PSY.OPT23 The Nature of Addiction and Risk Factors

Total Marks

AQA 7182 · Calculators not allowed · about 90 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Define 'dependence' as it is used in the study of addiction, naming the two broad forms of dependence.

Define dependence in addiction research and name its two broad forms.

(Total for Question 1 is 3 marks)

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2 Outline 'tolerance' as a feature of addiction, in the context of substance use or behavioural addiction.

Outline tolerance in addiction research and explain what it implies for use.

(Total for Question 2 is 3 marks)

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3 Outline the 'withdrawal syndrome' as it applies to addiction, giving one example of a withdrawal symptom for a substance.

Outline withdrawal syndrome in addiction and give one example of a withdrawal symptom.

(Total for Question 3 is 3 marks)

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4 Outline genetic vulnerability as a risk factor for addiction, and name one type of evidence used to support a genetic influence.

Outline genetic vulnerability as a risk factor and give one type of supporting evidence.

(Total for Question 4 is 4 marks)

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5 Outline how stress can act as a risk factor in the development and maintenance of addiction, including the concept of self-medication.

Outline the role of stress and self-medication in addiction development and maintenance.

(Total for Question 5 is 4 marks)

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6 Outline personality as a risk factor for addiction, including the role of impulsivity and the controversy over an 'addictive personality'.

Outline personality risk factors, mention impulsivity and the disputed addictive personality idea.

(Total for Question 6 is 4 marks)

7 Outline how family and peer influences act as social risk factors for addiction, including parental modelling and peer-group norms.

Outline family and peer social risk factors for addiction, with parental modelling and peer norms.

(Total for Question 7 is 4 marks)

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8 Identify one clear difference between physical dependence and psychological dependence in addiction, in the context of the Nature of Addiction topic.

Identify one difference between physical and psychological dependence.

(Total for Question 8 is 2 marks)

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9 Case scenario for application of family influence: In a coastal town, 17-year-old Erin begins weekend drinking after seeing both older siblings drink regularly at home. Erin's friends also drink at parties and praise bold behaviour while intoxicated. Using the risk factors of family modelling and peer-group norms, explain how these social influences could lead to Erin developing a sustained pattern of alcohol misuse.

Apply family modelling and peer-group norms to explain Erin's developing alcohol misuse.

(Total for Question 9 is 4 marks)

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10 Application question: Yusuf, aged 22, has started using a stimulant recreationally after a period of high work stress. He reports that using the drug makes him feel less anxious about deadlines and he often uses it alone at night to calm his thoughts. Yusuf also has a first cousin with a history of substance dependence and describes himself as 'impulsive' when stressed. Identify and explain three named risk factors from the Nature of Addiction topic that are relevant to Yusuf's developing pattern of use.

Identify and explain three named risk factors relevant to Yusuf's drug use.

(Total for Question 10 is 6 marks)

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11 Discuss risk factors in the development of addiction. In your answer, evaluate genetic, stress-related and personality risk factors, and consider methodological issues and the strengths and limitations of purely biological risk-factor accounts. Refer to evidence and theory where relevant and show how different risk factors may interact.

Discuss risk factors in the development of addiction, evaluating genetic, stress and personality factors plus methodological and theoretical issues.

(Total for Question 11 is 16 marks)

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12 Explain one reason why the concept of an 'addictive personality' is disputed in psychological research on addiction risk factors.

Explain one reason why the addictive personality concept is disputed.

(Total for Question 12 is 3 marks)

13 Identify one ethical consideration specific to genetic research into addiction vulnerability and explain why it matters for research and application.

Identify and explain one ethical issue in genetic research on addiction vulnerability.

(Total for Question 13 is 3 marks)

Mark scheme · PSY.OPT23 The Nature of Addiction and Risk Factors

Question 1

- **B1** states that dependence is a condition where a person needs/relies on a substance or behaviour to function normally oe
- **B1** identifies physical dependence as one form, involving physiological adaptation oe
- **B1** identifies psychological dependence as the other form, involving craving or compulsion to engage in the behaviour oe
- **Answer: Dependence is a state where a person relies on a substance or behaviour to function; it can be physical dependence, involving physiological adaptation, and psychological dependence, involving craving and compulsive use.**

Question 2

- **M1** states that tolerance is when the usual dose or amount produces a reduced effect over time oe
- **A1** explains that users therefore need increasing doses or more intense behaviour to achieve the same effect oe
- **A1** may refer to physiological adaptation of receptors or diminished response with repeated exposure oe
- **Answer: Tolerance is when the same dose produces a smaller effect over time, so the person needs larger doses or more intense behaviour to get the same effect, often because of physiological adaptation.**

Question 3

- **M1** states that withdrawal syndrome refers to unpleasant physical and/or psychological symptoms when use of a substance or behaviour is reduced or stopped oe
- **A1** gives an example of a withdrawal symptom, e.g. shaking, sweating, nausea, anxiety, irritability or low mood oe
- **A1** explains that withdrawal can reinforce continued use because people resume use to relieve symptoms oe
- **Answer: Withdrawal syndrome is the set of unpleasant physical or psychological symptoms experienced when use is reduced or stopped; for example alcohol withdrawal can include tremors and anxiety, and withdrawal often leads users to resume use to relieve symptoms.**

Question 4

- **M1** states that genetic vulnerability means inherited factors increase the likelihood of developing addiction oe
- **A1** explains this can involve genes affecting neurotransmitter systems, reward sensitivity or metabolic rates oe
- **B1** identifies family or twin study evidence as a type of support, e.g. higher concordance rates in identical twins or increased risk in children of addicted parents oe
- **B1** may state that twin studies compare monozygotic and dizygotic concordance to infer genetic influence oe
- **Answer: Genetic vulnerability means inherited factors make someone more likely to develop an addiction, for example via genes that affect reward sensitivity or metabolism; supporting evidence includes family and twin studies showing higher concordance or risk among biological relatives, especially identical twins compared with non-identical twins.**

Question 5

- **M1** states that stress can increase the likelihood of initiating use and of relapse under pressure oe
- **A1** explains self-medication, where individuals use substances or behaviours to reduce negative feelings from stress oe
- **B1** links stress to maintenance, e.g. negative reinforcement where relief from stress reinforces continued use oe
- **B1** may mention chronic stress altering neurobiology, increasing vulnerability to addiction oe
- **Answer: Stress increases the chance of starting and relapsing because people may use substances to cope; self-medication means using a drug or behaviour to reduce stress or negative emotions, and relief from stress acts as negative reinforcement that maintains use. Chronic stress can also change brain systems, increasing vulnerability.**

Question 6

- **M1** states that certain personality traits are linked to higher addiction risk, for example high impulsivity or sensation seeking oe
- **A1** explains impulsivity increases risk because it reduces self-control and increases risky decision making about use oe
- **B1** notes that the 'addictive personality' concept is disputed because findings are inconsistent and traits interact with environment oe
- **B1** may state that personality traits are correlational predictors rather than deterministic causes oe
- **Answer: Personality traits such as high impulsivity or sensation seeking are associated with greater risk because they reduce self-control and increase risky choices; the idea of a single 'addictive personality' is disputed because research is inconsistent and traits interact with environmental factors, so they are risk correlates rather than deterministic causes**

Question 7

- **M1** states that family and peers influence initiation and maintenance of use through modelling and norms oe
- **A1** explains parental modelling, where children imitate parents who use substances, increasing perceived acceptability oe
- **B1** explains peer-group norms, where pressure or desire to fit in leads to starting or escalating use oe
- **B1** may mention mechanisms such as social learning and reinforcement from the group oe
- **Answer: Family and peers shape whether someone starts and continues use: parental modelling teaches that use is acceptable and normal, while peer-group norms and pressure encourage initiation and escalation via social learning and social reinforcement.**

Question 8

- **B1** physical dependence involves physiological adaptations and withdrawal symptoms oe
- **B1** psychological dependence involves craving, compulsion or preoccupation without necessarily physiological withdrawal oe
- **Answer: Physical dependence involves physiological adaptation and withdrawal symptoms, whereas psychological dependence involves craving and compulsive thoughts or behaviours without necessarily physiological withdrawal.**

Question 9

- **M1** identifies parental or sibling modelling as influencing Erin by showing drinking is acceptable and normal oe
- **A1** explains that observing siblings provides a behavioural template which Erin may imitate, increasing likelihood of regular use oe
- **B1** identifies peer-group norms/praise for bold behaviour as social reinforcement that encourages continued drinking oe
- **B1** explains how praise and belonging increase motivation to conform, so Erin may escalate frequency to fit in and gain approval oe
- **Answer: Sibling modelling teaches Erin that drinking is normal and acceptable, which she imitates; peer praise for bold behaviour acts as social reinforcement and increases motivation to conform, so Erin is more likely to continue and escalate weekend drinking to fit in and receive approval.**

Question 10

- **M1** identifies stress/self-medication as a risk factor, linked to Yusuf using to reduce anxiety about deadlines oe
- **A1** explains how self-medication provides negative reinforcement by relieving stress, which maintains use oe
- **M1** identifies genetic vulnerability/family history as a risk factor, referencing his first cousin with substance dependence oe
- **A1** explains family history suggests increased inherited vulnerability or shared environment that raises Yusuf's risk oe
- **M1** identifies personality/impulsivity as a risk factor, citing Yusuf's self-description as impulsive when stressed oe
- **A1** explains impulsivity reduces self-control and increases likelihood of risky use and faster escalation to problematic levels oe
- **Answer: Stress and self-medication: Yusuf uses the drug to reduce anxiety about deadlines, which negatively reinforces use and maintains it. Genetic vulnerability: a close relative with dependence suggests an inherited or shared environmental risk that raises his susceptibility. Personality, especially impulsivity: Yusuf's impulsive reactions to stress reduce self-control and make risky, repeated use and escalation more likely.**

Question 11

- **Level 4** (13-16): Knowledge of genetic, stress-related and personality risk factors is accurate and detailed. Evaluation is thorough and balanced, including methodological issues such as correlational designs, twin study limitations, and ecological validity, and theoretical critique of reductionist biological accounts. Clear, sustained integration of evidence and argument, including interaction between factors, is shown. Specialist terms used effectively.
- **Level 3** (9-12): Knowledge is generally accurate with some development. Evaluation is relevant and balanced but may lack depth in places. Some integration of evidence and discussion of interactions between risk factors. Answer is clear and organised with generally appropriate use of terminology.
- **Level 2** (5-8): Knowledge is present but limited or partially inaccurate. Evaluation is brief or one-sided, with limited treatment of methodological issues or interactions between factors. Application of evidence is superficial. Organisation and use of terminology may be inconsistent.
- **Level 1** (1-4): Knowledge is minimal and fragmented. Very limited or absent evaluation. Little or no reference to evidence or interactions. Answer lacks structure and relevant terminology.
- **Level 0** (0): No creditable content.
- **Indicative content:**
  - AO1: Genetic risk factors include family and twin study findings showing higher rates of addiction among biological relatives and higher concordance in monozygotic compared with dizygotic twins, suggesting heritable influence.
  - AO1: Stress-related factors include acute and chronic stress as triggers for initiation and relapse, and the self-medication hypothesis where substances are used to reduce negative affect, providing negative reinforcement that maintains use.
  - AO1: Personality factors such as high impulsivity and sensation seeking are associated with increased risk; the 'addictive personality' idea is disputed because no single profile reliably predicts addiction.
  - AO3: Correlational nature of much genetic and personality evidence, so associations do not prove causation: family studies confound genetic and shared environmental influences, and twin studies have assumptions such as equal environments.
  - AO3: Methodological issues in measuring personality and impulsivity, including reliance on self-report, retrospective bias and failing to separate cause from early effects of use.
  - AO3: Biological reductionism critique, for example attributing risk solely to genes ignores psychosocial factors and interactions; purely biological accounts may miss learning, culture and social context that shape use.
  - AO3: Strength of biological evidence includes consistent findings across studies that genetic factors contribute to variance in addiction susceptibility, and plausible biological mechanisms such as differences in dopamine pathways or metabolism.
  - AO3: Interactionist perspective: gene-environment interaction and gene-environment correlation mean genetic vulnerability may be expressed only under stress or in certain peer contexts; personality may moderate stress responses or exposure to risky peers.
  - AO3: Practical applications and implications: identifying at-risk individuals could inform prevention, but ethical concerns arise around genetic screening, stigma and determinism. Interventions addressing stress and social context may be effective alongside any biological treatment.
  - AO3: Suggest specific study limitations, such as non-representative samples, cultural variation in risk factors, and the difficulty of longitudinal research necessary to establish temporal precedence.

Question 12

- **M1** states a valid reason, e.g. inconsistent research findings or lack of a single consistent trait that predicts addiction oe
- **A1** explains that different studies find different trait associations and that traits interact with environment, so a single personality type is not supported oe
- **A1** may mention methodological problems like reliance on self-report or cross-sectional designs that cannot establish causation oe
- **Answer: The addictive personality is disputed because research does not find a single consistent trait that predicts addiction; associations vary and traits interact with environmental factors, and many studies rely on self-report or cross-sectional designs that cannot establish whether traits cause addiction or result from it.**

Question 13

- **M1** identifies an ethical issue, e.g. potential for stigma, discrimination, or breach of genetic confidentiality oe
- **A1** explains how this could harm individuals, e.g. employers or insurers discriminating, or individuals experiencing fatalism/stigma oe
- **A1** ties the issue to research practice, e.g. need for careful consent, anonymisation and consideration of implications before applying genetic screening oe
- **Answer: An ethical issue is potential stigma and discrimination from genetic findings; if someone is identified as genetically vulnerable they could face discrimination by employers or insurers and feel fatalistic. Researchers must ensure informed consent, confidentiality and consider wider implications before any screening is used.**