Key Terms Guide

Aims and Hypothesis

Key Term	Definition
Aim	An aim identifies the purpose of the investigation. It is a general statement highlighting the area of study to be investigated.
Hypothesis	A hypothesis is a precise, testable statement of what the researchers predict will be the outcome of the study. We usually write a research hypothesis (H1) and a null hypothesis (H0) together.
Research Hypothesis	The **research/ experimental hypothesis** predicts that there will be a difference between the conditions/ groups (IV). This is due to the manipulation of the IV.
Alternative Hypothesis	The **alternative hypothesis** is usually stated in correlational studies and predicts that there will be a relationship between the variables.
Null Hypothesis	The **null hypothesis** states that there will be no difference between the conditions/ groups and any difference found will be due to chance.
One-Tailed Hypothesis	A **one-tailed** directional hypothesis predicts the outcome of the results by stating which one of the conditions/ groups will perform better.
Two-Tailed Hypothesis	A **two-tailed** non-directional hypothesis predicts that the IV will have an effect on the DV, but the direction of the effect is not specified. This means there will be a difference between the conditions/ groups but we are unsure which one will perform better.

Variables

Key Term	Definition
Variable	A factor or element within the study that is likely to change, this may be manipulated or occur within the investigation itself.
Independent Variable (IV)	This is the variable that the experimenter **manipulates** (i.e. changes). It is the one thing that is different about the conditions/ groups.
Dependent Variable (DV)	This is the variable which is **measured** by the experimenter after they have manipulated the IV. We operationalise this by recording a score/ counting the results; i.e. the number of correctly recalled words out of 20 on the memory test.
Extraneous Variables	Extraneous variables are other variables (not the IV) usually within the **environment** which could affect the outcome of the results. They should aim to be foreseen and controlled for by the experimenter before the study begins.
Participant Variables	These are variables within the **individual** which might have an effect on the outcome of the results, i.e. ability/ IQ.
Situational Variables	These are variables within the **environment** which might have an effect on the outcome of the results, i.e. noise, lighting or room temperature.
Confounding Variables	These are variables which crop up in the results which experimenters have not controlled for or may not know exist. They are usually factors within the individual, i.e. a photographic memory ability. They can result in incorrect conclusions being made.

Experimental Designs

Key Term	Definition
Experimental Design	Refers to the way participants are allocated to conditions, and includes Independent Measures Design, Repeated Measures Design and Matched Participant Design.
Independent Measures Design	Where each participant is only assigned to one condition of the IV. In most cases there are two separate groups of participants or more than one condition but participants all complete the same task. This is also known as a **between-subjects** design. This method has a greater risk of participant variables.
Repeated Measures Design	Where each participant is assigned to more than one condition of the IV. In most case participants are asked to take part in multiple conditions or complete more than one task. This is also known as a **within-subjects** design. This method is at risk of order effects.
Matched-Pairs Design	In this design there are usually equal groups where participants are **matched** based on certain characteristics e.g. gender, age, ethnicity, social class etc. Like in an independent groups design, the participants all complete the same task.

Populations & Sampling

Key Term	Definition
Participant	A person that takes part in the experiment or study.
Confederate	A confederate is an actor who participates in an experiment as a subject along with the other participant(s). Their true identity is usually hidden from the other participants.
Target Population	This is the wider group of the population from which the sample are selected.
Sample	A smaller section of the population that is used to represent the group as a whole. Sample sizes are significantly smaller than the target population.

Key Term	Definition
Random Sample	Each participant of the study/ experiment has an equal chance of being included in the sample. Name or computer generators are usually used to prevent researcher bias.
Systematic Sample	Participants of the study are selected using a particular system agreed by the researchers. For example, if 200 University students out of 2000 were required for a study, every 10^{th} student from the University list/register would be selected.
Opportunity Sample	Participants are selected based on who is available at the time and willing to participate. This is purely by chance that they happen to be at that location, at that time of selection.
Stratified Sample	Here the researcher identifies the different types of people/ strata/ subgroups that make up the target population and works out the exact proportions needed for the sample to be representative. For example, if the population is made up of 60% female and 40% male, this must be represented identically in the sample.
Snowball Sample	In this case, the researchers will select a small group of participants and ask them to recruit a few people, then ask those recruited to ask others, and so on.
Volunteer/ Self-Selected Sample	Participants respond to an advertisement asking for people to volunteer to take part.

Experiments

Key Term	Definition
Experiment	A scientific procedure undertaken to objectively investigate a concept, test a hypothesis, or demonstrate a known fact.
Laboratory Experiment	A lab experiment is conducted under highly **controlled** conditions in an **artificial setting** where the IV is manipulated and the DV is measured.
Field Experiment	A field experiment carried out in a **natural environment** (i.e. real life) of the participants. The experimenter still manipulates the IV and measures the DV, but the researcher has **no control** over extraneous variables.
Natural/ Quasi Experiment	Natural experiments are a realistic method of researching human behaviour, as participants are in their **natural environment**. In these experiments the researcher has **no control** over the IV. Also in quasi-experiments the researcher takes a variable that is **naturally occurring** (i.e. split-brain patients or autistic adults).

Observations

Key Term	Definition
Observations	Observing participants' behaviour through controlled or uncontrolled conditions. Observations will record data using specified categories of behaviour which are illustrated in a tally chart.
Naturalistic Observation	A research method where the participant's behaviour is studied in a natural environment. The researcher will watch and record behaviour they see. This will have high ecological validity,
Controlled/ Structured Observation	Participant's behaviour is usually observed in a controlled environment (laboratory) where the researcher can manipulate the situation. This setting will be more reliable as replication is easier.

Key Term	Definition
Overt Observations	The researcher is open with their participants about observing their behaviour. The participants know that they are being studied. This is an ethical way of studying behaviour.
Covert Observations	The participants are unaware of the presence of the researcher and they are not made aware that their behaviour is being observed. This is a more unethical way of studying behaviour.
Participant Observation	The researcher takes part in the study but their status is not made known to the other participants. They will record data from inside of the setting.
Non-Participant Observation	The researcher observes participants without participating in the experiment itself. They are usually watching behaviour from afar.

Other Research Methods

Key Term	Definition
Case Study	A piece of research usually following a particular person or small group over an extended period of time. Data can be recorded using other methods throughout the case study. There are issues with generalisation with case studies.
Longitudinal Study	A method where data is gathered from the same participants over a period of time. The time intervals are agreed by the researchers at the start of the investigation. This type of research can be as long as a few years to decades. There is a risk of participant attrition (drop-out rates).
Snap-Shot Study	Different groups of people are tested at the same point in time and their performances are compared. Most studies are done as short snap-shot investigations.
Correlational Study	A method where the researcher aims to look for a relationship between two or more variables.
Cross-Cultural Study	This studies the behaviour of participants from different cultural groups or from different countries.

Key Term	Definition
Cross-Sectional Study	This studies the behaviour of participants from different subgroups usually within the same culture, society or country.
Psychometric Tests	A method of measuring participant's mental characteristics; often gathering quantitative data. For example, IQ tests.

Interviews & Questionnaires

Key Term	Definition
Interview	An interview is a conversation where questions are asked and answers are given. They are usually face-to-face.
Structured Interview	Each interview is presented with exactly the same questions in the same order and the researcher aims to obtain quantitative data.
Semi-Structured Interview	These have a vague idea of the questions to be asked but allow the direction of the conversation to change.
Unstructured Interview	Questions in this style of interview are not pre-arranged. They are usually more informal and relaxed. The data obtained from this style of interview is usually qualitative.
Questionnaires	A set of written questions with a choice of answers, devised for the purposes of a survey or statistical study.
Open-Ended Questions	Are questions which obtain qualitative data by asking questions which cannot be answered with a simple one-word answer. They give a greater insight than other questions.
Closed-Ended Questions	Are questions which can be answered with a simple one-word answer e.g. "yes" or "no", or where participants are required to choose one option from those listed.
Rating Scales	Require participants to answer a question by selecting a value (number) to reflect their attitude or opinion on a topic. They provide quantitative data.
Likert Scales	This is a type of question that measures the attitude of individuals, usually using a 5-point or 7-point scale, where participants have to state whether they agree or disagree with the statements given.

Data

Key Term	Definition
Primary Data	First-hand information that has been collected by the researcher for the purpose of their study.
Secondary Data	The researcher uses pre-existing data. The data could have been from a newspaper, diary entry or even data collected by another researcher or study.
Meta-Analysis	This analyses the secondary data from multiple studies to form a conclusion.
Qualitative Data	Typically descriptive data which is opinion based. This is often more valid.
Quantitative Data	Data that can be measured and written down with numbers. This is easier to analyse and is often more reliable.

Sources of Bias

Key Term	Definition
Gender Bias	The emphasis of the study is more inclined to one gender. This can be represented as Alpha bias or Beta bias.
Cultural Bias	The emphasis of the study is more inclined to one ethnicity/ culture.
Ethnocentrism	Where the researcher findings from the participants in one particular study are believed to be superior. The conclusions suggest that everyone will behave the same as this one culture.
Eurocentrism	Psychologists place emphasis on European theories/ ideas at the expense of those of other cultures.
Androcentrism	The bias towards the target population based on a group of all male participants.
Gynocentrism	The bias towards the target population based on a group of all female participants.

Key Term	Definition
Age Bias	The emphasis of the study is more inclined to a certain age group. This can lead to stereotypes and discrimination.
Experimenter Bias	When an experimenter influences the outcome of results in order to portray a certain outcome. This can be consciously or subconsciously.
Observer Bias	The researcher's cognitive bias causes them to subconsciously influence the participants they are observing.

Reliability & Validity

Key Term	Definition
Reliability	The overall consistency/ agreement of the measure or study. This is seen by high levels of control and standardisation, promoting replication.
Inter-Rater reliability	The method of measuring the external consistency of a test. This method is carried out by different "raters" giving consistent estimates/ measures of behaviour. They must all agree on the outcome.
Test Re-Test Reliability	When a test is completed more than one and produces the same/ similar outcome.
Internal Reliability	Assesses the consistency of results across items within a test.
External Reliability	Refers to the extent to which a measure varies from one use to another.
Validity	Refers to the truth/ realism in a study; by exploring whether it measures what it is supposed to measure.
Ecological Validity	Refers to the extent to which the findings of a research study are able to be generalised to real-life settings. If the study was conducted in a natural setting, it will have high ecological validity.
Population Validity	How representative the sample used is to the entire population. If the sample represents those in the target population it is said to have high population validity.
Face Validity	The degree to which a procedure, especially a psychological test or assessment, appears effective in terms of its stated aims. On the face of it, is it measuring what it claims to?
Temporal Validity	The degree to which the findings of a study still apply today. If the study is outdated it would lack temporal validity.
Demand Characteristics	A subtle cue that makes participants aware of what the experimenter expects to find or how participants are expected to behave. This means that participants change their behaviour

Key Term	Definition
	to please the researcher.
Observer Effect	Refers to subjects altering their behaviour when they are aware that an observer is present.
Social Desirability	Describes the tendency of survey respondents to answer questions in a manner that will be viewed favourably by others. This can be seen in questionnaires and interviews.
Type 1 Error	The incorrect rejection of a true null hypothesis (a "false positive"). The researcher believes that there is an effect when actually there is not one.
Type 2 Error	Incorrectly retaining a false null hypothesis (a "false negative"). The researcher believes there is no effect when actually there is.