Write your name here

Surname	Other names

Pearson Edexcel GCE

Centre Number | | | | | |

Candidate Number | | | | |

Psychology

Advanced

Paper 2: Applications of Psychology

Wednesday 14 June 2017 – Afternoon
Time: 2 hours

Paper Reference
9PS0/02

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**. Answer ALL questions from **one** of the three options in Section **B**.
- Answer the questions in the spaces provided – *there may be more space than you need.*

Information

- The total mark for this paper is 90.
- 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 critical value 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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1/1/1/1/1/1/1/1/1/1/1/1/1/e2

P 4 8 5 6 8 A 0 1 4 8

Pearson

FORMULAE AND CRITICAL VALUE 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.

Mann-Whitney U test formulae

$$U_a = n_a n_b + \frac{n_a(n_a+1)}{2} - \sum R_a$$

$$U_b = n_a n_b + \frac{n_b(n_b+1)}{2} - \sum R_b$$

(U is the smaller of U_a and U_b)

Critical values for the Mann-Whitney U test

	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																
***p* ≤ 0.05 (one-tailed), *p* ≤ 0.10 (two-tailed)**																
5	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25
6	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32
7	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39
8	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47
9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
10	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62
11	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69
12	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77
13	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84
14	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92
15	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100
16	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107
17	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115
18	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123
19	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130
20	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138

N_a	N_b = 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)																
5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	2	3	4	6	7	8	9	11	12	13	15	16	18	19	20	22
7	3	4	6	7	9	11	12	14	16	17	19	21	23	24	26	28
8	4	6	7	9	11	13	15	17	20	22	24	26	28	30	32	34
9	5	7	9	11	14	16	18	21	23	26	28	31	33	36	38	40
10	6	8	11	13	16	19	22	24	27	30	33	36	38	41	44	47
11	7	9	12	15	18	22	25	28	31	34	37	41	44	47	50	53
12	8	11	14	17	21	24	28	31	35	38	42	46	49	53	56	60
13	9	12	16	20	23	27	31	35	39	43	47	51	55	59	63	67
14	10	13	17	22	26	30	34	38	43	47	51	56	60	65	69	73
15	11	15	19	24	28	33	37	42	47	51	56	61	66	70	75	80
16	12	16	21	26	31	36	41	46	51	56	61	66	71	76	82	87
17	13	18	23	28	33	38	44	49	55	60	66	71	77	82	88	93
18	14	19	24	30	36	41	47	53	59	65	70	76	82	88	94	100
19	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	107
20	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	114

N_a	N_b = 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)																
5	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20
6	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
8	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41
9	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48
10	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55
11	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62
12	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69
13	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
14	13	17	22	26	31	36	40	45	50	55	59	64	67	74	78	83
15	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90
16	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98
17	17	22	28	34	39	45	51	57	63	67	75	81	87	93	99	105
18	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112
19	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119
20	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127

N_a	N_b = 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
***p* ≤ 0.005 (one-tailed), *p* ≤ 0.01 (two-tailed)**																
5	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
6	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
8	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
9	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
10	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
11	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
12	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
13	7	10	13	17	20	24	27	31	34	38	42	45	49	53	56	60
14	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
15	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
16	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
17	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
18	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
19	12	17	22	28	33	39	45	51	56	63	69	74	81	87	93	99
20	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105

The calculated value must be equal to or less than 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: CLINICAL PSYCHOLOGY

Answer ALL questions.

1 Tanya has been diagnosed with schizophrenia.

(a) Describe the symptoms of schizophrenia that Tanya may be experiencing.

(4)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(b) Compare **two** explanations of schizophrenia.

(4)

(Total for Question 1 = 8 marks)

2 Philip is a psychology student. His friend has just been diagnosed with a mental health disorder using a classification system, such as the DSM or ICD. Philip is concerned about the reliability of the diagnosis following his lessons in psychology.

Explain whether Philip should be concerned about the reliability of his friend's diagnosis.

(4)

(Total for Question 2 = 4 marks)

3 A group of psychiatrists conducted research with patients experiencing depression. They asked the patients to rate their mood every day over a month, using a scale where 1 was extremely happy and 10 was extremely unhappy.

The results for patients with depression are in **Table 1** below.

	Average mood score for patients with depression over the last month
Patient 1	5
Patient 2	6
Patient 3	3
Patient 4	7
Patient 5	4
Patient 6	4
Patient 7	5
Patient 8	7
Patient 9	7
Patient 10	6
Mean score	
Median score	
Mode score	

Table 1

(a) Calculate the measures of central tendency for the data in **Table 1** and **complete Table 1** with your answers.

(3)

SPACE FOR CALCULATIONS

(b) Define what is meant by the term 'a measure of dispersion'.

(1)

(c) A group of patients without depression were asked to rate their mood every day over a month to act as a control group.

The psychiatrists calculated the standard deviation for the mood score for patients with depression. The psychiatrists found a standard deviation of 1.43 for the mood score for the patients with depression.

The psychiatrists found a standard deviation of 3.46 for the mood score of patients without depression.

Interpret what the two standard deviations tell us about the results.

(2)

(Total for Question 3 = 6 marks)

4 Interviews are one research method used within clinical psychology.

Evaluate the use of interviews within clinical psychology.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 4 = 8 marks)

5 Rachel is concerned that her friend, Alice, may have a mental disorder. Alice has started to talk to herself in public. She has also stopped going out with her friends to avoid other people looking at her and embarrassing her friends.

Alice will only eat white food, and she refuses to go out in the day light because she feels it will cause her to catch fire. She has started to think that she has supernatural powers, such as being able to turn into a bat.

Discuss the diagnosis of mental disorders in terms of deviance and dysfunction. You must make reference to the context in your answer.

(8)

(Total for Question 5 = 8 marks)

6 Evaluate a contemporary study on a disorder **other than** schizophrenia.

(20)

Name of study .....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION A = 54 MARKS

SECTION B

Answer questions from ONE option in this section.

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

Answer ALL questions.

7 Benito carried out some research into the effects of anger management treatment with offenders. He recorded the number of aggressive acts offenders displayed. The offenders who had anger management treatment had a mean score of 3.4 aggressive acts. The offenders who did not have anger management treatment had a mean score of 7.9 aggressive acts.

(a) (i) State which statistical test Benito would use to analyse his data.

(1)

.....

.....

(ii) State **three** reasons why Benito would use the statistical test you identified in (i).

(3)

1 .....

.....

2 .....

.....

3 .....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(b) Benito used a random sample.

Describe how he would have selected his sample.

(2)

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(Total for Question 7 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

8 There are many biological explanations for crime and anti-social behaviour.

(a) Describe XYY syndrome as an explanation of crime and anti-social behaviour.

(4)

(b) Another explanation of crime and anti-social behaviour is the influence of personality.

Explain **one** strength of personality as a factor that influences crime and anti-social behaviour.

(2)

(Total for Question 8 = 6 marks)

9 There are various treatments for offenders using a variety of psychological approaches, including the biological approach.

Evaluate **one** biological treatment for offenders.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 9 = 8 marks)

10 You will have learnt about a key question from criminological psychology that is relevant to today's society.

Assess the key question from criminological psychology.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 10 = 16 marks)

TOTAL FOR SECTION B OPTION 1 = 36 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

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OPTION 2 BEGINS ON PAGE 32.

OPTION 2: CHILD PSYCHOLOGY

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

Answer ALL questions.

11 Benito carried out some research into the effects of day care on children's behaviour. He recorded the number of aggressive acts children displayed. The children who attended full-time day care had a mean score of 3.4 aggressive acts. The children who did not attend full-time day care had a mean score of 7.9 aggressive acts.

(a) (i) State which statistical test Benito would use to analyse his data.

(1)

.....

.....

(ii) State **three** reasons why Benito would use the statistical test you identified in (i).

(3)

1 .....

.....

2 .....

.....

3 .....

.....

(b) Benito used a random sample.

Describe how he would have selected his sample.

(2)

.....

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(Total for Question 11 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

12 Charlie has just received a diagnosis of autism.

(a) Describe the features of autism.

(4)

(b) There are several explanations for autism. One is the biological explanation.

Explain **one** weakness of **one** biological explanation of autism.

(2)

(Total for Question 12 = 6 marks)

13 There has been a lot of research carried out on the effects of privation.

Evaluate research into privation.

(8)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA

(Total for Question 13 = 8 marks)

14 You will have learnt about a key question from child psychology that is relevant to today's society.

Assess the key question from child psychology.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 14 = 16 marks)

TOTAL FOR SECTION B OPTION 2 = 36 MARKS

OPTION 3: HEALTH PSYCHOLOGY

If you answer the questions in Option 3 put a cross in the box ☒ .

Answer ALL questions.

15 Benito carried out some research into the effects of an advertising campaign about healthy living. He recorded the number of times people exercised each week. The people who had viewed the campaign had a mean score of 7.9 exercise sessions. The people who had not viewed the campaign had a mean score of 3.4 exercise sessions.

(a) (i) State which statistical test Benito would use to analyse his data.

(1)

.....

.....

(ii) State **three** reasons why Benito would use the statistical test you identified in (i).

(3)

1 .....

.....

2 .....

.....

3 .....

.....

(b) Benito used a random sample.

Describe how he would have selected his sample.

(2)

.....

.....

.....

.....

.....

.....

(Total for Question 15 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

16 Ben is addicted to heroin. His parents want to find out about the causes of heroin addiction.

(a) Describe **one** biological explanation for heroin addiction.

(4)

(b) Explain **one** weakness of **one** biological explanation for heroin addiction.

(2)

(Total for Question 16 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

17 There are several treatments for heroin addiction.

Evaluate **one** treatment for heroin addiction.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 17 = 8 marks)

18 You will have learnt about a key question from health psychology that is relevant to today's society.

Assess the key question from health psychology.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 18 = 16 marks)

TOTAL FOR SECTION B OPTION 3 = 36 MARKS
TOTAL FOR PAPER = 90 MARKS

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