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 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)

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

(2)

(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

(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 .....

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

(1)

Space for calculations

Range .....

(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		
B	41	38		
C	39	45		
D	38	42		
E	37	39		
F	39	40		
G	38	39		
H	36	46		

Table 2

Space for calculations

T value .....

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

(2)

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(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

Weakness

(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)

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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)

(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.

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(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)

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2 .....

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

(2)

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(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.

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2 .....

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(Total for Question 8 = 4 marks)

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)

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

(2)

(Total for Question 9 = 4 marks)

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

(8)

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(Total for Question 10 = 8 marks)

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

(8)

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(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.

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(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)

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2 .....

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

(2)

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(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.

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2 .....

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(Total for Question 14 = 4 marks)

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)

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

(2)

(Total for Question 15 = 4 marks)

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

(8)

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(Total for Question 16 = 8 marks)

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

(8)

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(Total for Question 17 = 8 marks)

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

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