Write your name here

Surname	Other names

Pearson Edexcel
International Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Psychology

International Advanced Level
Paper 3: Applications of Psychology

Wednesday 7 June 2017 – Afternoon
Time: 1 hour 30 minutes

Paper Reference
WPS03/01

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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P 5 2 1 9 3 A 0 1 3 6

Pearson

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.

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SECTION A

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

1 Diana is 17 years of age and lives with her grandparents who are in their seventies.

(a) Identify which of Erikson's stages of psychosocial development Diana and her grandparents are presently experiencing.

(2)

Diana

.....

Grandparents

.....

Diana's brother is in the Industry versus Inferiority stage of psychosocial development.

(b) State **two** typical behaviours Diana's brother may demonstrate in this stage.

(2)

1 .....

.....

2 .....

.....

(Total for Question 1 = 4 marks)

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2 Chomsky claimed that children learn language through a language acquisition device (LAD).

(a) State what is meant by the concept of language acquisition device (LAD).

(2)

Two studies into Chomsky's language acquisition device (LAD) found that an infant's active vocabulary developed gradually with age. Study A tested 18 children in 1973. Twenty years later, in 1993, Study B tested 1,789 children.

(b) Justify why **Study B** is more representative.

(2)

(c) Explain **one** weakness of the concept of language acquisition device (LAD).

(2)

(Total for Question 2 = 6 marks)

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3 Alessandro and Monik investigated whether exposure to physical aggression would influence behaviour amongst five-year-old children. They tested 11 male and 11 female children in a laboratory setting.

The mean numbers of imitative physical aggressive acts that are copied by the children from adult role models are shown in **Table 1**.

Gender of children	Female aggressive adult role model	Male aggressive adult role model
Female	5.5	7.2
Male	12.4	25.8

Table 1

(a) Calculate the **total mean** number of imitative physical aggressive acts copied from all aggressive adult role models by male children.

Give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Total mean number .....

(b) Explain how the results of this study support social learning theory as an explanation of antisocial behaviour.

(4)

(c) State **one** weakness of Alessandro and Monik's study.

(1)

(Total for Question 3 = 6 marks)

4 Rebecca is a one-year-old child who has been in hospital for five weeks. There are limited visiting hours in the hospital and her mother, Danielle, has to be at home to look after Rebecca's brother.

Danielle is worried that this separation from Rebecca will affect their attachment.

Discuss, using Bowlby's theory of attachment, the effects this separation may have on Rebecca.

(8)

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(Total for Question 4 = 8 marks)

5 Evaluate whether research involving children can be conducted with sufficient ethical considerations.

(8)

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(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 answer with a cross ☒.

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

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

Write your answers in the spaces provided.

6 Cognitive behavioural therapy (CBT) is used as a treatment for offenders.

(a) Define cognitive behavioural therapy (CBT) as a treatment for offenders.

(1)

.....

.....

.....

.....

(b) State **one** strength of cognitive behavioural therapy (CBT) as a treatment for offenders.

(1)

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(Total for Question 6 = 2 marks)

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7 A psychologist investigated the use of cognitive interviews and standard interviews when asking participants to recall information.

The results are shown in **Table 2**.

Participant	Number of correct items recalled in a cognitive interview	Number of correct items recalled in a standard interview
1	45	6
2	48	8
3	36	10
4	34	9
5	44	9
6	39	9
7	48	8
8	56	7
9	46	8
10	54	6

Table 2

(a) Calculate the **median** for the number of correct items recalled in a **standard interview**.

(1)

Space for calculations

Median for the number of correct items .....

(b) Give **one** conclusion that can be drawn from the data in **Table 2**.

(1)

.....

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(c) Calculate the **standard deviation** for the number of correct items recalled as shown in **Table 3**. You must give your answer to **two** decimal places.

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

You must show your working.

(2)

Participant	Number of correct items recalled	$x - \bar{x}$	$(x - \bar{x})^2$
1	45	0	0
2	48	–3	9
3	36	9	81
4	34	11	121
5	44	1	1
6	39	6	36
7	48	–3	9
8	56	–11	121
9	46	–1	1
10	54	–9	81
Total sum	450		460
Mean score of correct number of items recalled = 45			

Table 3

Space for calculations

Standard deviation .....

(d) Explain **two** strengths of using a cognitive interview.

(4)

Strength 1

Strength 2

(Total for Question 7 = 8 marks)

8 Benito and Giovanni investigated the number of prisoners who completed a course of cognitive behaviour therapy (CBT). The treatment was due to last 15 weeks in total.

Table 4 shows the number of participants who remained in the treatment at various time intervals.

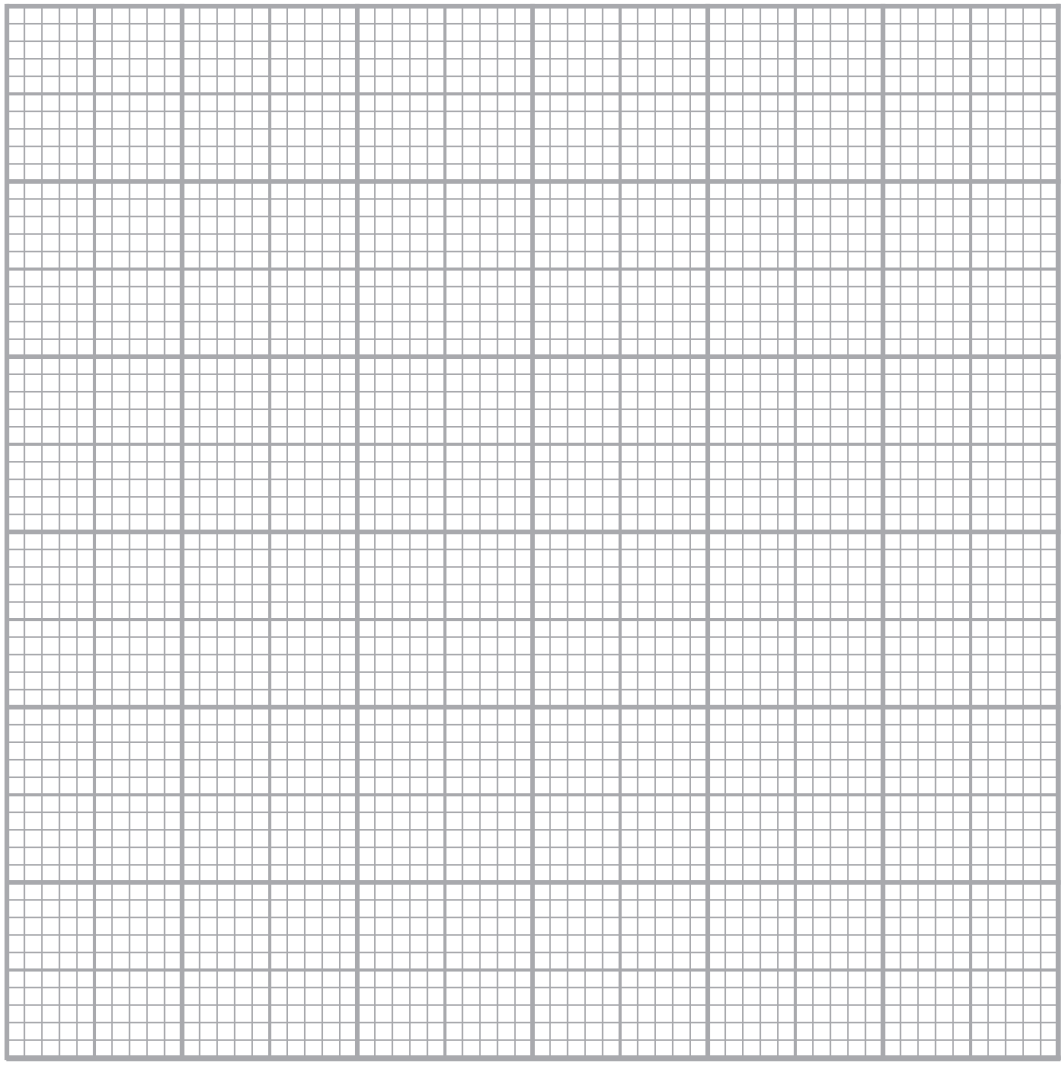
Number of weeks into treatment	Number of prisoners
0	50
5	35
10	30
15	25

Table 4

(a) Draw a scatter diagram to illustrate the data in **Table 4**.

(3)

Title



(b) State **one** conclusion that could be drawn from the data in **Table 4**.

(1)

Benito and Giovanni used self-report questionnaires to gather their data.

(c) Explain **one** weakness of self-report questionnaires.

(2)

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(Total for Question 8 = 6 marks)

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9 Assess how far self-fulfilling prophecy can explain criminal and antisocial behaviour.

(8)

(Total for Question 9 = 8 marks)

10 Evaluate the contemporary study by Bradbury and Williams (2013).

(8)

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(Total for Question 10 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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SECTION B

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

OPTION 2: HEALTH PSYCHOLOGY

Write your answers in the spaces provided.

11 Some personality types are more likely to suffer from stress.

Define what is meant by 'Type A personality' in relation to stress.

.....

.....

.....

(Total for Question 11 = 1 mark)

12 Mateus and Marissa conducted research to investigate life events and levels of stress. They asked students to complete a self-report questionnaire a month before their final examinations, and again when they were undertaking their final examinations. The results of their investigation are shown in **Table 5**.

Participant	Stress score before examinations	Stress score during examinations
1	45	60
2	38	55
3	48	65
4	50	68
5	37	48
6	43	50
7	43	57
8	52	63
9	39	58
10	32	46

Table 5

(a) Calculate the **median** stress score for the participants **before** their examinations.

(1)

Space for calculations

Median stress score .....

(b) State **two** conclusions that can be drawn from the data in **Table 5**.

(2)

1 .....

.....

.....

2 .....

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.....

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(c) Calculate the **standard deviation** for the stress scores during examinations as shown in **Table 6**. You must give your answer to **two** decimal places.

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

You must show your working.

(2)

Participant	**Stress score during examinations**	$x - \bar{x}$	$(x - \bar{x})^2$
1	60	–3	9
2	55	2	4
3	65	–8	64
4	68	–11	121
5	48	9	81
6	50	7	49
7	57	0	0
8	63	–6	36
9	58	–1	1
10	46	11	121
Total Sum	570		486
Mean stress level for participants during their final exams = 57			

Table 6

Space for calculations

Standard deviation .....

(d) Explain **two** strengths of using a self-report questionnaire.

(4)

Strength 1

Strength 2

(Total for Question 12 = 9 marks)

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13 Ronnie and Presley investigated stress levels in participants during their final year of work before retiring. Stress levels were scored out of 50.

Table 7 shows the results of Ronnie and Presley's investigation.

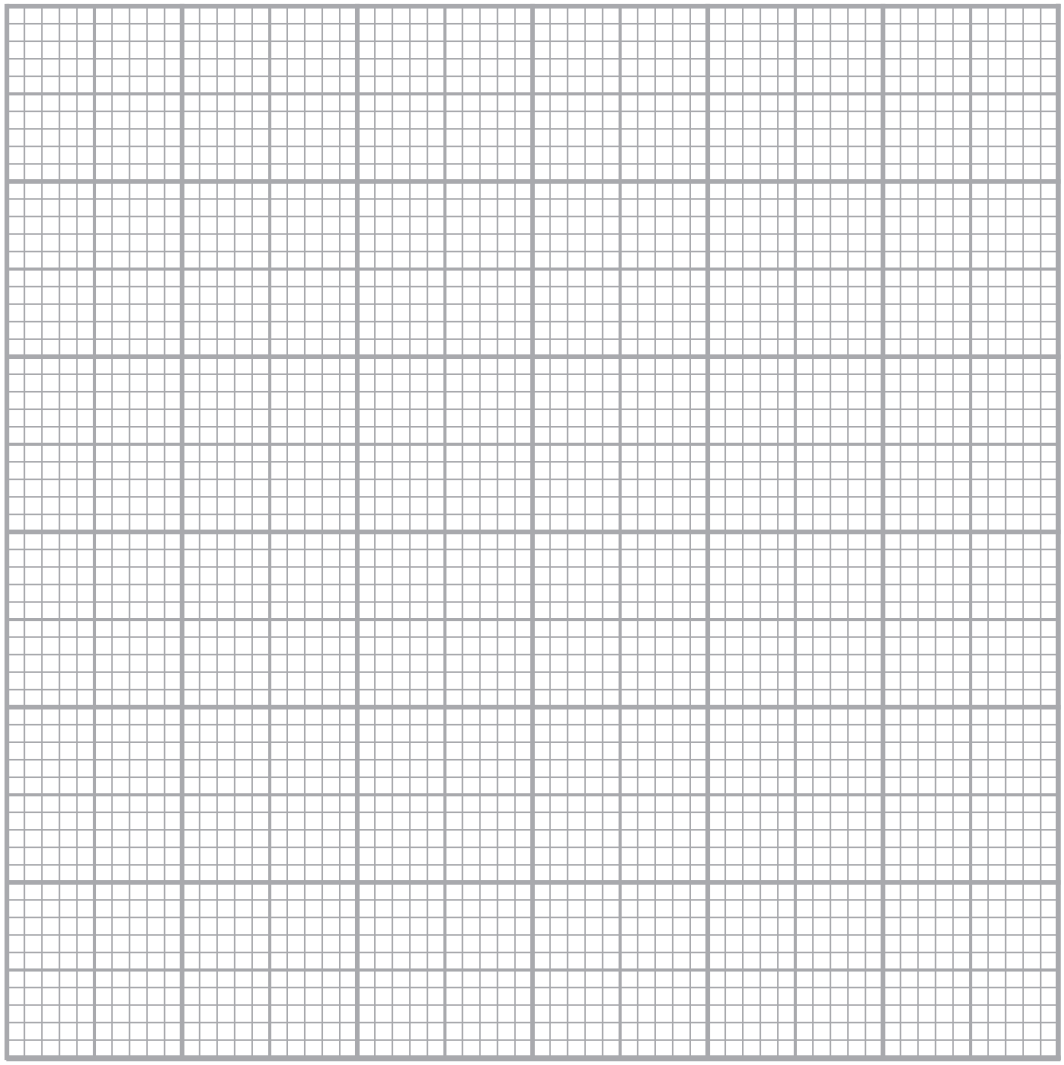
Participant	Condition A Stress level at the beginning of the final year of working	Condition B Stress level in the final month of working
1	10	30
2	5	15
3	15	45
4	35	50
5	20	30

Table 7

(a) Draw a bar chart to illustrate the data for **Condition A** in **Table 7**.

(3)

Title



(b) State **one** conclusion that could be drawn from the data in **Table 7**.

(1)

Stress can be measured using the Holmes and Rahe stress scale.

(c) Explain **one** weakness of the Holmes and Rahe stress scale.

(2)

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(Total for Question 13 = 6 marks)

14 Evaluate whether physiological explanations can fully explain stress.

(8)

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(Total for Question 14 = 8 marks)

15 Evaluate the classic study by Brady (1958).

(8)

(Total for Question 15 = 8 marks)

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

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