



A LEVEL PSYCHOLOGY

UNIT 4

Psychology: Applied Research Methods

SPECIMEN PAPER

1 hour 30 minutes

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a 12 page answer book.

INSTRUCTIONS TO CANDIDATES

Answer **all** the questions.

Use black ink or black ball-point pen.

Do not use pencil or gel pen.

Do not use correction fluid.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question.

You are reminded of the need for good English and orderly, clear presentation in your answers. Assessment will take into account the quality of written communication used in your answers.

No certificate will be awarded to a candidate detected in any unfair practice during the examination.

SECTION A – Personal Investigations

You should answer **all** the questions in this section with reference to the *personal investigations carried out in your study of psychology*.

INVESTIGATION ONE:**Correlational research on the relationship between age and reaction times.**

1. (a) (i) State the alternative / experimental hypothesis for your correlational investigation. [3]
- (ii) Explain whether this alternative / experimental hypothesis was directional or non-directional. [2]
- (b) Explain how you ensured that the correlational research you carried out was ethical? [10]
- (c) Discuss how changing **one** aspect of your sample would increase the validity of this correlational research. [5]

INVESTIGATION TWO:**Observation of gender differences in food choices.**

2. (a) (i) Describe the sampling method you used. [2]
- (ii) Explain why this sampling method was chosen. [3]
- (b) Suggest **two** ways your investigation could have been improved. [5]

Section B over the page

SECTION B – Application of research methods to novel scenarios

Answer all questions.

3. It has been found that pupils with low levels of self-confidence in reading do better when reading to an animal. A psychologist was asked to investigate whether using a dog in the class could increase reading accuracy thereby improving confidence in the skill. She measured the cortisol levels in the saliva of ten children after they had been reading in front of their peers and then again the following day after reading to a dog. Cortisol is released when an individual interprets a situation as being stressful. The results are shown in *Table 1* below:

Table 1: Summary table of raw data, mean and standard deviation

| Participant (f=female, m=male) | Level of cortisol in saliva samples after reading (nmol/L) | |
|--------------------------------------|---|---------------------|
| | Reading to peers | Reading to a dog |
| 1f | 13 | 20 |
| 2f | 40 | 6 |
| 3f | 12 | 1 |
| 4f | 3 | 9 |
| 5f | 15 | 0 |
| 6f | 7 | 13 |
| 1m | 22 | 4 |
| 2m | 19 | 3 |
| 3m | 11 | 2 |
| 4m | 8 | 2 |

- (a) Calculate the median scores for the levels of cortisol when reading to a dog. Show your workings. [2]
- (b) A Wilcoxon matched pairs signed ranks test was used to analyse the data. Explain why this was appropriate. [3]
- (c) A psychology student at Bangor University read about this research; he was interested in how children learn to read and so decided to investigate further by making several changes to the original work. He wanted to investigate whether the reading skills of children was influenced by whether they are bilingual or not (being able to speak two languages fluently). He asked 6 children from his family (all boys aged between 4 and 13) whether they would participate in a longitudinal study to measure the development in reading over three years. He arranged that the parents of the children filled in a questionnaire on the reading skills of their children once a year. Each participant was paid £50 for their involvement.

Discuss the choices made by this student in planning his research in terms of the impact on the results gained. [10]

4. It has been suggested that petting an animal can help improve the mood and health of patients recovering in hospital. Describe how a psychologist could investigate this suggestion **using an experiment**. [15]

In your answer you should include:

- the operationalisation of both the independent variable (IV) and dependent variable (DV)
- details of the experimental design and participants used
- identification of **two** possible confounding variables and how you would deal with these.

End of paper

