
- AO3: A reasoned judgement could argue that the most useful approach is integrative, recognising biological predispositions but prioritising environmental and psychological interventions for public health impact, while still using biological insights for personalised treatment where appropriate.

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