



Oxford Cambridge and RSA

AS Level Psychology

H167/01 Research methods

Monday 16 May 2016 – Afternoon

Time allowed: 1 hour 30 minutes



You must have:

- a calculator



First name	StemUp Model Solution									
Last name										
Centre number						Candidate number				

INSTRUCTIONS

- Use black ink.
- Complete the boxes above with your name, centre number and candidate number.
- Answer **all** the questions.
- Write your answer to each question in the space provided. If additional space is required, use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

INFORMATION

- The total mark for this paper is **75**.
- The marks for each question are shown in brackets [].
- Quality of extended response will be assessed in questions marked with an asterisk (*).
- This document consists of **16** pages.

SECTION A – Multiple choice

Answer **all** the questions. You should put the letter of the correct answer in the box provided.

- 1 Which experimental design was used in the Loftus and Palmer study investigating the effects of leading questions on memory?

A independent measures
B laboratory experiment
C matched participants
D repeated measures

Your answer

A

[1]

- 2 Peer review of a piece of new psychological research should be conducted by:

A a specially appointed government minister
B another researcher working in a different field of psychology
C another researcher working in the same field of psychology
D the head of the psychology department in the university where the research was conducted

Your answer

C

[1]

- 3 A psychologist has designed a new psychometric test to measure extroversion. She gives 30 participants both her test and an established personality test, and compares their scores on the two tests. What is she trying to establish by doing this?

A concurrent validity
B criterion validity
C ecological validity
D external validity

Your answer

A

[1]

- 4 Which of these is the name of a referencing system used to cite academic research?

A Cambridge
B Harvard
C Stanford
D Yale

Your answer

B

[1]

5 What comes first in an academic reference?

- A abstract
- B name of journal
- C surname of researcher
- D title of investigation

Your answer

[1]

6 In which section of a practical report would you find the calculations performed for an inferential statistical test?

- A abstract
- B appendices
- C discussion
- D results

Your answer

[1]

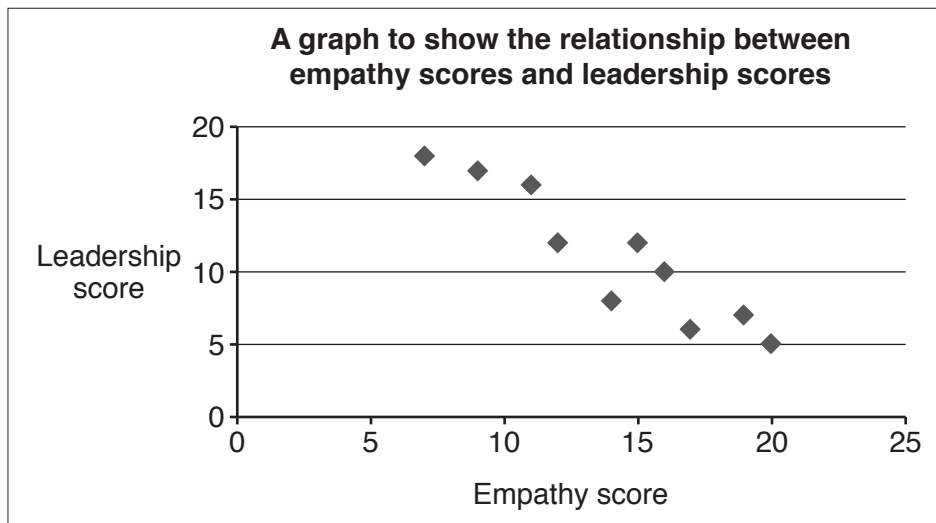
7 Which is a principle of scientific enquiry?

- A implication
- B induction
- C information
- D initiation

Your answer

[1]

8 Look at the following scatter diagram.



Which is the best estimate of the correlation coefficient for the above data?

- A -0.7
- B -0.2
- C $+0.2$
- D $+0.7$

Your answer

A

[1]

9 What sampling technique did Milgram use to obtain the participants for his study of obedience?

- A opportunity
- B random
- C self-selected
- D snowball

Your answer

C

[1]

- 10 A binomial sign test is correctly used to assess the significance of a set of results.

What level of data and type of design are necessary to carry out this test?

- A nominal level data using a repeated measures design
- B nominal level data using an independent measures design
- C ordinal level data using a repeated measures design
- D ordinal level data using an independent measures design

Your answer

A

[1]

- 11 Which of these is associated with the term 'demand characteristics'?

- A changes in participants' behaviour as a consequence of knowing they are being studied
- B compulsory things that the participants must do
- C instructions given to the participants by the researcher
- D personality traits of the participants

Your answer

A

[1]

- 12 Which of these is a closed question?

- A How do horror movies make you feel?
- B How often do you watch horror movies? ☐ 1–3 × per year ☐ 4–5 × per year ☐ 6 or more × per year
- C What is the best horror movie you have seen?
- D Why do you like horror movies?

Your answer

B

[1]

- 13 What is the name for the type of interview in which some of the questions to be asked are compiled beforehand and others made up while the interview is being conducted?

- A semi-constructed
- B semi-detached
- C semi-structured
- D semi-unstructured

Your answer

C

[1]

14 What is a quasi-experiment?

- A** the independent variable cannot be directly manipulated
- B** the independent variable is directly manipulated
- C** there is more than one independent variable
- D** there is no independent variable

Your answer

A

[1]

15 Which of these would produce interval level data?

- A** estimates of the number of sweets in a jar
- B** ratings of attractiveness of people with pupils of different sizes
- C** reaction time to respond to visual and auditory stimuli recorded using a stopwatch
- D** the number of people who hold the door open for the person behind them when entering a shop

Your answer

C

[1]

SECTION B – Research design and response

Answer **all** the questions.

Furry friends. Some research suggests that animals can help people feel less lonely. To investigate this further a psychologist wants to conduct an experiment to study the effect of caring for pets on elderly people living in one large residential home called 'The Oaklands' which has a total of 125 men and women aged between 60 and 95.

- 16 Identify the target population in this research.

The target population is the 125 elderly residents (men and women aged 60 to 95) living in The Oaklands residential home. [1]

- 17 (a) Describe how random sampling could be used to obtain participants for this study.

The psychologist would first obtain a list of all 125 elderly residents of The Oaklands from the home's records, so that every resident has an equal chance of being chosen. Each resident's name would be written on a slip of paper and placed in a hat, or each resident given a number from 1 to 125 and the numbers entered into a random number generator. Names or numbers would then be drawn out without looking until the required sample of, say, 40 residents had been selected to take part. [3]

- (b) Evaluate the use of random sampling in this study.

One strength of random sampling here is that it should produce a sample that is representative of the 125 residents of The Oaklands, because every elderly resident, male or female, aged 60 or 95, has an equal chance of being picked and the researcher cannot bias the selection by choosing residents she thinks will enjoy pets. This means the findings about whether caring for a pet reduces loneliness can be generalised more accurately to all the residents of the home. However, a weakness is that with a small sample drawn from 125 residents the sample may by chance still be unrepresentative, for example mostly women or mostly the least lonely residents, which would limit how far the pet findings apply to the whole home. Also, some residents selected may refuse or be too frail to care for an animal, so the final sample becomes partly self-selected and less random than intended. [6]

- 18 (a) Identify the independent variable in this study.

Whether or not the elderly resident cares for a pet (an animal) for a set period. [1]

- (b) Identify the dependent variable in this study.

The level of loneliness reported by the elderly residents. [1]

- 19* Explain how you would use the experimental method to conduct this research. Justify your decisions as part of your explanation.

In your answer, the required features that you must refer to are:

- the experimental design you would use
- how the dependent variable will be measured
- the control of at least one extraneous variable.

You should use your own experience of practical activities to inform your response.

I would use an independent measures design. The 40 residents sampled from The Oaklands would be randomly allocated to two conditions: 20 would care for a cat in their room for one month and 20 would carry on as normal with no pet. I chose this because a repeated measures design would create order effects: if a resident did the pet condition first, any drop in loneliness could carry over into the no-pet condition and hide the effect. It also reduces demand characteristics, as residents only see one condition and cannot guess the aim. In my own practical on the effect of music on recall of word lists I used independent measures for the same reason and found random allocation spread participant variables between the groups. The dependent variable, loneliness, would be measured with a self-report questionnaire. At the end of the month each resident would rate how lonely they had felt that week on a scale from 1 (not at all lonely) to 10 (extremely lonely). This operationalises loneliness as a number so the two groups' means can be compared with a statistical test. I chose a rating scale because in my practical a 1 to 10 scale gave quantitative data that was easy to analyse, whereas open questions were hard to score objectively. One extraneous variable I would control is the amount of contact residents have with staff and visitors, because extra contact could reduce loneliness regardless of the pet. I would ask the home to keep activities and visiting hours the same for both groups and give every resident the same standardised instructions about the cat. In my practical, testing people in different rooms at different times let noise affect the results, so here every questionnaire would be done at the same time of day in the same quiet room. This means any difference in loneliness scores is more likely to be caused by caring for the pet, increasing internal validity.

[12]

20 Write a null hypothesis for this study.

There will be no difference in the loneliness scores (rated on a scale of 1 to 10) of elderly residents of The Oaklands who care for a cat for one month and those who do not care for a pet, and any difference found will be due to chance.

..... [3]

21 Outline **one** advantage of conducting this research in a real-life setting.

Conducting the research in the residents' own home, The Oaklands, gives it high ecological validity, because the elderly people are caring for the pet and reporting their loneliness in their everyday surroundings, so the behaviour is natural and the findings should reflect how pets really affect loneliness in a care home.

..... [2]

22 Identify **two** ethical considerations in this study and explain how you would address them.

One ethical consideration is protection from harm, because asking elderly residents about loneliness could upset them, and a cat could scratch a frail resident or cause a fall. I would address this by briefing residents sensitively, letting them stop at any time, and choosing calm, vaccinated animals with daily checks by staff so nobody is put at risk.

A second consideration is informed consent, because some residents aged up to 95 may not fully understand what caring for an animal for a month involves. I would address this by explaining the aim and procedure clearly in writing and verbally, checking understanding, gaining consent from relatives or carers where appropriate, and reminding residents of their right to withdraw. I would also debrief them at the end, and because residents may become attached to the cat I would allow them to keep it or visit it so it is not simply taken away.

..... [6]

SECTION C – Data analysis and interpretation

Answer **all** the questions.

A psychologist conducted an observation study to investigate how people react when walking towards each other along a corridor in a building where lots of different office staff work. To do this, she asked for permission to set up hidden cameras for a day to record people's encounters along one of the main corridors connecting one part of the building to another. The results from the study are shown in the table below.

Table 1: Different behaviours observed as two people approach each other in a corridor

Avoids eye contact	Smiles	Says hello	Makes eye contact	Nods	Total
80	48	40	24	8	200

- 23** This study is an example of a structured observation. What is a structured observation?

A structured observation is one in which the researcher decides in advance exactly which behaviours will be recorded, using a set of pre-determined behavioural categories such as "smiles" or "avoids eye contact" on a coding sheet, and tallies how often each occurs. [2]

- 24** What level of data is obtained in this study?

Nominal level data, because each behaviour is placed into a named category and counted. [1]

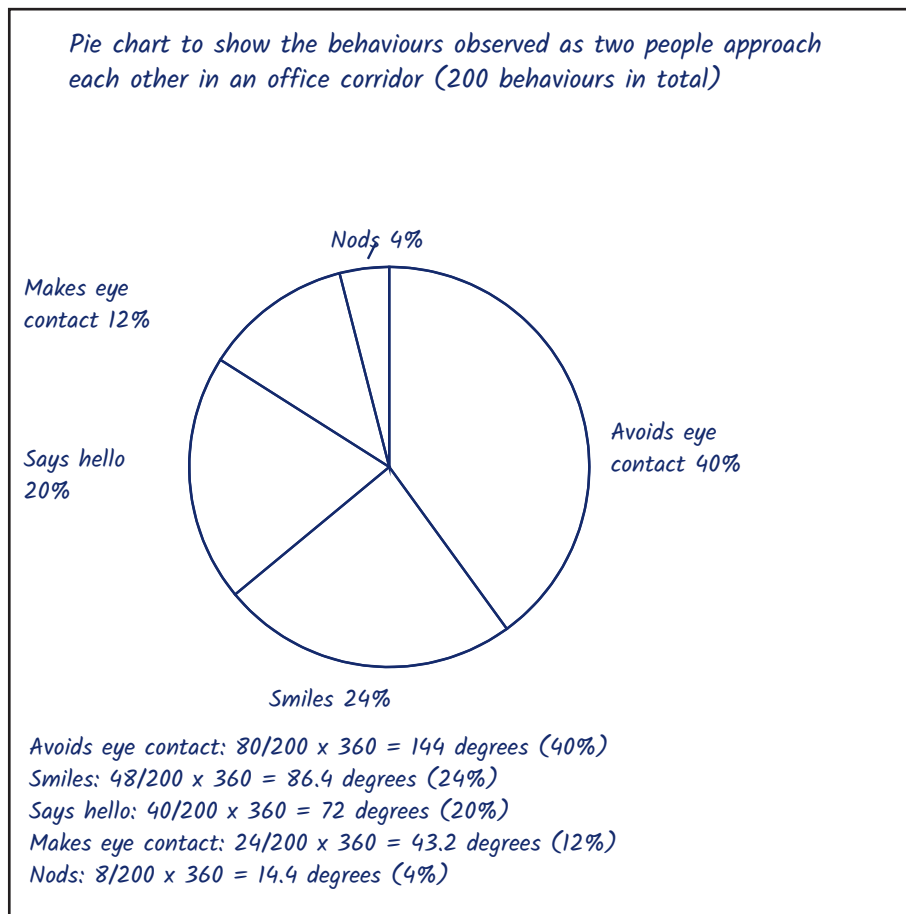
- 25** What is the ratio of the number of times people avoided eye contact to the number of times people said hello?

80 : 40, which simplifies to 2 : 1 [2]

- 26** What is the mode for the type of behaviour observed by people as they approach each other in the corridor?

The mode is "avoids eye contact", which occurred 80 times, more than any other behaviour. [1]

27 Sketch a pie chart to show the data recorded in this study.



[4]

28 Outline **two** conclusions that can be made from the data collected in this study.

One conclusion is that the most frequent behaviour when two office workers approach each other in the corridor was avoiding eye contact, which happened 80 times out of 200 (40%). This suggests that people in this workplace prefer not to acknowledge colleagues when they pass them in a corridor, perhaps to avoid an awkward interaction with someone they do not know well.

A second conclusion is that nodding was the least common behaviour, recorded only 8 times (4%), and that friendly greetings were less common than avoidance overall. This suggests that when office staff do acknowledge each other in the corridor they are more likely to smile (48) or say hello (40) than to nod, so a nod is not a usual way of greeting someone in this building.

[6]

- 29 In a follow-up study conducted a month later that recorded 310 behaviours in total, the researchers noted that people avoided eye contact 125 times.

Write this as a percentage to two significant figures. Show your working.

$$\text{Percentage} = (125 / 310) \times 100$$

$$= 0.40322... \times 100$$

$$= 40.3225... \%$$

To two significant figures this is 40%.

[3]

- 30 (a) Explain what is meant by a covert observation.

A covert observation is one where the participants do not know that they are being observed by the researcher, for example because the observer is hidden or using hidden cameras, so they are unaware their behaviour is being recorded.

[2]

- (b) Evaluate the use of covert observation in this study.

One strength of using hidden cameras in the corridor is that the office staff did not know they were being watched, so they behaved naturally and the data on avoiding eye contact, smiling and saying hello has high validity. Demand characteristics were removed, as workers could not change how often they greeted colleagues to please the researcher. However, a weakness is that the observation raises ethical problems: the staff did not give informed consent to being filmed, their privacy was invaded on their way around their own workplace, and they could not withdraw their data, so the study could be considered unethical even though the behaviour was in a semi-public corridor.

[4]

END OF QUESTION PAPER

This image shows a blank sheet of white paper designed for handwriting practice. It features a solid vertical line on the left side, creating a narrow margin. The rest of the page is filled with evenly spaced horizontal dashed lines, providing guides for letter height and placement. There are no other markings, text, or illustrations on the page.

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