



GSOC.RM1 The Research Process and Designing Research

AQA 8192 · Calculators not allowed · about 75 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Use sociological vocabulary and name sociologists where you can.

- 1** A tentative, testable statement about the expected relationship between two or more variables, which a researcher sets out to prove or disprove, is called a...

- ☐ A) hypothesis
- ☐ B) pilot study
- ☐ C) sampling frame
- ☐ D) operationalisation

(Total for Question 1 is 1 mark)

- 2** Define what sociologists mean by 'operationalisation'.

(Total for Question 2 is 2 marks)

- 3** Sociologists distinguish between an aim and a hypothesis when planning research.

- (a)** State the difference between an aim and a hypothesis. (2)

- (b)** Give an example of a hypothesis a sociologist might test when researching the relationship between social class and educational achievement. (2)

(Total for Question 3 is 4 marks)

4 Researchers often carry out a small-scale trial before their main study.

(Total for Question 4 is 4 marks)

5 Sociologists often describe their approach to data as quantitative or qualitative.

(Total for Question 5 is 4 marks)

6 A sociologist's choice of research method is shaped by more than just what they would ideally like to find out.

(Total for Question 6 is 4 marks)

7 State one advantage of carrying out a pilot study before the main piece of research.

(Total for Question 7 is 2 marks)

8 State one reason a sociologist might choose to use an open-ended research aim rather than a pre-set hypothesis.

(Total for Question 8 is 2 marks)

9 Karl Popper argued that scientific theories can never be proven true, only proven...

- ☐ A) valid
- ☐ B) false
- ☐ C) reliable
- ☐ D) representative

(Total for Question 9 is 1 mark)

10 Karl Popper's ideas about the scientific method have influenced how some sociologists think about hypothesis testing.

(Total for Question 10 is 2 marks)

11 Not every sociologist agrees that Popper's model of science should be applied directly to sociology.

(Total for Question 11 is 2 marks)

12 A sociology student plans to investigate whether pupils who consistently complete homework achieve higher grades than pupils who rarely do. Before starting the main study, she gives a short version of her questionnaire to 10 pupils in one class, and finds that several pupils do not understand the phrase 'consistently completed homework'. She rewrites the question before sending the full questionnaire to 300 pupils across the school. [This is a hypothetical scenario, written for this exercise.]

Using your knowledge of hypotheses and pilot studies, explain what is happening in this scenario.

(Total for Question 12 is 6 marks)

- 13** Sociologists disagree about how far research should be built around testing a pre-set hypothesis using quantitative methods, rather than exploring an open research aim using qualitative methods.

Evaluate the view that sociologists should always test a hypothesis using quantitative methods, rather than exploring an open aim using qualitative methods. In your answer you should refer to the positivist and interpretivist traditions and consider more than one point of view.

(Total for Question 13 is 12 marks)

- 14** Sampling begins with identifying the group a researcher wants to draw a sample from.

(Total for Question 14 is 2 marks)

- 15** State one problem that can occur if a sampling frame is out of date or incomplete.

(Total for Question 15 is 2 marks)

- 16** A researcher wants her sample of Year 11 pupils to represent the year group by gender. The year group has 150 boys and 150 girls (300 pupils in total). Her achieved sample contains 42 boys and 78 girls (120 pupils in total).

Using these figures, explain whether the researcher's sample is representative of the year group by gender.

(Total for Question 16 is 4 marks)

- 17** State one change the researcher in Q16 could make to improve the representativeness of her sample by gender.

(Total for Question 17 is 2 marks)

Mark scheme · GSOC.RM1 The Research Process and Designing Research

Question 1

- **B1** A (hypothesis)
- **Answer: A**

Question 2

- **B1** identifies operationalisation as the process of turning an abstract concept into something that can be measured or observed (oe)
- **B1** development, e.g. using parental occupation as a measurable indicator of the abstract concept 'social class'
- **Answer: Operationalisation is the process of turning an abstract concept, such as social class, into something that can actually be measured or observed, for example using parental occupation as an indicator of social class.**

Question 3

- (a) **B1** identifies an aim as a general statement of what the research intends to find out or explore
- (a) **B1** identifies a hypothesis as a specific, testable prediction about the relationship between variables that the research sets out to prove or disprove
- **(a) Answer: An aim is a general statement of what the research intends to find out or explore; a hypothesis is a specific, testable prediction about the relationship between variables that the research sets out to prove or disprove.**
- (b) **B1** gives a plausible testable hypothesis linking social class to achievement, e.g. pupils from working-class backgrounds achieve lower GCSE grades on average than pupils from middle-class backgrounds
- (b) **B1** the hypothesis correctly identifies both an independent variable (social class) and a dependent variable (achievement)
- **(b) Answer: Pupils from working-class backgrounds achieve, on average, lower GCSE grades than pupils from middle-class backgrounds. This links the independent variable (social class) to the dependent variable (achievement).**

Question 4

- **B1** identifies a pilot study as a small-scale trial run of the research method, carried out before the main study
- **B1** development, e.g. it checks whether questions are clear and unambiguous, and whether timing/instructions work in practice
- **B1** identifies its purpose as improving the reliability and validity of the main study by fixing problems in advance
- **B1** further point, e.g. it can save time and money by identifying flaws before the researcher commits to a large-scale study
- **Answer: A pilot study is a small-scale trial run of a research method, carried out before the main study, to check that questions are clear and the method works in practice. It improves reliability and validity by fixing problems in advance, and saves time and money that would otherwise be wasted on a flawed large-scale study.**

Question 5

- **B1** identifies quantitative data as numerical data, of the kind favoured by the positivist tradition, which seeks objective, measurable and comparable patterns
- **B1** development, e.g. large samples and structured methods are used so results can be tested statistically and generalised
- **B1** identifies qualitative data as descriptive, meaning-based data, of the kind favoured by the interpretivist tradition, which seeks to understand people's feelings and meanings
- **B1** development, e.g. smaller samples and less structured methods are used to gain valid, in-depth insight
- **Answer: Quantitative data is numerical, favoured by the positivist tradition, which seeks objective, measurable, comparable patterns using large samples and structured methods. Qualitative data is descriptive and meaning-based, favoured by the interpretivist tradition, which seeks valid, in-depth understanding using smaller samples and less structured methods.**

Question 6

- **B1** identifies a practical factor, e.g. the time and cost available, or how easy it is to gain access to the group being studied
- **B1** development/example of the practical factor
- **B1** identifies a theoretical factor, e.g. a positivist researcher will favour a method giving reliable, representative data even if it is less valid
- **B1** development/example, e.g. an interpretivist researcher will favour a method giving valid, in-depth data even if it is harder to repeat
- **Answer: Practical factors, such as the time and cost available or ease of access to a group, affect method choice; for example a large national survey needs far more resources than a small interview study. Theoretical factors also matter: a positivist researcher favours methods giving reliable, representative data, while an interpretivist researcher favours methods giving valid, in-depth data, even at the cost of reliability.**

Question 7

- **B1** identifies a genuine advantage, e.g. it can reveal problems with the wording or timing of questions before it is too late to fix them
- **B1** brief development
- **Answer: A pilot study can reveal problems with the wording or timing of questions while there is still time to fix them, before resources are committed to the full-scale study.**

Question 8

- **B1** identifies that a pre-set hypothesis can narrow the researcher's focus in advance
- **B1** development, e.g. an open aim allows unexpected findings to emerge, suiting exploratory, qualitative research more suited to the interpretivist tradition
- **Answer: A pre-set hypothesis can narrow a researcher's focus in advance, so an open-ended aim is sometimes preferred because it allows unexpected findings to emerge, suiting exploratory, qualitative research in the interpretivist tradition.**

Question 9

- **B1** B (false)
- **Answer: B**

Question 10

- **B1** identifies that Popper argued a theory can never be proven true no matter how much evidence supports it, only tested and shown to be false; for a theory to count as scientific it must be falsifiable
- **B1** development, e.g. sociologists influenced by this positivist idea try to write hypotheses that could, in principle, be disproved by evidence
- **Answer: Popper argued a theory can never be proven true, only tested and shown false; a genuinely scientific theory must be falsifiable. Sociologists influenced by this idea try to write hypotheses that could, in principle, be disproved by the evidence they collect.**

Question 11

- **B1** identifies a genuine criticism, e.g. critics in the interpretivist tradition argue human behaviour is too complex and meaning-laden to reduce to simple testable hypotheses in the way physical science can
- **B1** development, e.g. people also react differently once they know they are being studied, unlike inanimate objects in a physics experiment, undermining the objectivity positivists claim
- **Answer: Critics in the interpretivist tradition argue human behaviour is too complex and meaning-laden to reduce to simple testable hypotheses in the way physical science can; people also react differently once they know they are being studied, unlike inanimate objects, undermining the objectivity positivists claim.**

Question 12

- **B1** identifies 'pupils who consistently complete homework achieve higher grades' as a testable hypothesis, linking an independent variable (homework completion) to a dependent variable (grades)
- **B1** identifies the 10-pupil trial as a pilot study
- **B1** explains its purpose: to test the clarity of the question wording before the main study
- **B1** identifies the specific problem found: the phrase 'consistently completed homework' was ambiguous to several pupils
- **B1** explains that rewriting the question before the main study of 300 pupils improves the validity of the data eventually collected
- **B1** accurate use of terminology throughout (hypothesis, pilot study, validity)
- **Answer: The student's idea, that pupils who consistently complete homework achieve higher grades, is a testable hypothesis. The 10-pupil trial is a pilot study, whose purpose is to check the questions are clear before the main study. It reveals the phrase 'consistently completed homework' is ambiguous, so she rewrites the question, improving the validity of the data she later collects from the full sample of 300 pupils.**

Question 13

- **Level 4** (10-12): A detailed, well-balanced evaluation that accurately explains BOTH the case for hypothesis-testing, quantitative research AND the case for open-aim, qualitative research, with accurate reference to the positivist and interpretivist traditions and, where used, accurately described named sociologists/philosophers such as Popper. Strengths and weaknesses of each approach are analysed, and a reasoned, supported judgement is reached. Sociological terminology is used accurately and consistently throughout.
- **Level 3** (7-9): A clear evaluation that explains both the quantitative/hypothesis-testing case and the qualitative/open-aim case, with some accurate detail. Some analysis of strengths/weaknesses. An attempt at a conclusion, which may be only partly supported.
- **Level 2** (4-6): Some relevant explanation of research approaches, with limited development or accuracy. Little clear evaluation or comparison between the two views.
- **Level 1** (1-3): One or two isolated, undeveloped points about research design, with little or no sociological terminology or accurate detail.
- **Level 0** (0): No relevant content.
- **Indicative content:**
 - Case for hypothesis-testing, quantitative research: positivists argue clear hypotheses, tested with large, standardised samples, produce reliable, generalisable results that reveal real patterns in society.
 - Case continued: Popper's idea that genuinely scientific claims must be falsifiable supports the view that sociology should progress through testable hypotheses rather than vague open exploration.
 - Case for open-aim, qualitative research: interpretivists argue human behaviour is meaningful and context-dependent, so a pre-set hypothesis can close off understanding that only emerges through flexible, exploratory research.
 - Case continued: open aims allow unexpected, valid insights to surface, particularly on topics where the researcher does not yet know the right questions to ask.
 - Evaluation of the hypothesis-testing case: critics argue forcing complex social behaviour into a pre-set, testable hypothesis can produce a narrow or superficial picture, losing the validity qualitative research offers.
 - Evaluation of the open-aim case: critics argue findings from small-scale, exploratory qualitative research are harder to generalise or to test rigorously against alternative explanations.
 - A balanced conclusion should note that many sociologists in practice combine both, e.g. using a pilot study or exploratory qualitative work to help develop a hypothesis that is then tested more systematically, rather than treating the two approaches as strictly opposed.

Question 14

- **B1** identifies a sampling frame as the list or source from which a sample is actually drawn
- **B1** development, e.g. a school register or the electoral roll
- **Answer: A sampling frame is the list or source from which a sample is actually drawn, for example a school register or the electoral roll.**

Question 15

- **B1** identifies a genuine problem, e.g. some members of the target population have no chance of being selected
- **B1** development, e.g. making the resulting sample less representative of the target population
- **Answer: If a sampling frame is out of date or incomplete, some members of the target population have no chance of being selected, making the resulting sample less representative of the population.**

Question 16

- **B1** calculates the year group as 50% boys and 50% girls (150/300 each)
- **B1** calculates the sample as 35% boys (42/120) and 65% girls (78/120)
- **B1** compares the two, identifying that the sample over-represents girls and under-represents boys relative to the year group
- **B1** concludes the sample is not representative of the year group by gender
- **Answer: The year group is 50% boys and 50% girls (150/300 each). The sample is 35% boys (42/120) and 65% girls (78/120), so it over-represents girls and under-represents boys: the sample is not representative of the year group by gender.**

Question 17

- **B1** identifies a genuine change, e.g. deliberately sampling more boys, or using a gender-stratified sampling method drawing proportionally from a full, up-to-date register of both boys and girls
- **B1** brief development linking the change to matching the year group's true 50/50 gender split
- **Answer: She could use a gender-stratified sampling method, deliberately drawing enough boys and girls from a full, up-to-date register so the sample's gender split matches the year group's true 50/50 split.**