Please check the examination details below before entering your candidate information

Candidate surname	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.

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.

SECTION A

DEVELOPMENTAL PSYCHOLOGY

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

1 (a) Describe what is meant by Vygotsky's zone of proximal development (ZPD).

(2)

(b) Explain **one** strength and **one** weakness of Vygotsky's zone of proximal development (ZPD).

(4)

Strength

Weakness

(Total for Question 1 = 6 marks)

2 Nicklaus conducted a content analysis to investigate the language development of children. He asked the teachers of two different classes in a local school to provide him with a piece of writing that the children had completed.

Nicklaus analysed the number of words the children in each class wrote in each sentence of their piece of writing.

- Group A: Children aged six years old.
- Group B: Children aged ten years old.

The data gathered by Nicklaus is shown in **Table 1**.

Group A: children aged six years old	Mean number of words written in a sentence	Group B: children aged ten years old	Mean number of words written in a sentence
A	3	**F**	8
B	4	**G**	6
C	4	**H**	4
D	5	**I**	7
E	3	**J**	6
Standard deviation = 0.84		Standard deviation = 1.48	

Table 1

(a) Explain what the two standard deviations in **Table 1** show about Nicklaus's data.

(2)

(b) Explain **one** weakness of Nicklaus calculating the standard deviation for his data.

(2)

(c) Explain **one** improvement Nicklaus could make to his investigation in terms of validity.

(2)

(Total for Question 2 = 6 marks)

3 Sophie is a teacher. She has decided to investigate whether mindfulness will enhance the emotional development of the seven-year-old children in her school.

Sophie measured the emotional development of the children before she gave them mindfulness training. She did this by giving them scenarios and asking the children to explain the emotions that people in the scenarios might be feeling. She scored each child out of 10, with 10 being highly emotionally developed.

Sophie then gave the children mindfulness training. She taught them to focus on their breathing for three minutes a day. After a month of mindfulness training, she measured the emotional development of the children again.

(a) State a fully operationalised directional (one-tailed) hypothesis for Sophie's investigation.

(2)

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(b) Describe how Sophie may have gathered her participants using a random sampling technique.

(2)

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(Total for Question 3 = 4 marks)

4 Vanessa has an eight-month-old son called Julius. She decided to stop working when Julius was born to look after him full time. Vanessa is the parent who feeds Julius. She also spends a lot of time playing with him and singing to him, which he seems to enjoy.

Over the past 8 months Vanessa has learnt that Julius has different cries for when he is hungry, tired, wants his nappy changing or wants to be picked up. She has noticed that Julius has developed an attachment to her.

Discuss **one** learning theory of attachment as an explanation of Vanessa and Julius's behaviour.

You must make reference to the context in your answer.

(8)

(Total for Question 4 = 8 marks)

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5 Assess whether the strange situation procedure could be considered ethical.

(8)

(Total for Question 5 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

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 that influence jury decision-making.

Describe how attractiveness may influence jury decision-making.

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(Total for Question 6 = 2 marks)

7 Marcellus carried out an experiment to see if the cognitive interview was effective in gaining accurate information about a car accident. He used an independent groups experimental research design, with each group of participants watching a different video of a car accident.

- Condition A: he conducted a standard interview after the participants had watched a video of a car accident.
- Condition B: he conducted a cognitive interview after the participants had watched a video of a car accident.

Once the interviews had been completed, Marcellus used the number of correct details recalled by each participant to then categorise his data into accurate and inaccurate recall.

(a) Justify why Marcellus used an independent groups experimental research design.

(2)

Marcellus conducted a chi squared test on his data. The data is shown in **Table 2**.

		Observed	Expected	O–E	$(O–E)^2$	$(O–E)^2/E$
Condition A: Standard interview	**Accurate recall**	5	9.92			
	Inaccurate recall	12	7.08			
Condition B: Cognitive interview	**Accurate recall**	16	11.08			
	Inaccurate recall	3	7.92			
					Chi squared =	

Table 2

(b) Calculate the chi squared for the data gathered by Marcellus by completing **Table 2**.

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

(4)

Space for calculations

(c) Explain **one** way that Marcellus could improve the reliability of his experiment.

(2)

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(Total for Question 7 = 8 marks)

8 Mina lives in an area that has a high rate of crime. Her sister is in prison for armed robbery from a local shop. Mina has noticed that people treat her differently to her friends who live in another area of the town.

She has seen a necklace that she likes in a shop, but has not got enough money to buy it. The next time Mina is in the shop she steals the necklace.

Explain **two** ways Mina's behaviour could be accounted for by the self-fulfilling prophecy.

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(Total for Question 8 = 4 marks)

9 Abraham is concerned about the influence of violent cartoons on the behaviour of the children at the nursery he works at. He has noticed the children becoming more aggressive towards each other since a new cartoon was released on the television. He recently had to stop two children playing when one punched the other as part of the game.

Explain **one** strength of social learning from the media as an explanation of the behaviour of the children at the nursery.

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(Total for Question 9 = 2 marks)

10 In your studies of criminological psychology you will have learnt about the contemporary study by Bradbury and Williams (2013).

Assess how far Bradbury and Williams (2013) has furthered our understanding about the effects of race on juror decision-making.

(8)

(Total for Question 10 = 8 marks)

11 Evaluate post-event information as a factor influencing the reliability of eye-witness memory.

(8)

(Total for Question 11 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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 influence of stress on the hippocampus.

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(Total for Question 12 = 2 marks)

13 Marcellus carried out an experiment to see if cognitive behavioural therapy (CBT) was an effective treatment for anxiety disorders. He used an independent groups experimental research design with each group seeing a different clinician.

- Condition A: patients received drug treatment for their anxiety.
- Condition B: patients received cognitive behavioural therapy (CBT) for their anxiety.

Once the treatments had been completed, Marcellus categorised whether the patients stated that they felt their anxiety was reduced, or whether they stated that they felt their anxiety was not reduced.

(a) Justify why Marcellus used an independent groups experimental research design.

(2)

Marcellus conducted a chi squared test. The data gathered by Marcellus is shown in **Table 3**.

		Observed	Expected	O–E	$(O–E)^2$	$(O–E)^2/E$
Condition A: Drug treatment	**Anxiety reduced**	5	9.92			
	Anxiety not reduced	12	7.08			
Condition B: Cognitive behavioural therapy	**Anxiety reduced**	16	11.08			
	Anxiety not reduced	3	7.92			
					Chi squared =	

Table 3

(b) Calculate the chi squared for the data gathered by Marcellus by completing **Table 3**.

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

(4)

Space for calculations

(c) Explain **one** way that Marcellus could improve the reliability of his experiment.

(2)

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(Total for Question 13 = 8 marks)

14 Mina has recently felt more stress in her life. She has got a new job, which means she has moved a long distance away from her family and friends.

Mina used to see her family at least once a week but now she can only see them once a month. Due to the long hours she works, Mina does not know any of her neighbours, and finds it hard to join in any community activities.

Explain **two** ways that a lack of social support may affect Mina's stress.

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(Total for Question 14 = 4 marks)

15 Abraham is concerned about the stress levels of his students. He has noticed that over the past year his students have become more stressed and this is affecting their learning. Some students are finding it difficult to revise for class tests. Other students have a lack of motivation. Abraham decides to use problem focusing to help the students cope with their stress.

Explain **one** strength of Abraham using problem focusing to help his students cope with their stress.

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(Total for Question 15 = 2 marks)

16 In your studies of health psychology, you will have learnt about the contemporary study by Nakonz and Shik (2009).

Assess how far Nakonz and Shik (2009) has furthered our understanding of the effect of religious coping strategies.

(8)

(Total for Question 16 = 8 marks)

17 Evaluate life events and daily hassles as an explanation of stress.

(8)

(Total for Question 17 = 8 marks)

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

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