Please check the examination details below before entering your candidate information

Candidate surname	Other names

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Pearson Edexcel Level 3 GCE

Time 2 hours

Paper reference **9PS0/02**

Psychology

Advanced

PAPER 2: Applications of psychology

Calculators may be used.

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 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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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.

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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															
N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
***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

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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

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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.

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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 Lena cannot go to work due to her anxiety. She has also stopped going out with her friends once a week and does not like people visiting her at home. She has recently seen a psychiatrist who has diagnosed her with a mental disorder.

(a) Define the term 'dysfunction' as it is used to diagnose Lena's mental disorder.

(1)

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(b) Explain **two** weaknesses of using 'dysfunction' to diagnose Lena's mental disorder.

(4)

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(Total for Question 1 = 5 marks)

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2 Vihaan wanted to conduct a meta-analysis to investigate the effectiveness of a psychological therapy on a range of mental disorders. He aimed to investigate how effective a psychological therapy was compared to a biological therapy. Vihaan collected his data from one country.

(a) Describe how Vihaan may have carried out his meta-analysis.

(3)

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(b) Vihaan collected secondary data.

Compare primary and secondary data as used in clinical psychology.

(2)

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(Total for Question 2 = 5 marks)

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3 You will have learned about the classic study by Rosenhan (1973).

(a) Describe the results of Rosenhan (1973).

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(b) Explain **one** strength of Rosenhan (1973).

(2)

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(c) Explain **one** improvement that could be made to Rosenhan (1973).

(2)

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(Total for Question 3 = 8 marks)

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4 In your studies of clinical psychology, you will have learned about a key question of relevance to today's society.

Discuss the key question for society you have studied using concepts, theories and/or research from clinical psychology.

(8)

Key question

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(Total for Question 4 = 8 marks)

5 Evaluate the use of the longitudinal research method as used in clinical psychology.

(8)

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(Total for Question 5 = 8 marks)

6 Alba has recently been diagnosed with a mental health disorder using a classification system. She has presented with a number of symptoms including losing interest in everyday life, altered sleep patterns and an inability to express her emotions. She also occasionally has angry outbursts.

Alba's psychiatrist has diagnosed her with schizophrenia. Her mother disagrees and thinks Alba has a different mental health disorder and wants her to see another psychiatrist who is from the same culture as Alba.

To what extent are classification systems a reliable and valid way of diagnosing mental health disorders?

You must make reference to the context in your answer.

(20)

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(Total for Question 6 = 20 marks)

TOTAL FOR SECTION A = 54 MARKS

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SECTION B

Answer questions from ONE option in this section.

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

Answer ALL questions.

If you answer OPTION 1 put a cross in the box ☐ .

7 Alexei conducted an investigation into whether appearance of the defendant can affect the decisions made by a jury. Alexei used an opportunity sampling technique to recruit participants for his investigation from a local business.

The participants watched a video of a mock trial where the defendant was found guilty. Half the participants saw the defendant in a smart suit (condition A) and the other half of the participants saw the defendant in casual clothes (condition B). The participants had to say how long the defendant should be in prison for, in months.

(a) Explain **one** strength and **one** weakness of the sampling technique used by Alexei for his investigation about jury decision making.

(4)

Strength

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Weakness

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Table 1 shows the results of Alexei's investigation.

Condition A: Saw the defendant in a smart suit	Number of months the defendant should spend in prison	Condition B: Saw the defendant in casual clothes	Number of months the defendant should spend in prison
A	3	**G**	7
B	6	**H**	5
C	2	**I**	9
D	8	**J**	10
E	1	**K**	6
F	4	**L**	9

Table 1

(b) Calculate the mean number of months participants in **condition A** said the defendant should spend in prison.

(1)

SPACE FOR CALCULATIONS

Mean for **condition A** .....

(c) Calculate the median number of months participants in **condition B** said the defendant should spend in prison.

(1)

SPACE FOR CALCULATIONS

Median for **condition B** .....

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(d) Alexei carried out a Mann–Whitney U test on his data. His calculated/observed value was 4.5.

Determine whether Alexei's results were significant or not at $p \leqslant 0.05$ for a two-tailed (non-directional) hypothesis.

(1)

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(e) Explain **one** improvement that Alexei could make to his investigation.

(2)

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(Total for Question 7 = 9 marks)

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8 Describe **one** theory of personality as an explanation of crime and anti-social behaviour.

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(Total for Question 8 = 3 marks)

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9 Jekaterina has recently had an accident which resulted in damage to her amygdala. Since the accident she has lost her temper a lot more. She has had frequent arguments with her parents.

Jekaterina's old friends do not like to go out with her any more, as she often starts fighting with strangers. She is now going out with some new friends. Jekaterina has just been arrested by the police for hitting someone whilst she was out with her new friends. Jekaterina thinks her aggression is due to the damage to her amygdala.

Discuss how damage to Jekaterina's amygdala may account for her aggression.

You must make reference to the context in your answer.

(8)

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(Total for Question 9 = 8 marks)

10 Denis and Angela recently witnessed a robbery at a bank. The robber was waving a gun at the bank staff as he demanded the money. Denis had to give the police a statement about what he saw and heard during the robbery. He gave detailed accounts of the gun used. He failed to pick the robber out of a selection of photographs.

Two weeks after the robbery, Angela, who enjoys watching police dramas, also gave a statement to the police. She accurately identified the robber, but she said the robber had a knife rather than a gun. Another witness who had discussed the robbery with Angela also said a knife was used by the robber.

Evaluate factors influencing the eye-witness testimony given by Denis and Angela.

You must make reference to the context in your answer.

(16)

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(Total for Question 10 = 16 marks)

TOTAL FOR SECTION B OPTION 1 = 36 MARKS

OPTION 2: CHILD PSYCHOLOGY

Answer ALL questions.

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

11 Alexei wanted to investigate whether being in day care influenced how much children would share their toys. He used an opportunity sampling technique to recruit children for his observation from families he knew in the local area.

Alexei wanted to observe how often children would share their toys with other people. He videoed a group of children, who did not go to day care, playing in their own homes (condition A). Alexei also visited a local day care centre and videoed a different group of children playing (condition B). He tallied how many times each child shared their toys with other people.

(a) Explain **one** strength and **one** weakness of the sampling technique used by Alexei in his observation about sharing toys.

(4)

Strength

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Weakness

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Table 2 shows the results of Alexei's investigation.

Condition A: Playing at home	Number of times toys were shared with other people	Condition B: Playing at day care	Number of times toys were shared with other people
A	3	**G**	7
B	6	**H**	5
C	2	**I**	9
D	8	**J**	10
E	1	**K**	6
F	4	**L**	9

Table 2

(b) Calculate the mean number of times toys were shared by children in **condition A**.

(1)

SPACE FOR CALCULATIONS

Mean for **condition A** .....

(c) Calculate the median number of times toys were shared by children in **condition B**.

(1)

SPACE FOR CALCULATIONS

Median for **condition B** .....

(d) Alexei carried out a Mann–Whitney U test on his data. His calculated/observed value was 4.5.

Determine whether Alexei's results were significant or not at $p \leqslant 0.05$ for a two-tailed (non-directional) hypothesis.

(1)

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(e) Explain **one** improvement that Alexei could make to his investigation.

(2)

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(Total for Question 11 = 9 marks)

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12 Describe **one** biological explanation for autism.

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(Total for Question 12 = 3 marks)

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13 Jekaterina works as a child psychologist in a local health centre. She observes that most of the children she works with form an emotional bond with their parents. Most of the children are happy to explore the toys in Jekaterina's practice room, but they get upset if they cannot see their parent.

Jekaterina is concerned about a five-year-old child she works with who often hits other children. The child's mother went back to full-time work when the child was three months old.

Discuss Bowlby's work on attachment with reference to Jekaterina and the children.

You must make reference to the context in your answer.

(8)

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(Total for Question 13 = 8 marks)

14 Mrs Smythe is in charge of a local nursery that looks after children aged from six months old to five years old. She has witnessed that a few of the children get very upset when their parent leaves them at the nursery.

Mrs Smythe has also noticed that different children have varied reactions to their mother or father when they are picked up from the nursery to go home. She has observed that some children are happy to see their parent at the end of the day, whilst other children are not bothered about seeing their parent at home time. Mrs Smythe has also noticed how the mothers or fathers interact with their children differs.

Evaluate Ainsworth's types of attachment with reference to the children at the nursery.

You must make reference to the context in your answer.

(16)

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(Total for Question 14 = 16 marks)

TOTAL FOR SECTION B OPTION 2 = 36 MARKS

OPTION 3: HEALTH PSYCHOLOGY

Answer ALL questions.

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

15 Alexei conducted an investigation into whether the use of high fear tactics influenced the amount of drugs that addicts took. Alexei used an opportunity sampling technique to recruit his participants for his investigation from a local alcohol addiction centre.

Half the participants saw a video on the minor short-term effects of taking drugs (condition A) and the other half of the participants saw a video showing the severe health effects of taking drugs (condition B). One week later, the participants had to record the amount of alcohol they had consumed (in units) in the past week.

(a) Explain **one** strength and **one** weakness of the sampling technique used by Alexei in his investigation on the use of high fear tactics on drug taking.

(4)

Strength

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Weakness

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Table 3 shows the results of Alexei's investigation.

Condition A: Participants who watched a video showing the short-term effects of drugs	Amount of alcohol consumed in the past week (in units)	Condition B: Participants who watched a video showing the severe health effects of taking drugs	Amount of alcohol consumed in the past week (in units)
A	3	**G**	7
B	6	**H**	5
C	2	**I**	9
D	8	**J**	10
E	1	**K**	6
F	4	**L**	9

Table 3

(b) Calculate the mean number of alcohol units consumed in the past week by participants in **condition A**.

(1)

SPACE FOR CALCULATIONS

Mean for **condition A** .....

(c) Calculate the median number of alcohol units consumed in the past week by participants in **condition B**.

(1)

SPACE FOR CALCULATIONS

Median for **condition B** .....

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(d) Alexei carried out a Mann–Whitney U test on his data. His calculated/observed value was 4.5.

Determine whether Alexei's results were significant or not at $p \leqslant 0.05$ for a two-tailed (non-directional) hypothesis.

(1)

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(e) Explain **one** improvement that Alexei could make to his investigation.

(2)

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(Total for Question 15 = 9 marks)

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16 Describe **one** learning explanation for heroin addiction.

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(Total for Question 16 = 3 marks)

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17 Jekaterina takes an illegal drug. At first, she only took the drug a couple of times a week, but she now takes the drug daily. She finds that she needs to take twice as much of the illegal drug compared to when she first took it in order to feel the same effects.

When she does not take the drug Jekaterina often gets severe headaches. She now thinks that she cannot cope with her stressful job if she does not take the illegal drug.

Discuss issues around drug taking with reference to Jekaterina's drug use.

You must make reference to the context in your answer.

(8)

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(Total for Question 17 = 8 marks)

18 Mrs Smythe works at a local doctor's surgery as a community nurse. One of her responsibilities is to reduce the number of people in the local area who are addicted to nicotine. In order to do this, she offers help and advice to those addicted to nicotine as well as treatments. She has also set up a support group for the nicotine addicts.

Mrs Smythe has recently hired a therapist who is qualified to administer aversion therapy. She has decided to offer this to a small group of people who are addicted to nicotine. To see if the aversion therapy is effective Mrs Smythe will monitor the nicotine use of the group over a six-month period.

Evaluate aversion therapy as it is used for the group of nicotine addicts.

You must make reference to the context in your answer.

(16)

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(Total for Question 18 = 16 marks)

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

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