RESEARCH DESIGN

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Research Design

- The research design is an overall plan for obtaining answers to the research questions, testing the research hypotheses, for acquiring new knowledge or confirming existing knowledge.

- A scientific investigation that will guide the collection and analysis of data, and enhance the researcher’s confidence in the outcomes of a research project.

Developing of research design involves decisions concerning the following aspects:

1. Will there be an intervention?
2. How many times will data be collected?
3. When will data be collected?
4. In what setting will the study take place?

Types of research Design

1. Experimental Research Design
2. Quasi-Experimental Research Design
3. Non-Experimental Research Design

Experimental Research Design

- Experimental designs are set up to provide the greatest amount of control possible to examine causality.
- Ex: Does applying massage reduce anxiety before cardiac catheterization?

Characteristics of true experimental design

1- **Manipulation**

The experimenter manipulates the independent variable by administering a treatment to some subjects and withholding it from others.

2- Control

The Control group usually indicates the group in an experimental study that does not receive treatment.

3- Randomization

Random selection means that every member of a population has an equal chance of being selected to be a member of the sample.

This type of study can be described as follows:

Treatment group	R	O1	X	O2
Control group	R	O1		O2

R= Randomization

O= Observation or measurement

X= treatment or intervention(counseling on birth spacing)

Quasi-Experimental Research Design

- The word "quasi" means as if or almost, so a quasi-experiment means almost experimental. Also known as pre-experimental design.

- is an empirical(experimental) study used to estimate the causal impact of an intervention on its target population.

- Quasi-experimental research shares similarities with the traditional experimental design. But they specifically lack the element of **random** assignment to treatment or **control**.

- Treatment group O1 X O2
- Control group O1 O2

- O= observation or measurement (staff morale questionnaire)
- X= Treatment or intervention (Introduction of 10 hours day shift)

- Not having a control group.
- Not randomly selecting participants to control or experimental group.
- Manipulation of the independent variable is present in quasi-experimental designs.

Nonexperimental Designs

- Used where the participants can not be manipulated.
- Used when it is unethical to manipulate the participants.
- Useful in descriptive studies.

Types

1. Correlational.
2. Descriptive.

1- Correlational

- Study's relationships among variables
- No control of independent variable
- Can be retrospective or prospective studies

- **Retrospective**

- Looks at dependent variable in the present and attempts to link this effect to cause in the past

-Looks at present outcomes and tries to determine what factors caused it

- Lung cancer currently, linked to smoking in the past

- **Prospective**

- Looks at the presumed cause and then goes forward in time to observe presumed effects

- Considered stronger than retrospective studies

- Smoking currently may cause lung cancer in the future

2-Descriptive Design

Purpose is to

- **observe**,
- **describe**
- and **document** aspects of a situation

Research Design and Time

1- **Cross-sectional Studies**

- Collection of data at one point in time.

2- **Longitudinal Studies**

-Collect data over an extended period of time

-Can show changes over time

May God Protect You