

Please check the examination details below before entering your candidate information

Candidate surname

Other names

**Pearson Edexcel
International
Advanced Level**

Centre Number

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Candidate Number

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Monday 20 May 2019

Afternoon (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.

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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

N	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				
	0.10	0.05	0.025	0.01	0.005
4	1.000	1.000	1.000	1.000	1.000
5	0.700	0.900	0.900	1.000	1.000
6	0.657	0.771	0.829	0.943	0.943
7	0.571	0.679	0.786	0.857	0.893
8	0.548	0.643	0.738	0.810	0.857
9	0.483	0.600	0.683	0.767	0.817
10	0.442	0.564	0.649	0.733	0.782
11	0.418	0.527	0.609	0.700	0.755
12	0.399	0.504	0.587	0.671	0.727
13	0.379	0.478	0.560	0.648	0.698
14	0.367	0.459	0.539	0.622	0.675
15	0.350	0.443	0.518	0.600	0.654
16	0.338	0.427	0.503	0.582	0.632
17	0.327	0.412	0.482	0.558	0.606
18	0.317	0.400	0.468	0.543	0.590
19	0.308	0.389	0.456	0.529	0.575
20	0.299	0.378	0.444	0.516	0.561
21	0.291	0.369	0.433	0.503	0.549
22	0.284	0.360	0.423	0.492	0.537
23	0.277	0.352	0.413	0.482	0.526
24	0.271	0.344	0.404	0.472	0.515
25	0.265	0.337	0.396	0.462	0.505
26	0.260	0.330	0.388	0.453	0.496
27	0.255	0.323	0.381	0.445	0.487
28	0.250	0.317	0.374	0.437	0.479
29	0.245	0.312	0.367	0.430	0.471
30	0.241	0.306	0.361	0.423	0.463

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.



Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E}$$

$$df = (r - 1)(c - 1)$$

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

<i>n</i>	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
	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 the following contemporary study in detail:

- Cassibba et al. (2013).

(a) Explain **two** strengths of Cassibba et al. (2013).

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(b) Explain **one** improvement that could be made to the study by Cassibba et al. (2013).

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(Total for Question 1 = 6 marks)

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- 2 Nina investigated the influence of mindfulness on emotional development. She wanted to see the impact of a school-based mindfulness programme on levels of empathy in children.

Participants took part in a mindfulness programme for 10 weeks. At the end of the programme they were assessed on their levels of empathy.

The same participants then took part in a non-mindfulness social responsibility programme for a further 10 weeks. They were then assessed on their levels of empathy.

Empathy was measured on a scale of 0-28, where 28 was extremely high empathy.

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

Participant	Empathy score after mindfulness programme	Empathy score after non-mindfulness social responsibility programme
A	25	24
B	20	22
C	22	12
D	19	16
E	27	20
F	10	10
G	19	11
H	24	19
I	16	5
J	18	14

Table 1



(a) Complete **Table 2** and calculate the Wilcoxon Signed Ranks test for Nina's data.

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

(4)

Participant	Empathy score after mindfulness programme	Empathy score after non-mindfulness social responsibility programme	Difference	Ranked Difference
A	25	24		
B	20	22		
C	22	12		
D	19	16		
E	27	20		
F	10	10		
G	19	11		
H	24	19		
I	16	5		
J	18	14		

Table 2
Space for calculations

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(b) Nina collected data from 1000 participants who had experienced the school-based mindfulness programme. She presented the data in a histogram to illustrate the distribution of empathy scores after 10 weeks of the mindfulness programme.

Nina's histogram is shown in **Figure 1**.

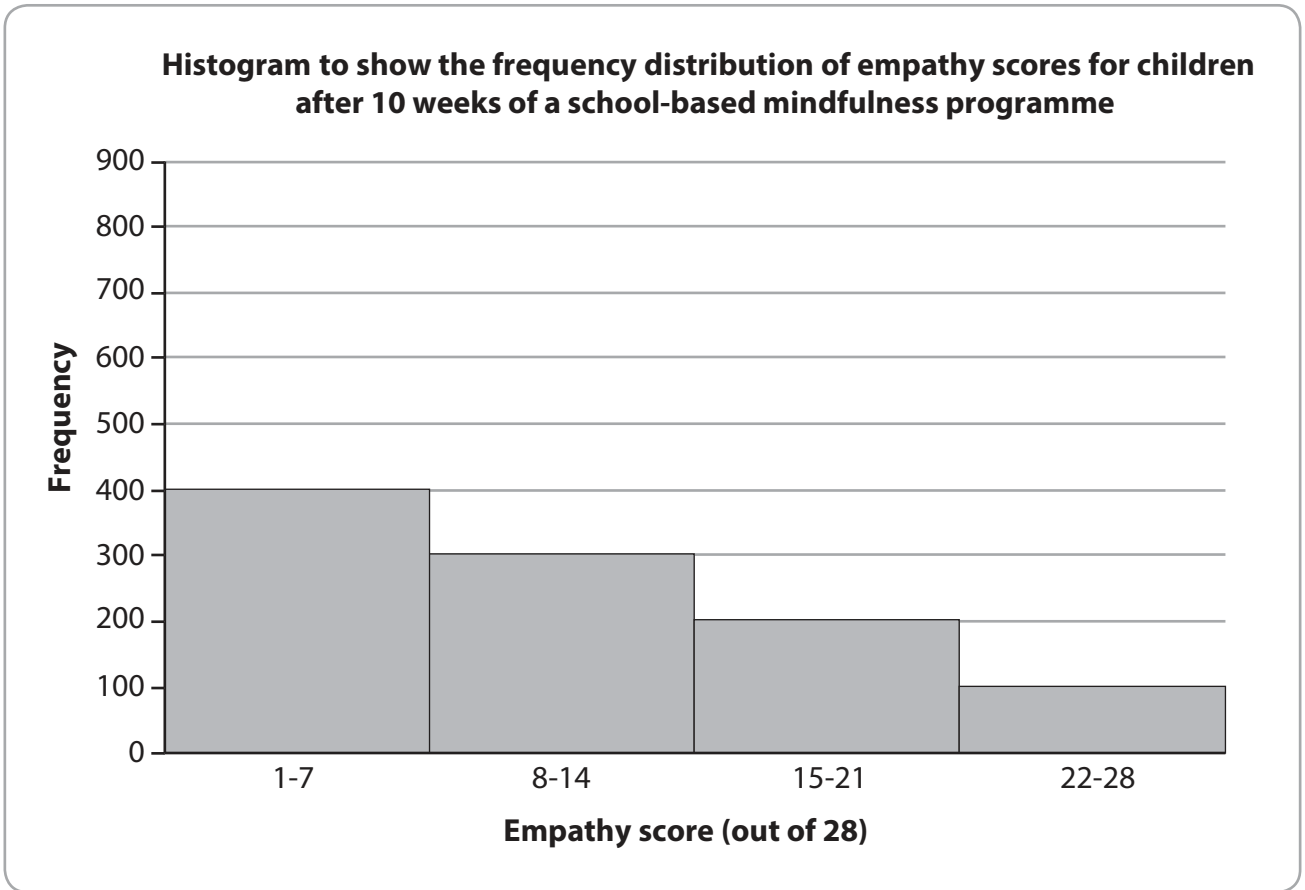


Figure 1

Interpret the data shown in the histogram in **Figure 1**.

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(Total for Question 2 = 5 marks)



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QUESTION 4 BEGINS ON THE NEXT PAGE.



4 Evaluate the 44 Juvenile Thieves study carried out by Bowlby (1944).

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(Total for Question 4 = 8 marks)



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5 Assess whether the classic study by Van IJzendoorn and Kroonenberg (1988) is scientific.

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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 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

- 6** (a) State what is meant by the 'other race' effect in terms of eye-witness memory. (1)

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- (b) When studying eye-witness memory researchers sometimes use an experiment. Explain **two** strengths of using experiments to study eye-witness memory. (4)

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(Total for Question 6 = 5 marks)

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8 Ernesto was investigating the weapon focus effect.

He used volunteer sampling to recruit participants from his local village. He decided to show participants either video A or video B and ask them to identify the suspect.

Video A contained a woman who shouted at someone in a shop and then pointed a gun at a member of staff in an attempt to steal from the shop.

Video B contained a woman who shared a joke with someone in a shop and then gave a member of staff money to pay for her shopping.

Participants were asked to identify the woman they had seen in the video from a selection of photographs. They were either correct or incorrect in their identification of the woman.

(a) Identify the level of measurement used by Ernesto in this study.

(1)

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(b) A chi-squared test was used to calculate statistical significance for Ernesto's study into weapon focus. The calculated value was 2.90 for a two-tailed test at $p < 0.05$, when the $df = 1$.

Analyse this data to decide whether this result is significant or not.

The critical value table can be found in the formulae and statistical tables at the front of the paper.

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(c) Explain **one** weakness of Ernesto's study in terms of validity.

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(Total for Question 8 = 5 marks)

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9 Evaluate the use of cognitive interview techniques with witnesses.

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(Total for Question 9 = 8 marks)



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(Total for Question 10 = 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

11 (a) State what is meant by an 'emotion-focusing' coping strategy.

(1)

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(b) When studying coping strategies in health psychology, researchers sometimes use focus groups.

Explain **one** strength and **one** weakness of using focus groups in health psychology.

(4)

Strength

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Weakness

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13 Ernesto was investigating whether there was a difference between internet-based cognitive behavioural therapy (CBT) and face-to-face CBT for patients with a variety of anxiety disorders.

He used volunteer sampling to recruit participants from his local village. He decided to give participants either internet-based CBT or face-to-face CBT and ask them to rate their symptoms after the treatment.

- Internet-based CBT involved 10 weekly one-hour sessions answering questions on the computer.
- Face-to-face CBT involved 10 weekly one-hour sessions answering questions with a therapist.

Participants were asked to rate the severity of their symptoms after their treatment. Their symptoms were rated as either 'better than' or 'worse than' they were before the treatment.

(a) Identify the level of measurement used by Ernesto in this study.

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(b) A chi-squared test was used to calculate statistical significance for Ernesto's study into the possible difference between internet-based CBT and face-to-face CBT. The calculated value was 2.90 for a two-tailed test at $p < 0.05$, when the $df = 1$.

Analyse this data to decide whether this result is significant or not.

The critical value table can be found in the formulae and statistical tables at the front of the paper.

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(c) Explain **one** weakness of Ernesto's study in terms of validity.

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14 Evaluate the use of selective serotonin reuptake inhibitors (SSRIs) as a treatment for anxiety.

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Lined writing area for the answer to Question 14.

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(Total for Question 14 = 8 marks)



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(Total for Question 15 = 8 marks)

TOTAL FOR SECTION B OPTION 2 = 32 MARKS

TOTAL FOR PAPER = 64 MARKS



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