Mark Scheme (Results)

October 2020

Pearson Edexcel International Advanced Level
In Psychology (WPS03/01)
Paper 1: Applications of Psychology

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Autumn 2020
Publications Code WPS03_01_2010_MS
All the material in this publication is copyright
© Pearson Education Ltd 2020

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.

DEVELOPMENTAL PSYCHOLOGY

Question Number	Answer	Mark
1(a)	**AO1 (1 mark)** Credit **one** mark for an accurate statement. For example: • The strange situation procedure is a structured observation (1) **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
1(b)	**AO1 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of a weakness (AO1). Credit **one** mark for justification/exemplification of the weakness (AO3). For example: • The strange situation procedure takes place in an artificial environment for the mother and baby (1) which reduces the ecological validity of the behaviours recorded is not reflective of natural mother and baby interactions (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(a)	**AO2 (2 marks)** Credit up to **two** marks for an accurate description in relation to scenario. For example: • Chomsky would say that Keiron has a language acquisition device that allows him to form sentences using words like pizza and lunch that he already knows (1). He does not need to hear someone else say they 'like pizza and cake for lunch' as Keiron has an innate understanding of universal grammar such as the word order of a sentence (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of a strength in relation to the scenario (AO2). Credit **one** mark for justification/exemplification of the strength (AO3). For example: • An innate language acquisition device (LAD) plausibly explains how Kieron can create new sentences using words like cake and lunch without having heard them previously (1) making the LAD a more credible explanation of how grammatical language develops without requiring exposure to all forms of spoken sentences in a language (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(a)	**AO2 (1 mark)** Credit **one** mark for giving an appropriate open-ended question in relation to scenario. For example: • Describe how you feel about the person who looked after you the most as a child (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(1)**

Question Number	Answer	Mark
3(b)	**AO2 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of a weakness in relation to the scenario (AO2). Credit **one** mark for justification/exemplification of the weakness (AO3). For example: • The adults who agree to complete his questionnaire in the shopping centre may not be representative of different types of relationship experiences (1) so his findings about child attachment and adult relationships may lack generalisability to the wider adult population (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(c)	**AO2 (2 marks), AO3 (2 marks)** Credit **one** mark for accurate identification of a strength and a weakness in relation to the scenario (AO2). Credit **one** mark for justification/exemplification of each strength and weakness (AO3). For example: Strength • Toby will be able to categorise the responses about child or adult relationships to find common points about experiences and behaviours (1) which will allow Toby to condense the detailed responses into a summary of the attachment themes found in the data he gathers (1). Weakness • Toby may be biased when interpreting the responses of participants to look for attachment themes and concepts he wants in his investigation (1) so his data may lack objectivity as the themes he decides on are subjective to his own ideas about adult relationships and childhood attachment (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
3(d)	**AO2 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of an improvement in relation to the scenario (AO2) Credit **one** mark for justification/exemplification of the improvement (AO3) For example: • Toby could use closed-ended questions about child and adult relationships in his questionnaire to give him quantitative data (1) so he can statistically analyse the results to see if there is any significant relationships between child experience and adult behaviour (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Indicative Content	Mark
4	**AO1 (4 marks), AO2 (4 marks)** **AO1** • The sensorimotor stage takes place between birth and 2 years old where the infant learns from the environment through their senses. • Object permanence develops as the infant begins to realise that a hidden object still exists even when it cannot be seen. • The pre-operational stage takes place between 2 and 7 years old where understanding of the environment is dominated by the appearance of objects. • Egocentrism is when the child does not understand that others may see things in the environment differently to them. **AO2** • At 6 months old, Wahida will put her toys in her mouth as this is part of her sensory learning about the environment and objects. • Wahida will not understand her toy is just hidden from view but still exists, so she cries when it is out of sight as she thinks it has gone. • At 3 years old, Khalid is able to state the features of objects, such as big or small, as he understands how the world around him looks. • By saying that Wahida likes dinosaurs, Khalid shows he is unable to understand that Wahida may perceive the world differently to him and thinks she will like the same things he does. **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
5	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Bowlby was employed at the London Child Guidance Clinic where he gathered his sample of children to undertake his study. • The 44 thieves had been referred to the clinic for stealing and were compared to a control group of 44 children also from the clinic. • 42 of the thieves were determined to have abnormal characters and, without treatment, would be likely to continue criminality or develop mental health symptoms in later life. • Bowlby interviewed the juveniles himself and then interviewed their mothers separately, also getting reports from their schools. **AO3** • The BPS requirement of confidentiality was maintained to some extent, although the location of the clinic and the thieves case history was published so they could have become identifiable. • The thieves and control group were required to undertake the clinical interventions due to their mental health and so parental consent to the investigation may not have been a completely free choice. • Protection of the wellbeing of the thieves may have been superseded by the research aims and their psychopathology not fully treated to prevent future their criminality or mental health issues. • The thieves had been referred to the clinic for their behaviour and may have felt pressured to take part in the interviews to show they would behave better in the future, so a right to withdraw could have been limited. **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 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)

CRIMINOLOGICAL PSYCHOLOGY

Question Number	Answer	Mark
6	**AO1 (2 marks)** Credit up to **two** marks for an accurate description. For example: • A self-fulfilling prophecy is when a person internalises the expectations of others (1) and behaves in a way that demonstrates the expected criminal behaviour (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
7(a)	**AO2 (2 marks)** Credit up to **two** marks for accurate description in relation to the scenario. For example: • Sonia used an independent measures group design (1) with one group experiencing the post-event information and a different group recalling without the post-event information (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
7(b)	**AO2 (1 mark)** Credit **one** mark for a correct answer. • 5.82 (1). **Reject all other answers**	**(1)**

Question Number	Answer	Mark
7(c)	**AO2 (1 mark)** Credit **one** mark for a correct answer. • 67.21% (1). **Reject all other answers**	**(1)**

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>7(d)</td><td>
<p>AO2 (4 marks)</p>
<p>Credit one mark for accurate completion of O-E column to two decimal places
Credit one mark for accurate completion of $(O-E)^2$ column two decimal places
Credit one mark for accurate completion of $(O-E)^2/E$ column to two decimal places
Credit one mark for correct chi-squared to two decimal places = 0.44</p>
<table>
<tr><th></th><th></th><th>Observed</th><th>Expected</th><th>O-E</th><th>$(O-E)^2$</th><th>$(O-E)^2/E$</th></tr>
<tr><td rowspan="2">Group A did not read the newspaper article</td><td>Confident in identifying the criminal</td><td>6</td><td>6.78</td><td>-0.78</td><td>0.61</td><td>0.09</td></tr>
<tr><td>Not confident in identifying the criminal</td><td>6</td><td>5.22</td><td>0.78</td><td>0.61</td><td>0.12</td></tr>
<tr><td rowspan="2">Group B did read the newspaper article</td><td>Confident in identifying the criminal</td><td>7</td><td>6.22</td><td>0.78</td><td>0.61</td><td>0.10</td></tr>
<tr><td>Not confident in identifying the criminal</td><td>4</td><td>4.78</td><td>-0.78</td><td>0.61</td><td>0.13</td></tr>
<tr><td></td><td></td><td></td><td></td><td colspan="2">Chi squared =</td><td>0.44</td></tr>
</table>
<p>Look for other reasonable marking points.</p>
</td><td>(4)</td></tr>
</table>

Question Number	Answer	Mark
7(e)	**AO2 (1 mark)** Credit **one** mark for a correct answer. For example; • The calculated value of 0.44 is less than the critical value of 3.84 for a two-tailed test where *df*=1 so the result is not significant (1). **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
7(f)	**AO3 (2 marks)** Credit **one** mark for each accurate conclusion suggested. For example; • Post-event information leads to more inaccuracy in the recall of a crime made by eye-witnesses (1). • Post-event information does not significantly influence the confidence of eye-witnesses in identifying criminals (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
7(g)	**AO3 (3 marks)** Credit up to **three** marks for accurate justification. For example; • A cognitive interview uses four retrieval perspectives which would enable the participants to recall more detail from the video of the crime (1). The use of cognitive interview techniques would add internal validity to her study as this would reflect police interviewing techniques of real witnesses (1) and she would then be able to apply her findings to real-life interviews of eye-witnesses giving stronger ecological validity to her results about post-event information (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(3)**

Question Number	Indicative Content	Mark
8	**AO1 (4 marks), AO3 (4 marks)** **AO1** • The 'other race' effect is due to people being less able to accurately recognise people from a different ethnic background to themselves. • Individuals have weaker sensitivity for 'other race' faces making them less sensitive to the unique identities of 'other race' individuals. • Much of the research about 'other race' effect takes place in a laboratory setting with mock witnesses and fake suspects. • People have more experience of recognising same race faces than 'other race' faces which increases accuracy for same race recognition but decreases other-race accuracy. **AO3** • Scheck, Neufeld, and Dwyer (2000) looked at 77 mistaken eyewitness identifications finding 35% were white victim-witnesses misidentifying black suspects, so eye-witness reliability is questionable. • Brigham, Maass, Snyder, and Spaulding (1982) used cashiers in shops as participants and people of various racial groups entered the shop, they found less recognition for 'other race' individuals, so the accuracy for recognition may limit reliability of eye-witnesses. • There is a lack of ecological validity in the findings for 'other race' effect so evidence may not reflect the accuracy of real-life eye-witness identification in real crimes. • Hancock and Rhodes (2008) found that higher levels of contact with 'other race' groups was associated with a reduction in the 'other race' effect and an increase 'other race' facial recognition accuracy, so the 'other race' effect may not always reduce the reliability of all eye-witnesses. **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 (4 marks), AO3 (4 marks)** **AO1** • Pre-trial publicity in the media about the defendant/crime/victim before the trial can influence jury decisions during the case. • Evidence in trials presented by experts could bias the jurors towards the individual testimonies of those in high regard, like police officers. • The race of the jurors may affect their perceptions of the defendants with different race jurors more likely to convict defendants. • Dion, Bersheid, and Walster (1972) claimed that attractiveness is associated with socially desirable characteristics and there is a perception that 'what is beautiful is good'. **AO3** • Ruva, McEvoy and Bryant (2007) found that negative pre-trial publicity had a biasing effect on juror impressions of the defendant. • Penrod and Cutler (1989) found jurors are influenced by the confidence of the eyewitnesses so their decisions are not objective. • Bradbury and Williams (2013) found juries with a high percentage of white jurors were more likely to convict black defendants. • Landy and Aronson (1969) found attractive defendants were treated differently to unattractive defendants, being sentenced less harshly than an unattractive defendant even when rated similarly guilty of a crime. **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 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)

HEALTH PSYCHOLOGY

Question Number	Answer	Mark
10	**AO1 (2 marks)** Credit up to **two** marks for an accurate description. For example: • Personality traits are the characteristics of an individual, such as their attitudes (1), that influence how they think and react to stressful situations (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
11(a)	**AO2 (2 marks)** Credit up to **two** marks for accurate description in relation to the scenario. For example: • Sonia used an independent measures group design (1) with one group experiencing the delay before interview and the other group not being delayed (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
11(b)	**AO2 (1 mark)** Credit **one** mark for a correct answer. • 5.82 (1). **Reject all other answers**	**(1)**

Question Number	Answer	Mark
11(c)	**AO2 (1 mark)** Credit **one** mark for a correct answer. • 67.21% (1). **Reject all other answers**	**(1)**

Question Number	Answer	Mark
11(d)	**AO2 (4 marks)** Credit **one** mark for accurate completion of O-E column to two decimal places Credit **one** mark for accurate completion of $(O\text{-}E)^2$ column two decimal places Credit **one** mark for accurate completion of $(O\text{-}E)^2/E$ column to two decimal places Credit **one** mark for correct chi-squared to two decimal places = **0.44**	**(4)**

		Observed	**Expected**	**O-E**	**$(O\text{-}E)^2$**	**$(O\text{-}E)^2/E$**
Group A not delayed before the interview	**Stress does influence how well they remember events from the previous week**	6	6.78	**-0.78**	**0.61**	**0.09**
	Stress does not influence how well they remember events from the previous week	6	5.22	**0.78**	**0.61**	**0.12**
Group B delayed for one hour before the interview	**Stress does influence how well they remember events from the previous week**	7	6.22	**0.78**	**0.61**	**0.10**
	Stress does not influence how well they remember events from the previous week	4	4.78	**-0.78**	**0.61**	**0.13**
					Chi squared =	**0.44**

Look for other ways of expressing correct answer.

Question Number	Answer	Mark
11(e)	**AO2 (1 mark)** Credit **one** mark for a correct answer. For example; • The calculated value of 0.44 is less than the critical value of 3.84 for a two-tailed test where *df*=1 so the result is not significant (1). **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
11(f)	**AO3 (2 marks)** Credit **one** mark for each accurate conclusion suggested. For example; • Being made to wait for an hour leads to more reports of feeling stressed in the previous week than those who did not have to wait (1). • There is no significant difference in how participants perceive the accuracy of their own recall of events when stressed or not stressed (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
11(g)	**AO3 (3 mark)** Credit up to **three** marks for accurate justification. For example; • The Holmes and Rahe stress scale has been used multiple times to test stress so would add reliability Sonia’s measure of life events (1). The use of the Holmes and Rahe stress scale would add internal validity to her investigation as it has been shown to test life events consistently (1) and she would then have a baseline measure of how much stress was in each participants life prior to being given a one hour delay (1). **Look for other reasonable marking points.**	**(3)**

Question Number	Indicative Content	Mark
12	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Appraisal focused coping strategies are aimed at challenging assumptions and changing the way a person thinks about stressors. • Problem focused strategies aim to reduce a stressor by learning how to manage the problem and look for alternatives or solutions • Emotion focused strategies attempt to find ways to manage emotional reactions to stressors, such as using relaxation techniques. • The use of social support is an emotion focused strategy that acts as a buffer to help limit the impact of life events on mental health. **AO3** • Factors, such as religion, gender or age can influence a person’s interpretation of a stressor in the environment, so appraisal focussing recognises individual differences in how stress can be managed. • There are individual differences in the use of problem focused strategies, with Nes and Segerstrom (2006) finding that a disposition for optimism was found to be positively associated with problem focused coping strategies aiming to eliminate or manage stressors. • Emotion focused coping may not provide a long term solution to managing stress because does not encourage the sufferer to deal with the stressor itself. • Carver et al. (1989) found venting of emotions to be dysfunctional, so seeking social support may result in negative coping strategies reducing an individual’s ability to manage stress. **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 (4 marks), AO3 (4 marks)** **AO1** • The amygdala is involved in emotional responses, including mediating the fear responses to stimuli, such as those considered stressors. • Stressors can activate the hypothalamus in the brain which triggers activity in the hypothalamic-pituitary-adrenal (HPA) axis. • The prefrontal cortex (PFC) regulates thoughts, actions and emotions through connections with other brain regions. • The vulnerability hypothesis suggests a reduced hippocampal volume is not a consequence of stress but a genetic risk factor for stress-related disorders. **AO3** • The role of the amygdala was investigated in patients with PTSD by Sripada et al. (2012) using neuroimaging, giving scientific credibility to their findings about brain regions involved in stress. • The HPA Axis is what leads to the release of the hormone cortisol, so brain functioning explains stress responses alongside hormonal responses giving a less reductionist view of physiological stress responses. • The PFC is sensitive to the effects of stress exposure, with mild stress causing a loss of prefrontal cognitive abilities, so dysfunctions in the neural pathways of brain regions may be a result of stress rather than a cause of stress. • Gilbertson et al. (2002) supports the hypothesis that a genetically predisposed smaller hippocampal volume is associated with susceptibility to stress, so brain regions could play a causal role in the development of stress. **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 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)

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom