Please check the examination details below before entering your candidate information

Candidate surname	Other names
StemUp Model Solution	

Pearson Edexcel
International Advanced Level

Centre Number | Candidate Number

Thursday 25 October 2018

Afternoon (Time: 1 hour 30 minutes) | Paper Reference **WPS03/01**

Psychology

International Advanced Level
Paper 3: Applications of Psychology

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **ALL** questions in Section A, and **ALL** questions from **EITHER** Option 1 criminological psychology **OR** Option 2 health psychology.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*

Information

- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- The list of formulae and statistical tables are printed at the start of this paper.
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.

Turn over ▶

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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

$$\sqrt{\left(\frac{\sum(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1-\frac{6\sum d^2}{n(n^2-1)}$$

Critical values for Spearman's rank

	Level of significance for a one-tailed test				
	0.05	**0.025**	**0.01**	**0.005**	**0.0025**
	Level of significance for a two-tailed test				
N	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**
5	0.900	1.000	1.000	1.000	1.000
6	0.829	0.886	0.943	1.000	1.000
7	0.714	0.786	0.893	0.929	0.964
8	0.643	0.738	0.833	0.881	0.905
9	0.600	0.700	0.783	0.833	0.867
10	0.564	0.648	0.745	0.794	0.830
11	0.536	0.618	0.709	0.755	0.800
12	0.503	0.587	0.678	0.727	0.769
13	0.484	0.560	0.648	0.703	0.747
14	0.464	0.538	0.626	0.679	0.723
15	0.446	0.521	0.604	0.654	0.700
16	0.429	0.503	0.582	0.635	0.679
17	0.414	0.485	0.566	0.615	0.662
18	0.401	0.472	0.550	0.600	0.643
19	0.391	0.460	0.535	0.584	0.628
20	0.380	0.447	0.520	0.570	0.612
21	0.370	0.435	0.508	0.556	0.599
22	0.361	0.425	0.496	0.544	0.586
23	0.353	0.415	0.486	0.532	0.573
24	0.344	0.406	0.476	0.521	0.562
25	0.337	0.398	0.466	0.511	0.551
26	0.331	0.390	0.457	0.501	0.541
27	0.324	0.382	0.448	0.491	0.531
28	0.317	0.375	0.440	0.483	0.522
29	0.312	0.368	0.433	0.475	0.513
30	0.306	0.362	0.425	0.467	0.504

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

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Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E} \qquad df = (r-1)(c-1)$$

Critical values for chi-squared distribution

	Level of significance for a one-tailed test					
	0.10	**0.05**	**0.025**	**0.01**	**0.005**	**0.0005**
	Level of significance for a two-tailed test					
df	**0.20**	**0.10**	**0.05**	**0.025**	**0.01**	**0.001**
1	1.64	2.71	3.84	5.02	6.64	10.83
2	3.22	4.61	5.99	7.38	9.21	13.82
3	4.64	6.25	7.82	9.35	11.35	16.27
4	5.99	7.78	9.49	11.14	13.28	18.47
5	7.29	9.24	11.07	12.83	15.09	20.52
6	8.56	10.65	12.59	14.45	16.81	22.46
7	9.80	12.02	14.07	16.01	18.48	24.32
8	11.03	13.36	15.51	17.54	20.09	26.12
9	12.24	14.68	16.92	19.02	21.67	27.88
10	13.44	15.99	18.31	20.48	23.21	29.59
11	14.63	17.28	19.68	21.92	24.73	31.26
12	15.81	18.55	21.03	23.34	26.22	32.91
13	16.99	19.81	22.36	24.74	27.69	34.53
14	18.15	21.06	23.69	26.12	29.14	36.12
15	19.31	22.31	25.00	27.49	30.58	37.70
16	20.47	23.54	26.30	28.85	32.00	39.25
17	21.62	24.77	27.59	30.19	33.41	40.79
18	22.76	25.99	28.87	31.53	34.81	42.31
19	23.90	27.20	30.14	32.85	36.19	43.82
20	25.04	28.41	31.41	34.17	37.57	45.32
21	26.17	29.62	32.67	35.48	38.93	46.80
22	27.30	30.81	33.92	36.78	40.29	48.27
23	28.43	32.01	35.17	38.08	41.64	49.73
24	29.55	33.20	36.42	39.36	42.98	51.18
25	30.68	34.38	37.65	40.65	44.31	52.62
26	31.80	35.56	38.89	41.92	45.64	54.05
27	32.91	36.74	40.11	43.20	46.96	55.48
28	34.03	37.92	41.34	44.46	48.28	56.89
29	35.14	39.09	42.56	45.72	49.59	58.30
30	36.25	40.26	43.77	46.98	50.89	59.70
40	47.27	51.81	55.76	59.34	63.69	73.40
50	58.16	63.17	67.51	71.42	76.15	86.66
60	68.97	74.40	79.08	83.30	88.38	99.61
70	79.72	85.53	90.53	95.02	100.43	112.32

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

Wilcoxon Signed Ranks test process

- Calculate the difference between two scores by taking one from the other
- Rank the differences giving the smallest difference Rank 1

  Note: do not rank any differences of 0 and when adding the number of scores, do not count those with a difference of 0, and ignore the signs when calculating the difference
- Add up the ranks for positive differences
- Add up the ranks for negative differences
- T is the figure that is the smallest when the ranks are totalled (may be positive or negative)
- N is the number of scores left, ignore those with 0 difference

Critical values for the Wilcoxon Signed Ranks test

	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
n	0.1	0.05	0.02
N=5	0	-	-
6	2	0	-
7	3	2	0
8	5	3	1
9	8	5	3
10	11	8	5
11	13	10	7
12	17	13	9

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

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SECTION A

DEVELOPMENTAL PSYCHOLOGY

Answer ALL questions. Write your answers in the spaces provided.

1 The maternal deprivation hypothesis explores the importance of a continuous relationship with a primary caregiver when a child is forming emotional bonds.

Explain, using Bowlby's (1944) study, what may happen if this continuous relationship does not occur.

If a child does not have a continuous relationship with their mother (or mother substitute) during the critical period, before about 2.5 to 5 years, they may fail to develop a basis for positive emotional relationships, which can lead to delinquency. Bowlby (1944) studied 44 juvenile thieves and found that 17 of them had experienced prolonged early separation from their mother, compared with only 2 of the 44 controls.

The child may also develop emotional disturbances such as affectionless psychopathy, a lack of affection and an inability to feel empathy or guilt for others. Bowlby diagnosed 14 of the thieves as affectionless psychopaths, and 12 of these 14 had experienced frequent or prolonged separation from their mother in early childhood.

(Total for Question 1 = 4 marks)

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2 Charlotte tested the cognitive skills of 38 children aged 8 years old. She compared their accuracy on a mathematical puzzle to see if there was a difference between what children can do with help and what they can do alone.

- Condition A: 20 participants worked in pairs with 15-year-olds to complete the mathematical puzzle together
- Condition B: 18 participants completed the mathematical puzzle alone.

(a) Identify the research design Charlotte used in her investigation.

(1)

Independent groups (independent measures) design.

(b) Charlotte recorded how many children gave a correct or an incorrect answer to the mathematical puzzle. Her results are shown in **Table 1**.

	Number of children giving a correct answer	**Number of children giving an incorrect answer**
Condition A Children working in pairs with 15-year-olds	**16**	**4**
Condition B Children working alone	**6**	**12**

Table 1

Convert the data shown in **Table 1** for **Condition B** to a percentage of all the children in the investigation.

You **must** give your answers in whole numbers.

(2)

Space for calculations

Total children = 38

Correct: 6 ÷ 38 × 100 = 15.79% ⇒ 16%

Incorrect: 12 ÷ 38 × 100 = 31.58% ⇒ 32%

Percentage of children in Condition B giving a **correct** answer *16%*

Percentage of children in Condition B giving an **incorrect** answer *32%*

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(c) Calculate the chi-squared for the data gathered by Charlotte in her investigation by completing **Table 2.**

Your answers should **all** be correct to **two** decimal places.

(4)

		Observed	Expected	O-E	$(O-E)^2$	$(O-E)^2/E$
Condition A: Children working in pairs with 15-year-olds	Correct answer	16	11.58	4.42	19.54	1.69
	Incorrect answer	4	8.42	−4.42	19.54	2.32
Condition B: Children working alone	Correct answer	6	10.42	−4.42	19.54	1.88
	Incorrect answer	12	7.58	4.42	19.54	2.58
				Chi-squared =		8.47

Table 2

Space for calculations

$O - E = 16 - 11.58 = 4.42, \quad (O - E)^2 = 4.42^2 = 19.5364 = 19.54$

$19.54 \div 11.58 = 1.69 \qquad 19.54 \div 8.42 = 2.32$

$19.54 \div 10.42 = 1.88 \qquad 19.54 \div 7.58 = 2.58$

$\chi^2 = \Sigma(O - E)^2/E = 1.69 + 2.32 + 1.88 + 2.58 = 8.47$

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(d) Charlotte concluded that a child aged 8 years old was more likely to complete a mathematical puzzle correctly when guided by a more knowledgeable other.

Explain, using Vygotsky's zone of proximal development, **two** reasons why Charlotte came to this conclusion in her investigation.

(4)

1 *In Condition A the 15-year-old, as the more knowledgeable other, could give cues and hints when the 8-year-old was stuck on the puzzle. This scaffolding moves the child through their zone of proximal development, so they reach their potential level, which is why 16 out of 20 children in pairs answered correctly.*

2 *In Condition B the children working alone had no guidance, so they could only complete the parts of the puzzle they already understood. They worked only at their present (actual) level of development, not their potential, which is why only 6 out of 18 children working alone answered correctly.*

(e) Suggest **one** improvement Charlotte could make to her investigation.

(1)

Charlotte could take a baseline measure of the children's maths ability before the puzzle and use it to match the two groups on present ability, so the difference is due to the help given.

(Total for Question 2 = 12 marks)

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3 Adham is 18 months old and is beginning to form words. He recently said the word 'mummy' and was praised by his mother, who told him that he was very clever and gave him a hug.

He repeated the word 'mummy' when he saw his father, but his father said 'no' to Adham and then said the word 'daddy'. Adham cried, because his father didn't pick him up and give him a hug.

After 5 weeks of Adham's father telling him 'no' and saying the word 'daddy', Adham said the word 'daddy'. His father smiled, clapped his hands and picked him up to give him a hug.

Discuss, using Skinner's theory of language, how Adham was able to learn the new word.

You must refer to the context in your answer.

(8)

Skinner (1957) argued that children are born as a blank slate (tabula rasa) and that language is learned from the environment through operant conditioning, so it must be nurtured by others. Correct utterances are positively reinforced with something desirable, making them more likely to be repeated, whereas incorrect utterances are not reinforced, or are punished, so they are less likely to be repeated. Over time words are shaped into correct adult speech.

Adham did not know the word 'daddy' until his father nurtured and taught him the word, which fits the idea that language is learned from the environment. When Adham said 'mummy' to his mother she praised him and gave him a hug, which he desired. This positive reinforcement strengthened the association between the word 'mummy' and his mother, so he was likely to keep using it correctly with her.

When Adham said 'mummy' to his father, he received positive punishment, being told 'no', and the reinforcer he wanted (being picked up and hugged) was withheld, so he cried. As this was repeated, the incorrect response became less frequent. His father also modelled the correct word 'daddy' every time, giving Adham something to imitate. After 5 weeks Adham said 'daddy', and this was immediately positively reinforced with smiles, clapping and a hug, so the new word was

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strengthened and learned.

This shows Skinner's theory can explain how Adham learned the new word through reinforcement and punishment. However, it took 5 weeks of consistent feedback, which suggests learning by conditioning alone may be slow, and Chomsky would argue that children also have an innate ability to acquire language, so reinforcement may explain Adham learning this particular word rather than how he acquires language overall.

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(Total for Question 3 = 8 marks)

4 Assess whether research into attachment can be considered scientific.

(8)

Research into attachment often uses the Strange Situation Procedure (SSP) developed by Ainsworth, a controlled observation in which the infant's behaviour is recorded during eight episodes involving separation from, and reunion with, the caregiver and a stranger. Behaviours such as proximity seeking, stranger anxiety and reunion behaviour are used to classify infants into types, such as secure (Type B), insecure-avoidant (Type A) and insecure-resistant (Type C).

The SSP is structured and highly controlled, with a standardised set of episodes in the same room, so situational variables are reduced and it can be replicated, which increases its scientific credibility. Reductionism also helps, because complex attachment is broken down into behaviours that can be operationalised and empirically observed, with high inter-rater reliability. Classifying attachment into typologies suggests that attachment follows universal laws of development, which is a scientific goal. Cassibba et al. (2001) replicated the SSP in Italy and found a similar distribution of attachment types, suggesting typologies can be measured objectively. Van IJzendoorn and Kroonenberg (1988) also found secure attachment was the most common type across 32 studies in 8 countries.

However, individual differences in the temperament of the child can affect their attachment behaviour, which brings subjectivity into the research. Fuertes et al. (2006) found that infant characteristics such as temperament were a factor in the formation of attachment, so the SSP may be measuring temperament rather than the attachment relationship, reducing its validity. Reducing attachment to a few behaviours in a laboratory may also oversimplify a complex emotional bond and lack ecological validity. The SSP was developed in the USA, so its classifications may not apply universally, eg Japanese infants rarely separated from their mothers

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show great distress.

In conclusion, attachment research using the SSP can be considered scientific to a large extent because it is controlled, replicable and empirical, but individual differences in temperament and cultural bias mean it cannot be completely objective.

(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

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SECTION B

Answer ALL questions from EITHER OPTION 1: CRIMINOLOGICAL PSYCHOLOGY OR OPTION 2: HEALTH PSYCHOLOGY.

Indicate which option you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new option with a cross ☒.

If you answer the questions in Option 1 put a cross in the box ☒ .

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

5 State what is meant by 'criminological psychology'.

Criminological psychology studies the possible causes of crime and anti-social behaviour in society, and the issues around the effectiveness of treatments and therapies for offenders.

(Total for Question 5 = 2 marks)

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6 Enzo is planning to investigate the effectiveness of cognitive behavioural therapy (CBT) as a therapy for offenders. He decides to ask at a nearby prison whether they would allow him to conduct his investigation there.

Enzo is planning to use questionnaires with closed questions and unstructured interviews for his research.

(a) Explain **one** reason why Enzo may have chosen to use questionnaires with closed questions in his research.

(2)

Closed questions about CBT, such as rating scales of how much their thinking has changed, give Enzo quantitative data to analyse. This means he can use statistical testing to determine the significance of the results he gathers from the offenders.

(b) Explain **one** way that Enzo could make his unstructured interviews reliable.

(2)

Enzo could conduct all the unstructured interviews in a specified, quiet room of the prison to control extraneous variables such as interruptions from other offenders. This improves reliability, as it reduces the chance of confounding variables affecting the interview process.

(c) Explain **one** way that Enzo could improve the generalisability of his research.

(2)

Enzo could interview other offenders who have undertaken CBT in different prisons, or who have been released from prison, rather than just one nearby prison. This increases the representativeness of his participants, so the findings can be generalised to a wider population of offenders.

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(d) Explain **two** ethical issues Enzo should consider when researching the effectiveness of CBT with offenders.

(4)

1 *Enzo needs to consider the risk to himself and to other offenders when conducting the interviews within the prison, as some offenders may be violent. He must follow the BPS (2009) guidelines on risk management when designing his research, eg having a prison officer nearby.*

2 *To avoid deception, Enzo should explain the aim of his research to the offenders and the prison service before he begins, so they give informed consent. This is because the BPS (2009) requires researchers to give as much information as possible to those taking part in their research.*

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(e) Explain whether Enzo would find CBT to be an effective therapy for offenders.

(4)

Enzo may find CBT is effective, as offenders may show a reduction in recidivism once they have been released from prison. CBT challenges the faulty thinking, such as hostile attribution bias, that leads to offending. Wilson et al. (2005) found in their meta-analysis that CBT reduced recidivism by up to 30% compared with non-treatment groups.

However, Enzo could also find that CBT does not have long-term success with the offenders. Levy et al. (2014) found that it was important to deal with underlying problems such as joblessness and poverty, which CBT does not change, so offenders may return to crime when released into the same circumstances.

(Total for Question 6 = 14 marks)

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7 Assess whether anti-social personality disorder (ASPD) is a credible explanation of crime and anti-social behaviour.

(8)

Anti-social personality disorder (ASPD) is a personality explanation of crime that sees anti-social behaviour as a form of innate pathology in brain functioning. It is nature orientated and focuses on differences within the individual. People with ASPD disregard and violate the rights of others; they can be deceitful, impulsive, aggressive and reckless, and they show a lack of remorse. ASPD requires a clinical diagnosis made from a standard set of signs and symptoms in the DSM, which can only be given to adults aged 18 or over.

ASPD is credible because it can be clinically identified from clearly identifiable traits, giving it scientific credibility through empirical testing. Brain research supports it: Yang et al. (2008) found anti-social individuals had an impaired amygdala-hippocampal system, and Raine et al. (1997) found murderers pleading not guilty by reason of insanity had reduced prefrontal cortex activity on PET scans. These are objective measures, which makes the explanation more credible than social explanations such as labelling, where studies like Jahoda (1954) only show correlational links between labels and behaviour.

However, labelling an individual as having a pathologically criminal personality could itself lead to a self-fulfilling prophecy, so ASPD is less credible as it does not consider external factors. Many people with ASPD never commit crime, and many offenders do not have ASPD, so it cannot explain all crime. Brain studies are correlational, so brain differences could be caused by experiences such as abuse or head injury rather than causing crime. Diagnosis relies on clinical judgement and past behaviour, so it may be circular: a person is anti-social because they have ASPD, and diagnosed with ASPD because they are anti-social.

In conclusion, ASPD is a credible explanation for some crime and anti-social behaviour because it

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is clinically identifiable and supported by brain evidence, but it is reductionist, so it is most credible when combined with social and environmental explanations.

(Total for Question 7 = 8 marks)

8 Evaluate whether jury decision-making is objective.

(8)

Juries are meant to reach a verdict objectively, based only on the evidence presented in court. However, research suggests several characteristics can bias decisions. The race of the defendant may affect jurors' perceptions, with jurors of a different race more likely to convict. Pre-trial publicity in the media about the defendant, crime or victim can influence decisions, and evidence from experts or people held in high regard, like police officers, may bias jurors. Jury decision-making is often studied using mock juries that replicate a court trial.

There is evidence that jury decisions are not objective. Bradbury and Williams (2013) analysed real trials and found juries with a high percentage of white jurors were more likely to convict black defendants. Ruva, McEvoy and Bryant (2007) found that mock jurors exposed to negative pre-trial publicity were more likely to judge the defendant guilty, as the publicity biased their impressions of the defendant. Penrod and Cutler (1989) found jurors were influenced by the confidence of eyewitnesses, even though confidence is a poor predictor of accuracy. Sigall and Ostrove (1975) found the attractiveness of a defendant affected the sentences given.

However, much of this research uses mock juries watching video recorded or written trials, which lacks ecological validity. Real jurors know their verdict has consequences for a real person, so they may be more careful and objective than mock jurors. Real juries also deliberate as a group for long periods, which may cancel out the bias of individual jurors. Judges also direct juries to ignore pre-trial publicity and focus on the evidence, which may reduce bias.

In conclusion, although deliberation and legal safeguards may reduce bias, the consistent evidence from both real and mock trials suggests that jury decision-making is not fully objective, as it can be influenced by the defendant's race, pre-trial publicity and the confidence of

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witnesses.

(Total for Question 8 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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SECTION B

If you answer the questions in Option 2 put a cross in the box ☒ .

OPTION 2: HEALTH PSYCHOLOGY

9 State what is meant by 'health psychology'.

Health psychology looks at health issues such as stress from a range of perspectives, such as biological and social explanations, to develop treatments and therapies that promote good health and wellbeing.

(Total for Question 9 = 2 marks)

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10 Enzo is planning to investigate the effectiveness of cognitive behavioural therapy (CBT) as a treatment for patients with anxiety disorders. He decides to ask at a nearby counselling service whether they would allow him to conduct his investigation there.

Enzo is planning to use questionnaires with closed questions and unstructured interviews for his research.

(a) Explain **one** reason why Enzo may have chosen to use questionnaires with closed questions in his research.

(2)

Closed questions about CBT, such as rating how severe their anxiety symptoms are, give Enzo quantitative data to analyse. This means he can use statistical testing to determine the significance of the results he gathers from the patients.

(b) Explain **one** way that Enzo could make his unstructured interviews reliable.

(2)

Enzo could conduct all the unstructured interviews in a specified, quiet room in the counselling service to control extraneous variables such as interruptions from other clients. This improves reliability, as it reduces the chance of confounding variables affecting the interview process.

(c) Explain **one** way that Enzo could improve the generalisability of his research.

(2)

Enzo could interview other patients who have had CBT in different counselling services, or who were treated in hospitals. This increases the representativeness of his participants, so the findings can be generalised to a wider population of patients with anxiety.

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(d) Explain **two** ethical issues Enzo should consider when researching the effectiveness of CBT for patients with anxiety disorders.

(4)

1 *Enzo needs to consider the health risks to the patients with anxiety, as interviews about their symptoms could cause distress and increase their anxiety. He must follow the BPS (2009) guidelines on risk management when designing his research, eg offering support and a debrief.*

2 *To avoid deception, Enzo should explain the aim of his research to the patients with anxiety and the counselling service before he begins, so they give informed consent. This is because the BPS (2009) requires researchers to give as much information as possible to those taking part.*

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(e) Explain whether Enzo would find CBT to be an effective treatment for anxiety disorders.

(4)

Enzo may find that CBT is effective and has long-term success with the patients, as it teaches them to challenge the irrational thoughts that cause their anxiety, a skill they can keep using after therapy. DiMauro et al. (2012) found that patients with anxiety had maintained their improvement one year after treatment had been completed.

However, Enzo may find that the effectiveness of CBT for anxiety disorders is limited, because it focuses on present thoughts and does not deal with the underlying causes. Therapies such as psychoanalysis may be more effective for some patients, as they address the unconscious processes causing the anxiety.

(Total for Question 10 = 14 marks)

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11 Assess whether the role of hormones is a credible explanation for stress.

(8)

When a stressor is perceived, the hypothalamus activates the sympathetic nervous system, causing the adrenal medulla to release adrenaline, which increases heart rate and blood pressure for fight or flight. For longer stressors the HPA axis is activated: the hypothalamus releases CRH, the pituitary gland releases ACTH, and the adrenal cortex releases the hormone cortisol. In Selye's General Adaptation Syndrome (GAS), the initial alarm stage, when a person registers a threat, creates this hormonal change, followed by resistance and then exhaustion. Excessive cortisol can affect cognitive processes such as memory, so more things may be perceived as stressors.

A strength is that hormone levels can be empirically tested using objective measures, such as blood or saliva tests for cortisol, which increases the credibility of the link with stress. Rodrigues et al. (2009) suggested that stress hormones alter the neural structures associated with emotion, such as the amygdala and hippocampus, which supports a biological explanation. Kiecolt-Glaser et al. (1984) found that medical students' immune functioning fell during exams, which fits the idea that stress hormones such as cortisol suppress the immune system.

However, hormones are released because of brain activity in the HPA axis, so it may be more credible that brain functioning explains stress responses. The hormonal explanation is also reductionist: the Holmes and Rahe stress scale measures life events, suggesting there is more to stress than hormonal changes. Lazarus argued that cognitive appraisal decides whether a situation is stressful in the first place, which explains why two people react differently to the same stressor. Selye's research was also carried out on rats, so it may not generalise to humans.

In conclusion, the role of hormones is a credible explanation of the physical stress response, as it

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is scientific and well supported, but it is not a complete explanation of stress because it ignores the role of the brain, cognitive appraisal and life events.

(Total for Question 11 = 8 marks)

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12 Evaluate whether the Holmes and Rahe stress scale is objective.

(8)

The Holmes and Rahe (1967) Social Readjustment Rating Scale (SRRS) is a self-report measure of stress that lists 43 life events. Each event is given a pre-determined number of life change units (LCUs) based on its severity, such as 100 for the death of a spouse and 50 for marriage. Respondents tick the events they have experienced in the past year and the scores are totalled using a previously agreed scoring system, with a high score suggesting a greater risk of stress-related illness. The scale relies on truthful information from respondents about their life events.

The SRRS can be considered objective because it uses standardised life event statements and fixed scores, so researcher bias is removed from the analysis: two researchers would calculate the same total. This also gives quantitative data that can be compared between people and correlated with illness, as in Rahe et al. (1970), who found a positive correlation between LCU scores and illness in Navy personnel. The scale has been used consistently over time and remains a widely used test of stress, so it is not influenced by subjective interpretations.

However, it is a self-report measure, so social desirability may lead respondents to give answers they believe show them in a better light, and they may not recall events accurately, so the measure of stress may be subjective. Each event has a fixed score, but how stressful an event is depends on the individual's interpretation, eg divorce may be a relief for some people. Having a fixed list of life events also excludes daily hassles, such as traffic jams, which Kanner et al. (1981) found to be a better predictor of stress, so it does not measure all factors affecting stress.

In conclusion, the Holmes and Rahe scale is objective in how it is scored and analysed, but

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because it relies on self-report and fixed values that ignore individual interpretation, the measurement of stress is not fully objective.

(Total for Question 12 = 8 marks)

TOTAL FOR SECTION B OPTION 2 = 32 MARKS
TOTAL FOR PAPER = 64 MARKS

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