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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

Thursday 18 January 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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P 5 4 5 1 2 A 0 1 3 6

Pearson

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 in this section. Write your answers in the spaces provided.

1 Lorenzo is three months old and he cries when he is hungry. His mother feeds him, comforts him and she is rewarded with a happy baby.

Describe, using learning theory, how an attachment between Lorenzo and his mother could be formed.

(Total for Question 1 = 4 marks)

2 A researcher studied 60 infants at monthly intervals from birth to 18 months old. The infants were all studied in their own home.

The age at which the infants showed their first specific attachment is recorded in **Table 1**.

Age of first specific attachment	Number of infants
5–6 months	4
7–8 months	30
9–11 months	20
Over 11 months	6

Table 1

(a) Give **one** conclusion that could be made from this study.

You **must** refer to the data in **Table 1**.

(2)

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(b) Explain **one** strength of naturalistic observation as a research method used in developmental psychology.

(2)

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(c) The researcher used a longitudinal research method for their investigation.

Explain **one** weakness of using longitudinal research in developmental psychology.

(2)

(Total for Question 2 = 6 marks)

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3 Shakila is a nurse on a children's ward in a hospital. She researched the attachment types of infants aged 12 to 18 months using the strange situation procedure.

(a) Suggest how Shakila could obtain a random sample of ten infants from the children's ward.

(2)

(b) Justify the use of a random sample instead of a volunteer sample in developmental psychology.

(2)

(c) Explain how a parent may show demand characteristics in the strange situation procedure.

(2)

(Total for Question 3 = 6 marks)

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4 Evaluate Vygotsky's zone of proximal development (ZPD) as an explanation of cognitive and language development.

(8)

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(Total for Question 4 = 8 marks)

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5 Assess the use of primary and secondary data to investigate children's social and emotional development in developmental psychology.

You **must** refer to research evidence within your answer.

(8)

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(Total for Question 5 = 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

6 Kris was a participant in an experiment. Over a ten-day period he watched 20 violent television programmes. He then completed an interview about his levels of aggression. It was found that Kris' levels of aggression had increased.

Describe how social learning theory may account for the increase in Kris' levels of aggression.

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(Total for Question 6 = 2 marks)

7 Researchers assigned 40 offenders randomly to either a treatment group or a control group to test the effects of therapy on reoffending.

- Group A: Cognitive behavioural therapy (CBT).
- Group B: Control group.

The offenders were contacted one year after the research was completed in order to establish the rate of reoffending. The results are shown in **Table 2**.

Group	CBT	Control Group	Rate of reoffending
A	✔		25%
B		✔	80%

Table 2

(a) State **one** conclusion that could be made using the information in **Table 2**.

(1)

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(b) Calculate the number of offenders who reoffended, using the information in **Table 2**.

(1)

Space for calculations

Number of offenders who reoffended .....

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(c) The researchers made sure they followed the ethical guidelines from the British Psychological Society (BPS) Code of Ethics and Conduct (2009) when undertaking their research into offender treatment programmes.

Describe **one** ethical guideline that the researchers would have considered in their research into offender treatment programmes.

(2)

(d) Justify **two** reasons why the researchers may have breached ethical guidelines when conducting their research into offender treatment programmes.

(4)

1

2

(Total for Question 7 = 8 marks)

8 Grazvydas and Hanna conducted research to investigate the link between the prevalence of offending by age and sex. They asked 100 males and 50 females, aged between 12 and 19 years, to complete a self-report questionnaire.

The results for the percentage of males who have offended are shown by age, in **Figure 1**.

A bar chart to show the percentage of males who have offended, by age

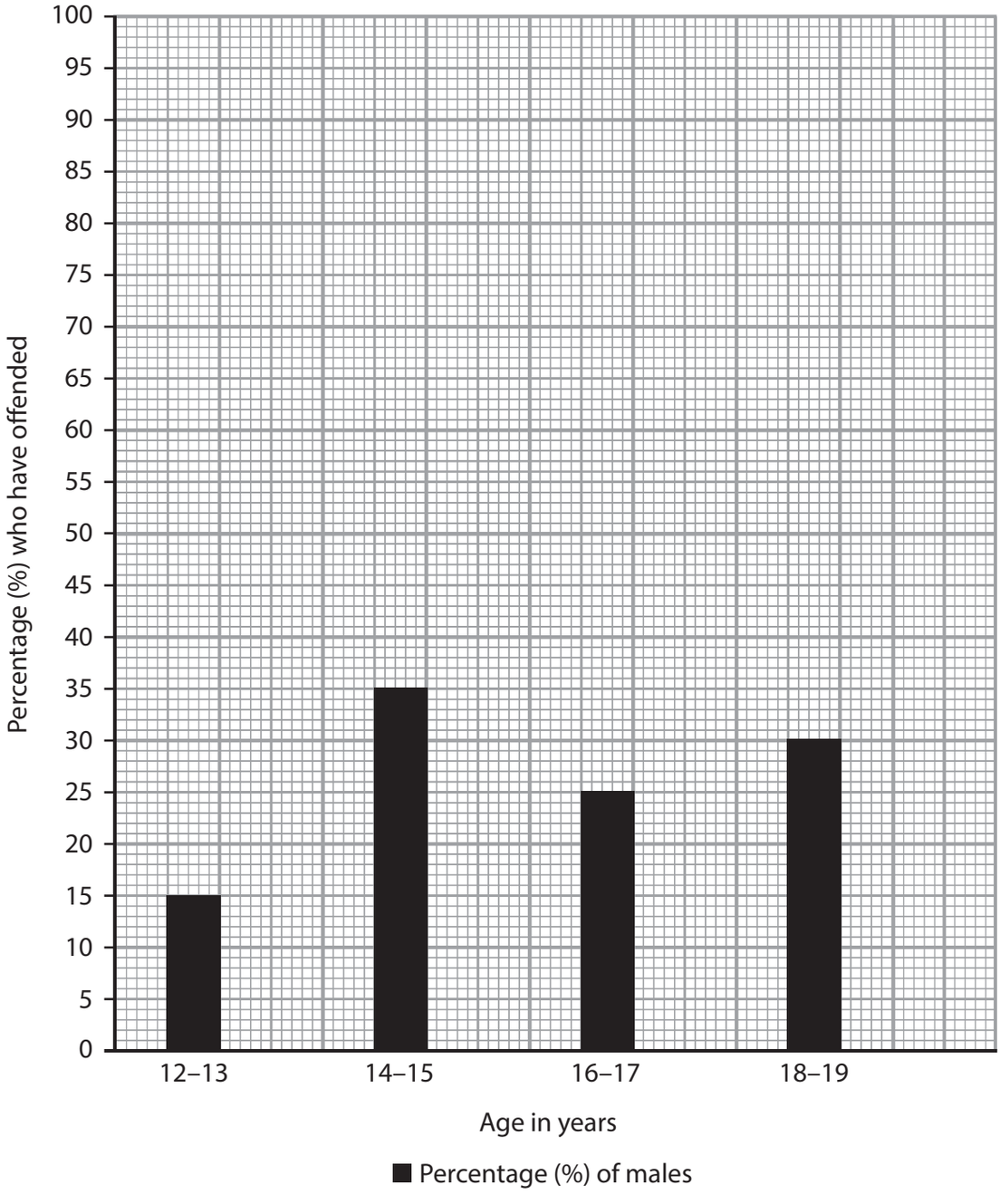


Figure 1

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(a) (i) Complete **Table 3** using the information provided in the bar chart shown in **Figure 1**.

(2)

Age in years	Number of males who have offended	Number of females who have offended
		5
		15
		10
		5

Table 3

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(ii) Complete the bar chart in **Figure 2** below to illustrate the percentage of females who have offended, using the data in **Table 3**.

(1)

A bar chart to show the percentage of males and the percentage of females who have offended, by age

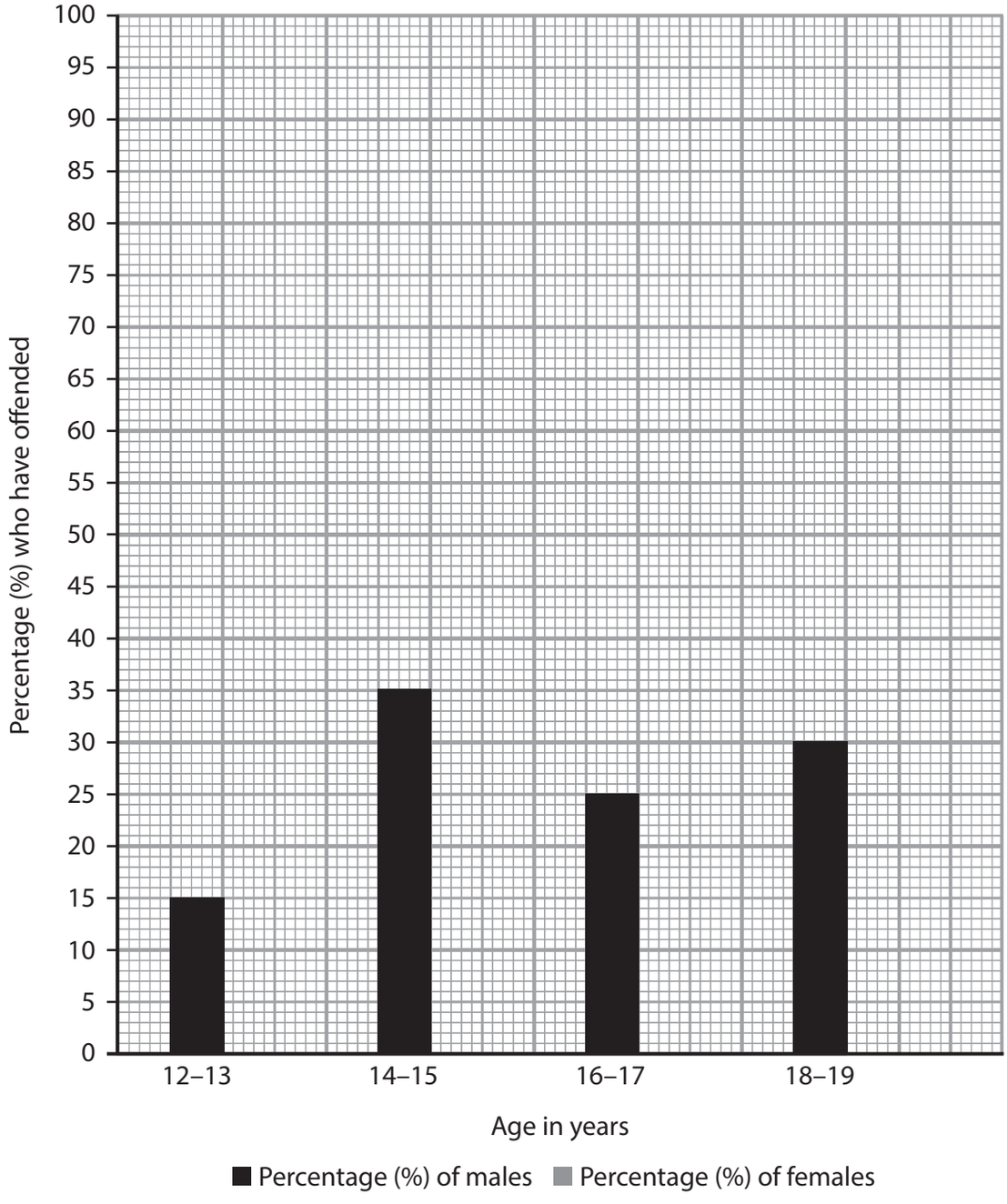


Figure 2

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(b) Explain **one** weakness of using self-report questionnaires in Grazvydas and Hanna's research.

(2)

(c) Suggest **one** way Grazvydas and Hanna could improve the validity of their study.

(1)

(Total for Question 8 = 6 marks)

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9 Evaluate the reliability of eyewitness memory.

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(Total for Question 9 = 8 marks)

10 Assess anti-social personality disorder (ASPD) as an explanation of crime and anti-social behaviour.

(8)

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(Total for Question 10 = 8 marks)

TOTAL FOR SECTION B OPTION 1 = 32 MARKS

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SECTION B

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

OPTION 2: HEALTH PSYCHOLOGY.

11 Lauren works in a call centre, where she takes customer calls for a large multinational company. The calls she receives can be for advice, complaints or general questions which makes her role unpredictable.

Lauren has chosen to work nights, but the call centre is still very crowded and can be noisy. Her workload can vary considerably with some nights being very busy.

Identify **two** factors that could cause Lauren stress in her workplace.

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(Total for Question 11 = 2 marks)

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12 Andreas and Mikhael conducted a meta-analysis of research into causes of stress. They reviewed 60 research studies that had all tested the effect of stress triggers on stomach acidity levels in non-human participants.

They presented the data from their meta-analysis of the studies in **Table 4**.

Change in stomach acidity level	Percentage of studies
Significant increase	55%
No significant increase	25%
No change	10%
No significant decrease	5%
Significant decrease	5%

Table 4

(a) State **one** conclusion that could be made using the data in **Table 4**.

(1)

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(b) Calculate the number of studies that found no significant increase in stomach acidity levels using the information in **Table 4**.

(1)

Space for calculations

Number of studies that found no significant increase .....

The use of non-human animals in the psychological research that Andreas and Mikhael reviewed would have been required to meet the Animals (Scientific Procedures) Act 1986.

(c) Describe **one** of the requirements the researchers would have considered when conducting research into the effects of stress triggers using non-human animals.

(2)

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(d) Justify **two** reasons why the researchers may have chosen to use non-human animals for their studies of stress triggers and stomach acidity.

(4)

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(Total for Question 12 = 8 marks)

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13 Rebekah and Caleb conducted research to investigate the link between health and lifestyle characteristics using a standardised questionnaire. They asked 100 male students and 50 female students to complete the questionnaire.

As part of their study, they recorded the percentage of males and females showing negative lifestyle characteristics.

The results for the percentage of males who reported negative lifestyle characteristics are shown in **Figure 3**.

A bar chart to show the percentage of males who reported negative lifestyle characteristics

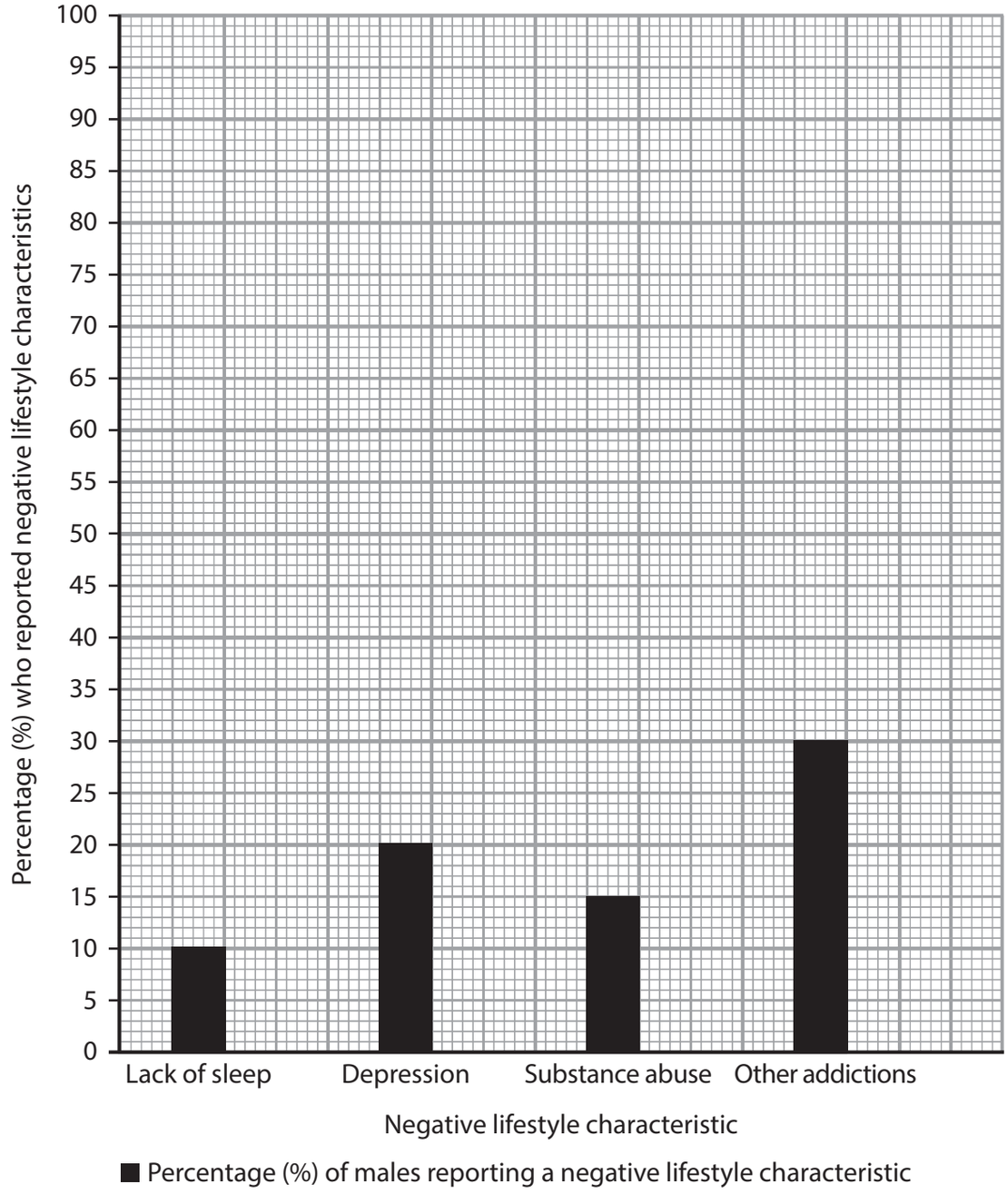


Figure 3

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(a) (i) Complete **Table 5** using the information provided in the bar chart shown in **Figure 3**.

(2)

Negative lifestyle characteristic	Number of males	Number of females
		10
		15
		5
		20

Table 5

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(ii) Complete the bar chart in **Figure 4** below to illustrate the percentage of females who showed negative lifestyle characteristics, using the data in **Table 5**.

(1)

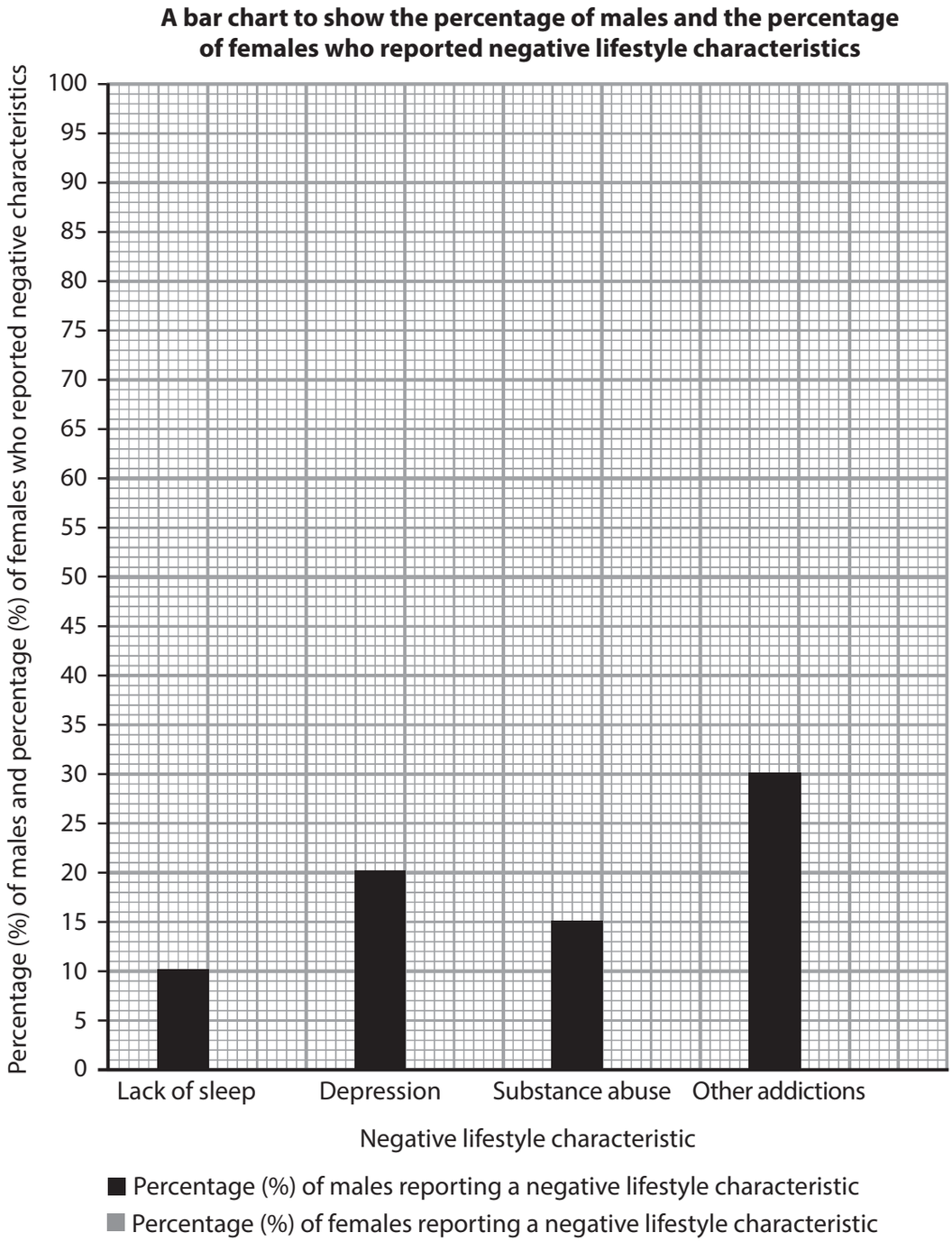


Figure 4

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(b) Explain **one** weakness of using standardised questionnaires in Rebekah and Caleb's research.

(2)

(c) Suggest **one** way Rebekah and Caleb could improve the validity of their study.

(1)

(Total for Question 13 = 6 marks)

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14 Evaluate Selye's General Adaptation Syndrome (GAS) as an explanation of stress.

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(Total for Question 14 = 8 marks)

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15 Assess the effectiveness of biological treatments and therapies for anxiety.

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(Total for Question 15 = 8 marks)

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

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