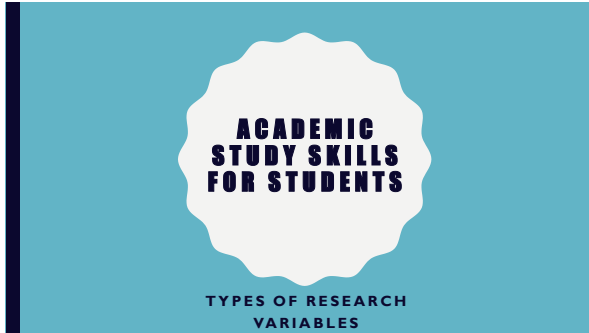
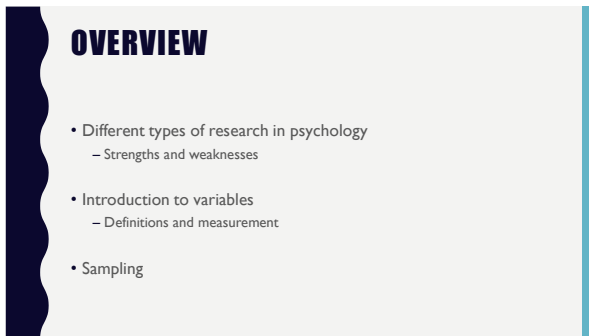








IMPORTANCE OF RESEARCH METHODS

- Psychology regarded as a science
 - Science (at a basic level) attempts to answer questions through careful observation and collection of data
- These answers can then be used to further our knowledge of us (humans) and of our world
 - As well as then helping us to predict subsequent events and behaviour
- BUT to do this, we require a systematic/universal way of collecting and understanding data

IMPORTANCE OF RESEARCH METHODS

- Methodology helps us understand and evaluate the merit of all the information that we are confronted with every day
 - Eg., do you believe the following?
 - Chocolate makes children hyperactive
 - Smoking is linked to poor grades in teenagers
 - Right handed people live longer than left handed people



WHAT IS RESEARCH?



RESEARCH METHODS IN PSYCHOLOGY

- Qualitative versus quantitative
- Basic versus applied research
- Experimental versus non-experimental

QUALITATIVE VS. QUANTITATIVE

Qualitative



Free text/words

Quantitative



- Numbers
- Categories or continuous
- Nominal, Ordinal, Interval, Ratio

QUALITATIVE RESEARCH

- **Qualitative research:**
 - We are interested in the specific experiences of our sample
 - The 'life-world' of the participants we interview etc
 - We **do not** attempt to generalise to larger populations

QUANTITATIVE RESEARCH

• Quantitative research:

- We are not really interested in the sample that we study – we are interested in the **target population**
- We want to be able to generalise our results to this target population



Any questions so far?

METHODS OF RESEARCH

NATURALISTIC OBSERVATIONS

- Researcher observes a behaviour as it occurs in a natural setting, and attempts to avoid influencing that behaviour
- Nothing is manipulated in the observation
 - This method is used when there are variables that cannot be directly manipulated for ethical or practical reasons
- Not 'true' experiments – quasi experiments because researcher cannot determine a true cause and effect

NATURALISTIC OBSERVATIONS

Habituation: the process in which people typically adapt to and ignore the presence of an observer as time passes

Advantages

- ✓ Behaviour can be observed in natural settings with little or no influence
- ✓ No artificial labs, no uncomfortable or inaccurate behaviour

Limitations

- × Cannot establish a causal relationship
- × Very little control over other variables

DESCRIPTIVE RESEARCH

- Seeks to identify how humans and other animals behave, particularly in natural settings
- **Case Studies:** an in-depth analysis of an individual, group, or event

DESCRIPTIVE RESEARCH

Advantages

- ✓ Researchers can gain in-depth, detailed information about their question of interest
- ✓ Case studies can provide new ideas of challenge existing theories

Limitations

- ✗ Cannot determine cause-effect relationships
- ✗ Difficult to generalise findings
- ✗ Lack of objectivity in collecting and interpreting data

LAB EXPERIMENTS

- Conducted in a special environment where variables can be carefully controlled
- Participants are aware that they are taking part in an experiment
 - They may or may not know the true aims of the experiment...

LAB EXPERIMENTS

ADVANTAGES

- ✓ Well controlled
- ✓ Permits the study of cause and effect
- ✓ Confounding variables are minimised
- ✓ Can be replicated (copied/repeated)

LIMITATIONS

- ✗ Artificial or contrived
- ✗ Participants know they are being studied, which is likely to affect their behaviour
- ✗ Researcher may influence results
- ✗ Setting is not like real life
- ✗ Doesn't represent real life experiences
 - ✗ Eg, trigrams to test memory



Any questions?

SURVEY RESEARCH

- Information about a topic is obtained by administering questionnaires or interviews to many people
- *Types of surveys/questionnaires:*
 - Cross-sectional
 - Longitudinal/prospective
 - Able to follow up over time
 - Allows prediction about causality
 - Randomised controlled trials
 - Gold-standard in psychological research

SURVEY RESEARCH

POPULATION:

- All of the individuals that we are interested in drawing a conclusion about

SAMPLE:

- A subset of the individuals drawn from the larger population

SURVEY RESEARCH



How do we get a **representative sample**?

Say, for example, we are interested in exploring levels of depression in individuals who own dogs...

What would we need to do?

SURVEY RESEARCH

ADVANTAGES

- ✓ Allows us to collect large amounts of data quickly and inexpensively
- ✓ We can ask about an almost limitless variety of attitudes, perceptions, experiences

LIMITATIONS

- ✗ Unrepresentative samples can produce distorted results
- ✗ Self-reports can be biased – people may not want to admit their attitudes or behaviours
- ✗ Cannot indicate causation

SAMPLING

- If all members of a population were identical, the population is considered to be **homogenous**
 - That is, the characteristics of any one individual is the same as the characteristics as any other individual (little or no variation among individuals)

- Sampling is the process of selecting individuals (participants/ a sample) to provide an adequate description and robust inference of the population
- The sample we choose should be **representative** of the population

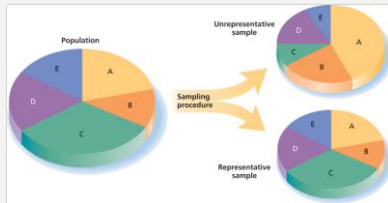
REPRESENTATIVE SAMPLES

- A **representative sample** is one that reflects the important characteristics of the population

Dog owners and depression study

- Population of interest? → Every single dog owner!
- Sample? → We can't ask questions of EVERY dog owner, so we take a sample of this population

REPRESENTATIVE SAMPLES



SAMPLES

- In psychological research, we are interested in people!
- Who we include in our research studies is hugely important for the validity of our research findings
- Sample size is extremely important in statistical analyses

TYPES OF SAMPLING

- What about if you just select participants from who is available at the time to complete your study?

– This is called an **opportunity or convenience sample**

- But what then about the people who aren't available?

✓ Easy in terms of time and therefore money

✗ Can produce biased samples

TYPES OF SAMPLING

- Likewise, a sample of **volunteers** are a self-selected sample
 - May have their own reasons for volunteering

- Does not always include willing volunteers, though
 - And all participants come with their own biases and expectations!

TYPES OF SAMPLING

Random sampling/selection

- Selection process with no pattern
- Every individual has an equal probability of being selected for a study
- Reduces the likelihood of research bias
- Names are usually selected from a computerised list

Why assign/choose participants randomly?

Samples that are assigned randomly are most likely to be truly **representative** of the population under consideration



Any questions?

VARIABLES

DEFINING VARIABLES

- Two main types of variables used in experiments:

1. *Independent variables*

2. *Dependent variables*

Plus – confounding or extraneous...

1. INDEPENDENT VARIABLE (IV)

- The factor that is manipulated or controlled by the researcher in order to determine their effect on a given behaviour
- A variable that influences a certain behaviour OR accounts for differences in a certain behaviour
- The IV should **NOT** be influenced by anything else in your study!



1. INDEPENDENT VARIABLE (IV)

e.g., simple IV's:

Gender
Age

e.g., psychological constructs:

Personality type

Researcher chooses what
manipulations to put in
place

2. DEPENDENT VARIABLE (DV)

- The factor that is measured by the researcher and the variable that may be influenced by the independent variable

The DV depends upon the IV!



Independent variables

Dependent variables

Dependent variables

Independent variables

BUT – ALSO NEED TO CONSIDER EXTRANEOUS AND CONFOUNDING VARIABLES

1. Extraneous variables...

Other variables which are present during the study which shouldn't effect the study but could potentially become a confounding variables

e.g., noise level, temperature, lighting...



2. Confounding variables...

Other variables which we **should** have controlled for but didn't ... and that could actually explain the outcome of the experiment/study

e.g., age, socio-economic status...

NB: BPS'S CODE OF HUMAN RESEARCH ETHICS

- [https://www.bps.org.uk/sites/beta.bps.org.uk/files/Policy%20-%20Files/Code%20of%20Human%20Research%20Ethics%20\(2014\).pdf](https://www.bps.org.uk/sites/beta.bps.org.uk/files/Policy%20-%20Files/Code%20of%20Human%20Research%20Ethics%20(2014).pdf)
- Ethics are important in psychological research!
- ALSO NB: Code of Human Research Ethics and Code of Ethics and Conduct are not the same thing!



Any questions?
