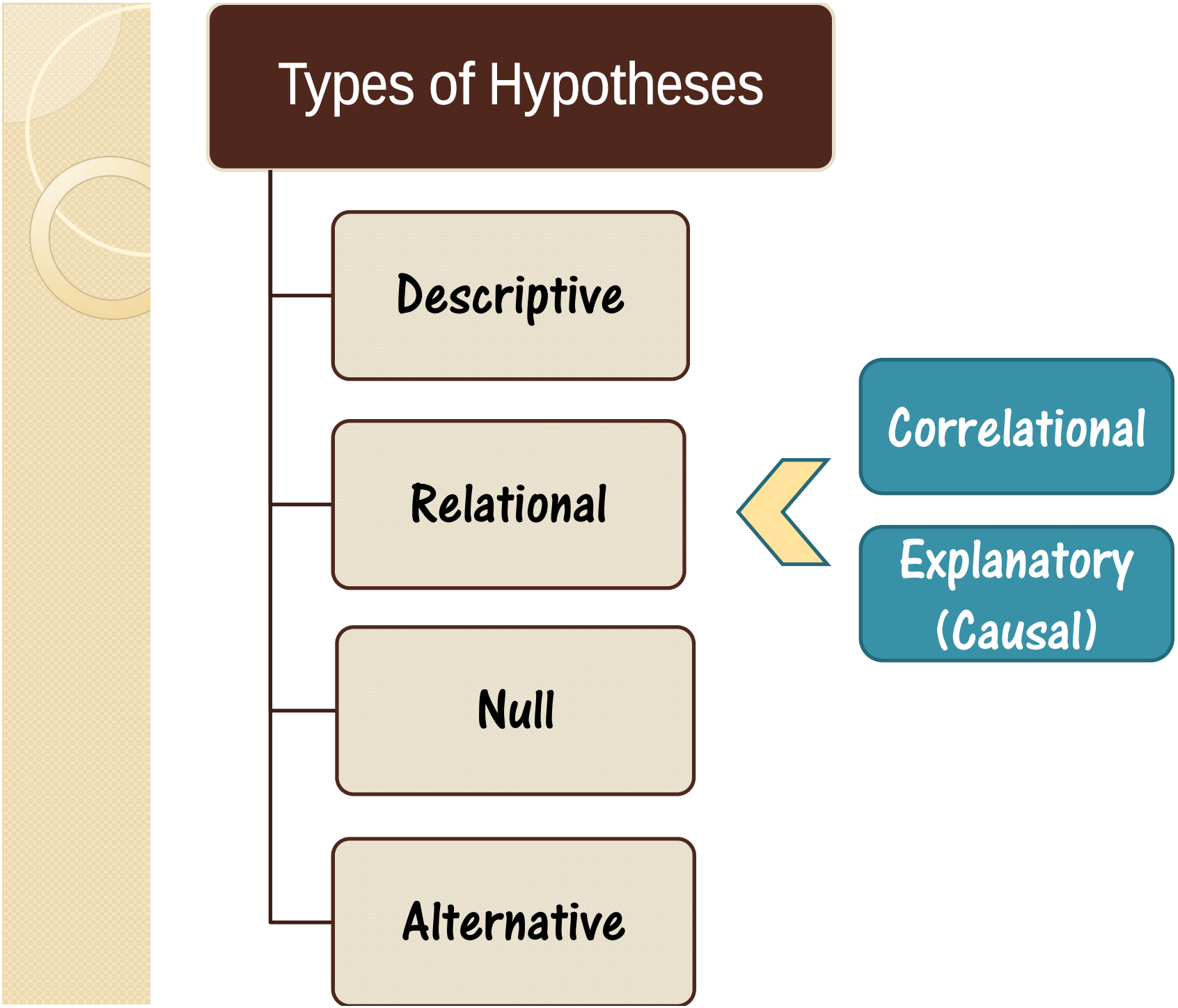
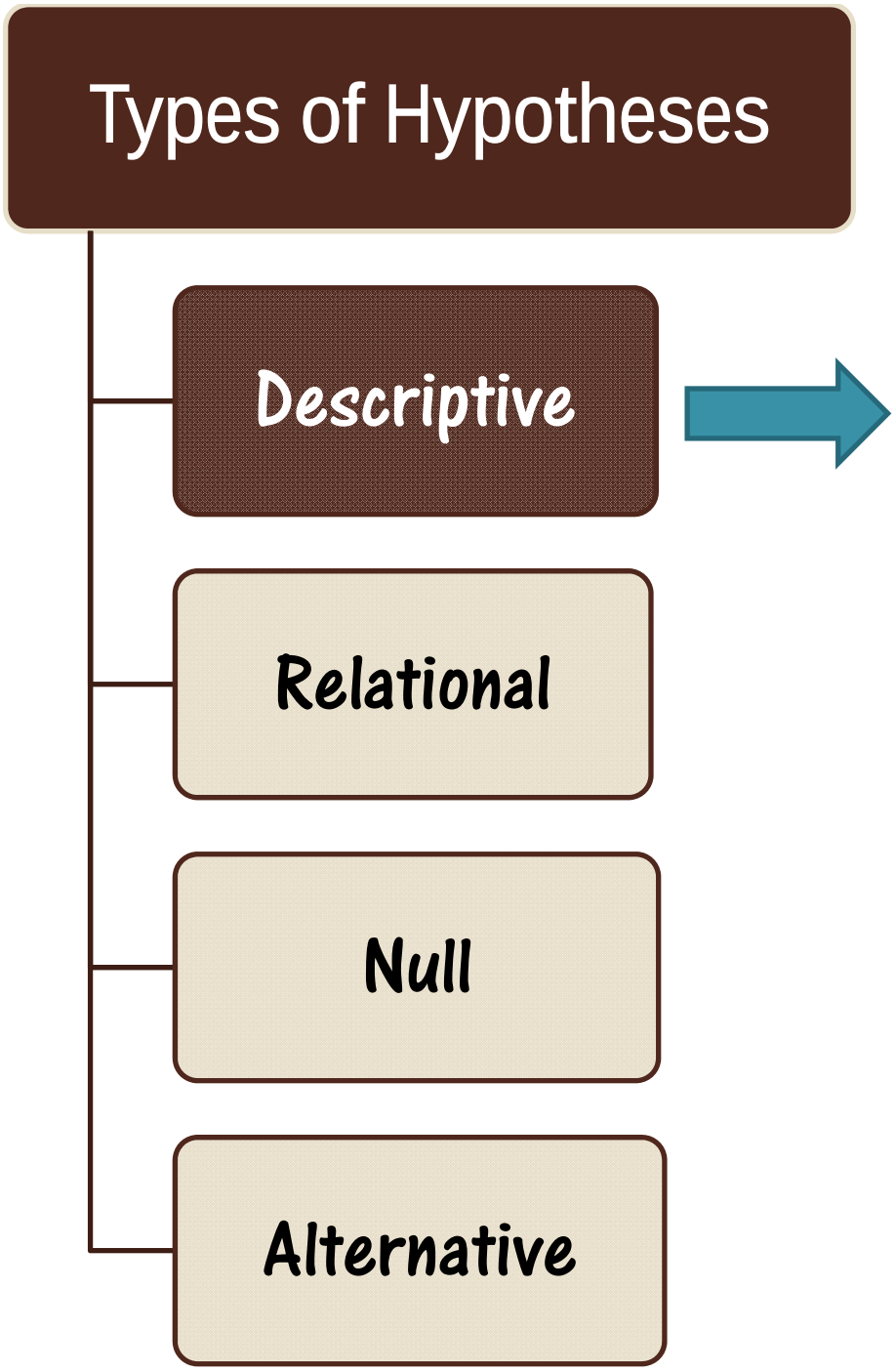

Types of Hypotheses
Descriptive
Relational
Correlational
Explanatory (Causal)
Null
Alternative

Types of Hypotheses



Contains only one variable thereby c/a Univariate hypothesis

- Typically states the existence, size, form, or distribution of some variable
- Example First Hypothesis

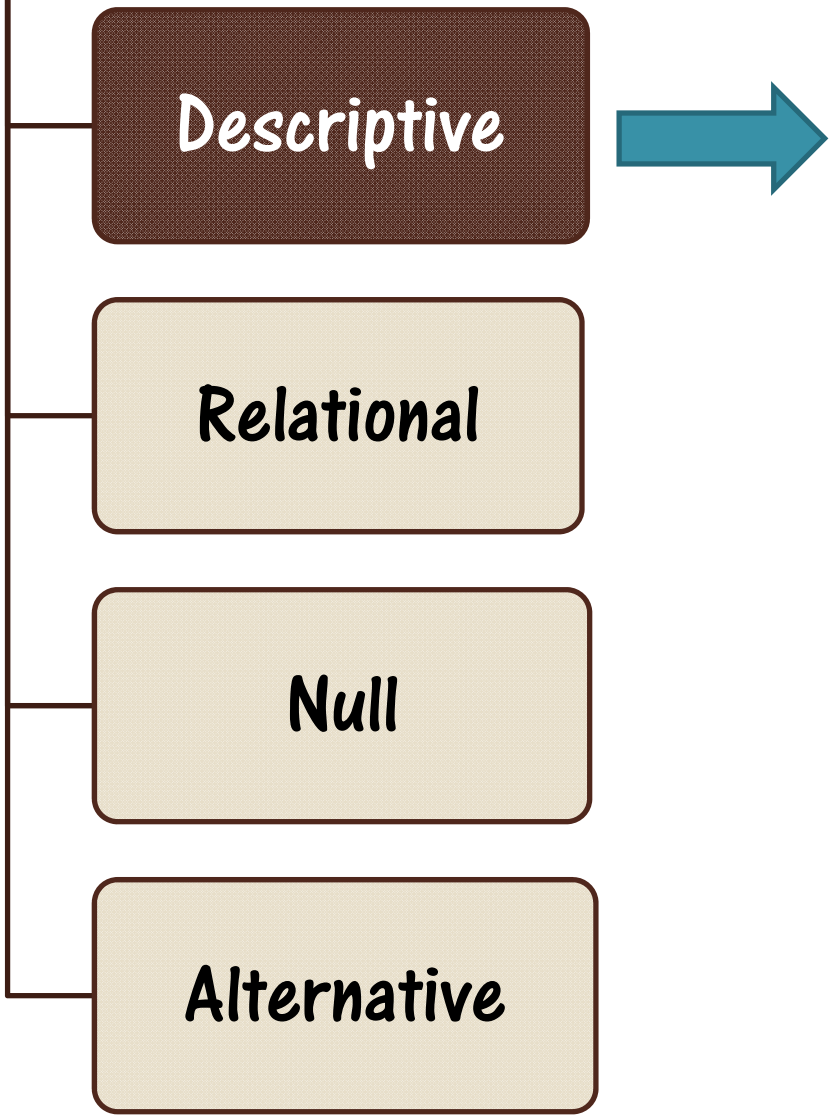
  Officers in my organization have higher than average level of commitment (Variable)

Research usually use Research Questions rather than Descriptive Hypothesis

Eg. What is the level of commitment of the officers in your organization?

Officers in my organization have higher than average level of commitment (one Variable)

Types of Hypotheses



- Primary aim of research is to describe the characteristics of the selected situation, community, phenomenon or event.
- The study is designed to test the hypothesis through collection of relevant facts
- Goode and Hutt calls these as 'Empirical Hypothesis' since these are based on empirical observations.
- Simplest hypothesis which state only the existing trend of the variable – do not attempt to explore the causality

Types of Hypotheses

- Descriptive
- Relational
- Null
- Alternative

Propositions that describe a relationship between two or more variables

- Relationship could be non-directional or directional, positive or negative, causal or simply correlational
- For stating directional relationship, terms like positive, negative, more than or less than are used (Eg. Hypotheses 3 & 4)
- In non-directional hypothesis, direction of association is not specified. Eg. Hypothesis 2

3. Level of job commitment of the officers is positively associated with their level of efficiency (two variables and positive relationship)

4. The higher the level of job commitment of the officers, the lower their level of absenteeism (two variables and negative relationship, change in problem)

Types of Hypotheses

- Descriptive
- Relational
- Null
- Alternative

May be of four types

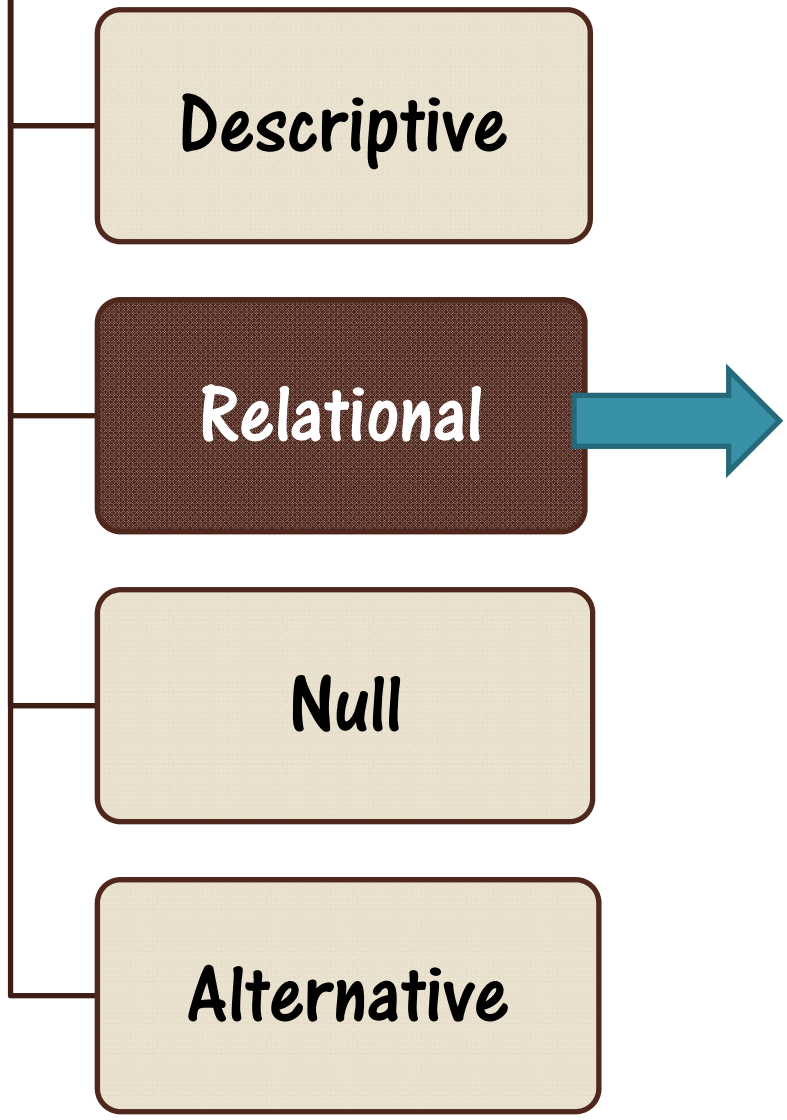
- X is related to Y
- Y is dependent on X
- Y decreases as X increases
- X and Y are not related

May be bivariate (two variables) or multivariate (more than two variables)

For e.g. Increasing population results in increase in crime rate

- Increasing industrialization is responsible for change in family composition
- More is population density, more is the consumption of drugs, crime rate and lower is the level of literacy in an area

Types of Hypotheses



Multivariate hypothesis is also called as **Complex** Hypothesis

Number of independent variables (population density in the given example) is less than the number of dependent variables (drug consumption, crime rate and literacy rate)

Other examples:

Social status of a person is determined by vertical mobility, level of education and income.

Academic aspirations of a child are governed by the education, income and occupation of parents

Types of Hypotheses

- Relational
- Correlational
- Explanatory (Causal)

State merely that variables occur together in some specified manner without implying that one causes the other

We believe that there are more basic causal forces that affect both variables.

- Eg. Third hypothesis

  Level of job commitment of the officers is positively associated with their level of efficiency

Here we do not make any claim that one variable causes the other to change

Types of Hypotheses

- Relational
- Correlational
- Explanatory (Causal)

Implies that the existence of or change in one variable causes or leads to a change in the other variable.

Incorporates the notion of dependent and independent variable.

- Independent variable(IV) may not be the sole reason for existence or change in dependent variable (DV)
- Researcher may have to identify other possible causes, control their effect in case the causal effect of IV has to be determined on the DV

POSSIBLE IN EXPERIMENTAL RESEARCH

Types of Hypotheses

- Descriptive
- Relational
- Null
- Alternative

Used for testing the hypothesis formulated by the researcher.

Simply states that there is no relationship between the variables or the relationship between variables is zero

Is the inverse of research hypothesis

It is recommended that we test our hypothesis indirectly by testing the null hypothesis (trying to show that predictions made by hypothesis are wrong)

In case we have any credibility in our hypothesis then the research data should reject the null hypothesis (Ho)

Rejection of null hypothesis leads to the acceptance of alternative hypothesis

Types of Hypotheses

- Descriptive
- Relational
- Null
- Alternative

Simply states that

1. there is relationship between the variables under study,
2. the relationship is perfect which is indicated by the number '1'

Symbolically indicated by 'H1'

Eg. Ho - There is no relationship between the level of job commitment and the level of efficiency

OR

The relationship between level of job commitment and level of efficiency is zero (Variables are independent)

H1 - There is a relationship between the level of job commitment of the officers and their level of efficiency

CHARACTERISTICS OF A TESTABLE HYPOTHESIS

- Concepts used in the Hypothesis should be clearly defined, operationally if possible. Definitions should be commonly accepted and easily communicable.
- Variables contained in the hypothesis should be empirical realities- testable through observation/data collection. Avoid words like ought/should...
- Hypothesis should be specific to a place, situation and operation. There should be no use of all inclusive broad concepts which may not indicate anything specific.
- Hypothesis should be related to available techniques of research..either already available or the researcher is in a position to develop suitable techniques for study -else work may be handicapped for lack of suitable techniques for collection of data
- Hypothesis should be supported by a sound theoretical framework based on existing body of knowledge. Testing the hypothesis would lead to further add to the reservoir of knowledge.

HYPOTHESIS IN QUALITATIVE RESEARCH

Hypothesis, though important, are not essential for a study.

Since qualitative studies are characterised by an emphasis on describing, understanding or exploring phenomenon using categorical and subjective measurement procedures, construction of hypothesis is not greatly advocated.

Non-specificity of problem as well as methods and procedures makes hypothesis formulation impractical.

Even within quantitative research, the practice of formulating hypothesis varies markedly from one academic discipline to another

Hypothesis are most important if the research relates to test an assertion for causality/ association of a phenomenon, where it becomes important to narrow the list of probable causes so that a specific cause and effect relationship can be studied OR to validate the prevalence of something or establish its existence.