



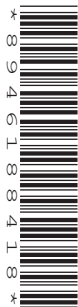
Oxford Cambridge and RSA

Monday 16 May 2022 – Afternoon

AS Level Psychology

H167/01 Research methods

Time allowed: 1 hour 30 minutes



You must have:

- a scientific or graphical calculator
- a ruler (cm/mm)



Please write clearly in black ink. **Do not write in the barcodes.**

Centre number

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Candidate number

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First name(s) StemUp Model Solution

Last name _____

INSTRUCTIONS

- Use black ink. You can use an HB pencil, but only for graphs and diagrams.
- Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.
- Answer **all** the questions.

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 has **16** pages.

ADVICE

- Read each question carefully before you start your answer.

SECTION A – Multiple choice

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

1 What sampling technique is used when placing an advert in a newspaper to recruit participants?

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

Your answer

C

[1]

2 Which of these research methods or experimental designs does not have an independent variable that is controlled and manipulated directly by the researcher?

- A** field experiment
- B** lab experiment
- C** quasi experiment
- D** repeated measures design experiment

Your answer

C

[1]

3 Which of these is not covered by the ethical issue of 'respect'?

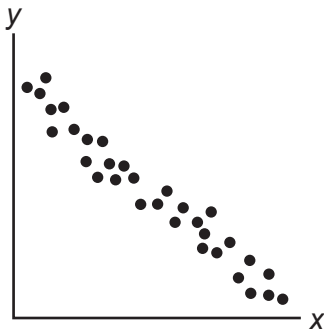
- A** confidentiality
- B** consent
- C** payment
- D** withdrawal

Your answer

C

[1]

4 What type of correlation is shown in the scatter diagram below?



- A strong negative
- B strong positive
- C weak positive
- D zero

Your answer

A

[1]

5 What does the null hypothesis in an experiment state?

- A there will be an effect of the IV on the DV
- B there will not be an effect of the IV on the DV
- C there will be a relationship between the IV and the DV
- D there will not be a relationship between the IV and the DV

Your answer

B

[1]

6 Which of these indicates the research is significant at the 3% level of probability?

- A $p < 3.0$
- B $p < 0.3$
- C $p < 0.03$
- D $p < 0.003$

Your answer

C

[1]

7 In which of these sections of the write-up of a practical report would you find specific details of any apparatus used in the research?

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

Your answer

C

[1]

8 Which of these is not a type of validity?

- A construct
- B criterion
- C face
- D visual

Your answer

D

[1]

9 Which of these would not be included when citing an academic reference using the Harvard system?

- A first name initials of researchers
- B probability level of the findings obtained in the research
- C title of the publication of the research
- D year of publication of the research

Your answer

B

[1]

10 Which of these is the name of the process by which fellow academics scrutinise the work of others prior to publication?

- A peer reference
- B peer reliability
- C peer response
- D peer review

Your answer

D

[1]

11 Which of these was an independent variable in the Grant et al. (1998) study into context dependent memory?

- A type of learning material used
- B type of participants used
- C type of questions used
- D type of testing condition used

Your answer

D

[1]

12 Which of these is a reason that the 1997 study of autism by Baron-Cohen et al. is considered a quasi experiment?

- A location of the study
- B measure of the dependent variable
- C status of participants
- D use of facial expressions

Your answer

C

[1]

13 Which of these best describes the kind of data collected in Milgram's (1963) study of obedience?

- A both quantitative and qualitative
- B neither quantitative or qualitative
- C quantitative
- D qualitative

Your answer

A

[1]

14 Which of these could be the result of Spearman's rho inferential statistical test?

- A 0.05
- B 1.05
- C -1.05
- D 11.05

Your answer

A

[1]

15 Which of these is a type of rating scale?

- A analytical analog
- B bimodal binary
- C semantic differential
- D sequential similarity

Your answer

C

[1]

7
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SECTION B – Research design and response

Answer **all** the questions in Section B.

Mind changing?

Attitudes towards mental health and how it is treated have changed a lot over the years. However, despite this there are still differences in how people with physical, compared to mental illnesses are thought of and cared for. Psychologists want to study this further using the self-report method to investigate peoples' attitudes towards mental health.

16* Explain how you would use the self-report method to investigate attitudes towards mental illness. You must refer to:

- the use of a semi-structured interview
- one question that uses a Likert scale
- one question that would produce quantifiable data

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

I would use a semi-structured interview to investigate attitudes towards mental illness, because it lets me ask a fixed set of pre-written questions to every participant (so answers can be compared) while also allowing me to add unplanned follow-up questions to explore the reasons behind a person's attitude. I would interview each participant face to face, one at a time, in a quiet private room so that they feel comfortable discussing a sensitive topic such as mental illness, and I would record the interview with their consent so that I can transcribe and analyse the answers later. In my own practical, a semi-structured interview on attitudes to revision worked well because the pre-set questions kept every interview on topic but the follow-ups gave me richer, more detailed answers than a questionnaire did. One question would use a Likert scale, for example: "People with a mental illness should be cared for in exactly the same way as people with a physical illness" with the options strongly agree, agree, neutral, disagree and strongly disagree. I chose a Likert scale because it measures the strength of a person's attitude, not just whether they agree or not, and because the five options can be given a score from 1 to 5. In my practical I found that participants completed Likert items quickly and found them easy.

to understand, which made the data easy to collect.

One question that would produce quantifiable data would be: "On a scale of 0 (not at all comfortable) to 10 (completely comfortable), how comfortable would you feel working alongside a colleague who has been treated for depression?" This gives a numerical rating scale score for each participant, so I can calculate the mean and range of scores for the whole sample and compare groups, for example men and women, or display the results in a bar chart. I chose this because in my practical quantitative data from rating scales was quick to analyse and allowed me to draw objective conclusions, whereas my open questions produced qualitative data that was much harder to summarise.

[12]

17 Write a research aim for this study.

To investigate people's attitudes towards mental illness, and whether people hold more negative attitudes towards those with a mental illness than towards those with a physical illness.

[2]

- 18 (a) Identify the difference between a population and sample when conducting research.

The population is the whole group the findings are to be applied to, whereas the sample is the smaller group selected from it who actually provide the data. [1]

- (b) Name and describe the sampling technique you would use to obtain the participants for this study.

I would use a self-selected (volunteer) sample. I would put a poster on the noticeboard of my local community centre and an advert on a social media page asking for adults aged 18 or over who are willing to take part in an interview about their attitudes towards mental illness, with my email address to contact. Participants would then volunteer themselves by contacting me and the first 20 people to respond would be interviewed. [3]

- 19 (a) Outline **one** strength of the use of closed questions in this study.

One strength of closed questions is that they produce quantitative data which is easy to analyse and compare. For example, if every participant answers the Likert question about whether mental illness should be treated the same as physical illness, I can score each answer from 1 to 5, calculate the mean attitude score for the sample and quickly see which attitudes towards mental illness are most common. [3]

- (b) Outline **one** weakness of the use of closed questions in this study.

One weakness of closed questions is that they give no insight into why people hold the attitude they do. A participant who ticks 'strongly disagree' to the statement that mental illness should be treated the same as physical illness has no opportunity to explain or elaborate on their reasons, so the data lacks depth and I may not fully understand people's real attitudes towards mental illness. [3]

- 20 Outline **two** ways that you would try to reduce the influence of demand characteristics in this self-report study.

One way would be to include distractor (filler) questions in the interview, for example questions about attitudes to physical illnesses such as diabetes or questions about health in general, so that the true aim of measuring attitudes towards mental illness is disguised. If participants cannot work out what I am looking for, they are less likely to change their answers to fit what they think I want.

A second way would be to guarantee anonymity and confidentiality. At the start I would tell each participant that their name will not be recorded, that their answers will be stored under a number and that no one else will know what they said about mental illness. This should reduce social desirability, so participants give their honest attitudes rather than the attitude they think is socially acceptable.

[6]

- 21 Outline **one** weakness of the use of an interview rather than a written questionnaire in this study.

One weakness of an interview is that the participant is answering face to face with me rather than filling in a questionnaire privately. Because mental illness is a sensitive topic, participants may give socially desirable answers, for example claiming to be more accepting of mental illness than they really are, so the attitudes measured are less valid than those from an anonymous written questionnaire.

[3]

- 22 Outline **one** thing that may lower the usefulness of the findings from this study.

If the sample is small or unrepresentative, for example only young adults who volunteered, the attitudes towards mental illness found could not be generalised to the wider population, so the findings would be less useful.

[2]

SECTION C – Data analysis and interpretation

Answer **all** the questions in Section C.

Knowing me, knowing you

How well do we know each other and how much does this reflect what we think of our self? To investigate this a psychologist asked ten people to rate their own level of extroversion on a scale of 0 ('not very extrovert at all') to 100 ('extremely extrovert') and then asked a close friend of each person to rate them using the same scale. The results are presented in the table below.

Participant	Self-rating of extroversion (0 to 100)	Friend's rating (0 to 100)
a	100	90
b	80	25
c	90	10
d	40	70
e	15	95
f	70	45
g	35	85
h	50	60
i	60	45
j	25	100

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

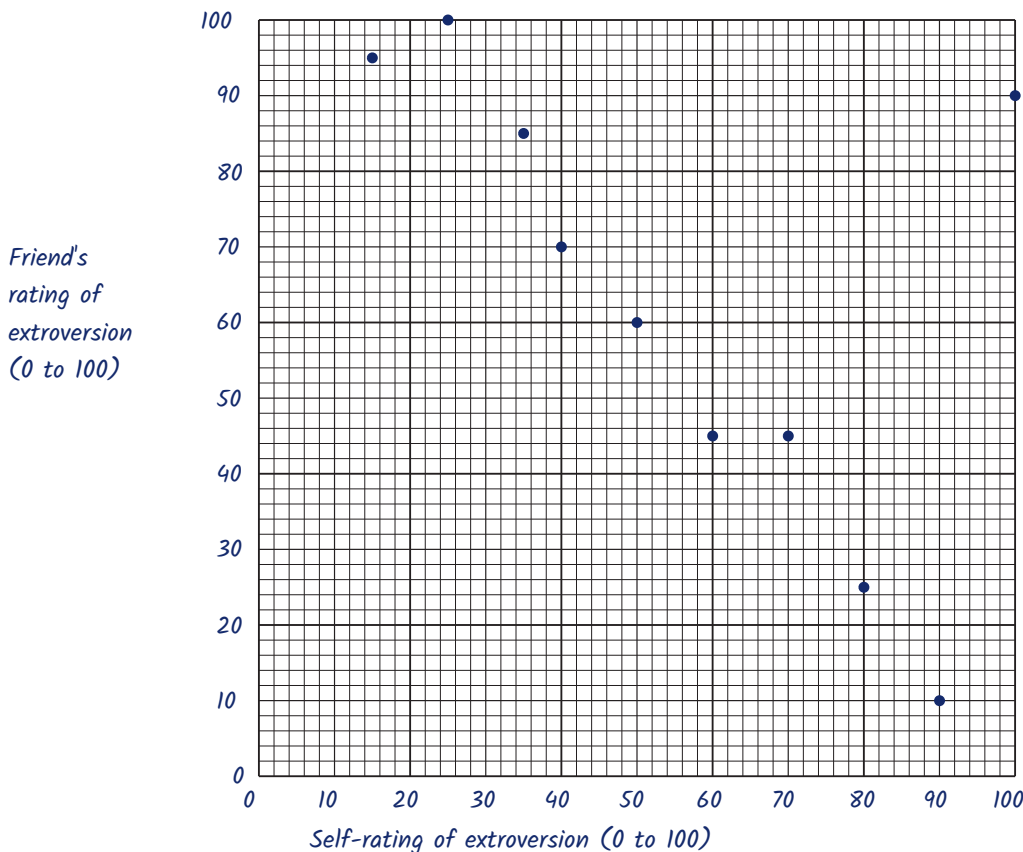
One conclusion is that there was a lot of variation in how closely people's own ratings of their extroversion matched their friend's rating. Some participants were rated very similarly, for example participant a (100 and 90) and participant h (50 and 60), but others were rated very differently, for example participant c rated themselves 90 while their friend gave 10. This suggests that some people see their personality in the same way as their friends do, whereas others think very differently about themselves.

A second conclusion is that, overall, the participants who rated themselves as highly extrovert (b, c and f) tended to be given low ratings by their friend, while several who rated themselves as not very extrovert (e, g and j) were given very high ratings. This suggests that people may be poor judges of their own extroversion, perhaps because we judge ourselves on private thoughts and feelings while friends judge only the behaviour they can see.

[6]

24 Draw a fully labelled scatter diagram displaying the data from this study.

Scatter diagram showing self-rating of extroversion against friend's rating of extroversion



[4]

- 25 Outline **one** strength and **one** weakness of the use of quantifiable data in this study.

One strength of the quantifiable data is that the numerical extroversion ratings are easy to record, analyse and present. Because every participant and friend used the same 0 to 100 scale, the psychologist can directly compare the two ratings for each person, plot them on a scatter diagram and calculate Spearman's rho to test objectively whether self-ratings and friends' ratings of extroversion are related.

One weakness is that the ratings give no insight into why a person or their friend chose a particular score. For example, we do not know why participant c rated themselves 90 for extroversion but their friend gave 10, and different people may interpret the 0 to 100 extroversion scale differently, so the numbers lack depth and may not be comparable between participants.

[6]

- 26 Explain why the Spearman's rho would be the appropriate non-parametric inferential statistical test to use to analyse the data from this study.

Spearman's rho is appropriate because the study is looking for a relationship (correlation) between two co-variables, the person's self-rating of extroversion and their friend's rating of their extroversion, rather than a difference between conditions.

It is also appropriate because the data is ordinal; the 0 to 100 ratings of extroversion are subjective scores that can be ranked, but the intervals between the scores are not equal, so a non-parametric test is needed.

[3]

- 27 Given that the value of $d^2 = 270.5$, use the formula for Spearman's rho provided here to calculate the value of r_s . Show your workings.

$$r_s = 1 - \frac{6 (\sum d^2)}{n (n^2 - 1)}$$

$$n = 10, \text{ so } n(n^2 - 1) = 10 \times (100 - 1) = 10 \times 99 = 990$$

$$6 \times (\text{sum of } d^2) = 6 \times 270.5 = 1623$$

$$r_s = 1 - (1623 / 990) = 1 - 1.639$$

$$r_s = -0.639 \text{ (approximately } -0.64), \text{ which is a fairly strong negative correlation.}$$

[3]

- 28 Explain what $p > 0.05$ would mean in the significance statement for the result of the Spearman's rho test from this study.

$p > 0.05$ means that the probability of the observed correlation between self-ratings of extroversion and friends' ratings being due to chance is greater than 5%, so the result is not statistically significant. The psychologist would have to accept the null hypothesis that there is no relationship between self-ratings of extroversion and ratings made by a friend, and reject the alternative hypothesis.

[3]

END OF QUESTION PAPER

[illegible]

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