DEVELOPING THE RESEARCH FRAMEWORK

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Methods of Theory Building

The Deductive Approach

Researcher Tests or Verifies a Theory

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Researcher Tests Hypotheses or Research Questions From the Theory

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Researcher Defines and Operationalizes Variables Derived from the Theory

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Researcher Measures or Observes Variables Using an Instrument to Obtain Scores

Deductive Approach to Theory Building

- It involves the establishment of certain basic premises or assumptions concerning the strategic determinants of economic or human behavior and then, by reason or logic, inferring their consequences.
- It is also called *a priori* method or "reasoning from an assumed hypothesis".
- It involves the derivation of hypothesis or expectations from theory.
- The tool used is falsification or hypothesis testing.

Methods of Theory Building

The Inductive Approach

Generalizations are made, or Theories to Past Experience And Literature

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Researcher Looks for Broad Patterns, Generalizations, or Theories from Themes or Categories

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Researcher Analyzes Data to Form Themes Or Categories

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Researcher Asks Open-Ended Questions of Participants Or Records Field Notes

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Researcher Gathers Information

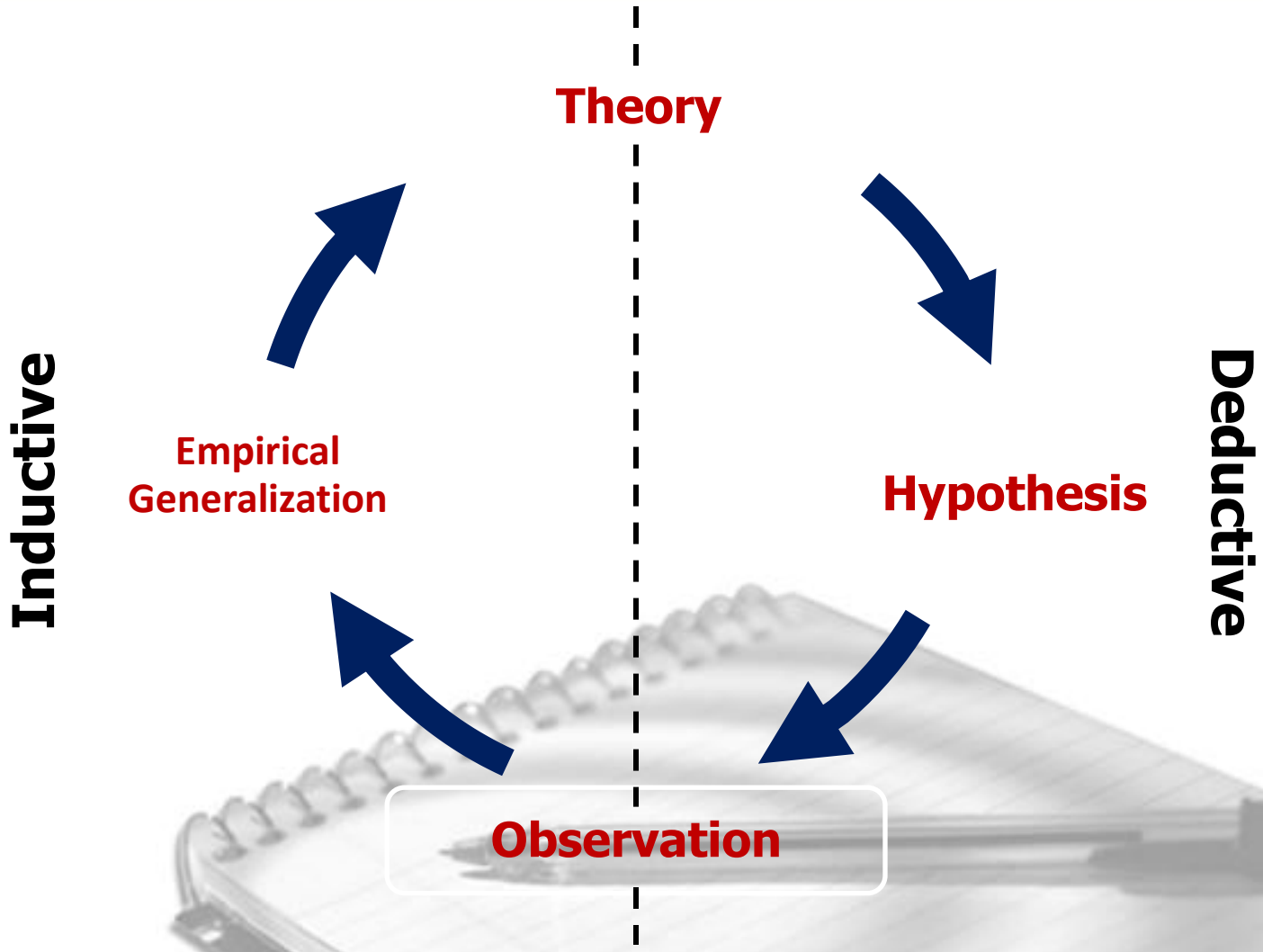
The Inductive Approach to Theory Building

- This is an alternative to the deductive method which is regarded as empirical.
- The process of induction involves the establishment of generalizations or principles based on a number of specific instances or facts.
- It involves the development of generalizations from specific observations. Field research (direct observation of events in progress) is frequently used to develop theories.
- The tool of inductive method is observation.
- Bias may result because it is based on observation and experiences. It may also result to different interpretations.

Deductive *vs.* Inductive Approach

- Deduction and induction are complementary rather than alternative or opposing techniques of investigation.
- There can be no pure induction or empirical research w/o some preconceptions of what is important and the way in which things are related.
- Deduction w/o a factual statement, that is w/o induction, is just an empty and meaningless as induction.
- Therefore, there is no unique or single method of investigation or analysis that can be appropriately labeled as ***"scientific method"***. This makes the ***"retroductive"*** method applicable in scientific research.

The Deductive-Inductive Approach



Elements of a Theory

- Concepts
- Variables
- Definitions
- Statement of Relations
- Format

Concepts: Basic Building Blocks of a Theory

- Theories are built from ***concepts***.
- ***Concepts*** denote phenomena.
- They enable us to isolate features of the world that are considered for the moment important for certain analytical purpose.
- ***Abstractness*** is a special characteristics of concepts. That is, some concepts pertain to concrete phenomena at a specific time and location.
- ***Abstract concepts*** are crucial in building a theory.
- Examples of concepts: group, formal organizations, efficiency, cohesiveness, leadership.

Variables: An Important Type of Concept

- A ***variable*** is a set of classifications into which empirical experiences or observations may be placed.
- These are also numerical or measurable characteristics of a person, object, or event.
- Example: In a study where ***gender*** is one of the concepts under investigation, the subjects/respondents may be placed either in the ***male*** or ***female*** category. The male-female category represents the variable of the study.

Definitions of Concepts and Variables

- Concepts are constructed from ***definitions***.
- A ***definition*** is a system of terms, such as the sentences of a language, the symbols of logic, or the notation of mathematics, that inform investigators as to the phenomenon denoted by a concept.
- A concept acquires meaning when it is defined.
- Definitions enable all investigators to "see the same thing" that is denoted by the concept and to understand what it is that is being studied.
- Definitions (*e.g.* operational definitions) enable abstract concepts to transcend specific times and places and make them relevant to observable situations and occurrences.

Statement of Relations

- ***Statement of relations*** connect the concepts of a theory to each other.
- The statement of relation, which is also called as ***theoretical statement***, specify the way in which events denoted by concepts are interrelated, and at the same time, provide an interpretation of how and events should be connected to each other.
- Example: The concepts of ***learnin***g and ***reinforcement***

Reinforcement → **Learning**

Theoretical Format

- A ***theoretical format*** refers to the different ways theoretical statements are organized in a theory.

- It is also the ***logical arrangement of propositions*** in a theory.

- The four (4) basic types of theoretical formats are:

  (a) Meta-theoretical scheme

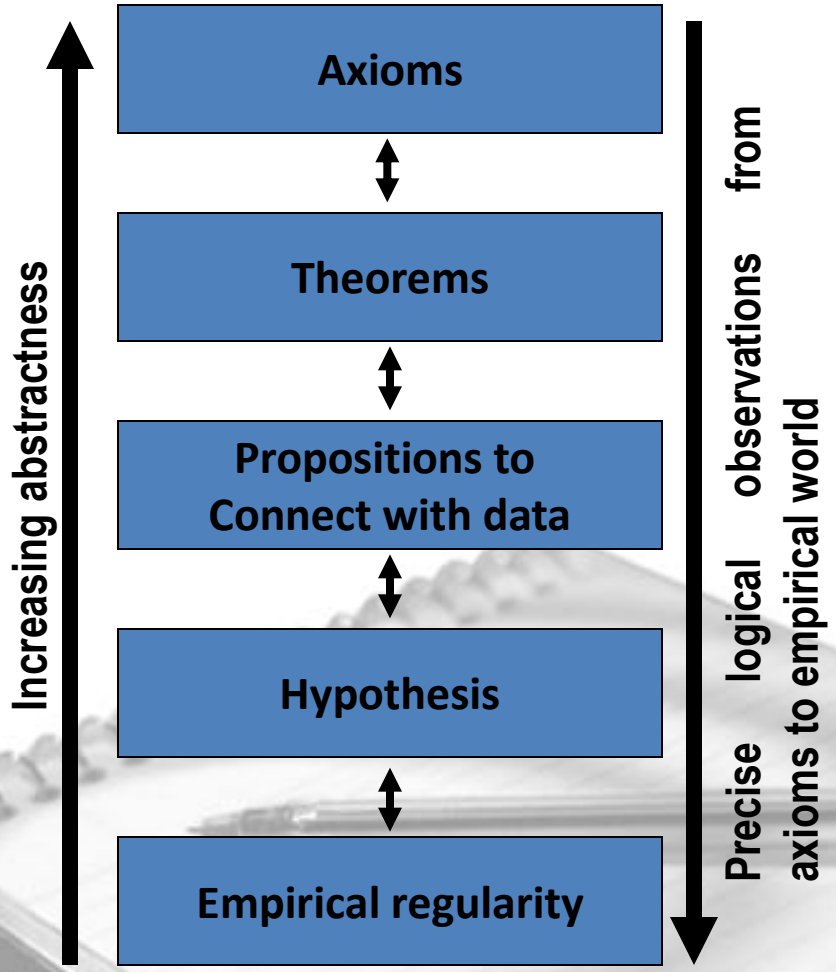
  (b) Analytical scheme

  (c) ***Propositional scheme***

  (d) ***Modeling scheme***

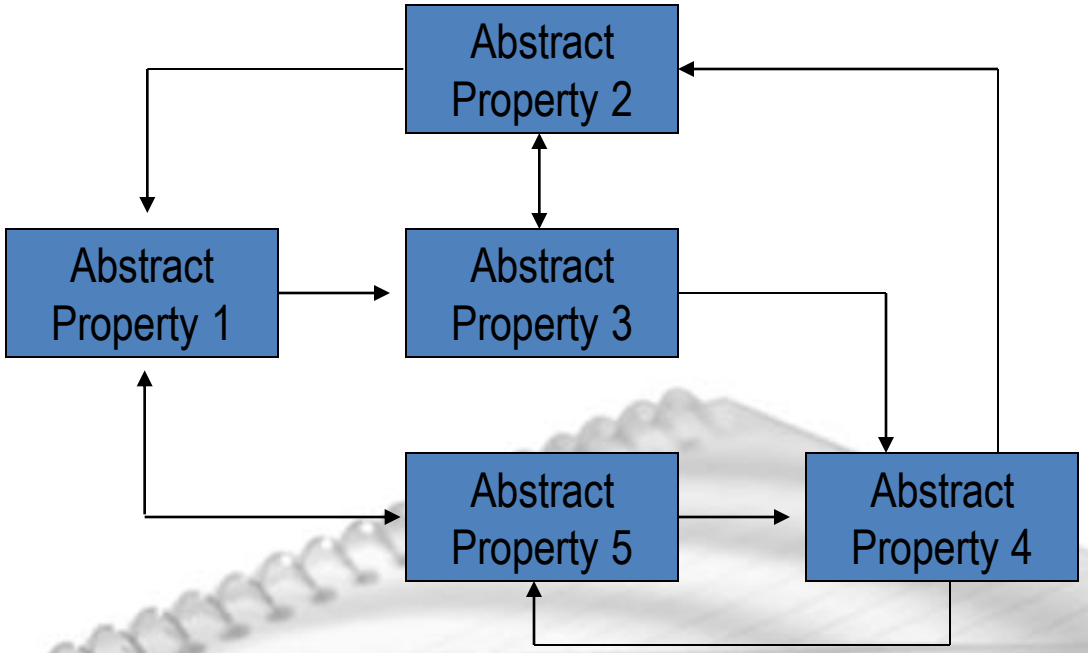
Theoretical Format

Axiomatic Format



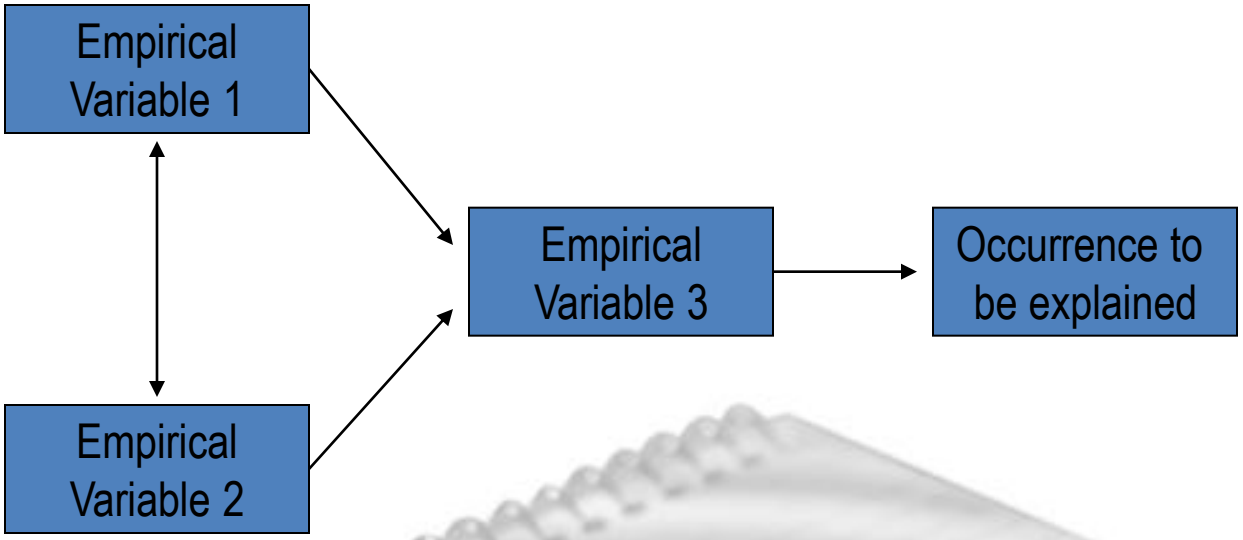
Theoretical Format

Modelling Schemes (Analytical Model)



Theoretical Format

Modelling Schemes (Causal Model)



Properties of Relations Between Concepts

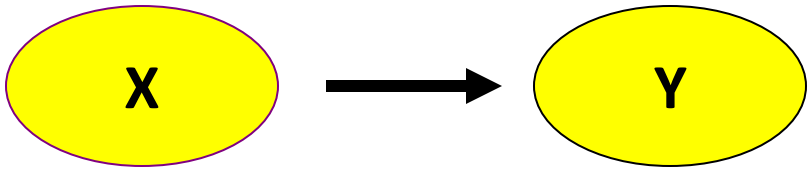
- ***Association***
  - The simple fact of being related thru statistical test.
  - ***Example:*** There is a significant relationship between motivation and organizational productivity at 5% level of significance.
- ***Direction***
  - The relationship is either ***positiv***e or ***negative***.
  - The relationship is ***positive*** when an increase in one variable results to an increase in the other variable.
  - The relationship is ***negative*** when an increase in the value of one variable results to a decrease in the other variable.
- ***Symmetry (Causality)***

Principles of Causation

- One can produce a change in Y with changes in X but not vice versa.
- There need be no change in any other variable for X to affect Y (X is sufficient to affect Y).
- The two variables have an unambiguous time separation, with X occurring first.
- X is more permanent or lifelong character (e.g. race, sex, etc.) and Y can change over time (e.g. political belief, attitude, perception, etc.).
- X is asserted as the cause of Y.

Conditions of Causality

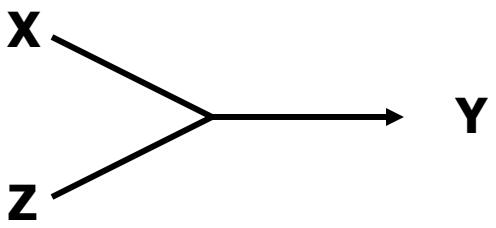
- Covariation
- Non-spurious relationship
- Logical time ordering



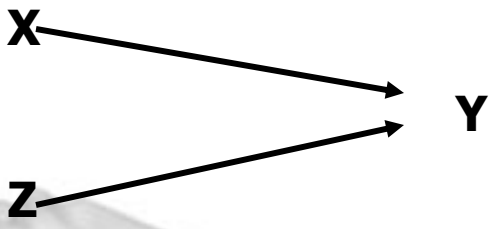
- *Mechanism* to explain how X causes Y

Symbolizations of Relations

(a) X and Z cause Y and both are necessary



(b) X and Z cause Y and either can



(c) X causes Z and Z causes Y but not X

What is a Theoretical Framework?

- A theoretical framework is an exposition of the theory upon which the entire research process is anchored (Chua, 1987).
- It is a collection of interrelated concepts, like a theory, but not necessarily well worked-out (Fabay, undated).
- Other authors describe the theoretical framework as a set of terms and relationships within which the problem is formulated and solved.

How to Construct a Theoretical Framework?

Alternative	Procedures/Steps
1	▪The usual manner of developing a theoretical framework is the review of related literature. (a) The review of literature enables the researcher to determine which studies are relevant to the proposed research problem. (b) It also enables the researcher to identify the possible concepts where s/he can build on his/her theoretical framework.
2	▪Chua (1987) suggests the following steps: (a) After formulating and understanding the problem, the researcher can proceed to the listing of the concepts or variables of the problem. (b) After listing all the concepts or variables of the problem, the next step is to examine the theoretical bases of these items and determine if they can be investigated empirically or if the concept is related to the problem. ▪Only those concepts with theoretical and empirical bases of the problem are retained and then organized into a theoretical system of interrelated structures.

How to Construct a Theoretical Framework?

Alternative	Procedures/Steps
3	▪ There are instances when formulation of theoretical framework precedes the definition of the research problem. ▪ This means that the research problem was derived from an existing or given theory. The theory or theories where the problem was derived then become/s the theoretical framework of the research study. ▪ Example: One proposition of the CONFLICT THEORY states that *"The greater the degree of conflict among social units, the greater the degree of solidarity in each unit".* The key concepts in the proposition being related are <u>conflict</u>, <u>social units</u>, and <u>solidarity</u>. The researcher may develop a research problem based on this theoretical formulation which could be stated as follows: *"What is the relationship between conflict and solidarity in a social unit?"*.

How to Construct a Theoretical Framework?

Alternative	Procedures/Steps
4	▪ Oftentimes a researcher has already formulated the research problem but experiences some difficulty developing the theoretical framework. The steps to follow are: (a) Look for different theories related to the problem. (b) Make a synthesis of the different theories. (c) Identify the proposition/s in each theory that are appropriate to the research problem. This is done because some theories may have two (2) or more propositions. Only those propositions appropriate to the research problem will be considered. (d) Identify the main concepts in each proposition. (e) Connect these concepts to form the theoretical framework for the research problem.

What is a Conceptual Framework?

- A ***conceptual framework*** is the presentation of the supposed relationship between or among concepts or variables that are under investigation.

- The concepts in the conceptual framework may be either the actual concepts or variables contained in the research problem or may be derived from the concepts used at the theoretical level.

- The conceptual framework can be differentiated from the theoretical framework in that the former is less abstract than the latter. The former is, therefore, derived from the latter.

Linking Conceptual Framework to Theoretical Framework: An Illustration

- A very good illustration on how the theoretical and conceptual frameworks complement each other is provided by Mercado's (1971) hypothetical problem which states: *Is there any relationship between mass media exposure and political knowledge?".*

- This problem can be linked to the ***Reinforcement Theory*** which states that *"learning takes place as a result of reinforcement".*

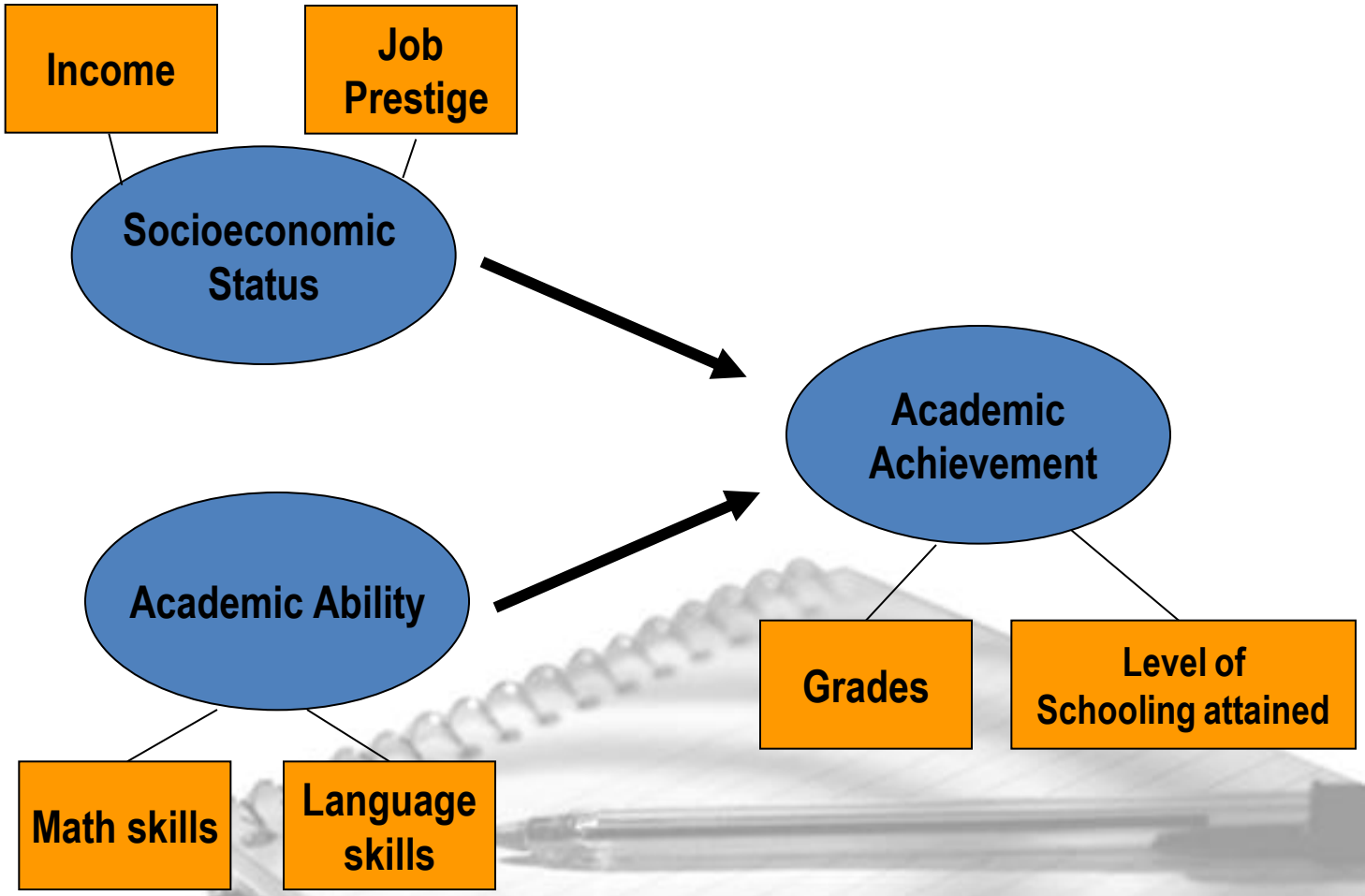
- The main concepts of this theory are ***reinforcement*** and ***learning*** which are at a higher level order of abstraction.

- Conceptually, ***mass media exposure*** can be considered as one type of reinforcement while ***political knowledge*** as one type of learning.

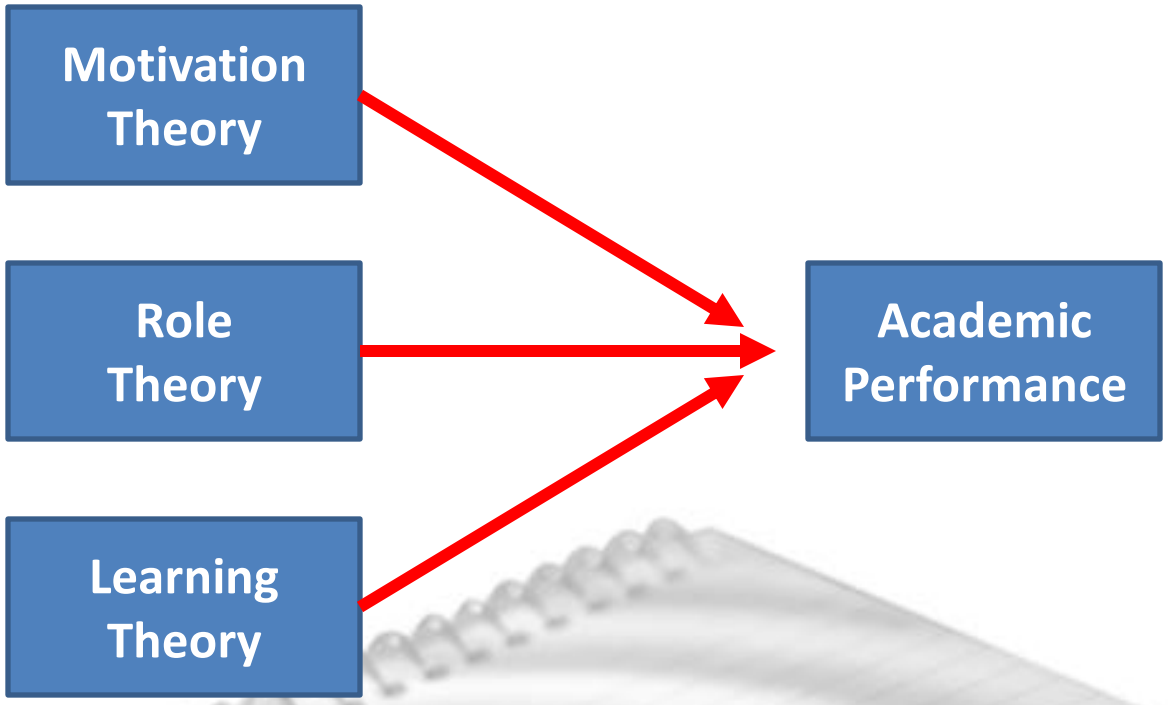
Linking Conceptual Framework to Theoretical Framework: An Illustration

LEVEL	INDEPENDENT	INTERVENING	DEPENDENT
Theoretical :	REINFORCEMENT	→	LEARNING
Conceptual :	Mass Media Exposure	→	Political Knowledge
		Age Sex Education Religion *Etc.*	
Operational :	No. of hours spent listening to political radio programs	→	Score in a test on political knowledge

Theoretical Model with Variables



Common Example of a Theoretical Framework



Thank You!