

**GCSE Psychology**  
**Research Methods**  
**Knowledge Organiser**



Name:

Teacher:

## Key Terminology

OCR separates Research Methods into 3 parts, which represents (almost) the full research process:

- Planning research
- Doing research
- Analysing research

The key terms for each part are below – please note that there are many key terms that you **MUST** learn to do well in the GCSE!

## Planning Research

### *Hypotheses*

Key term	Definition
<b>Hypotheses</b>	A hypothesis (plural hypotheses) is a precise, testable statement of what the researchers predict/s will be the outcome of the study.
<b>Null Hypotheses</b>	A null hypothesis is a statement that predicts no difference or correlation in the findings.
<b>Alternate Hypotheses</b>	An alternate hypothesis is a statement that predicts a difference of correlation in the findings.

There are 3 main rules of writing hypotheses, these are:

- are written in the future tense (e.g. there will be...)
- include **both** conditions of the independent variable
- include the dependent variable. (Operationalised)

One example could be: 'People who drink 5ml of caffeine before driving will make fewer driving errors than people who drink 0ml of caffeine before driving'

### *Variables*

Key term	Definition
<b>Variables</b>	A factor or element within the study that is likely to change.
<b>Independent Variable (IV)</b>	The variable/s the experimenter manipulates (i.e. Changes).
<b>Dependent Variable (DV)</b>	A DV is the variable which is measured by the experimenter after they have manipulated the IV.
<b>Extraneous Variable (EV)</b>	Extraneous variables are other variables (not the IV) which could affect the results of the experiment (DV)
<b>Co-Variables</b>	A co-variable is something that changes in relation to another variable. Used in correlations.

### ***Experimental Designs***

<b>Key term</b>	<b>Definition</b>
<b>Experimental designs</b>	Refers to the way participants are allocated to conditions, and includes Independent Measures Design and Repeated Measures Design.
<b>Independent measures</b>	Where each participant is only assigned to one condition of the IV.
<b>Repeated Measures</b>	Where each participant is assigned to more than one condition of the IV.

### ***Populations and Sampling***

<b>Key term</b>	<b>Definition</b>
<b>Target population</b>	The total group of individuals from which the sample might be drawn.
<b>Sample</b>	A section of the population that is used to represent the group as a whole, and participates in the study.
<b>Representativeness</b>	Drawn from a population of interest and has demographics and characteristics that match those of the population in as many ways as possible
<b>Generalisability</b>	The ability to draw conclusions that apply to a larger group.
<b>Random sample</b>	Sample in which each member of the population has an equal chance of being selected to represent the whole.
<b>Opportunity sample</b>	Participants are selected based on who is available at the time and willing to participate.
<b>Self-selected sample</b>	Consists of participants becoming part of a study because they volunteer when asked or in response to an advert.

### ***Ethical Issues and ways of dealing with them***

<b>Key term</b>	<b>Definition</b>
<b>Informed Consent</b>	When someone agrees to take part in research, whilst knowing the full details of the study.
<b>Deception</b>	When participants have been lied to as part of the research process
<b>Psychological harm</b>	Ethical issue that related to protecting participants from distress, discomfort and embarrassment
<b>Confidentiality</b>	Making sure participants are not identifiable when the research is reported, e.g. through fake names or codes (e.g. Participant 1)
<b>Debriefing</b>	When participants are fully informed of the research aims and procedures after the study.
<b>Right to withdraw</b>	Participants have the right to pull out of the study at any time, without any punishment or needing to provide a reason. Participants must be aware of this right. They also have the right to withdraw their data, after the study.

# Doing Research

## *Experiments*

Key term	Definition
<b>Experiments</b>	Manipulating the IV to measure the effect on a DV by controlling these variables.
<b>Laboratory</b>	An experiment conducted under highly controlled conditions.
<b>Field</b>	Is carried out in the everyday environment (i.e. real life) of the participants. The experimenter still manipulates the IV.
<b>Natural</b>	In 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, but instead must choose a variable that is naturally occurring (e.g. age or gender).

## *Interviews*

Key term	Definition
<b>Interview</b>	An interview is a conversation where questions are asked and answers are given.
<b>Structured interview</b>	Each interview is presented with exactly the same questions in the same order and the researcher aims to obtain quantitative data.
<b>Unstructured Interviews</b>	Questions in this style of interview are not prearranged. The data obtained from this style of interview is usually qualitative.

## *Questionnaires*

Key term	Definition
<b>Questionnaires</b>	A set of written questions with a choice of answers, devised for the purposes of a survey or statistical study.
<b>Open-ended questions</b>	Questions which obtain qualitative data by asking questions which cannot be answered with a simple one-word answer.
<b>Closed-ended questions</b>	Questions which can be answered with a simple one-word answer e.g. "yes" or "no".
<b>Rating scales</b>	Requires participants to answer a question by selecting a value (number) to reflect their perception on a topic.

## *Observations*

Key term	Definition
<b>Observations</b>	Observing of participants behaviour through controlled or uncontrolled conditions.

<b>Naturalistic observation</b>	A research method where the participant's behaviour is studied in their natural environment.
<b>Controlled observation</b>	Participant's behaviour is usually observed in a controlled environment (laboratory) where the researcher can manipulate the IV.
<b>Overt observations</b>	The researcher is open with their participants about observing their behaviour. The participant's know that they are being studied.
<b>Covert Observations</b>	The participants are unaware of the presence of the researcher and they are NOT made aware that their behaviour is being observed.
<b>Participant observation</b>	The researcher observes people while participating in their activities.
<b>Non-Participant Observation</b>	The researcher observes people without participating in their activities.

### *Case studies*

Key term	Definition
<b>Case Study</b>	A method of collecting data that involves focusing on a small sample in detail.

### *Correlations*

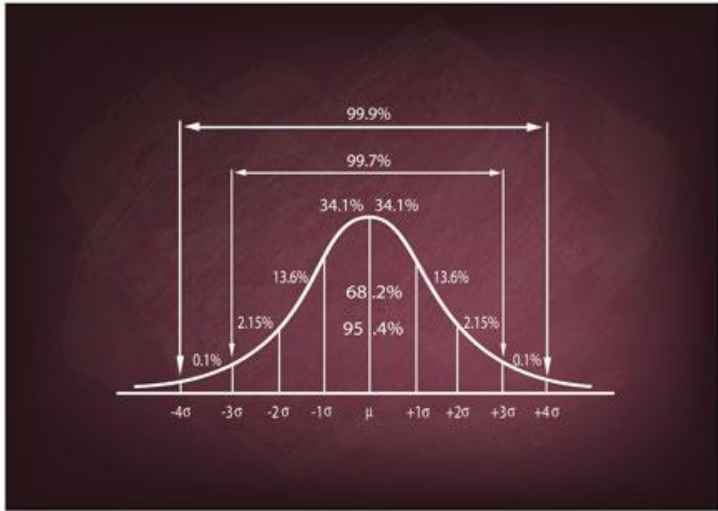
Key term	Definition
<b>Correlations</b>	The measure of the extent to which two variables are related.
<b>Positive correlation</b>	An increase in one variable tends to be associated with an increase in the other.
<b>Negative correlation</b>	An increase in one variable tends to be associated with a decrease in the other.
<b>Zero correlation</b>	There is no relationship between two variables.

## **Analysing Research**

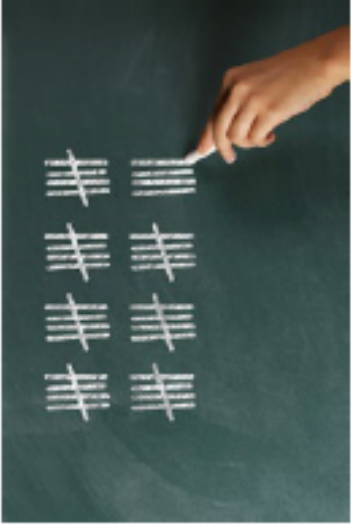
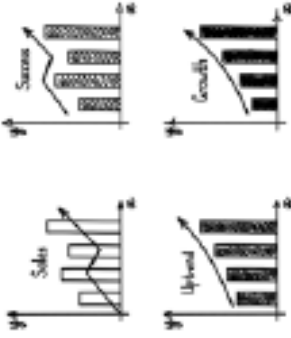

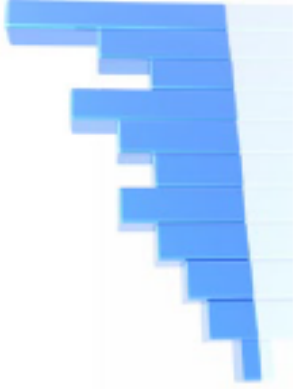
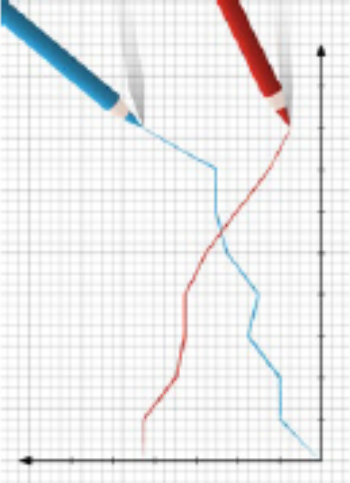

### *Types of data*

Key term	Definition
<b>Qualitative data</b>	Typically descriptive data.
<b>Quantitative data</b>	Data that can be measured and written down with numbers.
<b>Primary Data</b>	First-hand information that has been collected by the researcher for the purpose of their study.
<b>Secondary data</b>	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.

## Descriptive statistics

Key term	Definition
<b>Measures of Central Tendency</b>	Describes the way in which a group of data cluster around a central value. There are three measures of central tendency: the mean, the median and the mode.
<b>Median</b>	The middle score in a set of data.
<b>Mode</b>	The most frequently occurring score in a set of data.
<b>Mean</b>	The average of a set of data. Calculated by adding up all the values and dividing by the number of values.
<b>Range</b>	A statistical measure of variance. It is calculated by subtracting the lowest score from the highest score and then adding one.
<b>Ratios</b>	The quantitative relation between two amounts showing the number of times one value contains or is contained within the other.
<b>Percentages</b>	A rate, number, or amount in each hundred.
<b>Fractions</b>	A numerical quantity that is not a whole number (e.g. 1/2).
<b>Normal distribution</b>	<p>An arrangement of a data set in which most values cluster in the middle of the range and the rest taper off symmetrically toward either extreme.</p> 

## Table, charts and graphs

<p><b>Key term</b></p>	<p>Frequency tables (tally chart)</p> 	<p><b>Key term</b></p>	<p>Bar charts</p> 	<p><b>Key term</b></p>	<p>Pie charts</p> 
<p><b>Definition</b></p> <p>The frequency of a particular data value is the number of times the data value occurs</p>	<p><b>Definition</b></p> <p>A graph that presents grouped data with rectangular bars with lengths proportional to the values that they represent.</p>	<p><b>Definition</b></p> <p>A type of graph in which a circle is divided into sectors that each represent a proportion of the whole.</p>			
<p><b>Key term</b></p>	<p>Histograms</p> 	<p><b>Key term</b></p>	<p>Line graphs</p> 	<p><b>Key term</b></p>	<p>Scatter diagrams</p> 
<p><b>Definition</b></p> <p>A graphical representation of the distribution of numerical data.</p>	<p><b>Definition</b></p> <p>A type of chart used to visualise the value of something over time</p>	<p><b>Definition</b></p> <p>A type of plot or mathematical diagram using Cartesian coordinates to display values for typically two variables for a set of data.</p>			

## Issues in research

### *Reliability and Validity*

Key term	Definition
<b>Reliability</b>	The overall consistency of the measure or study.
<b>Internal Reliability</b>	Assesses the consistency of results across items within a test.
<b>External Reliability</b>	Refers to the extent to which a measure varies from one use to another.
<b>Inter-rater reliability</b>	The method of measuring the external consistency of a test. This method is carried out by different “raters” giving consistent estimates/measures of behaviour.
<b>Validity</b>	Refers to the accuracy of a test’s ability to measure what it is supposed to measure.
<b>Ecological validity</b>	Refers to the extent to which the findings of a research study are able to be generalised to real-life settings.
<b>Population validity</b>	How representative the sample used is to the entire population.
<b>Construct validity</b>	Ability of a measurement tool to actually measure the psychological concept being studied.
<b>Demand Characteristics</b>	A subtle cue that makes participants aware of what the experimenter expects to find or how participants are expected to behave.
<b>Observer Effect</b>	Refers to subjects altering their behaviour when they are aware that an observer is present.
<b>Social Desirability</b>	Describes the tendency of survey respondents to answer questions in a manner that will be viewed favourably by others.

### *Sources of bias*

Key term	Definition
<b>Gender Bias</b>	The emphasis of the study is more inclined to one gender.
<b>Cultural Bias</b>	The emphasis of the study is more inclined to one ethnicity/culture.
<b>Age Bias</b>	The emphasis of the study is more inclined to a certain age group.
<b>Experimenter bias</b>	The researcher influences the results in order to portray a certain outcome.
<b>Observer bias</b>	Observer bias occurs when the observers’ biases/personal inclinations determine which behaviours they choose to observe.
<b>Questioning bias</b>	This is where a question is worded in a way that influences participants to give a certain response.