



Knowledge Organiser: GCSE Psychology; RESEARCH METHODS

<u>Hypothesis, variables and research procedures.</u>	1	<u>Ethical issues</u>	2
Hypotheses and variables: • Aim – a statement explaining the purpose of our study. • Variables – any ‘thing’ that changes in the experiment (IV and DV). • Hypothesis – a clear precise testable statement (alternative and null). Extraneous variables: • The only thing that should have an effect on the DV is the IV. • Extraneous variables – unwanted variables that affect the DV. Research procedures: • Standardised procedures and instructions – giving all participants the same methods and instructions for the study. • Randomisation – using chance to design a study (this controls bias)		• Informed consent – participants told the purpose of the research and decide whether to take part. • Deception – participants should not be lied to or misled about the study. • Privacy – participants have the right to control information about themselves. • Confidentiality – personal data must be protected. Ways of dealing with ethical issues: • BPS guidelines. • Consent form. • Debrief. • Anonymity.	
<u>Sampling</u>	3	<u>Reliability and validity</u>	4
• Random sampling – each person has an equal chance of being selected (names in a hat) • Opportunity sampling – select people who are available. • Systematic sampling – selecting every nth person from list of target population. • Stratified sampling – selecting participants in proportion to frequency in target population.		Reliability: A measure of consistency. Quantitative methods – tend to be the most reliable (lab experiments, questionnaires, observations) Qualitative methods – less reliable (case studies, unstructured interviews). Validity: Refers to whether a result is a true reflection of real-world behaviour. Quantitative methods – tend to lack validity (lab experiments, questionnaires). Qualitative methods – higher in reliability (case studies).	
<u>CORRELATIONS</u> <i>Analysing the relationship between co-variables</i>		<u>INTERVIEWS</u>	6
TYPES OF CORRELATION Positive, negative and zero	5	STRUCTURED INTERVIEWS Pre-set questions in a fixed order	
DIFFERENCE BETWEEN CORRELATIONS AND EXPERIMENTS No IV or DV No manipulation of variables		UNSTRUCTURED INTERVIEWS No set formula, just a general topic. Questions developed based on responses	
<u>EVALUATION</u>		SEMI-STRUCTURED INTERVIEWS Pre-set questions within flexibility to ask follow-ups	
STRENGTHS Useful preliminary tool Quick and economical to carry out, using secondary data		<u>EVALUATION</u>	
LIMITATIONS Cannot demonstrate cause and effect The third variable problem (intervening variable) Misuse and misinterpretation		STRUCTURED INTERVIEWS Similar to questionnaire but fewer respondents	
		UNSTRUCTURED INTERVIEWS More flexibility. Analysis is more difficult. Social desirability bias may be reduced by rapport.	
		SEMI-STRUCTURED INTERVIEWS Advantages of both structured and unstructured	

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QUESTIONNAIRES

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Pre-set list of written questions

CLOSED AND OPEN QUESTIONS

Fixed number of answers or not

EVALUATION

QUESTIONNAIRES

Can distribute to many people. Easy to analyse. Social desirability bias. Acquiesce bias.

CLOSED AND OPEN QUESTIONS

Produces quantitative or qualitative data, affected ease of analysis

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TYPES OF EXPERIMENT

LAB EXPERIMENTS

IV is manipulated in controlled setting

FIELD EXPERIMENTS

IV is manipulated in a natural setting

NATURAL EXPERIMENTS

IV has been manipulated naturally, effect on DV is recorded

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EVALUATION

LAB EXPERIMENTS

Highly internal validity (control). Low external validity (low realism). Cause and effect. Replication. Demand characteristics

FIELD EXPERIMENTS

Lower internal validity. Higher external validity (realism). Ethical issues

NATURAL EXPERIMENTS

Low internal validity (no random allocation). High external validity. Opportunities may be rare.

EXPERIMENTAL DESIGN

Ways of using participants in experimental research

TYPES OF DESIGN

INDEPENDENT GROUPS DESIGN

Participants in each condition of an experiment are different

REPEATED MEASURES DESIGN

All participants take part in all conditions

MATCHED PAIRS DESIGN

Similar participants put in pairs and allocated to different experimental conditions

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EVALUATION

INDEPENDENT GROUPS DESIGN

Less economical, no order effects and participants variables not controlled

REPEATED MEASURES DESIGN

Order effects, demand characteristics, no participants variables problem, more economical

MATCHED PAIRS DESIGN

No order effects, cannot match participants exactly. Time-consuming

OBSERVATION TECHNIQUES

Watching or listening

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NATURALISTIC OBSERVATION

Behaviour observed where it would normally occur. No control over variables

CONTROLLED OBSERVATION

Some control environment, including manipulation of variables to observe effects

COVERT AND OVERT OBSERVATION

Observations without or with their knowledge

PARTICIPANT AND NON-PARTICIPANT

To join the group or remain an outsider

BEHAVIOURAL CATEGORIES

Target behaviours broken down into observable components

CASE STUDIES

An in-depth investigation of an individual, group or event.

A QUALITATIVE METHOD

Collects information about people's experiences.

LONGITUDINAL

Carried out over a long period of time.

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EVALUATION

STRENGTHS

Best way of studying rare behaviours.

WEAKNESSES

Often can't be generalised.

EVALUATION

NATURALISTIC OBSERVATION

Low internal validity (control is difficult). High external validity (especially when covert)

CONTROLLED OBSERVATION

Low internal validity- though some extraneous variables may be controlled

High external validity –especially when covert

COVERT AND OVERT OBSERVATION

Covert: low participant reactivity but ethically questionable

Overt: behaviour may be affected

PARTICIPANT AND NON-PARTICIPANT

Participant: Increased external validity but may 'go native'

Non-participant: more objectivity but less insight

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DATA ANALYSIS: KINDS OF DATA

QUALITATIVE AND QUANTITATIVE DATA

QUALITATIVE DATA: Written, non numerical description of the participants thought, feeling or opinions

QUANTITATIVE DATA: Expressed numerically rather than in words

EVALUATION

QUALITATIVE DATA: Rich in detail.
Greater external validity.
Difficult to analyse

QUANTITATIVE DATA: Easy to analyse, less biased and narrow in scope

PRIMARY AND SECONDARY DATA

PRIMARY DATA: Collected first hand from participants for the purpose of the investigation

SECONDARY DATA: collected and analysed by someone other than the researcher

EVALUATION

PRIMARY DATA:

High validity
targets relevant information
time and effort

SECONDARY DATA:

Inexpensive and easy to access
Variation in the quality
Outdated and incomplete

DISPLAY OF QUANTITATIVE DATA

SCATTER DIAGRAMS

To display correlation.
One co-variable on x-axis and the other on y-axis. A dot is placed where co-variables meet.

FREQUENCY TABLES

Frequency means the number of times it occurs.
Frequency tables are a systematic way to organise data in rows and columns.

FREQUENCY DIAGRAMS

Histogram – continuous categories, no space between bars.
Bar chart – bars can be in any order.
Normal distribution – symmetrical spread forms a bell shape.

DATA ANALYSIS: DESCRIPTIVE

STATISTICS

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Summarising quantitative data

MEASURES OF CENTRAL TENDENCY

MEAN

Add them all up and divide number

MEDIAN

The middle value

MODE

Most frequently occurring

EVALUATION

MEAN

Most sensitive and representative. Easily distorted.

MEDIAN

Not affected by extreme values.
Less sensitive than the mean

MODE

Easy to calculate
Crude, unrepresentative

COMPUTATION

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DECIMALS

Any number written with a decimal. Position represents value.

FRACTIONS

Reduce to simplest form.

RATIOS

A way to express fractions.

PERCENTAGES

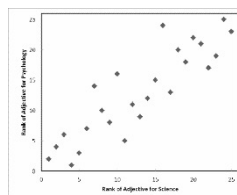
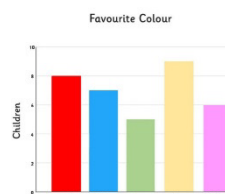
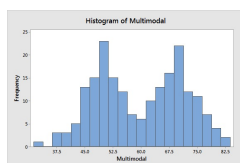
Fractions out of 100.

FINDING THE ARITHMETIC MEAN

Add all the scores and divide by number of scores.

STANDARD FORM

A mathematical shorthand to represent very large or small numbers.



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How do we use Knowledge Organisers in Psychology

How can you use knowledge organisers at home to help us?

- **Retrieval Practice:** Read over a section of the knowledge organiser, cover it up and then write down everything you can remember. Repeat until you remember everything.
- **Flash Cards:** Using the Knowledge Organisers to help on one side of a piece of paper write a question, on the other side write an answer. Ask someone to test you by asking a question and seeing if you know the answer.
- **Mind Maps:** Turn the information from the knowledge organiser into a mind map. Then reread the mind map and on a piece of paper half the size try and recreate the key phrases of the mind map from memory.
- **Sketch it:** Draw an image to represent each fact; this can be done in isolation or as part of the mind map/flash card.
- **Teach it:** Teach someone the information on your knowledge organiser, let them ask you questions and see if you know the answers.

How will we use knowledge organisers in Psychology?

- **Test:** We will do regular low stakes tests to check your ability to retrieve information from memory.
- **Mark our answers:** Once you have done a low stake test you can mark your work using the knowledge organiser.
- **Improve our work:** Once you have finished a piece of work you may be asked to check your knowledge organiser to see if there is any information on it that you could add into an answer.

<u>ASSESSMENT</u>	<u>SECTION ON KNOWLEDGE ORGANISER</u>	<u>DATE</u>	<u>SCORE</u>
Learning Check point 1			/10
Learning Check point 2			/10
MID UNIT			/20
Learning Check point 3			/10
Learning Check point 4			/10
END OF UNIT			/40