Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel Level 3 GCE

Friday 19 May 2023

Morning (Time: 2 hours)

Paper reference **9PS0/01**

Psychology

Advanced

PAPER 1: Foundations in 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.
- 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 statistical 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.
- 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)

$$\sqrt{\left(\frac{\Sigma(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1-\frac{6\Sigma d^2}{n(n^2-1)}$$

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
$p \leq 0.005$ (one-tailed), $p \leq 0.01$ (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.

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

SECTION A

Social Psychology

1 In your studies of social psychology, you will have learned about the classic study by Sherif et al. (1954/1961).

(a) Describe the sample of participants used in the study by Sherif et al. (1954/1961).

(2)

(b) In stage three of the experiment, Sherif et al. (1954/1961) attempted to reduce inter-group conflict.

Describe **one** way that Sherif et al. (1954/1961) attempted to reduce inter-group conflict.

(2)

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(c) Explain **one** weakness of the study by Sherif et al. (1954/1961) in terms of reliability.

(2)

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(Total for Question 1 = 6 marks)

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2 Jack wanted to investigate whether males were prejudiced towards females who worked in stereotypical male professions, such as building work and lorry driving.

He asked five males to answer a questionnaire about gender roles. Participant responses were scored out of 10 for gender prejudice, with 10 indicating a very strong gender prejudice, and 0 indicating little or no gender prejudice.

Jack's results are shown in **Table 1**.

Participant	Gender prejudice score (out of 10)
A	10
B	8
C	9
D	4
E	6

Table 1

(a) Calculate the standard deviation for the gender prejudice score using the data in **Table 1**. Show your working and give your answer to two decimal places.

(4)

SPACE FOR CALCULATIONS

Standard deviation .....

(b) Calculate the range for the gender prejudice score.

(1)

SPACE FOR CALCULATIONS

Range .....

(Total for Question 2 = 5 marks)

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3 Evaluate agency theory as an explanation of obedience.

(8)

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(Total for Question 3 = 8 marks)

TOTAL FOR SECTION A = 19 MARKS

SECTION B

Cognitive Psychology

4 In your studies of cognitive psychology, you will have completed a practical investigation.

(a) State the fully operationalised independent variable (IV) and the fully operationalised dependent variable (DV) for your cognitive psychology practical investigation.

(2)

Independent variable (IV)

Dependent variable (DV)

(b) Explain **two** strengths of your cognitive psychology practical investigation.

(4)

1 .....

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2 .....

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(c) Explain **one** improvement you could have made to your cognitive psychology practical investigation.

(2)

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(Total for Question 4 = 8 marks)

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5 Milo and Betty had watched a film together and were talking to their friends about the film. Milo described a scene where the main character had travelled by train to a big city where there were yellow taxis and really tall buildings. Betty said that the taxis were black, not yellow.

Betty also described how the main character had arrived at a train station but said it was in a town. She said that the main character had a large suitcase, but Milo claimed there was no suitcase, just a bag. Betty disagreed with Milo, she said because the main character was staying in the town for several weeks, it must have been a suitcase.

Discuss, using reconstructive memory (Bartlett, 1932), including schema theory, Milo's and Betty's recall of the film.

(8)

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(Total for Question 5 = 8 marks)

TOTAL FOR SECTION B = 16 MARKS

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SECTION C

Biological Psychology

6 Amelia is using a correlational research method to investigate whether there is a relationship between recreational drug use and aggression. She intends to study individuals who have been arrested for violent offences.

(a) Describe how Amelia could use a random sampling technique to gather a sample of 30 participants for her correlational research.

(2)

(b) Explain **one** weakness of Amelia using a correlational research method for her investigation about recreational drug use and aggression.

(2)

(Total for Question 6 = 4 marks)

7 Explain **two** strengths of brain structure as an explanation of aggression.

1 .....

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2 .....

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(Total for Question 7 = 4 marks)

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8 Assess whether hormones can fully explain human behaviour such as aggression.

(8)

(Total for Question 8 = 8 marks)

TOTAL FOR SECTION C = 16 MARKS

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SECTION D

Learning Theories

9 Archie conducted an observation to see whether boys are more likely to play with gender stereotypical toys than girls. He visited a pre-school where he observed children aged between three and four years old playing with toys.

(a) Describe how Archie may have gained informed consent to conduct his observation.

(2)

Archie recorded the first choice of toy that each boy and girl at the pre-school chose to play with.

Table 2 shows the number of boys and girls that Archie recorded as playing with a gender stereotypical boys' toy or gender stereotypical girls' toy.

Gender of child	Type of toy played with	
	Stereotypical boys' toy	Stereotypical girls' toy
Boys	8	12
Girls	10	11

Table 2

(b) Complete **Table 3** to calculate the chi-squared test for Archie's observation. You must give your answer to **two** decimal places.

(4)

		Observed	Expected	O–E	$(O–E)^2$	$(O–E)^2/E$
Boys	**Stereotypical boys' toy**	8	8.78			
	Stereotypical girls' toy	12	11.22			
Girls	**Stereotypical boys' toy**	10	9.22			
	Stereotypical girls' toy	11	11.78			
					Chi-squared =	

Table 3

SPACE FOR CALCULATIONS

Chi-squared (χ^2) .....

(c) Archie had a one-tailed (directional) hypothesis with *df*=1 and used p=0.05 as his level of significance.

Determine whether there is a significant difference between boys and girls in the choice of gender stereotypical toys.

(1)

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(Total for Question 9 = 7 marks)

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10 Marigold is a teacher at a primary school. She is concerned about the behaviour of a nine-year-old boy in her class. The boy often refuses to sit on a chair at his desk, instead he sits on the floor next to Marigold. When he is asked to sit at his desk, he leaves the classroom and sits in the corridor.

Marigold decides to use behaviour shaping. She hopes to encourage him to first sit on a chair next to her, and then eventually shape his behaviour until he sits on a chair at his desk.

Explain **one** strength and **one** weakness of Marigold using behaviour shaping to encourage the boy to sit on a chair at his desk.

Strength

Weakness

(Total for Question 10 = 4 marks)

11 Dora has a phobia of boxes. When she was young, her parents bought her a toy in a box. Every time she lifted the lid of the box, a clown jumped out and scared her. Since then, she has been unable to open boxes and is frightened about what could be inside them.

Dora's family members open all boxes for her and reassure her that there is nothing dangerous inside each time. Dora regularly becomes upset when a box is delivered to the house. Her family members calm her down by making her a cup of tea and sitting with her until she feels safe.

Discuss how learning theories can explain the acquisition and maintenance of Dora's phobia of boxes.

(8)

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(Total for Question 11 = 8 marks)

TOTAL FOR SECTION D = 19 MARKS

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SECTION E

Issues and Debates

12 Assess the ethical issues involved when using animals for research in learning theories.

(8)

(Total for Question 12 = 8 marks)

13 Marco has been suffering with memory processing issues that cause him to become confused. He is not always able to understand situations and becomes frustrated with the people around him.

Marco was arrested on two previous occasions for aggressive behaviour. He was also once found by police in a car park at 3am unable to find his way home.

Recently Marco got into a fight with a man who he thought was laughing at him. When the police arrived, the man said he was not laughing at Marco, but Marco told the police that the man was lying. The police arrested Marco. When they interviewed him, Marco struggled to remember exactly what had happened.

The police requested a doctor to examine Marco while he was in custody. The doctor decided to refer him for a brain scan for his memory processing issues.

Evaluate how well knowledge from cognitive psychology could explain Marco's situation.

(12)

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(Total for Question 13 = 12 marks)

TOTAL FOR SECTION E = 20 MARKS
TOTAL FOR PAPER = 90 MARKS

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