Mark Scheme (Results)

Summer 2025

Pearson Edexcel GCE

In Psychology (9PS0)

Paper 02: Applications of Psychology

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

SECTION A: Clinical Psychology

Question Number	Answer	Mark
1(a)	**AO1 (3 marks)** One mark for each statement of a feature of the disorder. For example: Anorexia nervosa. • Is diagnosed more in females compared to males (1). • Usually diagnosed in adolescence and early adulthood (1). • 1 to 4 percent of females have anorexia during their life (1). • Has the highest mortality rate of any mental health disorder (1). Obsessive-compulsive disorder. • Affects approximately 1%of the global population (1). • Onset is usually in the late teens or early 20s (1). • Symptoms usually appear gradually (1). • Women are 1.6 times more likely to get it compared to men (1). Unipolar depression. • Twice as many women compared to men are diagnosed with it (1). • Onset is usually in the mid 20s (1). • Often comorbid with anxiety (1). • 1 in 6 adults in the UK will be diagnosed with unipolar depression (1). **Look for other reasonable marking points.**	**(3)**

Question Number	Answer	Mark
1(b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identification of each strength of one biological explanation (AO1). One mark for justification of each strength (AO3). For example: Anorexia nervosa. • Florea et al. (2022) found that anorexia was linked to oxytocin supporting the fact that neurotransmitters are a cause of anorexia (1), as they found that those with anorexia had changes to their oxytocin receptors giving the theory credibility (1). • It is a scientific explanation of anorexia nervosa as empirical evidence can be found to support the theory (1), as levels of neurotransmitters can be measured and seen as can the symptoms such as body mass index (1). • It is supported by Scott-Van Zeeland et al. (2013) who found that there was a genetic basis to anorexia (1), as they found that gene variants within EPHX2 lead to a susceptibility to anorexia (1). Obsessive-compulsive disorder. • Biria et al (2023) found evidence supporting the fact that glutamate is involved in OCD showing neurotransmitters are a factor (1), as they found that OCD patients had higher glutamate levels and a higher ratio of glutamate to GABA in the cingulate cortex, so giving the theory credibility (1). • It is a scientific explanation of OCD as empirical evidence can be found to support the theory (1), as levels of neurotransmitters can be measured and seen as can the symptoms such as the number of times a compulsive behaviour is carried out (1). • The neurotransmitter explanation of OCD has a practical application as it can lead to the development of drugs as a treatment (1), such as SSRIs which target serotonin to increase them in the brain of those with OCD (1).	**(4)**

	Unipolar depression. • Drevets et al. (1999) found evidence supporting the fact that serotonin is involved in unipolar depression showing neurotransmitters are a factor (1), as they found that there were fewer serotonin receptors in a variety of different brain areas, so giving the theory credibility (1). • It is a scientific explanation of unipolar depression as empirical evidence can be found to support the theory (1), as levels of neurotransmitters can be measured and seen as can the symptoms such as changes in sleeping patterns (1). • The neurotransmitter explanation of unipolar depression has a practical application as it can lead to the development of anti-depressants as a treatment (1), such as SNRIs which target serotonin and noradrenaline to increase them in the brain of those with unipolar depression (1). **Look for other reasonable marking points.**	

Question Number	Answer	Mark
2 (a)	**AO2 (2 marks)** One mark for identifying the independent variable (IV). One mark for identifying the dependent variable (DV). For example: Independent variable (IV). • Whether the participants were from a lower socio-economic group or a higher socio-economic group (1). • The socio-economic groups of the participants either higher or lower (1). Dependent variable (DV). • If the psychiatrist diagnosed the participants as having a mental disorder or not having a mental disorder (1). • whether the participants have a mental health disorder or do not have a mental health disorder (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(b)	**AO2 (2 marks)** Up to two marks for a description of how Lisa would use a random sampling technique in relation to the scenario. For example: • Lisa would have collected all the names of people from the nearby town, and she could put into a computer database (1). She would then use a random number generator to select participants and then allocate them to the two socio-economic groups (1). • Lisa could have got all the houses in the town from the local council and split them into the two socio-economic groups (1). She could put all the houses in a hat and picked out the houses until she has 13 for groups A and 21 for group B (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(c)	**AO2 (2 marks)** Up to two marks for an explanation of an appropriate choice of test and reasoning. For example: • Lisa would use a chi-squared test to analyse her data (1) as she was looking to see if there was a difference in the number of people diagnosed with a mental disorder in the lower and higher socio-economic groups (1). • Lisa would use a chi-squared test to analyse her data (1) as she used an independent groups design, people are either in the lower or in the higher socio-economic group (1) **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(d)	**AO2 (1 mark)** One mark for accurate statement. For example: • The probability the results on mental health and social economic status are due to chance is equal to or less than 1% (1). • The probability that the results on mental health and socio-economic status are not due to chance is 99% or more (1). **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
2(e)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength in relation to the scenario (AO2). One mark for justification of the strength (AO3). For example: • Lisa used a qualified psychiatrist to diagnose whether the participants from different socio-economic groups had a mental disorder or not which gives the study validity (1) as the psychiatrist would be familiar with how to use clinical interviews so may be more accurate in their diagnosis compared to Lisa (1). • Lisa used a random sample when collecting her participants from the lower and higher socio-economic groups in the town so avoiding bias in selecting her participants (1), as she will not have picked people that she thought may have a mental illness from one socio-economic group and not the other in order to prove her hypothesis (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(f)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the scenario (AO2). One mark for justification of the improvement (AO3). For example: • Lisa could use more than one psychiatrist to interview her participants and decide if they had a mental disorder (1), so that they could cross check their diagnoses and only include those participants they agreed upon to improve the reliability of the experiment (1). • Lisa could use people in lower and higher socio-economic groups from a variety of different towns not just one town (1), as this would increase her variety of participants so making the sample more representative of the target population and the results about socio-economic class and mental ill health more generalisable (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
3	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Case studies are used to study an individual or a small group with a mental disorder. • A range of research methods can be used with a case study, such as observations and interviews to gather data about the behaviour of the person with the mental disorder. • Case studies can gather qualitative and quantitative data to gather a deeper understanding of the mental disorder. • They are used to come to a detailed understanding about the mental disorder, as the data from all the different methods is analysed, often using triangulation. **AO2** • Ruben is studying five patients who have mental health counselling sessions to gather information about their unique issues. • Ruben is using primary data through his observations of the patients mentioning their childhood and secondary data from the counsellor's notes. • Ruben is collecting qualitative data through observing why the patient would not accept any drinks made by anyone else. • As Ruben cross referenced his data with the counsellor's notes, he can get a more detailed understanding of the experiences of the five patients. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark
4	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Schizophrenia is thought to be inherited through genes due to the higher concordance rate of schizophrenia in monozygotic twins compared to dizygotic twins. • A variety of genes within different chromosomes are thought to be the cause of schizophrenia rather than one specific gene. • 22q11 deletion is one genetic factor associated with schizophrenia as those with 22q11 deletion have psychotic symptoms. • Another gene is the COMT gene which when faulty can lead to excess levels of dopamine as the enzyme which breaks it down is affected. **AO3** • Gottesman (1991) found the concordance rate for schizophrenia in monozygotic twins was 47% compared to 17% in dizygotic twins suggesting genes may play a role in schizophrenia. • No study has found 100% concordance rate for schizophrenia in monozygotic twins, so whilst genes may play a role, other factors such as environmental stress could also be involved. • Trubetskoy et al. (2022) found that the altered function of a variety of genes that were also implicated in neurodevelopmental disorders were also associated with schizophrenia. • The cognitive explanation of schizophrenia says that it is caused by faulty thought processing, such as not being able to recognise your inner voice as coming from yourself, so it may not be caused by genes.	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Indicative content	Mark
5	**AO1 (8 marks), AO2 (4 marks), AO3 (8 marks)** **AO1** • ICD is a diagnostic manual for physical and mental disorders that is published by the World Health Organisation. • ICD is published in 43 different languages and it is published in appropriate cultural forms, taking account of different cultural attitudes to different mental disorders. • The clinician will interview a client and note down key words that relate to the client's symptoms and try and match these key words to the symptoms for a mental disorder in the ICD. • There are many sections within the ICD to cover physical and mental disorders with mental disorders being under section F. • Within section F each mental disorder has its own number, such as 20 for schizophrenia. • Within each code for a disorder there are further codes to differentiate between the subtypes of a disorder. • ICD 11 has a dimensional approach that has improved its ability to capture change over time, and it is in line with recent research. • ICD 11 includes training material to help clinicians use it as well as a table to compare it with ICD 10 to help clinicians use it to diagnose patients with mental disorders. • According to ICD11 there must be two symptoms present for the diagnosis of schizophrenia, of which one must be a core symptom such as hallucinations. **AO2** • Barry's psychiatrist may use an appropriate translation of ICD to take account of the culture Barry is from, and to help the psychiatrist understand the symptoms Barry is describing. • During the interview with Barry the psychiatrist will make a note of the key things that Barry says, such as having a change in appetite, to match to the symptoms of a specific disorder. • When the psychiatrist has finished the interview, he will go to section F of the ICD to match the symptoms such as no longer going out with friends to a specific disorder.	**(20)**

	• The psychiatrist will note down Barry's further symptoms of thinking his partner wants to sell him for experimentation and use this to refine the diagnosis if needed. **AO3** • The ICD may be more useful than other classification systems such as DSM as it can be used across a variety of different cultures due to the translations being culturally appropriate so it is less likely to have cultural bias when diagnosing someone with a mental disorder. • ICD 11 relies on the client answering questions from an interview truthfully, if they do not engage with the interview or do not tell the whole truth due to embarrassment then ICD will not be useful in diagnosing a disorder. • Reed et al. (2018) found that the vast majority of clinicians answered 'extremely' or 'quite' for how easy the ICD 11 was to use, showing that clinicians think it is a useful classification system. • Some symptoms such as change in appetite are common in a variety of disorders, so if a lot of symptoms are comorbid ICD may not be useful in correctly diagnosing the exact disorder Barry has. • ICD gives objective criteria for what symptoms each disorder should have which limits the subjectivity from the psychiatrist using their personal opinions so it can be a useful objective tool for diagnosis. • Nicholls et al. (2000) found that the reliability rating of ICD 10 for eating disorder in children and adolescents was 0.357, which would suggest it is not always a useful diagnostic tool, depending on the disorder and age of the patient. • Bondjers er al. (2019) found that a Swedish translation of an interview used within ICD to diagnose PTSD was both valid and reliable, showing that ICD and the use of its interviews is useful in diagnosing mental disorders even when it is translated. • Breaking a mental disorder down to a list of symptoms can be seen as reductionist, so may not be useful when trying to understand the patients whole experience. **Look for other reasonable marking points**	

Level	Mark	Descriptor
AO1 (8 marks), AO2 (4 marks), AO3 (8 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer. Application to the scenario is capped at maximum 4 marks.		
	0	No rewardable material.
Level 1	1–4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2) A judgement/decision may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	9–12 Marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	13–16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates throughout the skills of integrating and synthesising relevant knowledge with consistent linkages to psychological concepts and/or ideas. (AO2) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)
Level 5	17–20 Marks	Demonstrates accurate and comprehensive knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates consistently the skills of integrating and synthesising relevant knowledge with thorough, accurate linkages to psychological concepts and/or ideas. (AO2) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates a full awareness of competing arguments and presents a fully balanced response, leading to an effective nuanced and balanced judgement/decision. (AO3)

Section B
Criminological psychology.

Question Number	Answer	Mark
6 (a)	**AO1 (2 marks)** Credit up to two marks for a description of the results from Loftus and Palmer (1974). For example: • Loftus and Palmer (1974) found that those participants who had the word 'smashed' estimated an average speed of 40.8 mph compared to 31.8 for those asked 'contacted'. (1). For the film where the crash happened at 20mph the mean estimate of speed was 37.7 mph (1). • 16 participants said they saw broken glass when asked about the cars smashing into each other compared to 7 when the word hit was used (1). For the film where the crash happened at 20mph the mean estimate of speed was 37.7 mph (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
6 (b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identification of a strength and a weakness (AO1). One mark for justification of the strength and the weakness (AO3). For example: Strength. • All the participants saw the same seven films and the same questionnaires apart from the critical question so the procedure was standardised (1), this makes it reliable as other researchers can replicate the study and check the results of estimated car speed are consistent (1). • Loftus and Palmer used 150 students in experiment 2 which is a large sample size as there were 50 participants in each group (1) which means the sample is more representative of students estimates of car speeds so the results can be generalised (1). Weakness. • All the participants were students which means the results on estimated speed are not representative (1), as people who had been driving for longer may be more accurate in estimating the speed of the cars so the results are not generalisable to all drivers (1). • The study lacked validity as the participants were watching a video of car crashes which is not the same as witnessing a real crash (1), therefore the lack of emotion may affect the estimated speed and so the results are not reflective of real eye witness testimony (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
7 (ai)	**AO2 (4 marks)** One mark for squaring the values of the errors from the standard interview minus the mean (5.4) for each score $(x - \bar{x})^2$ **-0.4^2, 1.6^2, -3.4^2, 2.6^2, -0.4^2** One mark for calculating the sum of these values = **21.2** One mark for dividing this by 4 (n-1) = **5.3** One mark for calculating the square root = **2.3**to one decimal place. **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
7 (aii)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a what the two standard deviations show (AO2). One mark for justification of what the two standard deviations show (AO3). For example: • The two standard deviations show that the spread of the scores for the number of errors made is similar in both the standard and cognitive interview (1), as there is only a difference of 0.2 errors between the two standard deviations for the standard and the cognitive interview (1). • The two standard deviations show that there is a greater spread of scores for the number of errors made in the standard interview (1), as the standard deviation was 2.3 which is higher than 2.1 (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
8	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Eysenck's theory of personality states that those who score highly on extraversion, neuroticism and psychoticism are more likely to become criminals. • Those who are highly extravert have an under aroused RAS so need stimulation from the environment to increase arousal, which may include criminal activity. • People who are highly neurotic have an ANS that is quick to turn on and release adrenaline, and slow to turn off so are more likely to be anti-social. • If someone scores highly on all three characteristics and they are in an environment that nurtures crime then they are more likely to become criminals than those who score highly but are not in an environment that nurtures crime. **AO3** • Rushton and Chrisjohn (1980) found that self-reported delinquency was linked to high levels of extraversion and psychoticism but not neuroticism so showing Eysenck's theory may not be an accurate explanation of criminal behaviour. • Eysenck based his theory on the assumption that personality traits are consistent which may not be the case, so it may not explain criminal behaviour if personality traits are not consistent. • Boduszek et al. (2013) found that extraversion, neuroticism and psychoticism were related to criminal thinking as well as having criminal peers and seeing themselves as criminals, showing Eysenck's theory of personality and environment can explain criminal behaviour. • Eysenck's theory of personality is more holistic than other theories such as brain damage as it looks at the effects of nature and nurture, so it can be seen as a more credible explanation. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative content	Mark
9	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • Drug therapy is given to prisoners as it aims to combat the imbalance of neurotransmitters and hormones and so decrease their violence. • Drugs such as anti-psychotics may be used to reduce the levels of dopamine in the prisoners' brain by binding to dopamine receptors, therefore reducing aggression. • Prisoners may be given SSRIs to increase their levels of serotonin by reducing the reuptake of serotonin, as a lack of serotonin is thought to be partially responsible for criminal behaviour. • Anti-androgens may be given to prisoners to reduce their levels of testosterone and so reduce their aggression and sexual fantasies. • MPA inhibits the production of testosterone in the pituitary gland and breaks it down so there is less in the system so reducing the recidivism rates of violent offenders. • CPA reduces levels of testosterone by acting in a similar way to progesterone so reducing the prisoners' aggressive tendencies. **AO2** • Humphrey may be given an anti-psychotic such as risperidone so his aggression will reduce meaning he will no longer get into fights when he is out with his friends. • If it is found that Humphrey has a lack of serotonin, he may be given SSRIs so serotonin stays in his synapse for longer, which will reduce his assaulting other people whilst out. • Humphrey may be given MPA which will reduce his production of testosterone, which should reduce his threatening behaviour towards partners.. • CPA could be used with Humphrey to act like progesterone and so reduce his levels of testosterone, which should reduce his threatening behaviour towards partners which led to a restraining order.	**(16)**

	AO3 • Rodriguez-Arias et al. (1997) found that two antipsychotics, risperidone and SCH 23390 reduced aggression in the form of threat and attack behaviours in mice, so they may also reduce aggressive behaviours in prisoners. • The use of drugs does not address the reasons for the aggressive behaviours in prisoners, so if they stop taking the drugs, they may revert to their aggressive behaviour so drugs are not a cure. • Drug treatments are relatively quick to work often being fully effective within 14 days, so may be a better treatment than cognitive behavioural therapies if a prisoner is going to be released soon and needs to be treated before release. • Drugs have side effects, such as breast enlargement and osteoporosis for MPA which can lead to people not agreeing to the treatment or stopping the treatment once they have started it. • In a literature review Grossman et al. (1999) found that recidivism rates for sexual offenders was as low as 1% compared to up to 68% for those not treated showing that anti-androgens are effective. • There is an issue with social control, as prisoners may not feel they can refuse the drug therapy if they want to be released early, and society is using the drug treatment to change a person's behaviour because society deems it necessary. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer. Application to the context is capped at maximum 4 marks.		
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures).(AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5-8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9-12 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning, leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13-16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Child Psychology

Question Number	Answer	Mark
10 (a)	**AO1 (2 marks)** Credit up to two marks for a description of the results from van IJzendoorn and Kroonenberg (1988). For example: • van IJzendoorn and Kroonenberg (1988) found that out of 72 children from Great Britain 16 had a type A attachment, 54 a type B attachment and 2 had a type C attachment (1). Across all the samples, the main attachment type was type B at 65% followed by type A then type C (1). • Japanese children were mainly type B securely attached, and the next most common type of attachment was type C with 26 out of 96 children (1). Across all the samples, the main attachment type was type B at 65% followed by type A then type C (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
10 (b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identification of a strength and a weakness (AO1). One mark for justification of the strength and the weakness (AO3). For example: Strength. • van IJzendoorn and Kroonenberg (1988) excluded some groups of children, such as those with Down's Syndrome, if there were less than 35 in the group (1), which helped them to avoid the possibility of misclassifying the attachment type of those children so making the results more valid (1). • van IJzendoorn and Kroonenberg (1988) had a large sample size as they used 32 studies from 8 countries with a total of 1990 strange situations (1), which means the sample is more representative of attachment types across the world so the results can be generalised (1). Weakness. • All the studies used the Strange Situation procedure which is based on Western parenting styles so the results may not be representative (1) as this may not be an accurate reflection of attachment types and parenting styles in non-Western countries such as Japan (1). • As they conducted a meta-analysis on the strange situation they cannot be certain that all the 32 studies were conducted in the same way (1), which reduces the reliability of the findings about cross cultural attachments, as if other studies from the same countries were used the results may not be the same (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
11 (ai)	**AO2 (4 marks)** One mark for squaring the values of the errors from the standard interview minus the mean (5.4) for each score $(x - \bar{x})^2$ **-0.4^2, 1.6^2, -3.4^2, 2.6^2, -0.4^2** One mark for calculating the sum of these values = **21.2** One mark for dividing this by 4 (n-1) = **5.3** One mark for calculating the square root = **2.3** to one decimal place. **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
11 (aii)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a what the two standard deviations show (AO2). One mark for justification of what the two standard deviations show (AO3). For example: • The two standard deviations show that the spread of the scores for the number of times the child cried is similar when they had or had not suffered short-term deprivation (1), as there is only a difference of 0.2 times cried between the two standard deviations for the children who had and had not suffered short-term deprivation (1). • The two standard deviations show that there is a greater spread of scores for the number of times crying for those who had been deprived (1), as the standard deviation was 2.3 which is higher than 2.1 (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
12	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Research into privation often uses case studies because privation is usually unique in each individual situation so researchers have to use who is available at a given time. • The case of Genie followed a girl who was 13 years old and had been locked in a room for most of her life before she was found. • Privation studies often look at a range of behaviours such as physical and emotional through a variety of research methods including observations and IQ tests. • Koluchova (1972) found that twin boys who had poor speech when found had developed normal speech by the age of 11 years old, seven years after they were found. **AO3** • Case studies may not be useful as they cannot be generalised to other children who have been privated as different children may respond to the long-term effects of privation differently. • The use of a variety of tests with Genie lead to criticisms that she was over tested and not enough emphasis was placed on her care so researching privation may not be helpful for the well-being of those being researched. • Due to research on privation using a lot of different research methods a lot of detailed data can be collected leading to a deeper, more effective understanding of the effects of privation. • The twin boys (Koluchova 1972) were able to gain jobs and have relationships due to the good quality care so the use of research into privation is useful as it can help determine what care is needed to rehabilitate other privated children. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative content	Mark
13	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • The aim of applied behavioural analysis is to understand the behaviour of those with autism and increase the useful behaviours whilst reducing the unhelpful behaviours. • Applied behavioural analysis will be adapted to the needs of the individual person with autism and focus on their specific behaviours and what they need. • Goals for the person with autism will depend on their age and the skills they have and will be constructed with input from the person with autism or their carers if they are young. • Positive reinforcement is used with a desired behaviour, such as making eye contact, being reinforced every time it occurs. • The therapist and person with autism will look at what happens before an unwanted behaviour and the consequences of the unwanted behaviour. • The therapist and patient with autism will look at what happens if the event before the behaviour is changed and how that may change the consequences. **AO2** • The therapist will talk to Humphrey's parents and decide which behaviours to work on, such as reducing his anxiety when he sees his grandparent after a long time. • Humphrey's therapy will be adapted to his needs, so may focus on his social skills and how he can interact with his peers more effectively. • When Humphrey is able to talk to a someone and maintain a bit of eye contact, he will be rewarded with something he desires, such as a book about dinosaurs. • The therapist will work with Humphrey's parents to help them prepare him for a change in the weekend routine so that his behaviour is more adaptive if there does need to be a change in routine.	**(16)**

	AO3 • Haglund et al. (2020) found that children who had been involved in an intensive behavioural intervention programme improved their scores in communication, social interaction and restricted and repetitive behaviours giving the therapy credibility. • To be most successful, applied behavioural analysis should be carried out for several hours a week over at least a year, some families may not have the time or resources to access this so it may not be useful for those people. • Grindle et al. (2008) found that 100% of parents thought an early intensive behavioural therapy had improved their relationship with their child with autism and around 66% of them thought it had improved the relationship between siblings and the child with autism. • Grindle et al. (2008) found that parents of children with autism found some aspects of the therapy challenging, such as the focus being on the child with autism and the rest of the family's needs were often ignored, which may affect if they engage with the therapy. • As applied behavioural therapy focuses on the needs of each individual with autism it is more likely to be effective than therapies which don't such as drug therapies. • A criticism is that the applied behavioural therapy is trying to socially control those with autism and tell them their behaviours are not acceptable and they should change to fit in with society. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer. Application to the context is capped at maximum 4 marks.		
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures).(AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5-8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9-12 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning, leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13-16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Health Psychology

Question Number	Answer	Mark
14 (a)	**AO1 (2 marks)** Credit up to two marks for a description of the results from Olds and Milner (1954). For example: • Olds and Milner (1954) found that when the electrodes were placed in the septal area of the brain, the rats spent between 75% and 92% of their acquisition time responding (1). When the electrodes were moved to the caudate nucleus, the acquisition scores showed stimulation of these areas had no effect (1). • Olds and Milner (1954) found that the septal area of the brain had the greatest reduction in pressing the lever during the extinction phase compared to other areas of the brain (1). When the electrodes were moved to the caudate nucleus, the acquisition scores showed stimulation of these areas had no effect (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
14 (b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identification of a strength and a weakness (AO1). One mark for justification of the strength and the weakness (AO3). For example: Strength. • Olds and Milner (1954) used a standardised Skinner Box for all the rats, which had the same dimensions and a lever to access the electrical stimulation (1), which increases the reliability of their experiment as other researchers can use the same type of box to check for consistent results (1). • Olds and Milner (1954) only used 15 male hooded rats which makes the study more ethical as they followed reduction (1), so they used the minimal number of rats possible, meaning fewer rats were harmed by having an electrode placed in their brain (1). Weakness. • Olds and Milner (1954) used 15 male hooded rats so the results about a potential reward area in the brain may not be true for humans (1), as the brains of humans are more complex than the brains of rats so stimulating those areas may not be as rewarding for humans (1). • Only 15 male hooded rats were used, and in some cases, there was only one rat for an area of the brain such as the hippocampus (1), which reduced the generalisability of the results as we cannot be sure that the results are representative of the effect of brain stimulation in all rats (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
15 (ai)	**AO2 (4 marks)** One mark for squaring the values of the errors from the standard interview minus the mean (5.4) for each score $(x - \bar{x})^2$ **-0.4^2, 1.6^2, -3.4^2, 2.6^2, -0.4^2** One mark for calculating the sum of these values = **21.2** One mark for dividing this by 4 (n-1) = **5.3** One mark for calculating the square root = **2.3**to one decimal place. **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
15 (aii)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a what the two standard deviations show (AO2). One mark for justification of what the two standard deviations show (AO3). For example: • The two standard deviations show that the spread of the scores for the number of words slurred is similar in both those who had not had beer and those who had 3 pints of beer (1), as there is only a difference of 0.2 slurred words between the two standard deviations for those who had beer and those who had not had beer (1). • The two standard deviations show that there is a greater spread of scores for the number of words slurred after 3 pints of beer (1), as the standard deviation was 2.3 which is higher than 2.1 (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
16	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Heroin binds to mu-opioid receptors in the brain and activates them mimicking the body's natural opioids. • As the mu-opioid receptors have been activated it causes the addict to feel less pain, both physical and emotional. • If the mu-opioid receptors in the brain's reward centre are activated this leads to an increase in dopamine, leading to the high from heroin. • The brain lowers its production of natural mu-opioids due to the heroin, so the addict needs to take more heroin in order to feel normal so leading to tolerance. **AO3** • Wei et al. (2018) found that heroin increased the activation of dopamine receptors in the VTA and the activation of serotonin receptors for up to an hour after the mice took the heroin showing it is a credible explanation of heroin addiction. • The neurotransmitter explanation of heroin addiction does not explain why people first take heroin so it is not a complete theory of addiction. • The fact that drugs such as methadone, which act in a similar way to heroin by activating the opioid receptors, are successfully used to reduce cravings for heroin indicates the neurotransmitter explanation has credibility. • The neurotransmitter explanation is reductionist as it ignores environmental factors, such as the influence of family and peers, so it may not be a complete explanation of heroin addiction. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) **Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.**		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Indicative content	Mark
17	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • Aversion therapy aims to teach the alcohol addict to learn a new reflexive response to alcohol so they will no longer want to drink it. • Aversion therapy is based on classical conditioning and pairs a stimulus which causes an unpleasant reaction to alcohol. • The alcohol addict will be given a drug such as disulfiram just before they drink any alcohol, to stop the body breaking down acetaldehyde quickly. • When the alcohol addict drinks alcohol, they will experience unpleasant symptoms such as feeling sick because the acetaldehyde is not broken down. • After several parings the alcohol addict will associate feeling sick with alcohol and so will no longer drink alcohol to avoid feeling sick. • The alcohol addict must be given non-alcoholic drinks when not feeling sick so that their response does not generalise to all drinks. **AO2** • Humphrey has a reflexive response of pleasure to beer and vodka so aversion therapy will aim to change this response to an unpleasant one. • Humphrey will take disulfiram just before having some beer so he will start to feel sick after he has drunk a few beers so he will not drink out with his friends. • After a few pairings of beer and vodka with feeling sick Humphrey will start to avoid alcohol, so his friends will be more likely to go out with him again. • The therapist may give Humphrey other drinks such as tea when he does not feel sick so that he will not have issues from dehydration so he will not need to go to hospital again. **AO3** • Elkins et al. (2017) found that fMRI scans showed a reduction in craving related brain activity after patients had undergone aversion therapy for alcohol showing it has a biological basis.	16

	• A criticism is that the aversion therapy is trying to socially control those with alcohol addiction, and tell them their addiction is not acceptable and they should change to fit in with society. • Aversion therapy is relatively quick as it only takes a few hours, so may be a better therapy than those which take longer such as cognitive behavioural therapy. • Aversion therapy may not last long term as after some time the association between alcohol and feeling sick may wear off and the person will start to drink again and realise they don't feel sick. • Smith and Frawley (1990) found that 71.3% of those who had undergone aversion therapy still abstained from alcohol 12 months later showing it is an effective treatment. • Aversion therapy does not address the reasons behind the alcohol addiction so it may not be effective in the long term as the long-term causes may still be there. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer. Application to the context is capped at maximum 4 marks.		
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures).(AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5-8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9-12 marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning, leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13-16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)