



Oxford Cambridge and RSA

Monday 15 May 2023 – Afternoon

AS Level Psychology

H167/01 Research methods

Time allowed: 1 hour 30 minutes



You must have:

- a ruler (cm/mm)
- a scientific or graphical calculator



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s)

Last name

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

INFORMATION

- The total mark for this paper is **75**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document has **20** pages.

ADVICE

- Read each question carefully before you start your answer.

2

Section A

Multiple choice

You should put the letter of the correct answer in the box provided.

1 Which of these shows the ratio 42:6 in its simplest form?

- A 5:1
- B 6:1
- C 7:1
- D 21:3

Your answer

[1]

2 What is the range for this set of scores? 52, 63, 48, 37, 24

- A 24
- B 28
- C 39
- D 52

Your answer

[1]

3 In an experiment what is the independent variable?

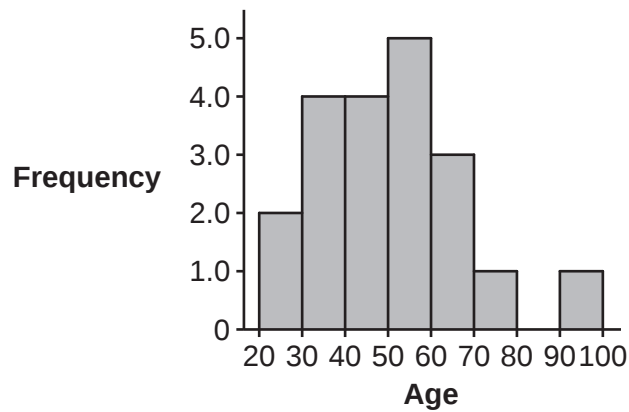
- A the variable that is manipulated by the researcher
- B the variable that is mapped by the researcher
- C the variable that is measured by the researcher
- D the variable that is moved by the researcher

Your answer

[1]

3

4 What type of graph is this?



- A bar chart
- B histogram
- C line graph
- D pie chart

Your answer

[1]

5 What does the alternative hypothesis in a correlation study state?

- A There will be a difference between two variables.
- B There will be a relationship between two variables.
- C There will not be a difference between two variables.
- D There will not be a relationship between two variables.

Your answer

[1]

6 Which of the following means that 'a is proportional to b'?

- A $a < b$
- B $a > b$
- C $a \sim b$
- D $a \propto b$

Your answer

[1]

4

- 7 Which of the following best describes the sampling technique used in Grant et al.'s (1998) study on context-dependent memory?

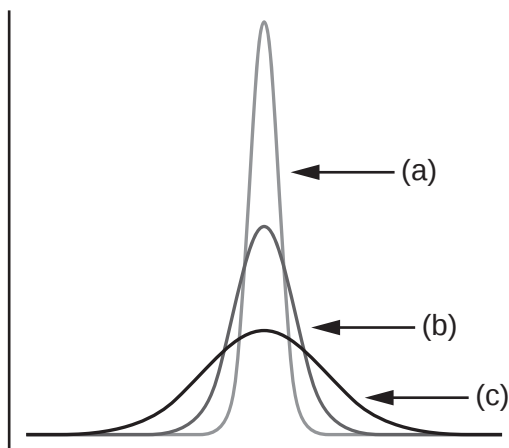
- A opportunity sampling
- B random sampling
- C self-selected sampling
- D snowball sampling

Your answer

☐

[1]

- 8 Which of these distributions shows the largest variance?



- A distribution (a)
- B distribution (b)
- C distribution (c)
- D they are all the same

Your answer

☐

[1]

- 9 In a study about phobias, which of the following would produce interval level data?

- A asking people to put in order, from 'least frightening' to 'most frightening', pictures of five different spiders
- B classifying people as 'not frightened', 'frightened' or 'very frightened'
- C recording heart rate whilst being shown pictures of spiders
- D responses to the open question asking 'What makes you feel frightened?'

Your answer

☐

[1]

5

10 Which check, prior to research publication, conducts a review in an ethical and accountable manner?

- A** peer review
- B** people review
- C** population review
- D** practical review

Your answer

[1]

11 In Milgram's study of obedience, what kind of data were the descriptions of the signs of anxiety shown by the participants?

- A** interval
- B** qualitative
- C** quantitative
- D** secondary

Your answer

[1]

12 Which of these best describes the research method(s) used in Loftus and Palmer's (1974) study of eyewitness testimony?

- A** lab experiment
- B** lab experiment and correlation
- C** lab experiment and observation
- D** lab experiment and self-report

Your answer

[1]

13 Which of these measures of dispersion only uses the highest and lowest values in a data set for its calculation?

- A** range
- B** standard deviation
- C** variance
- D** standard deviation and variance

Your answer

[1]

6

14 What type of sampling produces a sample that is most representative of the population?

- A** opportunity
- B** random
- C** self-selected
- D** snowball

Your answer

[1]

15 Which measure of central tendency involves ranking the data first?

- A** mean
- B** median
- C** mode
- D** none of them

Your answer

[1]

Section B

Research design and response

Sounds friendly?

There are many different styles of music and some can be very emotional and even influence how we behave. A psychologist wants to use the laboratory experimental method to investigate if listening to music with prosocial lyrics (words related to love and kindness) makes people more helpful afterwards.

16 Write a null hypothesis for this study.

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..... [3]

17* Explain how you would conduct a study using the laboratory experimental method to investigate if people become more helpful after listening to music with prosocial lyrics. Justify your decisions as part of your explanation. You must refer to:

- the experimental design you would use
- how you would operationalise the dependent variable (DV) in a way that would produce quantitative data
- one ethical consideration you would take into account.

You should use your own experience of practical activities to inform your response. [12]

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- 18 (a) Self-selected sampling could be used in this study. Outline how you would use self-selected sampling to obtain participants for this study.

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- (b) Outline **one** weakness of using self-selected sampling to obtain participants for this study.

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10

- 19 Outline **two** weaknesses of having quantitative data when trying to investigate whether prosocial lyrics influence how helpful people are.

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[6]

- 20 (a) Suggest **one** open question you could use to obtain additional information in this study.

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- (b) Outline **one** weakness of using this open question in this study.

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- 21 Outline **one** strength of using open questions in any one of your own practical activities.

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Section C

Data analysis and interpretation

Driving me crazy!

Driving is something that many people do on a regular basis, and there are many things that motorists do that cause others to become frustrated and even angry. To investigate this, a psychologist used the self-report method to find out more about what one thing people find most annoying about the behaviour of other motorists. Below is a table displaying the data collected from the 300 people who took part in the study.

Table displaying the number of responses in each category when participants were asked to identify which one of the following behaviours they find most annoying in other motorists

	Driving too close to another car	Driving too fast	Driving too slow	Overtaking	Inappropriate use of horn	Parking incorrectly
Male participants' responses	23	20	47	18	19	23
Female participants' responses	33	51	12	24	18	12

- 22** What type of question has been used to produce the data displayed in the table above?
Give reasons for your answer.

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23 Outline **two** conclusions that can be made from the data collected in this study.

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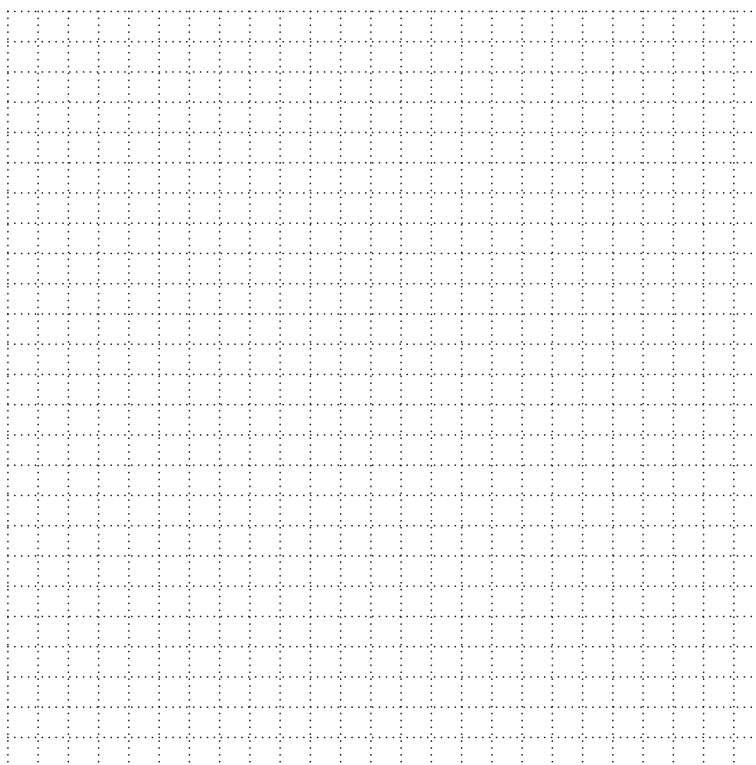
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[4]

24 Draw a fully labelled bar chart displaying the data from the **male participants** who took part in this study.



[4]

14

- 25** Calculate the overall percentage of people reporting 'overtaking' as being most annoying. Show your workings.
The table displaying the data collected from the 300 people who took part in the study is repeated below.

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..... [3]

Driving me crazy!

Table displaying the number of responses in each category when participants were asked to identify which one of the following behaviours they find most annoying in other motorists

	Driving too close to another car	Driving too fast	Driving too slow	Overtaking	Inappropriate use of horn	Parking incorrectly
Male participants' responses	23	20	47	18	19	23
Female participants' responses	33	51	12	24	18	12

- 26 (a)** Explain why the Chi square test would be the appropriate non-parametric inferential statistical test to use to analyse the data from this study.

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15

- (b) Calculate the 'degrees of freedom' required to check for significance when using the Chi square test to analyse the data collected in this study.

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- (c) After it is calculated, how is the 'degrees of freedom' used when checking for significance?

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- (d) Outline the meaning of $p < 0.05$ if it appeared as part of the significance statement when presenting the findings from an inferential statistical test for this study.

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- 27 Identify **and** explain **one** evaluation point you could have included in the discussion section of the write-up of any one of your own practical activities.

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END OF QUESTION PAPER

[illegible]

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