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PSYCHOLOGY

9990/21

Paper 2 Research Methods

October/November 2021

1 hour 30 minutes

You must answer on the question paper.

You will need: Ruler

INSTRUCTIONS

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INFORMATION

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Section A

Answer **all** questions in this section.

- 1 (a) Explain why a questionnaire is a self-report method, including an example from a core study in your answer.

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.....

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..... [2]

- (b) Explain **one** strength of using questionnaires in research.

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..... [2]

- 2 Dement and Kleitman (sleep and dreams) compared dream duration estimates for 5-minute and 15-minute REM periods.

Write a null hypothesis for this part of the study.

.....

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..... [2]

3 In the study by Bandura et al. (aggression), inter-rater reliability was measured.

(a) Outline what is meant by 'inter-rater reliability'.

.....
..... [1]

(b) Describe **one** part of the procedure that improved inter-rater reliability in this study.

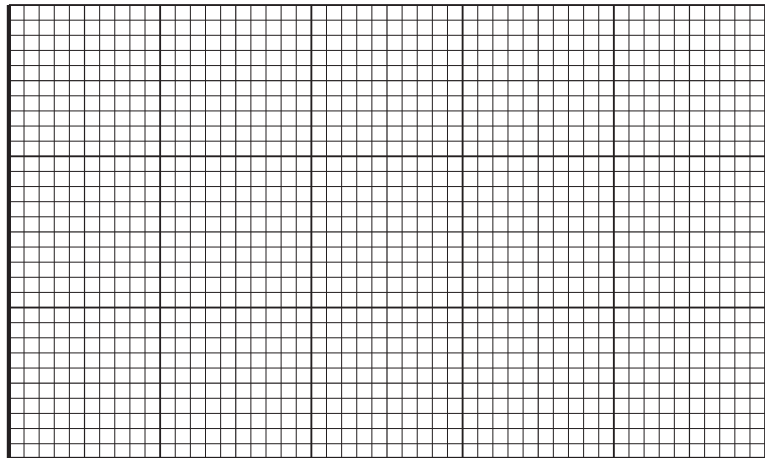
.....
.....
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.....
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..... [3]

- 4 In the study by Piliavin et al. (subway Samaritans), observers counted the total number of victims helped. The results were that 62 'cane' victims and 19 'drunk' victims were helped.

Draw a bar chart of these results. You **must** label the axes.

.....

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.....

[4]

- 5 In a study on memory, participants had to recall a story. The researchers measured memory by rating the accuracy of each participant's recall of the story on a 10-point scale.

Suggest **one** weakness of using this scale to measure memory.

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..... [2]

6 Describe laboratory experiments and field experiments, using any examples.

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..... [6]

Section B

Answer **all** questions in this section.

7 Bruce is planning a case study of a famous woman known worldwide for her helpfulness.

(a) Explain **one** strength of the case study research method.

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..... [2]

(b) Explain **two** weaknesses of the case study research method, using Bruce's study as an example.

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..... [4]

- 8 Nola is investigating whether there is a correlation between hours of sleep and how much a person argues. She thinks that people who sleep less may argue more. Her friend Tim is making suggestions about her procedure.

(a) Nola and Tim have different ideas for recording participants' hours of sleep per night:

- Nola plans to ask participants to record this at home.
- Tim says it would be better to record this in a laboratory.

(i) Suggest **one** ethical reason why Nola's idea is better than Tim's idea.

.....

.....

..... [2]

(ii) Suggest **one** practical reason why Nola's idea is better than Tim's idea, other than avoiding the need to use a laboratory.

.....

.....

..... [2]

(iii) Suggest **one** practical reason why Tim's idea is better than Nola's idea.

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.....

..... [2]

(b) Nola finds the correlation she expected, that people who sleep less argue more.

Explain why Nola **cannot** know whether sleeping less causes people to argue more.

.....

.....

..... [2]

- 9 Naomi is designing an observation of helping behaviour at an entrance to a library that has a door which is difficult to open. She intends to observe people carrying many books and will record the gender of each person who helps to open the door.

(a) Naomi could either be a participant observer or a non-participant observer.

(i) Suggest **one** advantage of her being a participant observer.

.....

.....

.....

..... [2]

(ii) Suggest **one** advantage of her being a non-participant observer.

.....

.....

.....

..... [2]

(b) Explain the type of data Naomi is collecting.

.....

.....

.....

..... [2]

(c) Situational variables could affect Naomi's results.

(i) State what is meant by a 'situational variable'.

.....
..... [1]

(ii) Suggest how **one** situational variable could affect Naomi's results.

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..... [3]

10 Brendan is planning to use a semi-structured interview in a study about road users. He intends to use a sample of people who are walking (pedestrians). Brendan will investigate the pedestrians' feelings, thoughts and actions towards other road users, e.g. other pedestrians, cyclists and drivers.

(a) Describe how Brendan could conduct a study using a semi-structured interview to investigate participants' feelings, thoughts and actions towards other road users.

[illegible]

(b) Identify **one** practical weakness/limitation with the procedure you have described in your answer to part **(a)** and suggest how your study might be done differently to overcome the problem.

[4]

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Section A

Answer **all** questions in this section.

1 From the study by Schachter and Singer (two factors in emotion):

(a) Identify the sampling technique used in this study.

..... [1]

(b) Explain how this sampling technique was used in this study.

.....

 [2]

(c) One ethical strength of this study was that health checks were done.

Explain why this is an ethical strength.

.....

 [2]

2 From the study by Bandura et al. (aggression):

(a) Identify the sample and the population in this study, using the following information:

The findings of this study on 72 children were generalised to suggest that all children learn aggression through observation.

sample:

population: [1]

(b) Explain **one** reason why generalisations should **not** be made from the 72 participants in this study, other than because of their age.

.....

 [2]

- 3 In a study investigating the emotions associated with birthdays, qualitative and quantitative data are being collected. A possible problem with some of this data is subjectivity.

(a) State what is meant by 'subjectivity'.

.....
 [1]

(b) Suggest **one** way that qualitative data could be collected for this study.

.....

 [2]

- 4 In the study by Baron-Cohen et al. (eyes test), standard deviations were calculated on the Autism Spectrum Quotient (AQ) scores and are shown in Table 4.1.

Table 4.1

	AS/HFA group	IQ-matched group
standard deviation of AQ scores	6.0	2.9

Explain what the information in Table 4.1 indicates about the results of these two groups.

.....

 [2]

- 5 Explain what is meant by 'operationalisation' in relation to the dependent variable and independent variable, using the study by Piliavin et al. (subway Samaritans).

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 [3]

6 Describe reliability and validity, using any examples.

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..... [6]

Section B

Answer **all** questions in this section.

- 7 Zayn is conducting a laboratory experiment to investigate the effects of lighting on attention. The participants' attention will be tested using a listening task in either bright light or dim light.

(a) Identify the independent variable in Zayn's study.

..... [1]

(b) Identify the dependent variable in Zayn's study.

..... [1]

(c) (i) State **one** relevant variable that Zayn should control in his study.

.....
 [1]

(ii) Suggest how Zayn could control the variable you suggested in (c)(i).

.....
 [1]

(iii) Explain why Zayn should control the variable you suggested in (c)(i).

.....
 [1]

(d) Explain **one** practical reason why it is better for Zayn to test attention using a listening task rather than a visual task.

.....

 [2]

(e) Suggest **one** weakness of Zayn using a laboratory experiment to study attention.

.....

 [2]

- 8 Gwyn is conducting a study about obedience to traffic rules. She believes that hot weather makes people angry so they disobey rules. Each day she has recorded the daily temperature and counted the number of speeding offences in her town. Gwyn has categorised the data in Table 8.1 according to temperature.

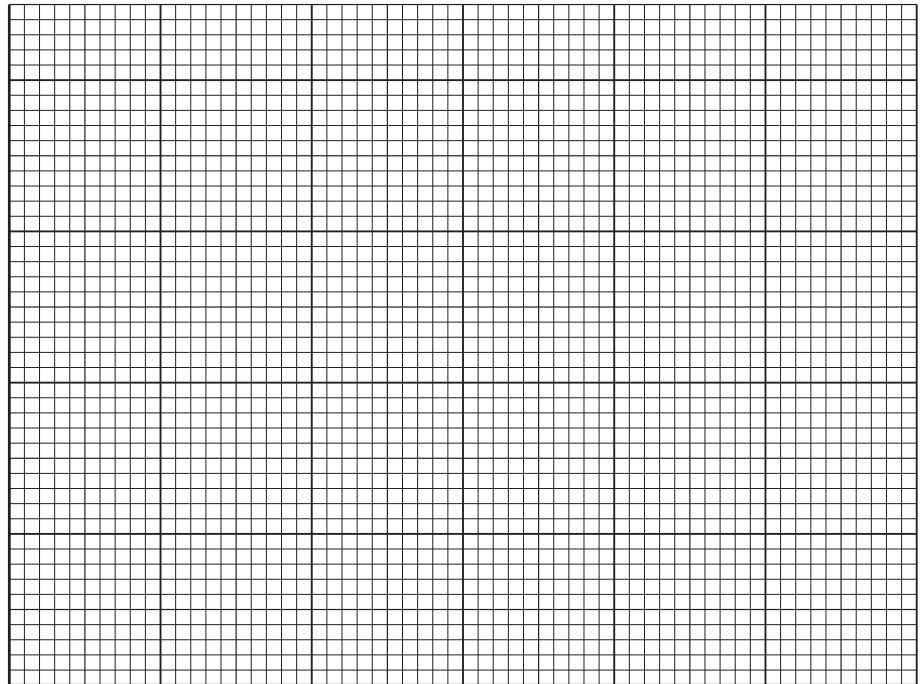
Table 8.1

Temperature (°C)	19–20	21–22	23–24	25–26	27–28
Number of speeding offences	6	10	9	13	17

- (a) Draw a histogram of Gwyn's data. You **must** label the axes.

.....

.....



.....

.....

[3]

- (b) Outline what Gwyn can conclude from her data.

.....

..... [1]

- (c) A colleague says that several situational variables may be important in Gwyn's study and that she should have controlled them.

- (i) Explain how **one** situational variable could have affected Gwyn's results.

.....

.....

.....

..... [2]

- (ii) Suggest how Gwyn could have reduced the effect of the situational variable that you referred to in (c)(i).

.....

..... [1]

- 9 Hazel is conducting an overt, participant observation to identify factors that affect the emotions of residents in a home for elderly people. She is a volunteer at the home, so the residents know her.

(a) Explain **one** practical reason why it is useful that the residents know Hazel.

.....

.....

.....

..... [2]

(b) (i) Explain **one** ethical problem caused by the residents knowing Hazel.

.....

.....

.....

..... [2]

(ii) Suggest **two** ways that Hazel could overcome the ethical problem that you explained in (b)(i).

1

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2

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..... [4]

Question 10 appears on Page 10.

(b) Identify **one** practical weakness/limitation with the procedure you have described in your answer to part **(a)** and suggest how your study might be done differently to overcome the problem.

[4]

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Section A

Answer **all** questions in this section.

- 1 (a) Outline what is meant by 'fatigue effects'.

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..... [2]

- (b) In the study by Pepperberg (parrot learning), fatigue effects could have occurred.

State **two** examples of the parrot's behaviour that suggest fatigue effects did occur.

1

2 [2]

- 2 Explain why opportunity sampling may **not** produce a representative sample.

.....

..... [1]

- 3 Studies using animals should follow the ethical guideline of 'deprivation and aversive stimuli'. The study by Yamamoto et al. (chimpanzee helping) followed this ethical guideline.

Explain **one** feature of this study that ensured the chimpanzees were **not** exposed to deprivation/aversive stimuli.

.....

.....

.....

..... [2]

- 4 In the study by Canli et al. (brain scans and emotions), several types of quantitative data were collected, including data from fMRI (functional Magnetic Resonance Imaging).

(a) Describe **two** quantitative measures in this study, other than the data from fMRI.

1

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2

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..... [4]

(b) For **one** of the quantitative measures you described in (a):

(i) Explain **one** reason why it may be a valid measure.

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.....

.....

..... [2]

(ii) Explain **one** reason why it may **not** be a valid measure.

.....

.....

.....

..... [2]

- 5 In the cognitive approach, studies often need to deceive participants.

Explain why deception was necessary in the study by Andrade (doodling).

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..... [1]

6 Describe covert observations and overt observations, using any examples.

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..... [6]

Question 7 appears on Page 6.

Section B

Answer **all** questions in this section.

- 7 Dhia is investigating when children learn to understand differences between shapes. She is comparing children aged 4 years and 8 years. Dhia will test their ability by asking them to sort wooden shapes into triangles, squares or circles.

(a) Suggest **two** ways that Dhia could measure a child's performance on this test.

1

.....

2

..... [2]

(b) Ethical guidelines suggest that even when consent has been given by a parent, a child should still be asked if they want to participate in a way that they will understand.

Suggest how Dhia could attempt to obtain informed consent from the children in a way that they will understand.

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..... [2]

(c) Children may express their right to withdraw in different ways from adults.

Suggest how Dhia might know that a child wants to withdraw from her experiment.

.....

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..... [2]

- (d) The 4-year-old children had been learning about shapes at school the week before Dhia's study.

Explain the possible effect of this on Dhia's findings.

.....

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..... [3]

- 8 Bai is conducting a correlational study about pain and hours of daylight. He thinks that people experience more pain on days when there is less sunlight. He has asked for volunteers from a specialist centre for back pain.

(a) Bai plans to collect his data about pain using a questionnaire.

Explain **one** reason why it may be better for him to use an interview to collect this data.

.....

.....

..... [2]

(b) (i) Suggest **one** disadvantage of using participants from a specialist centre for back pain.

.....

.....

..... [2]

(ii) Suggest **one** alternative source of participants. Justify your answer.

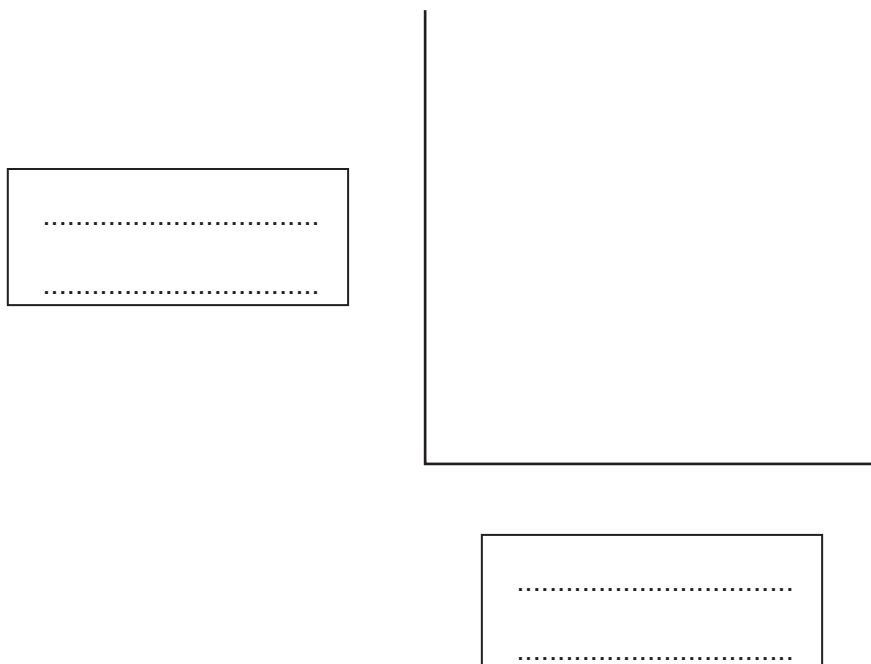
.....

.....

.....

..... [2]

(c) Sketch a graph of the results Bai expects to find on the axes below. You **must** label the axes.



[3]

- 9 Mitesh is investigating the effect of doodling on recall of animal noises. He provides pencils and doodling paper for all participants and tells them that they will hear a recording of animal noises that they will have to recall. Mitesh notes which participants doodle while they listen to the recording.

- (a) Suggest how Mitesh could encourage participants to doodle, other than by telling them to doodle.

.....

.....

.....

..... [2]

- (b) The participants who doodled recalled more animal noises than the participants who did not doodle. However, Mitesh cannot conclude that doodling causes better recall.

Suggest **one** reason why Mitesh **cannot** conclude that doodling causes better recall.

.....

.....

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..... [2]

- (c) Mitesh did not deceive his participants.

Explain why it was necessary for him to debrief his participants.

.....

.....

.....

..... [2]

(b) Identify **one** practical weakness/limitation with the procedure you have described in your answer to part **(a)** and suggest how your study might be done differently to overcome the problem.

[4]

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