GradeMax

Write your name here

Surname	Other names

Pearson Edexcel
International Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Psychology

International Advanced Level
Paper 3: Applications of Psychology

Monday 4 June 2018 – Afternoon
Time: 1 hour 30 minutes

Paper Reference
WPS03/01

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.

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.

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

DEVELOPMENTAL PSYCHOLOGY

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

1 Marianne conducted research into the stages of language development in children aged between 2 and 5 years old. She selected 7 participants from each of the following age groups: 2-year-olds, 3-year-olds, 4-year-olds and 5-year-olds.

Marianne visited each participant once and gathered data about the number of words the children spoke in sentences, and the level of grammatical accuracy in their sentence structure.

She compared her data across each age group to determine how language develops in children aged between 2 and 5 years old.

(a) Identify the research method Marianne used to determine how language developed across the age groups.

(1)

(b) Suggest **one** reason why Marianne chose not to include children under the age of 12 months old in her research about the development of language.

(2)

(c) Marianne used an opportunity sample of children from a single village.

Justify how Marianne could improve the generalisability of her study.

(2)

(Total for Question 1 = 5 marks)

2 Ling is using a clinical interview method to investigate the cognitive processes of 26 children aged 3 years old. She decides to study each child individually.

Ling presents each child with the same conservation of number task.

She shows each child two rows of buttons. One row appears longer than the other, as shown in **Figure 1**. Ling asks each child to explain which row has the most buttons and then asks further questions based on their responses.

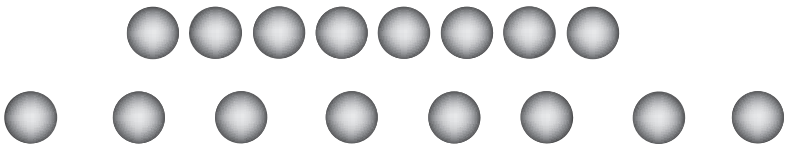

Figure 1

(a) Of the 26 children, 23 answered incorrectly, saying that there were more buttons in the second row.

Calculate the percentage of children who correctly answered that the number of buttons was the same for both rows in **Figure 1**.

You **must** give your answer to two decimal places.

(1)

Space for calculations

Percentage of children giving correct answer .....

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(b) Explain **one** strength and **one** weakness of Ling using a clinical interview method in this study with 3-year-olds.

(4)

Strength

Weakness

(Total for Question 2 = 5 marks)

3 David gathered data to find out whether there is a relationship between emotional recognition and the age of a child.

Children aged 7 to 11 years old were each given 12 picture cards showing facial expressions of different emotions. They were also given 12 cards that named the emotion for each facial expression card.

David asked the children to match the picture card to the correct named emotion card.

His results are shown in **Figure 2**.

A scatter diagram to show the correlation between the age of a child and the number of correctly matched cards

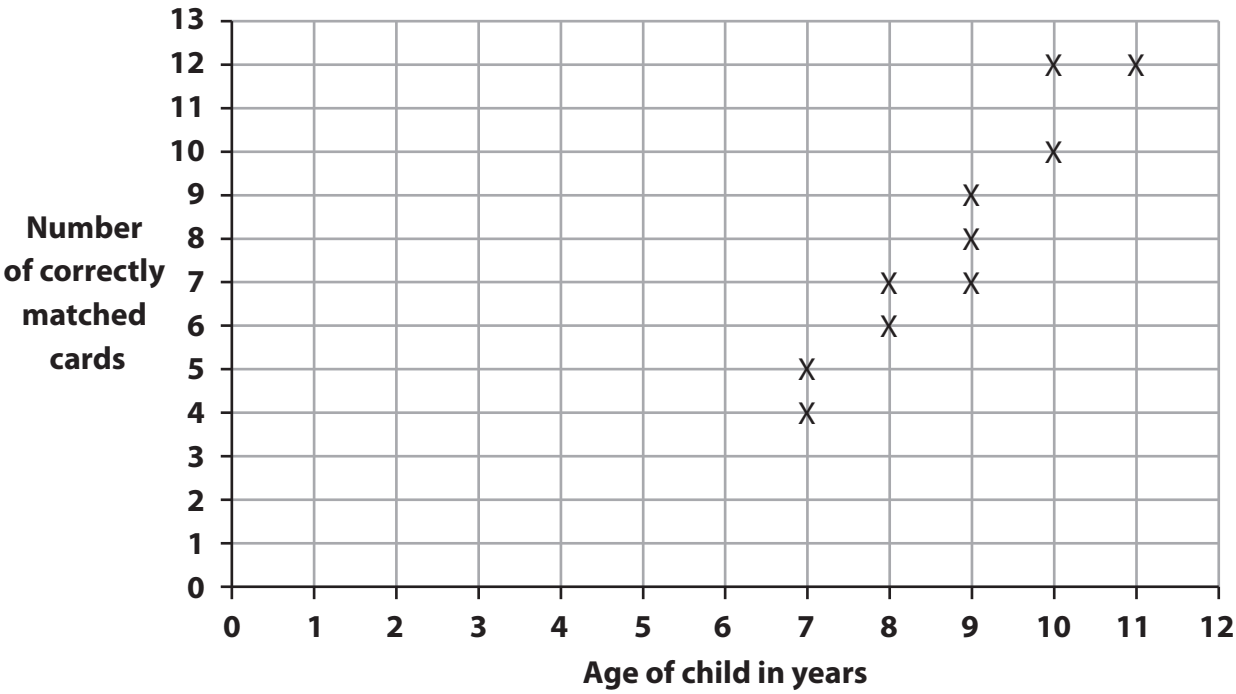

Figure 2

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(a) Identify the type of correlation shown in **Figure 2**.

(1)

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(b) State an appropriate statistical test for the data gathered by David.

(1)

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(Total for Question 3 = 2 marks)

4 Explain whether mindfulness can enhance the development of children.

(Total for Question 4 = 4 marks)

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5 In developmental psychology, you will have learned about the following classic study in detail:

- Van iJzendoorn and Kroonenberg (1988).

Evaluate the study by Van iJzendoorn and Kroonenberg (1988).

(8)

(Total for Question 5 = 8 marks)

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6 Watson and Rayner (1920) conducted their study on 'Little Albert' before the United Nations Convention on the Rights of the Child (UNCRC) (1989) was developed. The UNCRC has established a set of rights for children.

Evaluate, using the UNCRC, how far Watson and Rayner's (1920) study promotes the rights of the child.

(8)

(Total for Question 6 = 8 marks)

TOTAL FOR SECTION A = 32 MARKS

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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

7 State what is meant by 'pre-trial publicity'.

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(Total for Question 7 = 1 mark)

8 Francesco witnessed a robbery in his local shop. Three men entered the shop and held two employees at gun point. They stole money and valuables from the shop and then ran towards a parked car that drove them away.

Francesco was interviewed by the police at the scene. He could not recall much about what the three men looked like, but he could recall their weapons.

(a) Describe why Francesco may have been unable to remember what the three men looked like.

(2)

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(b) Describe how the police would use a cognitive interview with Francesco when interviewing him as a witness to the robbery.

(4)

(Total for Question 8 = 6 marks)

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9 Mollie is a psychologist in a local prison. She is developing a psychological (case) formulation to help understand the offending behaviour of one of the prisoners.

The prisoner was charged with committing a violent act towards a stranger. He was in care as a baby, being separated from his mother at 6 months old, and has a history of drug and alcohol misuse. This is his second aggressive criminal offence.

Explain **two** reasons why Mollie would develop a psychological (case) formulation of the prisoner.

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(Total for Question 9 = 4 marks)

10 Charlie investigated the success rates of cognitive behavioural therapy (CBT) with offenders convicted of theft. He gave a self-report questionnaire to 25 offenders awaiting cognitive behavioural therapy. The self-report questionnaire used 15 closed questions about positive thinking and 15 closed questions about negative thinking.

Charlie also gave the offenders the same questionnaire at the end of a six-week cognitive behavioural therapy programme.

The results of his investigation are shown in **Table 1**.

	Mean self-report scores (out of 15) Positive thinking	**Mean self-report scores (out of 15) Negative thinking**
Before cognitive behavioural therapy	3	12
After cognitive behavioural therapy	9	6

Table 1

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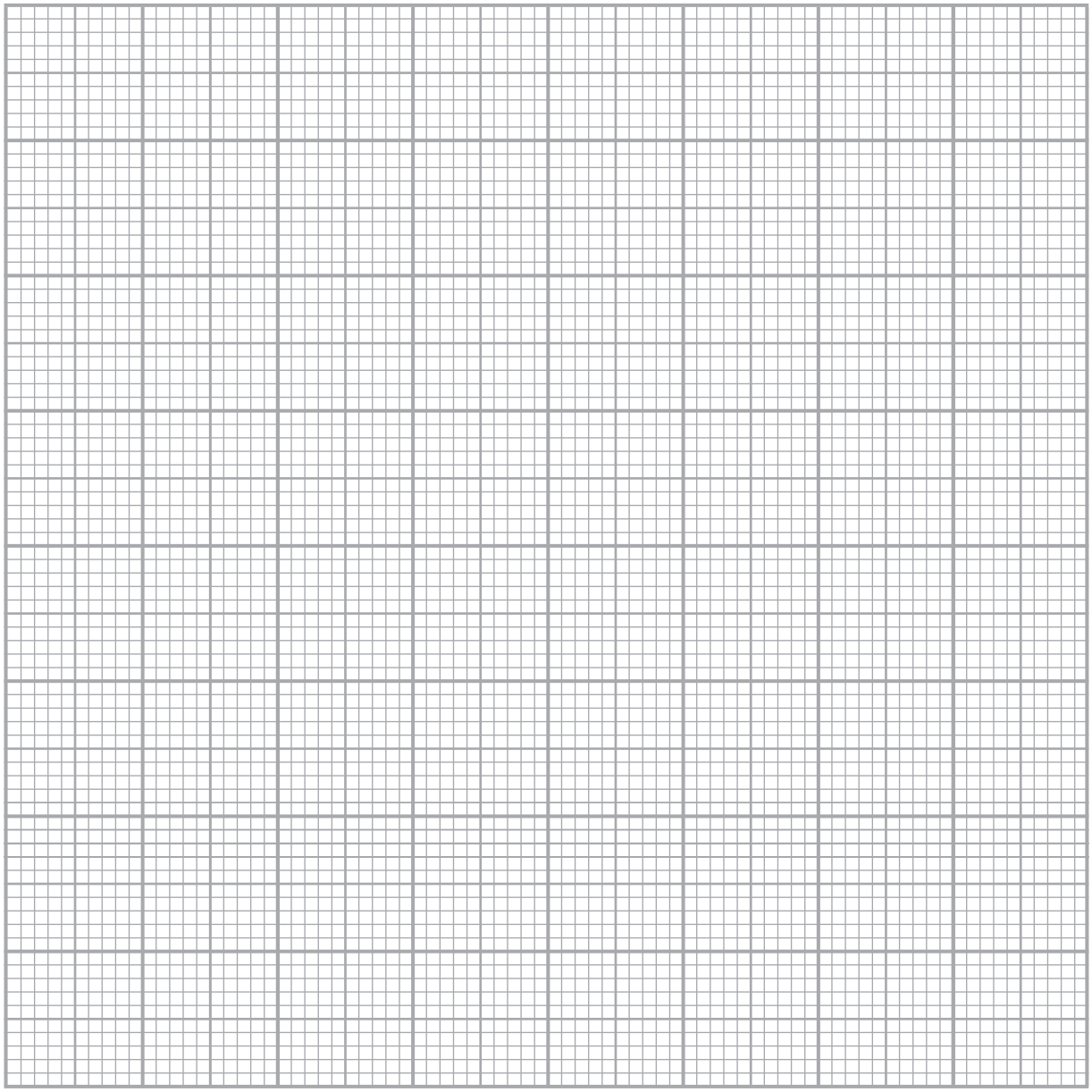
(a) Draw a bar chart to illustrate the data in **Table 1**.

(3)

Title



(b) Justify **one** improvement that Charlie could make to his investigation into the success rates of cognitive behavioural therapy for offenders.

(2)

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(Total for Question 10 = 5 marks)

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11 In criminological psychology, you will have learned about the following classic study in detail:

- Loftus and Palmer (1974) Reconstruction of an auto mobile destruction: An example of the interaction between language and memory.

Assess whether this study can be applied to eyewitness memory in real-life situations.

(8)

(Total for Question 11 = 8 marks)

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12 Evaluate the impact of stress and trauma on the reliability of eyewitness memory.

(8)

(Total for Question 12 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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SECTION B

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

OPTION 2: HEALTH PSYCHOLOGY

13 State what is meant by a 'focus group'.

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(Total for Question 13 = 1 mark)

14 Francesco is worried about problems he is having at work. This has continued for several months and he is showing signs of stress. He has started to have trouble recalling information and has had several days off work due to illness. He often finds it difficult to go to sleep and to wake up. Francesco does not visit friends or family as much as he used to.

Francesco visits the doctor who diagnoses him with high blood pressure, poor circulation and high blood sugar levels.

(a) Describe how cortisol may have affected Francesco's physical health.

(2)

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(b) Describe how regions of the brain associated with stress may contribute to the signs and symptoms of stress that Francesco is experiencing.

(4)

(Total for Question 14 = 6 marks)

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15 Mollie is a psychologist in a local medical centre. She has been asked to provide treatment for a patient.

The patient has been having anxiety attacks for three months which are increasing in severity. He began to stay at home instead of going to work, saying he is nervous around people. The patient was recently diagnosed with anxiety and has not had any form of therapy or treatment yet.

Explain **two** benefits for the patient if Mollie provides treatment using selective serotonin reuptake inhibitors (SSRIs).

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2 .....

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(Total for Question 15 = 4 marks)

16 Charlie investigated the success rates of cognitive behavioural therapy (CBT) for anxiety disorders. He gave a self-report questionnaire to 25 patients awaiting cognitive behavioural therapy. The self-report questionnaire used 15 closed questions about positive thinking and 15 closed questions about negative thinking.

Charlie also gave the patients the same questionnaire at the end of a six-week cognitive behavioural therapy programme.

The results of his investigation are shown in **Table 2**.

	Mean self-report scores (out of 15) Positive thinking	**Mean self-report scores (out of 15) Negative thinking**
Before cognitive behavioural therapy	3	12
After cognitive behavioural therapy	9	6

Table 2

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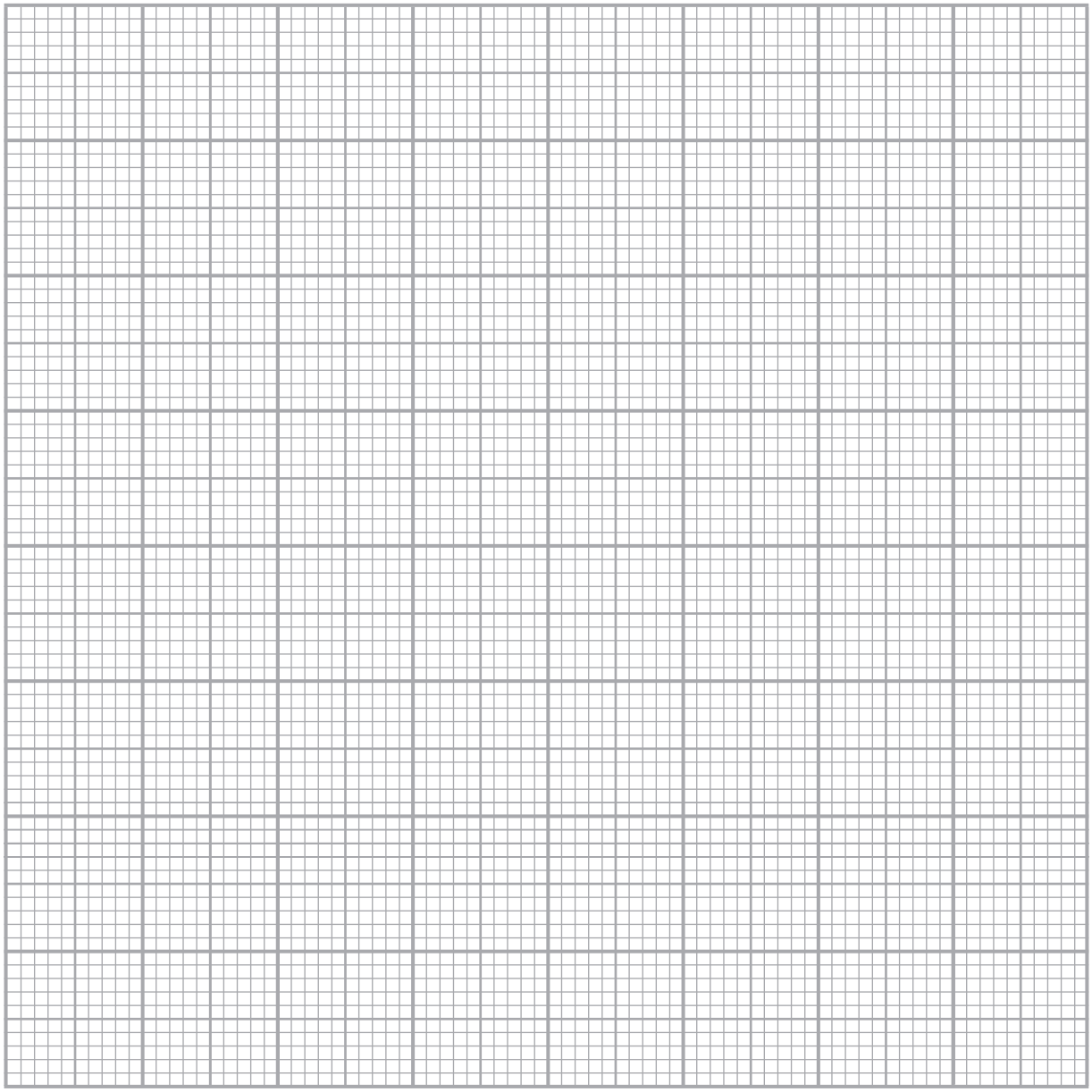
(a) Draw a bar chart to illustrate the data in **Table 2**.

(3)

Title



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(b) Justify **one** improvement that Charlie could make to his investigation into the success rates of cognitive behavioural therapy for patients with anxiety.

(2)

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(Total for Question 16 = 5 marks)

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17 In health psychology, you will have learned about the following classic study in detail:

- Brady (1958) Ulcers in executive monkeys.

Assess whether this study can be applied to the effects of stress in humans.

(8)

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(Total for Question 17 = 8 marks)

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18 Evaluate the impact of social support on the ability to cope with stress.

(8)

(Total for Question 18 = 8 marks)

TOTAL FOR SECTION B OPTION 2 = 32 MARKS
TOTAL FOR PAPER = 64 MARKS

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