

LOCATION: SWANSEA

LLEOLIAD: ABERTAWE

LEVEL 4

LEFEL 4

**EXAMINATION PERIOD
MAY 2018**

**CYFNOD ARHOLIADAU
MAI 2018**

**MODULE CODE: ECPS4002
RESEARCH METHODS**

TIME: 1 HOUR

THIS PAPER CONSISTS OF THREE SECTIONS.

SECTION A: MULTIPLE CHOICE QUESTIONS (25 MARKS)

SECTION B: SHORT ANSWER QUESTIONS (50 MARKS)

SECTION C: BASIC STATISTICS QUESTIONS (25 MARKS)

YOU SHOULD ANSWER ALL QUESTIONS IN ALL THREE SECTIONS.

YOU MUST WRITE ALL YOUR ANSWERS IN YOUR ANSWER BOOKLET AND NOT ON THIS EXAM PAPER.

CALCULATORS ARE ALLOWED

Equipment or materials required – None

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SECTION A: MULTIPLE CHOICE QUESTIONS (25 MARKS)

ANSWER ALL QUESTIONS: Write your answers in your answer booklet.

Read the following accounts of psychological research studies and answer the questions that follow them.

Study 1

In a research study, 50 participants are tested on their basic driving skills using a driving simulator; their task is to drive around a course hitting as few cones as possible. They are then given a three-week programme of mental agility puzzles, to be carried out every day. At the end of the three weeks 45 of the subjects return to the laboratory (five decide they cannot be bothered and do not attend), where they complete another test of their driving skills. As predicted by the researchers, the participants hit significantly less cones on this second test, supporting the hypothesis that carrying out mental agility tasks will significantly improve driving skills.

1. The design of the study was
 - a. within-subjects
 - b. between-subjects
 - c. correlational
 - d. a sign-test

2. The dependent variable was
 - a. the length of time between the first and second part of the study
 - b. number of cones hit on the second test compared to the first test
 - c. the mental agility puzzles
 - d. the number of subjects who took part in the second test compared to the first test

3. The hypothesis of this study was
 - a. two tailed because a significant difference was predicted
 - b. one tailed because a significant difference was predicted
 - c. one tailed because the researchers predicted that the mental agility tasks would improve driving skills
 - d. two tailed because the researchers predicted that the mental agility tasks would improve driving skills

Study 2

A group of researchers hypothesised that there would be a significant relationship between reading and IQ, with people who read more having a higher IQ. To explore whether there is a relationship they devised a diary log and asked 100 students to record the amount of hours that they read each day (including textbooks, newspapers, fiction, and internet articles), and to complete this diary for one month. At the end of the month each student was given a standardised IQ test. When the researchers analysed the results they found that the relationship between amount of hours reading and IQ was $r = .12$, $p = .057$.

1. The design of the study was

- a. correlational
- b. within-subjects
- c. between-subjects
- d. Wilcoxon-paired

2 The hypothesis of the study predicted

- a. a negative relationship between IQ and amount of reading
- b. simply a relationship (positive or negative) between IQ and amount of reading
- c. a positive relationship between IQ and amount of reading
- d. no relationship between IQ and amount of reading.

3. The study found

- a. a significant negative relationship between IQ and amount of reading
- b. no significant relationship between IQ and amount of reading
- c. a significant positive relationship between IQ and amount of reading
- d. a relationship between taking part in the study and amount of reading

4. A probability of less than 5 in 100 is expressed as

- a. $p > 0.005$
- b. $p > 0.05$
- c. $p < 0.005$
- d. $p < 0.05$

5. Was the study hypothesis supported?

- a. Yes
- b. No

SECTION B: SHORT ANSWER QUESTIONS (50 MARKS)

ANSWER ALL QUESTIONS: Write your answers in your answer booklet.

Study A

Carefully read through the following description of a study and then answer all of the questions listed below.

Smith and Jones are researching gender differences in memory. Previous neuropsychological research has suggested that females are better at object recognition, whilst males are better at spatial orientation. The researchers decide to test whether there is a difference between men and women in the recall of previously-seen people. They manage to recruit 73 participants (30 men and 43 women) to take part in the study. In part one of the study each participant is shown 20 pictures of faces (10 male and 10 female) which are displayed on the screen for two seconds each. They are then given an unrelated distracter task (building a house out of Lego blocks) and are told they cannot continue to the second part of the recognition task until this is completed. After completion of the distracter task the participant takes their seat at the computer again and is shown 20 faces, 10 which have been previously-seen and 10 which are new. The participant is required to indicate on the keyboard whether they have seen the face before or not. The researchers count the number of times each participant correctly recognised a previously-seen face and analyse the data. Amazingly, they find that men have a significantly better memory for previously-seen faces than women, despite much of the previous research suggesting the opposite.

1. The variables in this study were ‘gender of the subject’ and ‘number of previously-seen faces correctly recognised.’ Which of these is the dependent variable and which the independent variable? Explain your answer.
2. Is the design of the experiment between-subjects or within-subjects? Explain your answer.
3. What type of data did the researchers collect, continuous or categorical? Explain your answer.
4. Identify a factor that was controlled for, and explain why this had to be controlled for.
5. The study contains a major potential confounding variable. What is this and why is it potentially confounding?
6. Why might this variable have influenced the data and subsequent results? What could be done to resolve this issue? Explain your answer.

Study B

Carefully read through the following description of a study and then answer all of the questions listed below.

Professor Smith believes that, if people are ordered to do something immoral (such as inflicting pain on an animal), they are more likely to do it when that order comes from a person close to them than a complete stranger, even though they may appear to have the same level of authority over them. To explore this, the Professor finds 30 participants who agree to attend the study with their partner (the 'partner' condition), and 30 subjects who attend on their own (the 'stranger' condition). In the 'partner' condition, the Professor asks the participants' partner to read from a script informing the participant that they must press a button which will inflict an electric shock to a puppy in the next room. In the 'stranger' condition, a confederate of the Professor's reads from the same script and informs the participant that they must press a button which will inflict an electric shock to a puppy in the next room. The Professor notes, for each group, whether a participant inflicts the shock or not.

(Please note, no hypothetical puppies were harmed in the making of this scenario).

1. Is this experiment a within-subjects or between-subjects design? Explain your answer, and why this type of design may be preferable for the study.
2. What is the independent variable, and how is it to be manipulated?
3. What is the dependent variable, and how will it be measured?
4. What type of data is being collected, continuous or categorical? Explain your answer.
5. What variables have been controlled for and why is this important?
6. With the data from this study, what would the Professor be looking to analyse, and what statistical test would be used to assess this?

SECTION C: BASIC STATISTICS QUESTIONS (25 MARKS)

ANSWER ALL QUESTIONS: Write your answers in your answer booklet.

A researcher is carrying out a study into the effects of alcohol on coordination and stability. She finds ten people willing to carry out her study and gives each of them three units of alcohol. She then asks them to carry out a task of transporting a ball on a spoon for a distance of thirty metres whilst blindfolded. The amount of times each participant drops the ball during this task is recorded.

Participant	Times ball dropped
1	8
2	3
3	7
4	3
5	7
6	2
7	7
8	6
9	3
10	54

1. Calculate the mean for the participant scores
2. Calculate the median for the participant scores
3. Calculate the mode for the participant scores
4. Which of these measures of central tendency would be best used to explain the dispersion of these scores? Give your reasons for choosing this measure and also your reasons for not choosing the other measures.

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