Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International Advanced Level

Monday 13 January 2025

Afternoon (Time: 2 hours)

Paper reference **WPS02/01**

Psychology

International Advanced Subsidiary
UNIT 2: Biological Psychology, Learning Theories and Development

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 96.
- 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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H:1/1/1

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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

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

Spearman's rank correlation coefficient

$$1-\frac{6\sum d^2}{n\left(n^2-1\right)}$$

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

Biological Psychology

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

1 In your studies on biological psychology, you will have learned about brain functioning as an explanation of aggression.

(a) State **two** areas of the brain that play a role in human aggression.

(2)

1 .....

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2 .....

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.....

(b) Explain **one** strength of brain functioning as an explanation of aggression.

(2)

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(Total for Question 1 = 4 marks)

2 Loreen conducted an investigation to see if there was a relationship between the amount of exercise people did on average in a week and the amount of sleep they had on average each night.

Loreen used an opportunity sampling technique and handed her participants a questionnaire.

The questionnaire consisted of two questions. The first question was "How many hours on average per week do you spend on exercise?" The second question was "What is the average number of hours you sleep per night?"

(a) Give a fully operationalised, non-directional (two-tailed) hypothesis for Loreen's investigation.

(2)

Loreen calculated a Spearman's rank test on her data.

(b) Calculate Spearman's rank test to **three** decimal places for the data gathered by Loreen by completing **Table 1**.

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

You **must** show your working out.

(4)

Average number of hours spent on exercise per week	**Rank 1**	**Average number of hours slept per night**	**Rank 2**	***d***	***d*²**
7	4	9	5		
3	2	7	3		
10	5	8	4		
5	3	6	1.5		
1	1	6	1.5		
				Total for *d*²	

Table 1

Space for calculations

Spearman's rank .....

(c) Loreen compared her calculated value to the critical value for a two-tailed (non-directional) hypothesis at $p \leqslant 0.05$.

Identify the critical value Loreen would have used.

(1)

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(d) Explain **one** weakness of Loreen's investigation.

(2)

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(Total for Question 2 = 9 marks)

3 In your studies on biological psychology, you will have learned about the contemporary study by Brendgen et al. (2005).

(a) Describe the procedure of the study by Brendgen et al. (2005).

(4)

(b) Explain **one** strength of the study by Brendgen et al. (2005).

(2)

(c) Explain **one** improvement that could be made to the study by Brendgen et al. (2005).

(2)

(Total for Question 3 = 8 marks)

4 PET scans are one brain scanning technique used in biological psychology.

(a) Describe PET scans as they are used in biological psychology.

(3)

(b) Explain **one** weakness of PET scans as they are used in biological psychology.

(2)

(Total for Question 4 = 5 marks)

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QUESTION 5 BEGINS ON THE NEXT PAGE.

5 Remo is 19 years old. He has been working at his local shop but recently lost his job because he became aggressive and shouted at a customer. Remo has also been banned from watching his local football team because he and his friends were in a fight with supporters of the opposing team after a match.

Remo's partner has threatened to leave him due to an incident at a restaurant where Remo threw his drink at the waiter because he was not satisfied with his food. Remo's parents have tried to talk to him about his aggressive behaviour but he just shouted at them.

Discuss hormones as an explanation of Remo's aggressive behaviour.

(8)

(Total for Question 5 = 8 marks)

TOTAL FOR SECTION A = 34 MARKS

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SECTION B BEGINS ON THE NEXT PAGE.

SECTION B

Learning Theories and Development

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

6 In your studies about learning theories and development, you will have learned about social learning theory.

(a) Define what is meant by the term 'vicarious reinforcement' as used in social learning theory.

(1)

(b) Explain **one** strength and **one** weakness of social learning theory as an explanation of human behaviour.

(4)

Strength

Weakness

(Total for Question 6 = 5 marks)

7 Anya wants to conduct a covert observation to investigate the differences in the behaviour of boys and girls when playing in a park. The park has a variety of equipment including slides, swings and a climbing frame.

(a) Describe how Anya could conduct her covert observation.

(4)

(b) Explain **one** strength of Anya conducting a covert observation for her investigation.

(2)

(Total for Question 7 = 6 marks)

8 In your studies about learning theories and development, you will have conducted a practical investigation that collected quantitative and qualitative data.

(a) State **one** conclusion you made from the quantitative data you collected for your learning theories and development practical investigation.

(1)

(b) Describe how you analysed the qualitative data from your learning theories and development practical investigation.

(2)

(c) Explain **two** improvements you could make to your learning theories and development practical investigation

(4)

1 .....

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2 .....

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(Total for Question 8 = 7 marks)

9 Floella conducted an investigation to see if giving dogs a treat would teach them how to identify drugs hidden in bags.

- Condition A: the dogs were given a treat when they found drugs in a bag
- Condition B: the dogs were not given a treat when they found drugs in a bag.

Her results are shown on **Table 2**.

Condition A: Number of times each dog given a treat found drugs in a bag	**Condition B: Number of times each dog not given a treat found drugs in a bag**
9	1
7	0
10	2
9	0
12	1
1	3

Table 2

(a) Calculate the mean number of times the dogs who were given a treat found drugs in a bag (Condition A).

(1)

Space for calculations

Mean for Condition A .....

(b) Calculate the median number of times the dogs who were not given a treat found drugs in a bag (Condition B).

(1)

Space for calculations

Median for Condition B .....

(c) Explain **one** strength and **one** weakness of Floella using the mean as a measure of central tendency.

(4)

Strength

Weakness

(d) Explain **one** reason Floella used animals in her investigation.

(2)

(Total for Question 9 = 8 marks)

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QUESTION 10 BEGINS ON THE NEXT PAGE.

10 Evaluate the object relations school of thought as a therapy/treatment.

(8)

(Total for Question 10 = 8 marks)

TOTAL FOR SECTION B = 34 MARKS

SECTION C

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

11 In your studies on biological psychology, you will have learned about one of the following contemporary studies.

- McDermott (2008)
- Hoefelmann et al. (2006).

Evaluate your chosen contemporary study.

(12)

Chosen study

(Total for Question 11 = 12 marks)

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QUESTION 12 BEGINS ON THE NEXT PAGE.

12 Benjamin has just lost his place on the cricket team because he shouted at the captain. Benjamin said the captain was aggressive towards him and said he had no talent for cricket. The captain looks similar to Benjamin's father.

Benjamin's partner has said Benjamin can be very untidy at home, often leaving his belongings lying around and not tidying up after he has eaten. Benjamin can be aggressive at home, shouting at his partner if asked to do household chores. Once he smashed the television because his partner repeatedly asked him if he would help tidy the house.

On a recent trip to the theatre with his friends, Benjamin thought someone had taken his place in a queue and pushed that person out of the way. This meant Benjamin and his friends were told to leave the theatre.

To what extent can genes and Freud's theory of development explain Benjamin's behaviour?

You must refer to the context in your answer.

(16)

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DO NOT WRITE IN THIS AREA

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(Total for Question 12 = 16 marks)

TOTAL FOR SECTION C = 28 MARKS
TOTAL FOR PAPER = 96 MARKS