UNIVERSITY OF KHEMIS MILIANA

Level : 3rd Year Counseling & Guidance

2nd Semester 2023

SUBJECT :ENGLISH **Prof :D.MEZAINI**

Specific aims :

By the end of the lesson the student will be able to :

- Gain knowledge and understanding of the different types of experiments and their associated strengths and weaknesses.

LESSON FOUR:Types of experiments

In order for Psychologists to develop an understanding of the mind and behaviour they use a variety of methods to scientifically study people (and animals.) The next few pages will take you through the types of methods used, starting off with experiments.

Types of experiments:

All experiments involve a change in the Independent Variable (IV) with the researcher measuring the subsequent effects on the Dependent Variable (DV). How the IV changes and under what circumstancesvaries from one type of experiment to another.

1-Laboratory experiments:

Laboratory experiments are conducted in **highly controlled environments**. The researcher **manipulates** the IV and records the effects of the DV. The participants in a lab experiment can be **randomly allocated to conditions**. A lab experiment is therefore considered **a 'true' experiment.**

Strengths of Lab experiments:

- High control over extraneous variables meaning cause and effect can be established.
- Replication is possible due to the high level of control. This also means results can be checked for reliability.

Limitations of lab experiments:

- Participants are often aware of being tested – possible demand characteristics.
- Artificial environment means it may lack generalisability.
- Investigator effects may occur (unless it is a double blind experiment- this is when both the participant and the researcher conducting the experiment does not know the aims of the investigation)

2-Field experiments:

In field experiments the researcher still manipulates the IV and records the

effects on the DV but the experiment is conducted in a **real life setting**.

Strengths of Field experiments:

- High ecological validity due to being conducted in a real-life setting.
- Behaviour is likely to be more valid & authentic (less demand characteristics).

Limitations of Field experiments:

- There is less control over extraneous variables (these will be different depending on the experiment).
- It is difficult to replicate them completely because they tend to be less controlled.
- Possible ethical issues if participants are unaware they're being studied.

3-Natural experiments:

A natural experiment is where the researcher takes advantage of a naturally occurring IV and the effect it has on the DV. The experimenter has not manipulated the IV directly; the IV would vary naturally whether or not the researcher was interested.

The researcher cannot randomly allocate participants to conditions and/or has no control over the IV. This is not a 'true' experiment.

Note: it is the IV that is natural, not necessarily the setting.

Example: Romanian Orphan studies (Attachment topic). IV = adoption before or after the age of 6 months (naturally occurring/varying)

Strengths of Natural experiment:

- Provides opportunities for research that may not be otherwise conducted due to practical/ethical reasonse.g. does smoking when pregnant lead to behavioural problems in infants?
- They have high external validity because they involve the study of real-life.

Limitations of Natural experiments:

- A naturally occurring event may happen, rarely limiting generalisation to other situations.
- Participants may not be randomly, allocated to conditions.

4-Quasi – experiments:

Studies that are 'almost' experiments. The IV is not something that varies at all – it is simply a difference between people that exists. The researcher records the effects of this 'quasi-IV' on the DV.

The researcher cannot randomly allocate participants to conditions and/or has no control over the IV. This is also not a 'true' experiment.

Examples: Experiments where the IV is a variable such as age, gender, locus of control etc.

Strengths of Quasi- experiments:

- Carried out under controlled conditions & share the strengths of a lab experiment.

Limitations of Quasi- experiments:

- Participants are aware of being tested – possible demand characteristics.
- Participants cannot be randomly allocated and therefore there may be confounding variables.

Summary of key differences

Type of experiment	**Environment conducted in:**	**Independent variable:**
Lab	Controlled	Controlled
Field	Natural	Controlled
Quasi	Controlled	Naturally occurring
natural	Natural	Naturally occurring