



SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore - 641 107

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DEPARTMENT OF MANAGEMENT STUDIES

COURSE NAME : 19BA106 FUNDAMENTALS OF DATA ANALYSIS

I YEAR /I SEMESTER

Unit 3 - HYPOTHESIS TESTING

Topic 1: FDA - HYPOTHESIS TESTING BASICS



WHAT IS HYPOTHESIS ?

- A hypothesis states your predictions about what your research will find.
- It is a tentative answer to your research question that has not yet been tested.
- For some research projects, you might have to write several hypotheses that address different aspects of your research question.



WHAT IS HYPOTHESIS ?

- A hypothesis framed based on insufficient evidence. It can be true or false
- A hypothesis is not just a guess — it should be based on existing theories and knowledge.
- It also has to be testable, which means you can support or refute it through scientific research methods (such as experiments, observations and statistical analysis of data).



WHAT IS HYPOTHESIS ?

- If you get at least 6 hours of sleep, you will do better on tests than if you get less sleep.
- If you drink coffee before going to bed, then it will take longer to fall asleep
- There is a relationship between attendance and exam results



VARIABLES IN HYPOTHESES

- A variable in research simply refers to a person, place, thing, or phenomenon that you are trying to measure in some way.
- Hypotheses propose a relationship between two or more variables.



TYPES OF VARIABLES IN RESEARCH

- **Independent variables.**
- **Dependent variables**
- **Control variables**



TYPES OF VARIABLES IN RESEARCH

➤ **Independent variables.**

Variables you manipulate in order to affect the outcome of an experiment

Example : If you get at least 6 hours of sleep, you will do better on tests than if you get less sleep.



TYPES OF VARIABLES IN RESEARCH

➤ **Dependent variables.**

Variables that represent the outcome of the experiment.

Example : If you get at least 6 hours of sleep, you will do better on tests than if you get less sleep.



TYPES OF VARIABLES IN RESEARCH

Control variables

- Variables that are held constant throughout the experiment.
- Like The temperature and light in the room the plants are kept in

Example : If you get at least 6 hours of sleep, you will do better on tests than if you get less sleep.



RECAP

QUESTIONS???

THANK YOU