

Exam Practice Questions - Research Methods

Hypotheses and Variables

1. Define what an 'aim' of study is. [2 marks]
2. Define the term 'hypothesis'. [2 marks]
3. What is meant by an 'alternative hypothesis'? [2 marks]
4. What is meant by an 'null hypothesis'. [2 marks]
5. Distinguish between an alternative and null hypothesis. [3 marks]
6. What is an 'independent variable'? [1 mark]
7. What is a 'dependent variable'? [1 mark]
8. What do psychologists mean by 'operationalisation of variables'. [2 marks]

Extraneous Variables

1. Explain what is meant by the term 'extraneous variable'. [2 marks]
2. There are three different types of extraneous variables: participant variables, situational variables and experimenter variables.
Distinguish between each one and give an example. [6 marks]
3. Define the term 'randomisation'. [2 marks]
4. Explain how a researcher could use randomisation to decide the order to use when testing participants. [3 marks]
5. Explain what is meant by 'standardised procedures'. [2 marks]
6. Explain what is meant by 'standardised instructions'. [2 marks]
7. Explain why it is important to use standardised procedures with participants in research. [2 marks]
8. Explain why it is important to use standardised instructions with participants in research. [2 marks]

Types of Experiment

1. Explain what is meant by a 'laboratory experiment'. [2 marks]
2. Explain what is meant by a 'field experiment'. [2 marks]
3. Explain what is meant by a 'natural experiment'. [2 marks]
4. Distinguish between quantitative and qualitative methods. [3 marks]
5. Explain **one** strength and **one** weakness of conducting a laboratory experiment. [4 marks]
6. Explain **one** strength and **one** weakness of conducting a field experiment. [4 marks]
7. Explain **one** strength and **one** weakness of conducting a natural experiment. [4 marks]

8. Natural experiments are said to have more validity than laboratory experiments. Explain why this might be so. [3 marks]

Experimental Designs

1. Define the term 'experimental design'. [2 marks]
2. Explain what is meant by a 'independent measures design'. [2 marks]
3. Explain what is meant by a 'repeated measures design'. [2 marks]
4. Explain what is meant by a 'matched pairs design'. [2 marks]
5. Explain **one** strength and **one** weakness of using an independent measures design. [4 marks]
6. Explain **one** strength and **one** weakness of using a repeated measures design. [4 marks]
7. Explain **one** strength and **one** weakness of using a matched pairs design. [4 marks]
8. Explain how counterbalancing is used with a repeated measures design. [3 marks]

Sampling Methods

1. Explain what is meant by the term 'sample'. [1 mark]
2. Explain what is meant by the term 'target population'. [2 marks]
3. Explain what is meant by the term 'representativeness'. [2 marks]
4. Explain what is meant by a biased sample. [2 marks]
5. What is opportunity sampling? [2 marks]
6. What is random sampling? [2 marks]
7. What is a systematic sample? [2 marks]
8. What is a stratified sample? [2 marks]
9. Explain **one** strength and **one** weakness of using an opportunity sample. [4 marks]
10. Explain **one** strength and **one** weakness of using a random sample. [4 marks]
11. Explain **one** strength and **one** weakness of using an systematic sample. [4 marks]
12. Explain **one** strength and **one** weakness of using an stratified sample. [4 marks]
13. Describe how a psychologist could use random sampling to select 20 participants from a local primary school. [3 marks]

Ethical Considerations

1. Explain what is meant by 'ethical considerations'. [2 marks]
2. Using an example, explain what is meant by an 'ethical issue'. [3 marks]
3. What is informed consent? [2 marks]
4. What is deception? [2 marks]
5. What is protection from harm? [2 marks]
6. What is confidentiality? [2 marks]
7. What is right to withdraw? [2 marks]
8. What is debrief? [2 marks]
9. Explain how you would deal with the ethical issue of 'informed consent'. [3 marks]
10. Explain how you would deal with the ethical issue of 'deception'. [3 marks]
11. Explain how you would deal with the ethical issue of 'protection from harm'. [3 marks]
12. Explain how you would deal with the ethical issue of 'confidentiality'. [3 marks]
13. Outline **one** ethical issue and explain how it can be dealt with. [2 marks + 2 marks]
14. Explain the purpose of the British Psychological Society guidelines. [2 marks]

Questionnaires

1. Explain what is meant by a 'questionnaire'. [2 marks]
2. Using an example, explain what is meant by an 'open question'. [3 marks]
3. Using an example, explain what is meant by a 'closed question'. [3 marks]
4. Explain **one** strength of using a questionnaires to carry out research. [3 marks]
5. Explain **one** weakness of using a questionnaires to carry out research. [3 marks]
6. Describe and evaluate the use of a questionnaire to conduct research. [9 marks]

Interviews

1. Explain what is meant by a 'interview'. [2 marks]
2. Explain what is meant by a 'structured interview'. [2 marks]
3. Explain what is meant by a 'unstructured interview'. [2 marks]
4. Explain what is meant by a 'semi-structured interview'. [2 marks]

5. Explain the difference between a structured interview and unstructured interview. [3 marks]
6. Explain the difference between a questionnaire and an interview. [3 marks]
7. Identify **three** steps in conducting an interview. [3 marks]
8. Explain **one** strength of using an interview to carry out research. [3 marks]
9. Explain **one** weakness of using an interview to carry out research. [3 marks]
10. Describe and evaluate the use of an interview to conduct research. [9 marks]

Observation Studies

1. Explain what is meant by an 'observation'. [2 marks]
2. Explain what is meant by an 'naturalistic observation'. [2 marks]
3. Explain what is meant by an 'controlled observation'. [2 marks]
4. Explain what is meant by an 'covert observation'. [2 marks]
5. Explain what is meant by an 'overt observation'. [2 marks]
6. Explain what is meant by an 'participant observation'. [2 marks]
7. Explain what is meant by an 'non-participant observation'. [2 marks]
8. Explain what is meant by an 'categories of behaviour'. [2 marks]
9. Using an example, explain what is meant by an 'observation'. [3 marks]
10. Explain what is meant by an 'inter-observer reliability'. [2 marks]
11. Explain how inter-observer reliability can improve research using observations. [4 marks]
12. Explain **one** strength of using an observation to carry out research. [3 marks]
13. Explain **one** weakness of using an observation to carry out research. [3 marks]
14. Outline **one** strength and **one** weakness of an observation study. [4 marks]
15. A psychologist wants to ensure he has inter-observer reliability in the observation study he is conducting. Outline what is meant by 'inter-observer reliability' and explain how he can check it. [5 marks]

Correlations

1. What is meant by a 'correlation'. [2 marks]
2. What is meant by 'co-variables'. [2 marks]

3. Name the graph used to show the relationship between two variables in a correlation. [1 mark]
4. Using an example, explain what is meant by a 'positive correlation'. [3 marks]
5. Using an example, explain what is meant by a 'negative correlation'. [3 marks]
6. Using an example, explain what is meant by 'no correlation'. [3 marks]
7. Explain the difference between a positive correlation and negative correlation. [3 marks]
8. Explain **one** strength of using a correlation. [3 marks]
9. Explain **one** weakness of using a correlation. [3 marks]

Case Studies

1. What is a 'case study'? [2 marks]
2. Explain what is meant by a 'longitudinal study'. [2 marks]
3. Explain what type of research a case study is most likely to be suited to and why. [3 marks]
4. Explain **one** strength of using a case study. [3 marks]
5. Explain **one** weakness of using a case study. [3 marks]
6. Explain **one** strength and **one** weakness of using a case study. [4 marks]

Reliability and Validity

1. Explain what is meant by 'reliability'. [2 marks]
2. Explain what is meant by 'validity'. [2 marks]
1. Distinguish between reliability and validity. [3 marks]
2. Explain why qualitative methods are seen as less reliable than quantitative methods. [3 marks]
3. Research should be planned to take into account validity.
 - a) Outline one thing that can cause problems with the validity of an independent groups design. [2 marks]
 - b) Explain one way the validity of an independent groups design could be increased [2 marks]

Types of Data

1. Explain what is meant by 'primary data'. [2 marks]
2. Explain what is meant by 'secondary data'. [2 marks]
3. Distinguish between primary data and secondary data. [3 marks]
4. Explain what is meant by 'quantitative data'. [2 marks]

5. Explain what is meant by 'qualitative data'. [2 marks]
6. Distinguish between quantitative data and qualitative data. [3 marks]
7. Outline **one** strength of using primary data. Refer to secondary data in your answer. [3 marks]
8. Outline **one** weakness of using primary data. Refer to secondary data in your answer. [3 marks]
9. Outline **one** strength of using quantitative data. Refer to qualitative data in your answer. [3 marks]
10. Outline **one** weakness of using quantitative data. Refer to qualitative data in your answer. [3 marks]
11. Using quantitative data in research has been criticised. Use your knowledge of psychology to explain why the use of quantitative data has been criticised. [5 marks]

Descriptive Statistics

1. Explain what is meant by 'descriptive statistics'. [2 marks]
2. Explain what is meant by 'mean'. [2 marks]
3. Explain what is meant by 'median'. [2 marks]
4. Explain what is meant by 'mode'. [2 marks]
5. Explain what is meant by 'range'. [2 marks]
6. Explain how to calculate the mean if a set of scores. [2 marks]
7. Explain how to calculate the mode if a set of scores. [2 marks]
8. Explain how to calculate the median if a set of scores. [2 marks]
9. Explain how to calculate the range if a set of scores. [2 marks]
10. With reference to the data below explain how the median is calculated. [3 marks]
12, 11, 15, 10, 11, 12, 16, 10, 12, 9
12. Briefly explain **one** weakness of using the range to calculate the spread of data. [2 marks]
13. Outline **one** strength of using the range to calculate the spread of data [2 marks]
14. Outline **one** strength of using the mean to calculate the average of data [2 marks]
15. Outline **one** weakness of using the mean to calculate the average of data [2 marks]
16. Outline **one** strength of using the median to calculate the average of data [2 marks]
17. Outline **one** weakness of using the median to calculate the average of data [2 marks]

18. Outline **one** strength of using the mode to calculate the average of data [2 marks]
19. Outline **one** weakness of using the mode to calculate the average of data [2 marks]

Interpretation and Display of Quantitative Data

1. Explain what a 'normal distribution' is. [2 marks]
2. Identify **two** features of a normal distribution curve. [2 marks]
3. Outline what is meant by a 'bar chart'. [2 marks]
4. Explain how a bar chart is used to display quantitative data. [2 marks]
5. Outline what is meant by a 'histogram'. [2 marks]
6. Explain how a histogram is used to display quantitative data. [2 marks]
7. Outline what is meant by a 'frequency table'. [2 marks]
8. Explain how a frequency table is used to display quantitative data. [2 marks]
9. Outline **one** difference between a histogram and a bar chart. [2 marks]

Computation

1. Convert the fraction $\frac{3}{4}$ into decimal. Show your workings. [2 marks]
2. Convert $\frac{2}{5}$ into percentage. Show your workings. [2 marks]
3. Simplify 8:10 in its simplest form. Show your workings. [2 marks]
4. Using the data below, work out the arithmetic mean. Show your workings. [3 marks]
13, 14, 12, 13, 12, 2, 12, 11, 15, 14, 0, 12
5. Express 0.025913 in standard form. [2 marks]
6. Express 4,570,000 to two significant figures. [1 mark]
7. Estimate the following calculation: $58,231,526 \times 321$. Show your workings. [2 marks]