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

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.

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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 Mungo is 10 months old. He dropped his teddy bear in a puddle and his mum picked it up. She put the teddy bear in her shopping bag as it was wet, and Mungo did not look for it.

When they got home, Mungo's mum put the teddy bear in the washing machine. His three-year-old sister Flora began to cry saying the teddy bear was going to be hurt.

(a) Identify which of Piaget's stages of cognitive development Mungo is in according to his behaviour.

(1)

Mungo is in the sensorimotor stage (0 to 2 years). He has not yet developed object permanence, as he did not look for his teddy bear once it was out of sight in the shopping bag.

(b) Describe, using Piaget's stages of cognitive development, why Flora may have thought that the teddy bear was going to be hurt.

(2)

Flora is three, so she is in the pre-operational stage (2 to 7 years), when a child's thinking shows animism. Flora has given feelings to the teddy bear, believing that it is alive like her, so she thinks it will feel pain and be hurt when it goes round in the washing machine.

(Total for Question 1 = 3 marks)

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2 In your studies of developmental psychology, you will have learned about theories of social and emotional development.

Explain **one** strength and **one** weakness of using mindfulness to enhance the development of children.

Strength

Mindfulness meditation helps children to concentrate on tasks and ignore distractions, aiding their cognitive development. Moore and Malinowski (2009) found a positive correlation between levels of meditation and attentional control, so children who pay more attention to tasks may improve their cognitive functioning.

Weakness

School-based mindfulness programmes often require all students to take part, so children who are not committed to the programme may not engage with it. It may therefore not be effective in enhancing their social, emotional or cognitive development, limiting its practical application in everyday school life.

(Total for Question 2 = 4 marks)

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3 Maud investigated whether using educational games improves children's learning. She sampled one child aged seven years old for her investigation.

The child played with an adult using a spelling game containing 20 words. Each time they completed the game the child had a spelling test on the 20 words from the game. They completed the game five times.

The data gathered by Maud in her investigation is shown in **Table 1**.

Spelling test	Number of words spelt correctly (out of 20)
1	6
2	8
3	10
4	14
5	16

Table 1

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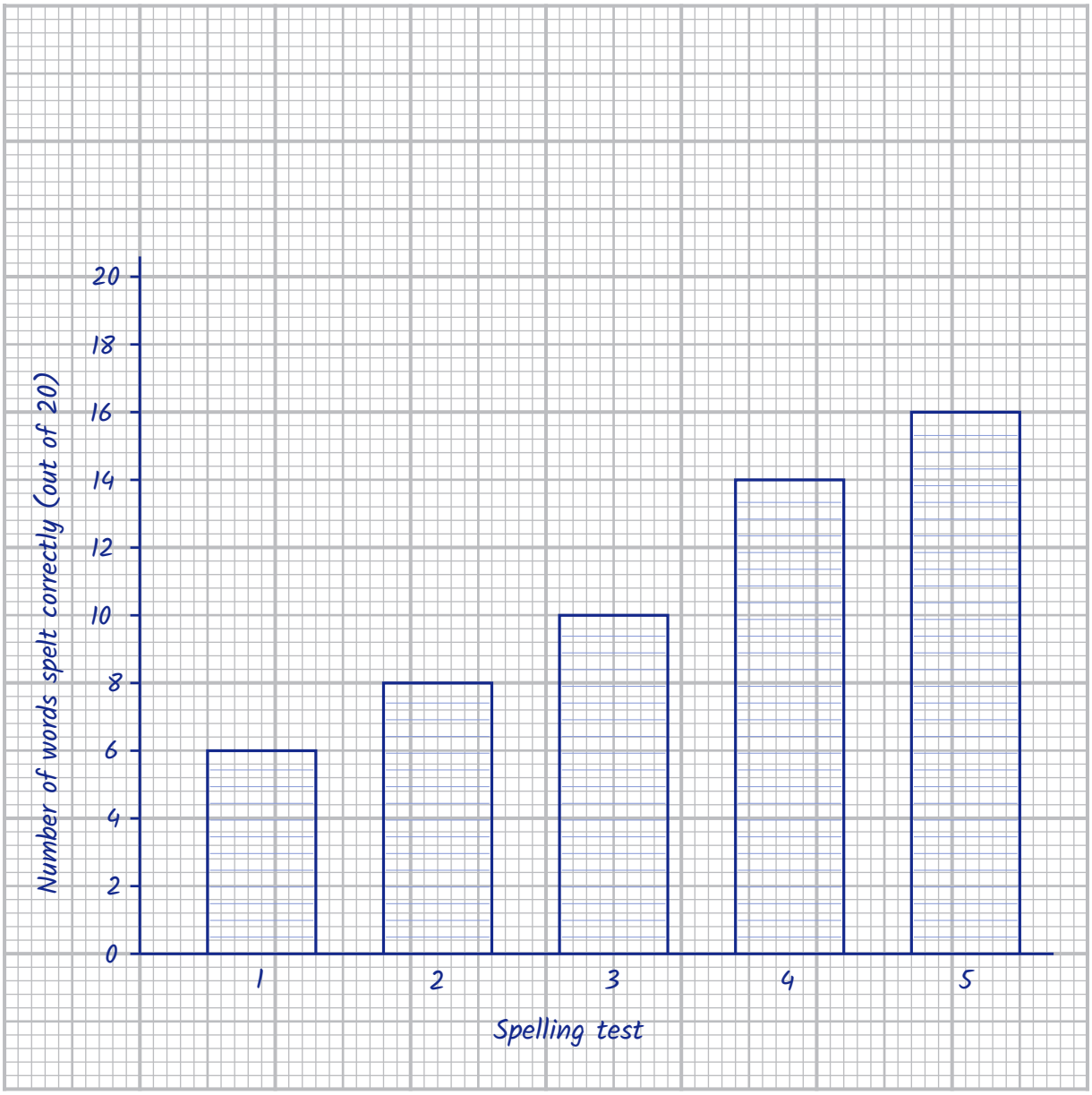
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(a) Draw a bar chart to represent the data in **Table 1**.

(3)

Title

Number of words spelt correctly in each of the five spelling tests



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(b) Explain **one** improvement that Maud could make to her investigation.

(2)

Maud sampled only one seven-year-old child, so she should use a larger, more representative sample of children of different ages and genders playing the spelling game. This would increase the generalisability of her findings about whether educational games improve spelling to the wider population of children.

(Total for Question 3 = 5 marks)

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4 Explain **one** strength and **one** weakness of Erikson's stages of psychosocial development.

Strength

Erikson's stages could be considered a more comprehensive explanation of development than theories such as Freud's, as they span from birth through to the end of life at the stage of integrity versus despair. This gives a holistic perspective on how individuals grow and develop over their whole lifetime.

Weakness

Interpreting which behaviours show a stage, such as a child's level of assertion during play in initiative versus guilt, is subjective. Therefore the stages lack scientific credibility as an explanation of development, as they cannot be empirically tested using objective methods.

(Total for Question 4 = 4 marks)

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5 Evaluate Skinner's theory of language development.

(8)

Skinner (1957) explained language development using the principles of operant conditioning: reinforcement and punishment. Language is verbal behaviour learned from consequences. Early words are learned through primary reinforcers such as food, so basic words meet survival needs, for example a mand such as 'milk' is reinforced by being given milk. Positive reinforcement such as praise and attention from caregivers encourages children to repeat words, and through shaping, babbling sounds that resemble words are reinforced and gradually become closer to adult speech. Words that are not reinforced with a desired consequence, including incorrect language, are not repeated and so become extinct.

A strength is that the theory has practical applications. Language can be taught by presenting objects or pictures as an antecedent to elicit a verbal response, with reinforcement given for correct use of words, which is used in behavioural programmes for children with language delay. The theory also fits a logical understanding of how babies develop, as they seek comfort or nourishment using basic communication and then words to name their needs, such as 'milk'.

However, Chomsky argued that we are born with an innate language acquisition device (LAD), so language develops without the need for stimuli or reinforcement. Children produce sentences they have never heard and make overgeneralisation errors such as 'I goed', which they cannot have imitated or been reinforced for. Children also keep constructing language with inaccuracies regardless of praise until about 5 years old, and Brown and Hanlon (1970) found parents tend to reinforce the truth of what a child says rather than its grammar, so reinforcement cannot explain how grammar is learned. Skinner's evidence was largely based on animal research, which may not generalise to human language.

In conclusion, Skinner's theory explains how early vocabulary and functional words are learned,

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but it cannot fully explain the speed and creativity of grammar development, so an interactionist view that combines innate ability with reinforcement from the environment is more convincing.

(Total for Question 5 = 8 marks)

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6 Assess whether the findings of cross-cultural research into attachment have furthered understanding in developmental psychology.

(8)

Cross-cultural research compares attachment in different cultures to see whether attachment types are universal or culturally specific. Ainsworth observed mothers and infants in Uganda and later in Baltimore, USA, using the strange situation procedure (SSP), and found secure attachment was linked to sensitive mothering in both cultures. Van IJzendoorn and Kroonenberg (1988) carried out a meta-analysis of 32 SSP studies from 8 countries and found that secure attachment (Type B) was the most common type in every country, although avoidant attachment was more common in Germany and resistant attachment in Japan and Israel.

These findings have furthered understanding because they suggest some universality in attachment, as across continents the mother acts as a safe base from which the child explores. This supports Bowlby's claim that attachment is innate and adaptive. Van IJzendoorn and Kroonenberg also found that variation within countries was 1.5 times greater than variation between them, showing that subcultures and parenting style matter as much as nationality.

However, Cassibba et al. (2013) found avoidant attachments were more common among Italian children, which they suggested may reflect Italian mothers promoting early independence. This shows research must be culturally relative to reflect the wider context of development. Miyake et al. (1985) found many Japanese infants were classified as insecure as they became extremely distressed when separated from their mothers, because Japanese infants are rarely left with strangers. This suggests the SSP takes an etic approach, imposing American values of parenting, so differences may reflect the method rather than real differences in attachment quality.

Overall, cross-cultural research has furthered understanding by showing that secure attachment is the most common type worldwide, but because the SSP is culturally biased its findings must

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be interpreted with caution, so it has only partly furthered our understanding of development.

(Total for Question 6 = 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

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

(a) State what is meant by the term 'weapons focus' as a factor that influences eyewitness memory.

(1)

Weapons focus is when a witness pays more attention to a threatening object, such as a gun or knife, used during a crime, which limits their ability to remember other features such as the criminal's face.

(b) Ludovic witnessed a robbery where he saw a woman fall over after a man stole her handbag. Later that day the local news reported on the robbery and described the injuries sustained by the woman.

The police interviewed Ludovic the next day. He claimed that he saw a man push a woman so hard that she fell over and broke her arm. Ludovic said she was crying in pain and the man then ran off with her handbag.

Describe how post-event information may have influenced the reliability of Ludovic's memory of the robbery.

(2)

The news report about the woman's injuries is post-event information, and it may have led Ludovic to inaccurately recall seeing her break her arm. It may have changed his memory of the robbery to include how hard the man pushed her and her crying in pain, when he originally only saw her fall over, making his account to the police less reliable.

(Total for Question 7 = 3 marks)

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8 Jago investigated the effectiveness of cognitive behavioural therapy for reducing the aggressive thoughts had by offenders. He sampled 10 male offenders from a local rehabilitation service.

Offenders were asked to tally the number of aggressive thoughts they had in two different one-week periods. The number of aggressive thoughts were first recorded before the offenders underwent any therapy, and then recorded again after therapy.

The data gathered by Jago is shown in **Table 2**.

Participant	Number of aggressive thoughts before cognitive behavioural therapy	Number of aggressive thoughts after cognitive behavioural therapy
A	17	13
B	15	15
C	18	15
D	12	14
E	16	12
F	14	13
G	18	14
H	20	15
I	16	11
J	15	13

Table 2

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(a) Complete **Table 3** and calculate the Wilcoxon Signed Ranks test for Jago's data.

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

(4)

Participant	Number of aggressive thoughts before cognitive behavioural therapy	Number of aggressive thoughts after cognitive behavioural therapy	Difference	Ranked difference
A	17	13	4	6
B	15	15	0	–
C	18	15	3	4
D	12	14	–2	2.5
E	16	12	4	6
F	14	13	1	1
G	18	14	4	6
H	20	15	5	8.5
I	16	11	5	8.5
J	15	13	2	2.5

Table 3

Space for calculations

Difference = before – after. B has a difference of 0, so it is not ranked: N = 9

Sum of positive ranks = 6 + 4 + 6 + 1 + 6 + 8.5 + 8.5 + 2.5 = 42.5

Sum of negative ranks = 2.5 (participant D only)

T = the smaller of the two totals = 2.5

Critical value for N = 9 at $p \leq 0.05$ (two-tailed) = 5, and $2.5 \leq 5$, so significant

T value ..... T = 2.5 .....

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(b) Explain **one** strength of Jago using a repeated measures design in his investigation.

(2)

Jago uses the same offenders before and after therapy, which removes the effects of participant variables such as temperament. This means any reduction in the number of aggressive thoughts should be due to cognitive behavioural therapy rather than individual differences between the offenders in each condition.

(c) Explain **one** improvement that Jago could make to his investigation.

(2)

Jago only sampled 10 male offenders from one local rehabilitation service, so he could sample male and female offenders from a wider range of rehabilitation services. This would give a more representative sample, so he could generalise his findings to a wider target population of offenders.

(Total for Question 8 = 8 marks)

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9 When Lucy was young, her parents often told her that she was naughty. She then began stealing from an early age.

Lucy has recently been arrested for burglary for the third time. The police have warned her that she may be sent to prison. Her older brother told Lucy that going to prison was no surprise as he had always said she was unlikely to be successful in life.

(a) Describe how self-fulfilling prophecy may have influenced Lucy's behaviour.

(2)

Lucy may have internalised the label of being 'naughty' given by her parents, so it became part of her own identity as a bad person. She then lived up to this expectation by stealing from an early age and repeatedly committing burglary, and her brother's low expectations may further confirm the label.

(b) Describe how cognitive behavioural therapy could be used to help Lucy change her behaviour.

(3)

A therapist would help Lucy understand how her faulty and negative thought processes, such as seeing herself as naughty and unlikely to succeed, may have led her to think that stealing is acceptable. The therapist would then help her identify and challenge the maladaptive thoughts she has about how stealing helps her achieve success in life, replacing them with more realistic, positive thoughts. Lucy would then develop alternative behavioural responses to these thoughts, practising them through role play and homework tasks, to reduce reoffending so that she stops committing burglary.

(Total for Question 9 = 5 marks)

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10 Evaluate the classic study by Loftus and Palmer (1974) in terms of reliability and validity.

(8)

In experiment 1, Loftus and Palmer (1974) showed 45 students seven short film clips of traffic accidents, lasting 5 to 30 seconds. Participants answered a questionnaire including a critical question, 'About how fast were the cars going when they hit each other?', with the verb changed to smashed, collided, bumped or contacted. Speed estimates were highest for smashed (40.8 mph) and lowest for contacted (31.8 mph). In experiment 2, 150 students saw a film of a multiple car crash and were asked the speed question with smashed or hit, or no speed question. A week later they returned and answered ten questions, including the critical question 'Did you see any broken glass?' placed randomly among them, although there was no broken glass. More participants in the smashed condition said yes (16) than hit (7) or control (6).

The study has high reliability, as it was a lab experiment with a standardised procedure, the same clips and questions, so it can be repeated to check consistency. Quantitative data from speed estimates and closed yes/no questions are objective, so interpretation is not subject to researcher bias. However, during the week between sessions participants may have discussed the film or seen other accidents, which are extraneous variables that could have altered memory, so the results may be less reliable.

Internal validity is high because only the verb was changed, so Loftus and Palmer can be more certain the verb caused the different speed estimates, increasing construct validity. Experiment 2 also showed memory itself was changed, not just a response bias. However, watching a film in a controlled setting is not representative of witnessing a real accident, where there is shock and emotional arousal, so ecological validity is low. Yuille and Cutshall (1986) found real witnesses to a shooting resisted misleading questions. Students may also lack driving experience and may have shown demand characteristics, lowering population validity.

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In conclusion, the study is reliable and has good internal validity, but its low ecological validity means its findings about leading questions may not fully apply to real eyewitnesses.

(Total for Question 10 = 8 marks)

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11 Assess the effect of pre-trial publicity as a factor that influences jury decision-making.

(8)

Pre-trial publicity (PTP) is media coverage of a crime, in newspapers, on radio, television or social media, before the case goes to trial. High profile cases are more newsworthy, so they are reported more widely than everyday cases. PTP may present the credibility of the defendant or victim in a negative or positive way, and jurors who have seen it may already have formed an opinion before hearing the evidence. Research on PTP often uses mock juries who read news reports and then watch a replicated trial.

Steblay et al. (1999) carried out a meta-analysis of 44 studies and found a significant effect of PTP on judgements about the defendant: negative information about the defendant and crime increased the likelihood of a guilty verdict. Ruva and McEvoy (2008) found that a defendant's credibility was perceived as higher when PTP had been positive, so PTP can lead jurors to make both harsh and lenient decisions about guilt. Kramer et al. (1990) found emotional PTP had a stronger biasing effect than factual PTP, and judges' instructions did not remove it, suggesting PTP is a powerful factor.

However, most research uses mock juries, where there is no real consequence of the verdict. Real jurors consider a wide range of evidence over a long trial, so the research may not reflect the actual effect of PTP in real courts, lowering ecological validity. In real trials jurors are told to disregard PTP and are not allowed to research the case, so its effect may be reduced, whether the case is high or low profile. The strength of the effect also depends on the time between the publicity and the trial, and the strength of the trial evidence.

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Overall, there is consistent evidence that PTP, especially negative and emotional publicity, can bias jury decisions, but because the evidence comes mainly from mock juries the size of its effect in real trials is likely to be smaller than research suggests.

(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 coping strategies.

(a) State what is meant by the term 'negative technique' as a coping strategy.

(1)

A negative technique is when a person uses dangerous or risk-taking behaviours, such as smoking, drinking alcohol or taking drugs, to try to reduce their stress.

(b) Ludovic was on holiday and when he returned home, he found that his house had been burgled. His personal possessions had been burned and graffiti sprayed on the walls. Ludovic was traumatised by the event and felt very stressed.

Ludovic contacted his doctor to see if she could help him deal with the stress he was experiencing. The doctor suggested that he could use positive techniques as a coping strategy to manage his stress.

Describe how Ludovic could use a positive technique to cope with the stress of the burglary.

(2)

Ludovic could use social support by discussing the burglary with a close friend or relative, sharing his thoughts and feelings about finding his possessions burned and graffiti on his walls. This would help him make sense of his feelings of stress about what happened and cope with the destruction of his personal possessions.

(Total for Question 12 = 3 marks)

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13 Jago investigated the effectiveness of cognitive behavioural therapy for reducing the anxiety attacks in patients with anxiety. He sampled 10 male patients from a local mental health service.

Patients were asked to tally the number of anxiety attacks they had in two different one-week periods. The number of anxiety attacks were first recorded before the patients underwent any therapy, and then recorded again after therapy.

The data gathered by Jago is shown in **Table 4**.

Participant	Number of anxiety attacks before cognitive behavioural therapy	Number of anxiety attacks after cognitive behavioural therapy
A	17	13
B	15	15
C	18	15
D	12	14
E	16	12
F	14	13
G	18	14
H	20	15
I	16	11
J	15	13

Table 4

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(a) Complete **Table 5** and calculate the Wilcoxon Signed Ranks test for Jago's data.

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

(4)

Participant	Number of anxiety attacks before cognitive behavioural therapy	Number of anxiety attacks after cognitive behavioural therapy	Difference	Ranked difference
A	17	13	4	6
B	15	15	0	–
C	18	15	3	4
D	12	14	−2	2.5
E	16	12	4	6
F	14	13	1	1
G	18	14	4	6
H	20	15	5	8.5
I	16	11	5	8.5
J	15	13	2	2.5

Table 5

Space for calculations

Difference = before − after. B has a difference of 0, so it is not ranked: N = 9

Sum of positive ranks = 6 + 4 + 6 + 1 + 6 + 8.5 + 8.5 + 2.5 = 42.5

Sum of negative ranks = 2.5 (participant D only)

T = the smaller of the two totals = 2.5

Critical value for N = 9 at $p \leq 0.05$ (two-tailed) = 5, and $2.5 \leq 5$, so significant

T value ..... T = 2.5 .....

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(b) Explain **one** strength of Jago using a repeated measures design in his investigation.

(2)

Jago uses the same patients before and after therapy, which removes the effects of participant variables such as the severity of their anxiety. This means any reduction in the number of anxiety attacks should be due to cognitive behavioural therapy rather than individual differences between the patients in each condition.

(c) Explain **one** improvement that Jago could make to his investigation.

(2)

Jago only sampled 10 male patients from one local mental health service, so he could sample male and female patients from a wider range of mental health services. This would give a more representative sample, so he could generalise his findings to a wider target population of people with anxiety.

(Total for Question 13 = 8 marks)

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14 Lucy lost her job six months ago and has started to have difficulty sleeping. She finds that her heart rate increases when she is faced with new situations.

Lucy has been trying to find another job, but when she attends interviews she struggles to concentrate and cannot focus on the questions being asked. Lucy visited a doctor who diagnosed her with an anxiety disorder and stress.

(a) Describe how the prefrontal cortex may be associated with Lucy's stress.

(2)

Losing her job is a stressful situation, and high levels of stress hormones may have impaired the working memory function of Lucy's prefrontal cortex. This means she finds it difficult to focus on the questions in interviews and loses concentration.

(b) Describe how cognitive behavioural therapy could be used to help Lucy with her anxiety disorder.

(3)

A therapist would help Lucy understand how her faulty and negative thought processes, such as expecting to fail, may have led her to struggle with new situations and feel her heart rate rise. The therapist would then help her identify and challenge any maladaptive thoughts she has about her abilities in employment and work since losing her job, replacing them with more realistic thoughts. Lucy would then develop alternative behavioural responses, for example practising mock interviews and relaxation, to help her regain concentration and focus when she is being interviewed.

(Total for Question 14 = 5 marks)

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15 Evaluate the classic study by Brady (1958) in terms of reliability and validity.

(8)

Brady (1958) used four pairs of rhesus monkeys held in restraining chairs. In each pair one monkey was the 'executive', responsible for pressing a lever at least every 20 seconds to prevent an electric shock to both monkeys, while the 'yoked' monkey's lever had no effect. Pairs were on a schedule of 6 hours of shock avoidance followed by 6 hours 'off' with no shocks, over about three weeks. Psychological stress was operationalised as the decision-making the executive had to make to press the lever in time. Only the executive monkeys developed severe stomach ulcers, so Brady concluded this was due to the stress of decision-making, not the shocks.

The study has high reliability because it used a clear, standardised procedure with controlled timings, so it could be repeated with more primates to check for consistency. Both monkeys in each pair received the same shocks, which controls the physical stressor. However, interpreting what caused the ulcers relies on judging the psychological perception of stress in primates, which is subjective. Also Weiss (1972) found that rats with no control over shocks developed more ulcers than those with control, contradicting Brady, so the findings may not be reliable.

Validity is limited. The monkeys were not randomly allocated: executives were chosen because they learned to press the lever faster in a pilot, so individual differences may have caused the ulcers, lowering internal validity. The task lacks ecological validity, as primates would not make decisions about electric shocks in the wild, and results from monkeys may not generalise to human stressors. However, the study has some predictive validity, as Deding et al. (2016) found people with high levels of perceived stress were at greater risk of developing peptic ulcers.

In conclusion, Brady's study is replicable and partly supported by human research, but low internal and ecological validity mean its conclusions about stress causing ulcers should be treated with caution.

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(Total for Question 15 = 8 marks)

16 Assess the effectiveness of social support in reducing the symptoms of stress.

(8)

Social support is help from other people, such as emotional support from friends who listen as a person shares feelings and worries, practical help, or support from a community with shared interests and beliefs, such as a church. Physiologically, stress activates the HPA axis, releasing cortisol, and positive social situations such as support may reduce this response. Support from family members can differ between generations and family groups, and support that is imposed may not be positive for the person with stress.

There is evidence that social support is effective. Ozbay et al. (2007) suggest that when social support is present HPA activity is dampened, which may lead to resilience to stress and fewer symptoms, explaining how support works biologically. Nakonz and Shik (2009) found religious coping strategies, such as being part of a church community, helped emotional adjustment to stressful situations. Kiecolt-Glaser et al. (1984) found medical students who reported more loneliness had lower immune functioning during exams, suggesting a lack of support worsens the physical symptoms of stress.

However, social support is not always effective. Sonuga-Barke and Mistry (2000) found that mothers living in extended families suffered from higher levels of anxiety, so family support may increase rather than reduce stress, especially if it is imposed. Talking about feelings may also increase worry if a friend focuses on the problem before a stressful event. Much of the research is correlational, so people who are less stressed may simply find it easier to build support networks. Effectiveness also depends on individual differences, as Taylor et al. (2000) suggested women are more likely than men to seek support (tend and befriend).

Overall, social support is generally effective in reducing stress symptoms, particularly when it is wanted and fits the person's culture, but it is not effective for everyone and can increase stress

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when it is unwanted.

(Total for Question 16 = 8 marks)

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

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