13.2 Biological Explanations for Anorexia Nervosa: Test Pack

AQA 7182 · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions.

1 Outline the role of the hypothalamus in regulating appetite and feeding behaviour as it relates to eating disorders such as anorexia nervosa. Name the relevant nuclei and explain how dysregulation might be implicated.

(Total for Question 1 is 3 marks)

2 Outline the reproductive suppression hypothesis as an evolutionary explanation for anorexia nervosa, and name one physiological sign that supports the idea of suppressed reproduction.

(Total for Question 2 is 2 marks)

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3 Outline one limitation of reducing anorexia nervosa to only biological explanations, and explain why this limitation matters for understanding or treating the disorder.

(Total for Question 3 is 3 marks)

4 Outline the role of appetite-regulating hormones such as leptin and ghrelin in the biological account of anorexia nervosa. Explain how abnormal levels could affect eating behaviour.

(Total for Question 4 is 3 marks)

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Mark scheme · 13.2 Biological Explanations for Anorexia Nervosa: Test Pack

Question 1

states that the hypothalamus contains nuclei involved in hunger and satiety regulation, for example lateral hypothalamus (hunger) and ventromedial hypothalamus (satiety) oe — **M1**

explains that the hypothalamus integrates hormonal and neural signals about energy status to trigger eating or stop eating oe — **M1**

links dysregulation of these hypothalamic mechanisms to possible abnormal appetite control or weight-related behaviours in anorexia nervosa oe — **A1**

Answer: The hypothalamus contains nuclei such as the lateral hypothalamus, which promotes hunger, and the ventromedial hypothalamus, which promotes satiety. It integrates signals from hormones and neural pathways about energy stores and nutrient status to initiate or inhibit eating. If these regulatory circuits are dysregulated, appetite signals may be abnormal and could contribute to the restrictive eating and disturbed weight regulation seen in anorexia nervosa.

Question 2

states that anorexia may function to suppress reproduction when environmental conditions are poor, reducing the chance of costly pregnancy/child-rearing oe — **B1**

names a physiological sign such as amenorrhoea (loss of menstruation) or low levels of reproductive hormones as supporting evidence oe — **B1**

Answer: The reproductive suppression hypothesis suggests anorexia may be an adaptive response that suppresses reproduction when conditions for successful rearing are poor. A physiological sign that supports this idea is amenorrhoea, the loss of menstrual periods, which indicates suppressed reproductive function.

Question 3

states a reductionist limitation, for example neglect of psychological, social and cultural factors that contribute to onset and maintenance oe — **M1**

explains why this is problematic, for example biological reductionism may lead to incomplete treatment if psychosocial contributors are ignored oe — **M1**

links this to practical consequences, for example that combining biological and psychological treatments is often more effective than biological-only approaches oe — **A1**

Answer: A limitation is biological reductionism, which downplays psychological, social and cultural contributors to anorexia. This matters because ignoring these factors can lead to incomplete understanding and suboptimal treatment; effective care usually requires integrating biological interventions with psychological and social support.

Question 4

states that leptin and ghrelin are hormones involved in signalling satiety (leptin) and hunger (ghrelin) to the hypothalamus oe — **M1**

states that people with anorexia nervosa often show abnormal levels of these hormones, for example low leptin and altered ghrelin responses oe — **M1**

explains that such abnormal levels could blunt normal hunger or satiety signalling and contribute to continued restriction or disrupted appetite regulation oe — **A1**

Answer: Leptin signals satiety and ghrelin signals hunger to the hypothalamus. In anorexia nervosa, leptin levels are often low and ghrelin signalling may be altered. These abnormalities can disrupt normal hunger and fullness cues, potentially contributing to persistent restriction and difficulty restoring normal eating.

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