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Cambridge Assessment International Education

Cambridge International AS & A Level

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

2140167450

PSYCHOLOGY **9990/23**

Paper 2 Research Methods **October/November 2025**

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.

1 **(a)** Define what is meant by 'counterbalancing'.

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..... [1]

(b) Outline **one** reason why counterbalancing is important in experiments.

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..... [1]

2 State whether the hypothesis, 'attention will be better when eating than when not eating' is a:

- directional hypothesis
- non-directional hypothesis
- null hypothesis.

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..... [1]

3 In the study by Fagen et al. (elephant learning), there were several stages to the training process.

(a) Explain why there was no fixed length of time for the elephants' training.

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..... [2]

(b) Some behavioural tasks were more difficult than others for the elephants to learn. This difference in difficulty was called 'relative difficulty' in the study.

Explain how Fagen et al. measured relative difficulty.

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4 Hölzel et al. (mindfulness and brain scans) measured changes in mindfulness using the 39-item five facet mindfulness questionnaire (FFMQ).

(a) Explain **one** strength of measuring the change in mindfulness in this way.

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..... [2]

(b) Explain **one** weakness of measuring the change in mindfulness in this way.

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5 In the study by Piliavin et al. (subway Samaritans), there were two types of victim who collapsed on the train.

(a) Describe **three** ways that the two types of victim differed.

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..... [3]

(b) Explain why it was important that there were also similarities between the two types of victim.

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6 Describe open questions and closed questions, using any example(s).

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..... [6]

7 Pedro is conducting a study about children's interest in different types of objects. He has objects for children to explore, including picture books and toy bricks. Pedro is recording which objects children choose and for how long they interact with those objects.

(a) (i) Pedro wants to add more objects and is considering plush (soft) toys, wheeled toys, noisy toys and balls.

Explain why **two** of these objects could interest children. Your two answers **must** be different.

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(ii) Suggest **one** reason why **one** of the objects named in part **(a)(i)** may not interest the children.

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(b) Suggest how Pedro could tell the children that they have the right to withdraw from his study in a way that they will understand.

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(c) Pedro tests two children using a choice of picture books, toy bricks and one other object. He collects data about how long each child interacts with the objects.

Draw a table that Pedro could use to collect this data. You **must** label the rows and columns of your table.

[3]

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8 Dr Bakar is investigating the effect of boredom on people's estimation of time. Her participants were separated into two groups and did different activities:

- Group A watched an exciting film (non-boring activity)
- Group B moved small boxes from one pile to another (boring activity).

Both activities lasted 30 minutes. Each participant was asked to estimate how long the activity had lasted.

(a) Outline the dependent variable in Dr Bakar's study.

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..... [2]

(b) Dr Bakar is concerned about possible differences between individuals in Group A and Group B that could affect the validity of her study.

(i) Suggest why **two** possible differences between individuals in Group A and Group B could lower validity.

difference 1 .....

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difference 2 .....

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[4]

(ii) For **one** of the differences you suggested in part **(b)(i)**:

Suggest how Dr Bakar could change her study to improve validity.

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(c) Dr Bakar includes a control group in her study.

(i) Suggest a suitable control group for Dr Bakar's study.

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(ii) Explain why the control group you suggested in part **(c)(i)** is suitable.

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9 Daniel is investigating the effect of childhood experiences on adult food preferences. He asked adult participants to taste one food item. He counted the number of participants who liked this food item who had:

- a positive childhood experience of that food item
- a negative childhood experience of that food item
- no childhood experience of that food item.

(a) A graph of Daniel's results is shown in Fig. 9.1.

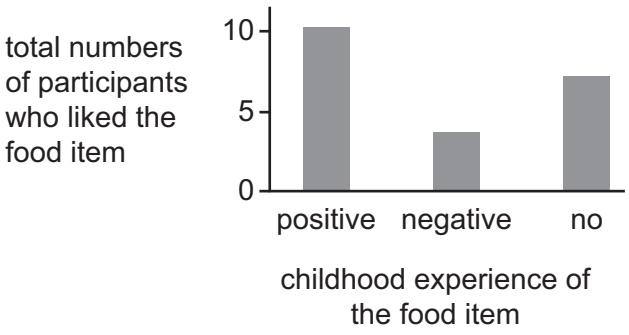


Fig. 9.1

(i) Name the type of graph in Fig. 9.1.

..... [1]

(ii) Suggest **one** conclusion from Daniel's results.

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(b) Suggest **one** problem with validity that Daniel may have because he is only using adults in his study, other than generalisability.

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Section B

Answer **all** questions.

10 Liam is a young man who is unusually good at focussing his attention on many types of stimuli, such as sights or sounds.

(a) Describe how a researcher could conduct a case study to investigate Liam's unusual ability to focus his attention.

Do **not** describe ethical issues / guidelines in your answer.

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(b) Explain how **two** features of the procedure you described in part **(a)** help to make the study valid.

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

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