Research: Hypothesis
Definition

- the word hypothesis is derived from the Greek words
- “hypo” means under
- “tithemi” means place

- Under known facts of the problem to explain relationship between these
- ........ is a statement subject to verification
- ........ a guess but experienced guess based on some facts
- ........ is a hunch, assumption, suspicion, assertion or an idea about a phenomena, relationship, or situation, the reality of truth of which one do not know
- a researcher calls these assumptions, assertions, statements, or hunches hypotheses and they become the basis of an inquiry.
- In most cases, the hypothesis will be based upon either previous studies or the researcher’s own or someone else’s observations
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**Definition**

- Hypothesis is proposition, condition or principle which is assumed, perhaps without belief, in order to draw its logical consequences and by this method to test its accord with facts which are known or may be determined (Webster’s New International Dictionary of English).

- A tentative statement about something, the validity of which is usually unknown (Black, James A & Dean J Champion, Method and Issues in Social Research, New York: John Wiley & Sons, Inc, 1976).

- Hypothesis is proposition that is stated is a testable form and that predicts a particular relationship between two or more variable. In other words, if we think that a relationship exists, we first state it is hypothesis and then test hypothesis in the field (Baily, Kenneth D, Methods of Social Research, 3rd edition, New York: The Free Press, 1978).
Definition

- A hypothesis is written in such a way that it can be proven or disproven by valid and reliable data – in order to obtain these data that we perform our study (Grinnell, Richard, Jr. Social Work Research and Evaluation, 3rd edition, Itasca, Illinois, F.E. Peacock Publishers, 988)

- A hypothesis may be defined as a tentative theory or supposition set up and adopted provisionally as a basis of explaining certain facts or relationships and as a guide in the further investigation of other facts or relationships (Crisp, Richard D, Marketing Research, New York: McGraw Hill Book Co., 1957)
Characteristics

- Hypotheses has the following characteristics:
  - a tentative proposition
  - unknown validity
  - specifies relation between two or more variables
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Functions

- Bringing clarity to the research problem
- Serves the following functions
  - provides a study with focus
  - signifies what specific aspects of a research problem is to investigate
  - what data to be collected and what not to be collected
  - enhancement of objectivity of the study
  - formulate the theory
  - enable to conclude with what is true or what is false
Characteristics

- Simple, specific, and contextually clear
- Capable of verification
- Related to the existing body of knowledge
- Operationalisable
Typologies

- Three types
  - working hypothesis
  - Null hypothesis
  - Alternate hypothesis

**Working hypothesis**

The working or trail hypothesis is provisionally adopted to explain the relationship between some observed facts for guiding a researcher in the investigation of a problem.

A Statement constitutes a trail or working hypothesis (which) is to be tested and conformed, modifies or even abandoned as the investigation proceeds.
Typologies

Null hypothesis
A null hypothesis is formulated against the working hypothesis; opposes the statement of the working hypothesis

....it is contrary to the positive statement made in the working hypothesis; formulated to disprove the contrary of a working hypothesis

When a researcher rejects a null hypothesis, he/she actually proves a working hypothesis

In statistics, to mean a null hypothesis usually Ho is used. For example,

\[ Ho \rightarrow Q = O \]

where Q is the property of the population under investigation

O is hypothetical
Typologies

Alternate hypothesis

An alternate hypothesis is formulated when a researcher totally rejects null hypothesis

He/she develops such a hypothesis with adequate reasons

The notion used to mean alternate hypothesis is $H_1 \rightarrow Q > O$

i.e., Q is greater than O
Example

- Working hypothesis: Population influences the number of bank branches in a town.

- Null hypothesis (Ho): Population do not have any influence on the number of bank branches in a town.

- Alternate hypothesis ($H_1$): Population has significant effect on the number of bank branches in a town. A researcher formulates this hypothesis only after rejecting the null hypothesis.