

Candidate Name

Candidate Number

Centre Name

Centre Number

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## Paper 2: Psychological Investigation

## Sample Paper

(1 hour 40 minutes)

It is necessary to respond on the answer sheet provided alongside this question paper.  
Additionally, you must have a dark blue or black pen.

### INSTRUCTIONS:

- You must write your name, candidate number, centre name and centre number on the answer sheet in the designated space.
- This paper consists of three sections, answer all the questions in each section.
- It is important to follow the instructions provided on the answer sheet.
- Do not use correction fluid.
- Avoid writing 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 [ ]

## Section A

1. A study hypothesis states, 'learners whose teachers make use of hand gestures in a lesson will score higher test results than learners whose teachers use no hand gestures.'

(a) Is this a one-tailed (directional) hypothesis or a two-tailed (non-directional) hypothesis?

Include a reason for your answer. [2 marks]

(b) Suggest a null hypothesis that could be used with the above hypothesis. [2 marks]

This proposed experiment results from a case study the researcher carried out in a local school.

(c) State two ways in which the research methods of a case study and an experiment differ.

[2 marks]

The researcher placed an advert in her college newsletter inviting people to take part in her study. All her participants were people who had responded to the advert.

(d) Explain one advantage of using this method of sampling. [2 marks]

The researcher's design has two experimental conditions. She intends to use random allocation with her participants. Her supervisor suggests using a matched pairs design.

(e) Describe how random allocation might be done and explain why it might be used.

[2 marks]

(f) Explain what a matched pairs design is, and what advantage it may have. [2 marks]

The researcher decided to carry out a pilot study.

(g) Describe what is meant by a pilot study. [3 marks]

The researcher compared the mean test result scores for each of the experimental groups.

(h) Explain how the mean test result scores would be calculated. [2 marks]

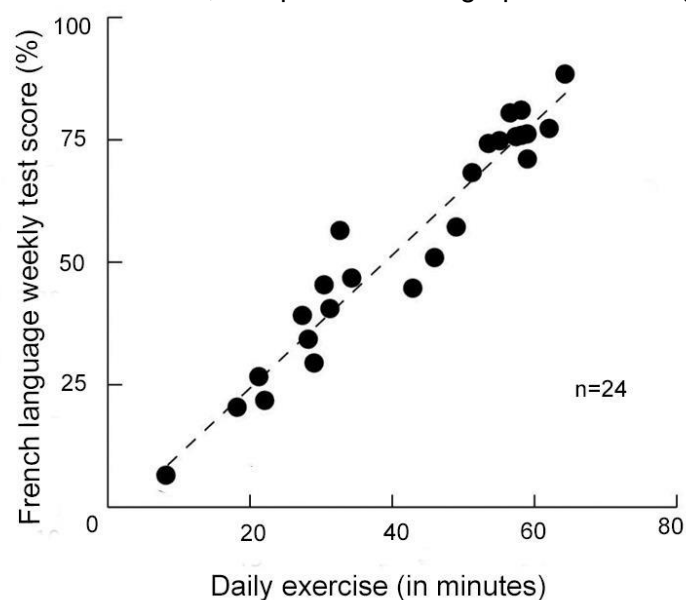
(i) Identify an alternative measure of central tendency the researcher could use. [1 mark]

The researcher reported a significant difference in the test result scores between the experimental groups,  $p \leq 0.05$

(j) Explain the term  $p \leq 0.05$  [2 marks]

## Section B

2. A high school psychology student also studies French. He used a questionnaire with other members of his French class, and produced the graph below using the results.



- (a) What type of graph is this? [1 mark]
- (b) Identify the co-variables on this graph. [1 mark]
- (c) Using appropriate terminology, what kind of relationship is shown by this graph? [2 marks]

Questionnaires can be used to produce quantitative and qualitative data.

- (d) Using examples, define quantitative and qualitative data. Your answer does NOT need to relate to the student's work. [6 marks]

In his report, the student says, "The results of this study show that, for this limited population, increased daily exercise improves performance in academic tests."

- (e) How do the limitations of the student's chosen method render this an invalid conclusion? [6 marks]
- (f) Using the example of a questionnaire that measures daily exercise in minutes, explain the difference between open and closed questions. [4 marks]

## Section C

3. Sarah wanted to test experimenter bias. She divided her students into groups and showed each group the same video of a kitten escaping from a Thorndike box. In her handouts to one group, Sarah said the kitten's mother was so clever she'd been used in various movies. The other group's handouts said that the kitten's mother was "a pretty but stupid stray." Neither of these comments was true. A third group had handouts that made no comment whatsoever about the kitten's mother.

(a) Suggest a dependent variable in this exercise and how it could be operationalised.

[2 marks]

(b) Name the ethical guideline that Sarah broke by telling the participants about the mother of the kitten in the handouts.

[1 mark]

(c) Explain why Sarah breaking the ethical guideline that you have identified in part (b) is important.

[2 marks]

Sarah's study is obviously based on Rosenthal and Fode (1963) where the groups were given different rats to work with, having been lied to about the rats' parentage.

(d) Suggest one advantage of Sarah's video technique over Rosenthal and Fode's technique.

[1 mark]

4. Thomas has a younger brother who is scared of dark glasses. Thomas has decided to watch his brother in the local park. He wants to observe how his brother responds to other people. He decides to conduct a controlled observation using two of his friends, one wearing dark glasses and one wearing ordinary glasses. He has asked his friends to walk around the park separately.

(a) Describe how Thomas could conduct his observation of his brother's responses.

[10 marks]

(b) Identify one possible weakness/limitation with the procedure described in your answer to part (a) and suggest what might be done differently to address the issue.

[4 marks]