Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

3977049968

PSYCHOLOGY **9990/23**

Paper 2 Research Methods **October/November 2023**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.

INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Any blank pages are indicated.

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Section A

Answer **all** questions in this section.

1 A matched pairs design is an experimental design that can be used in studies comparing two conditions, or levels, of an independent variable.

(a) Explain what is meant by a 'matched pairs design'.

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..... [1]

(b) Explain **one** advantage of using a matched pairs design compared to using a repeated measures design.

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..... [2]

2 A range can be calculated when numerical scores are collected from participants in a study.

(a) Define the term 'range'.

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..... [1]

(b) Describe how the range of 'hours spent asleep' could have been calculated in the study by Dement and Kleitman (sleep and dreams).

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..... [2]

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3 The reliability of a study is affected by the measures (scales or tasks) chosen by the researcher and the way that these are used when conducting the study.

(a) One way to check reliability is the test-retest technique.

Describe how this technique checks reliability.

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..... [3]

(b) Another type of reliability is inter-rater reliability.

Explain how the inter-rater reliability of studies can be improved.

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..... [2]

4 In each of the core studies, the researchers report their conclusions.

(a) Explain what is meant by the term 'conclusions', using an example from a core study from the social approach.

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..... [2]

(b) In the study by Baron-Cohen et al. (eyes test), two main conclusions were drawn.

Outline **one** of these conclusions.

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..... [1]

5 In the study by Saavedra and Silverman (button phobia), a boy was repeatedly asked to use the Feelings Thermometer. Other questions investigated his phobia further and showed that he disliked buttons touching his body.

Explain the type of interview used in this study.

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..... [2]

6 Describe the ethical guidelines of 'housing' and 'rewards' in relation to animals, using any examples.

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..... [6]

Question 7 appears on Page 6.

Section B

Answer **all** questions in this section.

7 Dr Casson conducted a field experiment to compare the emotions that people show when they respond to shop assistants who are either wearing a uniform or casual clothes. She asked the assistants at her local shop to wear a uniform on Saturdays and wear casual clothes on Sundays.

(a) Explain why Dr Casson's study was a field experiment.

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..... [3]

(b) **(i)** Suggest how Dr Casson could have measured the dependent variable in her study.

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..... [2]

(ii) Suggest **one** reason why it may be more difficult to measure the dependent variable in a field experiment than in a laboratory experiment.

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..... [2]

8 Keung and Jovita are planning a correlational study to investigate the relationship between a person's physical activity level and their attention level. They each make a different prediction about their results.

(a) Suggest how Keung and Jovita could measure the physical activity level of their participants.

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..... [1]

(b) Write a null hypothesis for Keung and Jovita's correlational study.

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..... [1]

(c) Keung predicted that there would be a positive correlation and Jovita predicted that there would be a negative correlation.

Their results show that a higher physical activity level is related to a lower attention level.

Explain whether Keung or Jovita's prediction was correct.

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(d) Keung and Jovita plot a scatter diagram of their results.

Explain how they can see the strength of the correlation from their scatter diagram.

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..... [2]

(e) Keung and Jovita's friend says that their results show that the difference in physical activity level is affecting attention level.

Explain why they **cannot** draw this conclusion from their research.

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..... [2]

9 Dr Wilson is conducting an experiment on memory for complex, coloured shapes. He is using students for his sample. Dr Wilson intends to generalise his results widely, to understand how well internet users remember visual stimuli.

(a) Suggest how **one** extraneous variable could affect Dr Wilson's study.

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..... [2]

(b) **(i)** Dr Wilson is using a volunteer sample of students from his university.
Suggest how he could recruit his sample.

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..... [2]

(ii) Suggest **one** advantage of using a volunteer sample compared to an opportunity sample.

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(iii) Suggest **one** disadvantage of using a volunteer sample compared to an opportunity sample.

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..... [2]

(c) One reason why Dr Wilson cannot generalise the results from his study is his sampling technique.

State **one** reason why he should **not** generalise the results from his students to all internet users, other than his sampling technique.

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..... [1]

Question 10 appears on Page 10.

Section C

Answer **all** questions in this section.

10 Dr Birkin is planning an observational study of children's imaginary play behaviour (for example, a child might use a leaf as a plate, or a big cardboard box as a boat or a house).

(a) Describe how Dr Birkin could conduct an observational study of children to investigate their imaginary play behaviour.

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(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.

Do **not** refer to ethics or sampling in your answer.

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..... [4]

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