

- (d) Outline **one** advantage and **one** disadvantage of opportunity sampling in this research. **[3]**

Credit **could** be given for:

- Advantage e.g. it will be easier for the researcher to select a variety of ages from their friends and family.
- Disadvantage e.g. sample unlikely to be unrepresentative of the sleeping habits of the general population.
- Other appropriate advantage and disadvantage.

Marks	AO3
3	An appropriate advantage and disadvantage are noted, both are linked to the novel situation.
2	An appropriate advantage and disadvantage are noted; there is some link to the novel situation OR an appropriate advantage or disadvantage are noted but only one of these is linked to the novel situation.
1	An appropriate advantage and disadvantage are noted; there is no link to the novel situation OR an appropriate advantage or disadvantage is noted with some link to the novel situation.
0	An appropriate advantage or disadvantage is noted but there is no link to the novel situation OR the issue is not addressed.

- (e) Discuss **one** ethical issue that might arise in this research. **[3]**

Credit **could** be given for:

- Confidentiality e.g. participants may not want others to know their age or sleeping habits.
- Other appropriate ethical issue.

Marks	AO3
3	An appropriate ethical issue is thoroughly discussed and is closely linked to the novel situation.
2	An appropriate ethical issue is reasonably discussed with a weak link to the novel situation.
1	An appropriate ethical issue is discussed but no link to the novel situation OR an appropriate and linked ethical issue is discussed but not overtly identified.
0	An ethical issue is not discussed.

- (f) State **one** conclusion that can be drawn from the scattergraph in this research.

[3]

Credit **could** be given for:

- Example - there appears to be a negative relationship between age (years) and the number of hours slept.
- Other appropriate conclusion.

Marks	AO3
3	An appropriate and accurate conclusion has been stated fully and clearly with a link to the novel situation.
2	An appropriate and accurate conclusion has been stated with a weak link to the novel situation OR candidate has drawn an inferential conclusion from the descriptive data which has been clearly linked to the novel situation.
1	An appropriate and accurate conclusion has been stated but there is no link to the novel situation.
0	An inappropriate or inaccurate conclusion has been stated OR the issue is not addressed.

PY3

SECTION A

Q.1 A correlation was carried out to see if there is a relationship between psychological distress and incidence of coronary heart disease (CHD). Using systematic sampling, 100 government workers were selected as participants. Psychological distress scores were measured at the beginning of the research using a government health questionnaire. Incidents of CHD were recorded over the next seven years. These scores were correlated and a correlation coefficient of +0.78 was found.

(a) (i) Define what is meant by the term 'correlation'. [2]

- A research method that looks for a relationship/association between two variables.
- Any other relevant definition.

Marks	AO1
2	Clear and detailed definition.
1	Basic definition.
0	No relevant definition.

(ii) Explain **one** advantage and **one** disadvantage of using a correlation. [4]

Advantage

- Can be used when the topic to be studied cannot be examined directly.
- Possible to obtain large amounts of data more rapidly than experimental methods.
- Correlation research can produce reasonable information about causal relationships.
- Any other relevant advantage.

Disadvantage

- Cannot show cause or effect. (1 mark)
- No control over confounding variables, a third variable may account for any relationship found.
- Any other relevant disadvantage.

Marks	AO2
4	One clear advantage and one clear disadvantage identified and both explained in detail.
2-3	One advantage and one disadvantage only partially explained OR only one advantage/disadvantage identified and explained in detail.
1	Only one advantage OR one disadvantage identified.
0	No relevant information.

- (b) (i) What is meant by 'correlation coefficient of +0.78' in this study? [2]

Marks	AO3
2	Detailed explanation given, e.g. a positive and strong correlation was found.
1	Explanation is limited in detail, e.g. either stating it is positive or strong.
0	No relevant information.

- (ii) Write an appropriate null hypothesis for this study. [2]

- There is no relationship between psychological distress scores and levels of CHD.
- Any other appropriate hypothesis.

Marks	AO3
2	Appropriate null hypothesis written.
1	Hypothesis is muddled.
0	No relevant information.

- (c) Define what is meant by the term 'co-variables'. [2]

Marks	AO1
2	Clear and detailed definition given, e.g. two or more quantities that vary with each other.
1	Basic definition, e.g. quantities that may show a relationship.
0	No relevant definition.

- (d) Identify a statistical test that could be used to analyse the data in the above study and explain one reason why this test could be chosen. [2]

Marks	AO3
2	Appropriate test identified and explained, e.g. Spearman's rank order correlation coefficient because it is looking at a relationship between variables.
1	Appropriate test identified only.
0	No relevant information.

- (e) (i) Describe the term 'quantitative data'. [2]
- Data that is numerical and is concerned with quantity.
 - Data that is generated by methods such as laboratory experiments and questionnaires.
 - Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant information.

- (ii) Explain **one** advantage of quantitative data. [2]
- Data is easier to analyse so patterns can be identified.
 - Inferential statistics can be used to show if the results are significant or not to prove/disprove hypothesis.
 - Can produce precise data that can be replicated.
 - Any other relevant advantage.

Marks	AO2
2	Clear advantage identified and explained in detail.
1	Advantage only partially explained or only advantage identified.
0	No relevant information.

- (iii) Explain **one** disadvantage of quantitative data. [2]
- Data may be narrow and superficial.
 - May generate large amounts of data which is time-consuming to analyse.
 - Any other relevant disadvantage.

Marks	AO2
2	Clear disadvantage identified and explained in detail.
1	Disdvantage only partially explained or only disadvantage identified.
0	No relevant information.

- (f) (i) Define what is meant by the term 'reliability'. [2]
- For the same study to be carried out and consistent results produced.
 - Use of consistent measuring tools.
 - Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant definition.

(ii) Define what is meant by the term 'validity'. [2]

- The findings are accurate and the effects are caused by the IV.
- The study is measuring what it intends to measure.
- True to life.
- Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant definition.

(g) Explain how concurrent validity could be used to ensure validity in research. [2]

- Concurrent validity confirms the distress measurement by comparing it with a test of distress that has known validity.
- Any other relevant explanation.

Marks	AO2
2	Clear explanation of how concurrent validity ensures validity.
1	Partial explanation of how concurrent validity ensures validity.
0	No relevant explanation.

TOTAL 26

SECTION B

Q.2 Research has found that negative thoughts cause depression. A questionnaire was designed in order to measure negative thoughts which could be used as a predictor of depression. The questionnaire was given to forty university students in the university canteen at 9am on a Monday. The questionnaire contained ten negative statements. The participants were told to read each statement and then rate on a three-point scale how the statements made them feel.

E.g. Your best friend is having a party but has not invited you. How do you feel?

0	1	2
No effect	Sad	Very sad

(a) Explain **one** advantage and **one** disadvantage of using a questionnaire. **[4]**

Advantage

- Can collect a large amount of data relatively quickly and cheaply.
- Can be distributed to a wide sample of participants.
- Any other relevant advantage.

Disadvantage

- Leading questions or unclear questions can affect validity.
- Social desirability bias.
- Confidentiality may be an issue with sensitive issues.
- Any other relevant disadvantage.

Marks	AO2
4	One clear advantage and one clear disadvantage identified and explained in detail.
2-3	One advantage and one disadvantage only partially explained OR only one advantage/disadvantage identified and explained in detail.
1	Only one advantage OR one disadvantage identified.
0	No relevant information.

- (b) Identify and explain how one confounding variable may have affected the above study. [2]

- Personality of participant may result in unwillingness to share personal health issues, therefore reducing validity of the study.
- Day of week – as it is a Monday morning, they may feel worse at having to return to college, so not a reliable measure of their overall mood.
- Time of day.
- Specific room used.
- Temperature.
- Any other relevant variable.

Marks	AO3
2	One confounding variable identified and explained in context.
1	One confounding variable identified only.
0	No relevant information.

- (c) (i) Define what is meant by the term 'random sample'. [2]

- Everyone in the target group has an equal chance of being selected.
- Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant information.

- (ii) Explain **two** disadvantages of using a random sample to select participants in research. [4]

- Not representative of target population.
- Time consuming.
- Reluctant to participate.
- Any other relevant disadvantage.

Marks	AO2
4	Two clear disadvantages identified and explained in detail.
2-3	Two disadvantages only partially explained OR only two disadvantages identified OR only one disadvantage identified and explained in detail.
1	Only one disadvantage identified.
0	No relevant information.

(d) What is meant by the term 'lack of confidentiality' in psychological research? [2]

- An ethical issue.
- Failure to protect identity.
- Failure to protect data.
- Any other relevant explanation.

Marks	AO1
2	Issue fully described.
1	Issue partially described.
0	No relevant definition.

(e) The research from this study led to a laboratory experiment to test the hypothesis: the time of day affects negative thoughts. The researcher used an independent groups design.

(i) Define what is meant by the term 'laboratory experiment'. [2]

- A study that takes place within a controlled environment.
- A study that takes place within an artificial setting.
- Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant information.

(ii) Define what is meant by the term 'independent groups design'. [2]

- Research where participants take part in one condition only.
- research that uses two or more groups in different conditions.
- Any other relevant definition.

Marks	AO1
2	Clear and detailed definition given.
1	Basic definition.
0	No relevant definition.

(iii) State an appropriate directional hypothesis for the laboratory experiment described in (e). [2]

- More/less negative thoughts are experienced in the morning.
- More/less negative thoughts are experienced in the afternoon.
- Any other appropriate hypothesis.

Marks	AO3
2	Appropriate directional hypothesis stated.
1	Directional hypothesis given but IV or DV missing / basic or muddled statement.
0	No relevant hypothesis.

- (f) (i) Define what is meant by the term 'ordinal level data'. [2]

Marks	AO1
2	Clear and detailed definition, e.g. this is data that relates to variable and the data can be placed in ascending or descending rank order.
1	Basic definition, e.g. data that can be ranked in order.
0	No relevant definition.

- (ii) Explain **one** advantage of ordinal level data. [2]

- Easier/quick to analyse.
- Meaningfully compares scores with each other.
- Any other relevant advantage.

Marks	AO2
2	One advantage clearly explained.
1	Advantage only partially explained.
0	No relevant advantage.

TOTAL 24

SECTION C

Q.3 Consider ethical issues in the use of human participants in research in psychology.

[15]

Credit **could** be given for:

- Discussion of BPS guidelines.
 - Strengths of guidelines, e.g. increase in participant welfare.
 - Limitations of guidelines, e.g. 'loopholes', in deception/consent guidance;
 - not all psychologist BPS members;
 - not legally binding.
- Key ethical issues, e.g. deception, protection from harm, anonymity, confidentiality.
- Discussion of ethical issues and their impact on the participants and the results of research, e.g.
 - Milgram's use of deception to increase validity;
 - Zimbardo's failure to release participants on request.
- The use of unaware participants, e.g. Pilavin, Rodin and Piliavin (1969) and Langer & Rodin (1976).
- Intervention studies and the ethical issues they produce, e.g. Klein (1991) and Leyens *et al* (1975).
- Any other relevant material.

Marks	AO2
12-15	Discussion is appropriate and well detailed. Material is used in an effective manner (evidence of coherent elaboration) and is thorough. Depth and range of knowledge is displayed, though not necessarily in equal measure. Specialist terms are used throughout.
8-11	Discussion is reasonably appropriate but less detailed. Material is used in an effective manner. Depth or range of knowledge is displayed. Some specialist terms.
4-7	Discussion is basic; material is used in a relevant manner but is limited. Few specialist terms.
1-3	Discussion is superficial; material is muddled and/or incoherent. Specialist terms are either absent or incorrect.
0	No relevant knowledge or understanding of relevant material is demonstrated.