Please check the examination details below before entering your candidate information

Candidate surname: StemUp Model Solution

Other names:

Centre Number | Candidate Number

Pearson Edexcel International Advanced Level

Time 1 hour 30 minutes

Paper reference **WPS03/01**

Psychology

International Advanced Level
PAPER 3: Applications of Psychology

Calculators may be used

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.
- Try to answer every question.
- 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.

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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 In developmental psychology, you will have learned about Piaget's stages of cognitive and language development.

(a) Describe what is meant by object permanence.

(2)

Object permanence is the understanding that an object still exists even when it cannot be seen, heard or touched. It develops towards the end of the sensorimotor stage (from about 8 months), when the child will actively search for a toy that has been hidden under a blanket, because they can now form a mental representation of the object.

(b) Explain **one** weakness of Piaget's stages of cognitive development.

(2)

Piaget's stages are fixed and age-related, so they ignore individual differences in how quickly children develop and underestimate the role of social interaction. Vygotsky argued that development is a continuous process rather than a series of stages, and that with help from a more knowledgeable other in the zone of proximal development a child can perform beyond the level Piaget's stage would predict.

(Total for Question 1 = 4 marks)

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2 Reuben was investigating whether a new reading scheme, aimed at improving the language development of six-year-olds, would improve their reading ability.

He gathered a sample of eight children from his local school and used a repeated measures design.

- **Condition A**: children spent one week learning to read without using the new reading scheme.
- **Condition B**: children spent the next week learning to read using the new reading scheme.

Reuben counted the number of new words the children learned before and after the new reading scheme was introduced.

The results of his investigation are shown in **Table 1**.

Participant	Condition A Number of new words learned in a week without using the new reading scheme	Condition B Number of new words learned in a week using the new reading scheme
A	39	41
B	41	38
C	39	45
D	38	42
E	37	39
F	39	40
G	38	39
H	36	46

Table 1

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(a) Calculate the mean score for **Condition B** using the data from **Table 1**.

You **must** give your answer to **two** decimal places.

(1)

Space for calculations

Mean = (41 + 38 + 45 + 42 + 39 + 40 + 39 + 46) ÷ 8

= 330 ÷ 8 = 41.25

Mean ..... 41.25 .....

(b) Calculate the range for **Condition A** using the data from **Table 1**.

(1)

Space for calculations

Range = highest − lowest = 41 − 36 = 5

Range ..... 5 .....

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(c) Reuben used a Wilcoxon Signed Ranks test on his data.

Complete **Table 2** and calculate the Wilcoxon Signed Ranks test for Reuben's data.

The formulae and statistical tables can be found at the front of this paper.

(4)

Participant	Condition A Number of new words learned in a week without using the new reading scheme	Condition B Number of new words learned in a week using the new reading scheme	Difference	Ranked difference
A	39	41	−2	3.5
B	41	38	+3	5
C	39	45	−6	7
D	38	42	−4	6
E	37	39	−2	3.5
F	39	40	−1	1.5
G	38	39	−1	1.5
H	36	46	−10	8

Table 2

Space for calculations

Difference = Condition A − Condition B (no differences of 0, so N = 8)

Sum of positive ranks = 5 (participant B only)

Sum of negative ranks = 3.5 + 7 + 6 + 3.5 + 1.5 + 1.5 + 8 = 31

T = the smaller total = 5

Critical value (N = 8, one-tailed, $p \leq 0.05$) = 5, so T = 5 is significant

T value ..... T = 5 .....

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(d) Explain **one** improvement Reuben could have made to his investigation.

(2)

Reuben could test six-year-olds from several different schools in the local area instead of only eight children from his local school. This larger, more varied sample would be more representative of the reading ability of the target population of six-year-olds, so his findings about the new reading scheme would be more generalisable.

(Total for Question 2 = 8 marks)

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3 Judith is a nursery worker who specialises in the care of infants aged between 9 months and 18 months. She wants to research attachment between fathers and their infants. The parents and the nursery have given Judith permission to use the strange situation procedure.

Explain **one** strength and **one** weakness of Judith using the strange situation procedure in her investigation.

Strength

The strange situation is a standardised, controlled procedure with the same eight episodes, such as the father leaving and then the reunion with the infant, so Judith's study is reliable. It can easily be replicated with other fathers and infants from the nursery to check that the attachment types she records are consistent.

Weakness

The fathers know they are being observed, so they may show demand characteristics, such as being more sensitive and responsive to their infant than they normally are. These artificial behaviours would lower the internal validity of Judith's findings about father to infant attachment.

(Total for Question 3 = 4 marks)

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4 Zac is two years old and very confident and secure in his own abilities. He refuses to wear sandals even though the weather is very hot. Zac always chooses to wear his winter boots and his mother allows him to wear whichever he prefers.

Zac's sister Grace is seven years old and is not very confident. She tries hard at school but finds learning quite difficult. Grace feels nervous when she is in lessons at school and believes she is not as good as her friends. Her mother always supports her and encourages Grace to do her best.

Discuss Zac and Grace's development using Erikson's stages of psychosocial development.

You must make reference to the context in your answer.

(8)

Erikson proposed eight psychosocial stages across the lifespan. Each stage involves a crisis between two opposite outcomes, and the social relationships around the child, especially parents and later teachers and peers, affect whether it is resolved. Successful resolution gives a virtue and a healthy personality, while an unresolved crisis leaves a weakness that can affect later stages.

Zac is two, so he is in stage 2, autonomy versus shame and doubt (about 18 months to 3 years), where children try to gain independence and control over their own actions, such as dressing themselves and making choices. Zac is showing autonomy by refusing to wear sandals and always choosing his winter boots. His mother allows him to wear whichever he prefers rather than criticising or overruling him, so he is learning that his decisions matter. This explains why he is very confident and secure in his own abilities: he appears to be resolving the crisis successfully and developing the virtue of will.

However, Erikson argued that parents should balance freedom with firm, safe limits. Letting Zac wear winter boots in very hot weather could cause him discomfort, so if his mother never sets boundaries he may not learn self-control, and if a poor choice ends in failure he might start to feel shame and doubt.

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Grace is seven, so she is in stage 4, industry versus inferiority (about 5 to 12 years). At school children learn new skills and compare themselves with peers; success gives a sense of competence, but repeated failure leads to feelings of inferiority. Grace shows industry because she tries hard at school, but she finds learning difficult, feels nervous in lessons and believes she is not as good as her friends. This suggests she has a sense of inferiority and has not yet resolved the crisis, so she is not developing the virtue of competence.

Grace's mother always supports her and encourages her to do her best, which should help. However, Erikson said that at this stage teachers and peers become more influential than parents, so her mother's support may not be enough unless her teachers also praise her effort and give her tasks she can succeed at. Because Erikson saw stages as overlapping, Grace can still revisit this crisis and develop competence later.

Overall, Erikson's theory explains both children well: Zac is resolving stage 2 positively, while Grace is struggling with stage 4. However, the age ranges are only approximate and the theory is hard to test, and other factors such as temperament or a specific learning difficulty could also explain Grace's anxiety.

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(Total for Question 4 = 8 marks)

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5 Assess whether the 44 Juvenile Thieves study by Bowlby (1944) could be considered scientific.

(8)

Bowlby (1944) studied 44 juvenile thieves referred to the London Child Guidance Clinic where he worked, and compared them with a control group of 44 children from the same clinic who were emotionally disturbed but had not stolen. Bowlby interviewed the children and their families himself and built up a case history for each child. The thieves were classified into character types, such as depressed, over-active and affectionless. He found that 14 thieves were affectionless psychopaths and 12 of these had experienced prolonged separation from their mother before the age of five, compared with only 2 of the control group.

The study has some scientific features. Using a control group, who were also maladjusted, allowed Bowlby to compare the two groups, so he could show that early separation was linked to being a thief and affectionless rather than just to being disturbed. He also gathered quantitative data and used a chi-squared test to measure the association between affectionless characteristics and mother-child separation, so his hypothesis, drawn from maternal deprivation theory, was tested empirically and objectively.

However, the case histories were of a small number of children with unique life experiences, so the study cannot easily be replicated and its reliability cannot be tested. Bowlby also carried out the interviews himself, knowing his theory of affectionless psychopathy, so his holistic interpretation of the children's lives may have been subjective and biased towards his hypothesis. Much of the data relied on parents recalling separations from years earlier, which may be inaccurate.

In addition, the findings are only correlational, so Bowlby could not show that separation caused the affectionless behaviour; other factors such as poverty or family conflict could

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explain both.

Overall, the study is only partly scientific. The control group and statistical testing give it some objectivity, but the subjective interviewing, retrospective data and lack of replicability mean it falls short of the standards of a fully scientific study.

(Total for Question 5 = 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 question 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 question with a cross ☒.

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

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

6 In your studies of criminological psychology, you will have learned about factors influencing the reliability of eyewitness memory.

Describe how stress may influence the reliability of eyewitness memory.

Stress raises arousal levels, so an eyewitness may focus narrowly on the source of threat, such as a weapon, rather than on details of the crime such as the offender's face. Their memory of the event may therefore be impaired, reducing the reliability of their testimony.

(Total for Question 6 = 2 marks)

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7 Vashti is using a mock jury research method to investigate jury decision-making. She used a volunteer sample of 12 students from her local university.

The students were split into two groups. They both watched the same video recording of a witness giving evidence in court. Both groups had to decide whether the defendant was guilty based on the witness evidence.

- Group 1 were told that the witness was 100% confident in their testimony.
- Group 2 were told that the witness was 70% confident in their testimony.

Vashti found that the higher the level of confidence, the more likely the participants were to reach a guilty verdict.

(a) Explain **two** strengths of Vashti using a mock jury research method to investigate jury decision-making.

(4)

1 *Vashti used a standardised procedure, as both groups watched the same video recording of the witness giving evidence and only the confidence level differed. This means she could replicate her mock jury study at other universities to test whether the effect of witness confidence is reliable.*

2 *Vashti can manipulate the witness's confidence (100% or 70%) while keeping everything else the same, which is not possible with a real jury. This means she is testing exactly the variable she intended, so she can establish cause and effect between witness confidence and guilty verdicts.*

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(b) Explain **one** way that Vashti could improve the generalisability of her investigation.

(2)

Vashti could recruit mock jurors from several places, not just 12 student volunteers from her local university, such as members of the public of different ages and occupations who are eligible for jury service. This would be more representative, so her findings about witness confidence would apply more widely to real jurors in court cases.

(Total for Question 7 = 6 marks)

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8 Seth is a police officer who is investigating a number of vandalism cases. Several properties in the local area have been sprayed with graffiti and the garden fences have been broken. The police have been unable to catch the criminal.

The police have appealed for witnesses to the crimes and an eyewitness has come forward who says they have observed suspicious behaviour over the last week.

Explain **two** reasons why Seth would use a cognitive interview with the eyewitness.

1 *Seth would ask the eyewitness to mentally reinstate the context in which they saw the suspicious behaviour, such as the street, the time of day and how they felt. This triggers context-dependent memory cues, so the witness may recall more accurate features of the vandal, helping Seth catch the person responsible.*

2 *Seth could ask the witness to recall the events of the past week in different orders, such as working backwards from the graffiti being sprayed. This disrupts schema-driven recall and may produce a recency effect, so the witness remembers extra details, such as exactly how the garden fences were broken.*

(Total for Question 8 = 4 marks)

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9 Esther is a psychologist working with young offenders who have been convicted of burglary. She wants to investigate whether environmental factors such as family and lifestyle may have influenced their behaviour.

She is going to gather self-report data by interviewing the offenders using open questions.

(a) Explain **one** reason why Esther may have decided to gather self-report data for her investigation.

(2)

Open questions let each young offender describe their family and lifestyle in their own words, so Esther gathers qualitative, personalised accounts. This gives rich, detailed and valid data about the individual circumstances they believe led them to commit burglary, which closed questions could not capture.

(b) Explain **one** way that researcher effects may have an impact on Esther's investigation.

(2)

The young offenders may feel embarrassed talking to Esther face to face about their family situations, and may not give true details of what led to their burglary. They may give socially desirable answers to make themselves and their families look better, which would reduce the validity of her findings.

(Total for Question 9 = 4 marks)

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10 Assess whether Cognitive Behavioural Therapy (CBT) can help reduce reoffending.

(8)

Cognitive behavioural therapy (CBT) for offenders is based on the idea that thoughts affect feelings and behaviour. It aims to identify and restructure biased and distorted thinking, such as hostile attribution bias or minimising the harm to victims, and to build cognitive skills such as problem solving, perspective taking and self-control. It is used in prisons, on probation and in residential settings for adolescents with antisocial behaviour. Offenders must be committed and complete extra tasks such as reflective diaries and role plays, and programmes vary in how well they are implemented.

CBT may reduce reoffending because offenders learn to recognise the thinking that comes immediately before their criminal behaviour, so they can stop and choose a different action. Lipsey et al. (2007) found in a meta-analysis that recidivism was reduced by about 25% in the 12 months after effective CBT, which supports its usefulness.

However, Armelius and Andreassen (2007) found CBT was effective in the first year after release, but there was no evidence of longer-term effects, so the benefit may fade once offenders return to their old environment. CBT also depends on commitment: if offenders are forced onto a programme or lack motivation, they may drop out, so they will not learn the skills needed to stop reoffending. Because quality varies, poorly delivered programmes may have little effect.

CBT also focuses on the individual's thinking and ignores social causes of crime, such as unemployment, housing and criminal peers, which may lead to reoffending even if thinking has changed.

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Overall, CBT can help reduce reoffending, especially in the short term and when it is well delivered to motivated offenders, but it is unlikely to work on its own in the long term, so it should be combined with support such as help finding work.

(Total for Question 10 = 8 marks)

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11 Evaluate whether case formulation can provide a useful understanding of the behaviour of an offender.

(8)

Psychological (case) formulation is a constructive, collaborative approach in which a practitioner and an offender build an explanation of why the offender behaves as they do. It draws together their life history, thoughts, feelings, relationships and the triggers for their offending, and the offender documents their own thoughts and feelings. It can be used for all types of crime, practitioners such as probation officers can be trained to use it, and it is used to tailor treatment to each offender's circumstances.

Formulation can give a useful understanding because it is holistic, looking at all aspects of the offender's life, such as their perceptions of crime and their relationships, rather than a single cause. Whitehead et al. (2007) found that when offenders had input into their formulations they gained a better understanding of their behaviour and were more likely to work towards their goals, showing it can be useful.

However, Minoudis et al. (2013) found that even after training, probation officers did not feel confident in all aspects of formulation, so if it is not used properly it may give a limited or inaccurate picture of the offender. Kuyken (2006) found that better formulations did not necessarily lead to better understanding or outcomes, which questions its value.

Formulation is also subjective, as two practitioners may produce different explanations of the same offender, so its reliability is low. It relies on offenders being honest about their thoughts and past, and it is time-consuming compared with standard programmes.

In conclusion, case formulation can provide a useful, individual understanding of an offender's behaviour, particularly when the offender is involved, but its usefulness depends on the skill

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and training of the practitioner and the evidence for better outcomes is mixed.

(Total for Question 11 = 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

12 In your studies of health psychology, you will have learned about the physiology of stress.

Describe the role of cortisol in response to stress.

When we face a stressor, the hypothalamus releases CRH, causing the pituitary to release ACTH, which makes the adrenal cortex release cortisol. Cortisol floods the body with glucose, giving energy to large muscle groups, and inhibits other bodily processes such as the immune system so the fight-or-flight response can deal with the stressful situation.

(Total for Question 12 = 2 marks)

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13 Vashti is using a focus group research method to investigate anxiety disorders. She used a volunteer sample of 12 patients from her local clinic.

The patients had recently been diagnosed with an anxiety disorder. Vashti invited the patients to her focus group to share their experiences. She asked them to respond to a set of questions she had created about life events. Vashti recorded the discussion and transcribed the data.

Vashti found that negative life events increased the chance of developing an anxiety disorder.

(a) Explain **two** strengths of Vashti using a focus group research method to investigate anxiety disorders.

(4)

1 *Vashti can gather qualitative data on the patients' own meanings of their life events from their discussion of her questions. This gives valid, rich and detailed data directly from the patients that represents their real-life experiences of anxiety.*

2 *The small focus group of patients who share the same diagnosis gives a safe, supportive space, so they may be more open about their anxiety. Dimatteo et al. (1993) found that in-depth understanding of individuals' "lifeworlds" means services can be directed to meet the needs of later patient groups.*

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(b) Explain **one** way that Vashti could improve the generalisability of her investigation.

(2)

Vashti could run her focus groups at several clinics, not just her own local clinic, recruiting patients of different ages, genders and backgrounds. Her sample would then be more representative, so her findings about life events and anxiety would apply to a wider group of patients with an anxiety disorder.

(Total for Question 13 = 6 marks)

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14 Seth is a psychologist and is working with a patient who is displaying high levels of stress. The patient has developed chest pains and is finding it difficult to sleep. She constantly feels overwhelmed and is very irritable.

The patient has tried to manage her stress levels herself but is unhappy because she has started to gain weight and has also started smoking.

Explain **two** positive techniques that Seth could recommend his patient uses to reduce stress.

1 *Seth could recommend progressive muscle relaxation, which would help the patient relax so she sleeps better and is less irritable. This tackles the physiological symptoms of stress and may reduce cortisol levels, which could ease her chest pains.*

2 *Seth could recommend regular exercise, such as brisk walking, which would help the patient lose the weight she is unhappy about. Exercise also releases endorphins, the body's natural chemicals that reduce stress and improve mood, replacing smoking as a way of coping.*

(Total for Question 14 = 4 marks)

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15 Esther is a psychologist working with clients who have been diagnosed with stress. She wants to investigate how life events and daily hassles may have influenced their condition.

She is going to gather self-report data by interviewing the clients using open questions.

(a) Explain **one** reason why Esther may have decided to gather self-report data for her investigation.

(2)

Open questions let each client describe their own life events and daily hassles in their own words, so Esther gathers qualitative, personalised accounts. This gives rich, detailed and valid data about the individual circumstances they believe have led to their stress, which closed questions could not capture.

(b) Explain **one** way that researcher effects may have an impact on Esther's investigation.

(2)

The clients may feel embarrassed talking to Esther face to face about their life events and daily hassles, and may not give true details of their experiences. They may give socially desirable answers to look as if they can cope with their stressors, which would reduce the validity of her findings.

(Total for Question 15 = 4 marks)

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16 Assess whether Selye's General Adaptation Syndrome (GAS) can fully explain stress.

(8)

Selye's General Adaptation Syndrome (GAS) explains the physiological response that takes place when we face any stressor, based on his research with rats exposed to stressors such as cold and injections. In the alarm stage the threat is perceived and the fight-or-flight response is activated, releasing adrenaline and cortisol. In the resistance stage the stressor continues and the body adapts, but the stress responses stay activated, using up resources. In the exhaustion stage energy stores are depleted, so health problems such as ulcers, high blood pressure and a weakened immune system can occur.

The GAS explains stress well in some ways. When faced with a stressor our thoughts quicken and we focus attention on the source of the threat, which matches the alarm stage. The exhaustion stage gives a clear explanation of how long-term stress leads to illness, so treatments and programmes can be developed to help people cope with the physical health problems linked to stress.

However, the GAS cannot fully explain stress because it ignores cognitive factors. It describes a non-specific response, yet people differ in how they appraise the same stressor. Beck and Weishaar (2010) suggest that CBT can reduce stress by changing negative thought patterns and the perception of threat, showing that stress depends on thinking as well as physiology.

The GAS also ignores individual differences such as gender. Goldstein et al. (2010) found greater activation of subcortical arousal circuitry in men than in women when facing stressful stimuli, so the same model may not apply equally to everyone. Selye's research was also on rats, which limits generalisation to humans.

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Overall, the GAS gives a useful explanation of the biological stages of stress and its link to illness, but it cannot fully explain stress because it overlooks cognitive appraisal and individual differences.

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17 Evaluate whether biological treatments and therapies are effective in reducing anxiety.

(8)

Biological treatments for anxiety include SSRIs and SNRIs. SSRIs, such as fluoxetine, increase serotonin levels in the brain by inhibiting its reuptake at the synapse, and take around 2 to 4 weeks before the patient benefits. SNRIs, such as duloxetine, block the serotonin and norepinephrine transporters, increasing levels of both neurotransmitters. Taking SNRIs can cause side effects for some patients, such as headaches and insomnia.

There is evidence that these drugs are effective. Nicolini et al. (2008) found that duloxetine had a 60% response rate compared with 42% for a placebo, suggesting it is an effective treatment for generalised anxiety disorder. Baldwin et al. (2011), in a meta-analysis of treatments for generalised anxiety disorder, found that fluoxetine was the most effective of the SSRIs compared, which also supports their use.

However, the 42% placebo response shows that expectation alone reduces anxiety for many patients, so part of the drug effect may not be biological. Patients who suffer side effects from SNRIs may stop taking the medication, so it will not be effective for them, and the delay of several weeks for SSRIs may lead some patients to give up before they benefit.

Drugs also treat the symptoms rather than the cause of anxiety, so symptoms may return when medication stops. Combining them with therapies such as CBT, which tackles the anxious thinking, may be more effective.

In conclusion, biological treatments are effective in reducing anxiety for many patients in the short term, but side effects, placebo effects and relapse mean they work best alongside psychological therapy.

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