

Theory in Social Science

- I. What is a theory?
 - ▶ A. Definition from Schutt: A logically interrelated set of propositions about empirical reality. These propositions are comprised of:
 - 1. Definitions: Sentences introducing terms that refer to the basic _____ of the theory
 - 2. Functional relationships: Sentences that relate the basic concepts to each other. Within these we have
 - a. Assumptions or axioms
 - b. Deductions or hypotheses
 - 3. Operational definitions: Sentences that relate some theoretical statement to a set of possible observations
 - ▶ B. Why should we care? What do theories do?
 - 1. Help us classify things: entities, processes, and causal relationships
 - 2. Help us understand how and why already observed regularities occur
 - 3 . Help us predict as yet unobserved relationships
 - 4. Guide research in useful directions
 - 5. Serve as a basis for action. "There is nothing so practical as a good theory."

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- C. What makes a good theory?
 - ▶ 1. Parsimony: the ability to explain in relatively few terms and statements
 - ▶ 2. Breadth of phenomena explained
 - ▶ 3. Accuracy of predictions of new phenomena
 - ▶ 4. Ability to be disproved
- D. What makes a theory useful? (From Pettigrew)
 - ▶ 1. Moderators: variables that tell you when relationships can be expected to be observed and when not. E.g. A causes B under condition Q
 - ▶ 2. Mediators: variables that tell you how or why a relationship occurs, some process that occurs between them. E.g. A causes B through variable Y.
 - ▶ 3. “Surplus meaning”. It leads to new ideas that you would not have had without it. E.g., you may hate evolutionary theory applied to people, but it does lead to predictions no other theory makes

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- ▶ E. Levels of theory
 - 1. “Grand” = paradigms. Broad, general frameworks or approaches. Not actually testable per se.
 - Can organize the subject matter of a field (or sub-field in social science) for generations.
 - Give a general understanding about
 - Assumptions regarding subject matter
 - What are the important problems
 - What are acceptable methods
 - Examples:
 - Rational choice theory – assumes people calculate the costs and benefits of actions and act accordingly. People are basically rational
 - Symbolic interaction theory – assumes that our actions are based on the construction of meaning, identities, definitions of the situation

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- 2. Theories of the middle range – what we have been talking about. These are generated using the frameworks and assumptions of paradigms.
Examples:
 - Deterrence theory (from rational choice)
 - Identity theory (from S.I.)
- 3. Close to data – often simply empirical generalizations
- ▶ F. The building blocks of theory: concepts and variables
 - 1. What is an abstract concept? An abstract word is a word that summarizes many concrete observations and stands for what they have in common.
 - “Democracy” is a term for a particular kind of government, with certain characteristics (voting by the people governed, for example).
 - “Dog” refers to a particular category of animal that has a set of describable characteristics (4 legs, fur, barking (usually), a tail (usually), etc.)
 - 2. In social science, concepts are ways of summing up a set of specific behaviors or qualities one has observed and trying to put them into a higher level of abstraction.
 - E.g., self-esteem, altruism, social class, prejudice, complexity (of organizations), GNP (in economics)
 - 3. Conceptualization is the process of specifying what we mean by a term. Let's take some of the concepts I just listed and say what they mean.

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- 4. Variables, constants, attributes
 - A variable is a concept that can take on more than one value;
 - A constant is a concept that can take on only one value.
 - A concept (e.g. gender) can be a variable in one context (at the U.W.) and a constant in another (at Mills College, among undergraduates).
 - An attribute is the particular value of a variable in a particular instance
- 5. What is operationalization? The process of "concretizing" the abstraction. Why do we call it that?
 - Your text says that an "operation" is "a procedure for identifying the value of cases on a variable."
 - Operationalization is thus the process of specifying the operations.
- 6. Concepts, variables, and indicators. Self-esteem as an example:
 - Concept: definition
 - Variable: self-reported self-esteem
 - Indicator: the 10 items that make up the Rosenberg self-esteem scale and their answer categories.
 - Attribute for any given individual is the score s/he gets on the scale.

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- More examples:

3.1 Concepts, Variables, and Indicators

Concepts

Variables

Indicators

Income



Annual earnings



"What was your total income from all sources in 1998?"

Poverty



Subjective poverty



"Would you say you are poor?"



Absolute poverty



Family income + Poverty thresh



Income

Social class



Education



Income + Education + Prestige



Occupational prestige

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- ▶ G. Propositions. The mortar: Statements of fact about one or more variables.
 - 1. Two kinds of propositions used in social science:
 - An hypothesis is a statement about an expected finding or relationship; it is a proposition that has not yet received empirical support.
 - An empirical generalization is a statement reporting an observed finding or relationship.
 - 2. There can be univariate and bivariate propositions.
 - A univariate proposition is one involving only one variable
 - E.g., The majority of students on the Madison campus are in favor of some form of affirmative action.
 - Or, most Americans are in favor of the death penalty.
 - A bivariate proposition states a relationship (expected or observed) between two variables – bi -variate -- such that a change in one implies a change in the other.
 - E.g. "Northern college students are more supportive of affirmative action than are Southern college students"
 - "Voters in states that do not have the death penalty will be more opposed to it than voters in states that do have the death penalty."

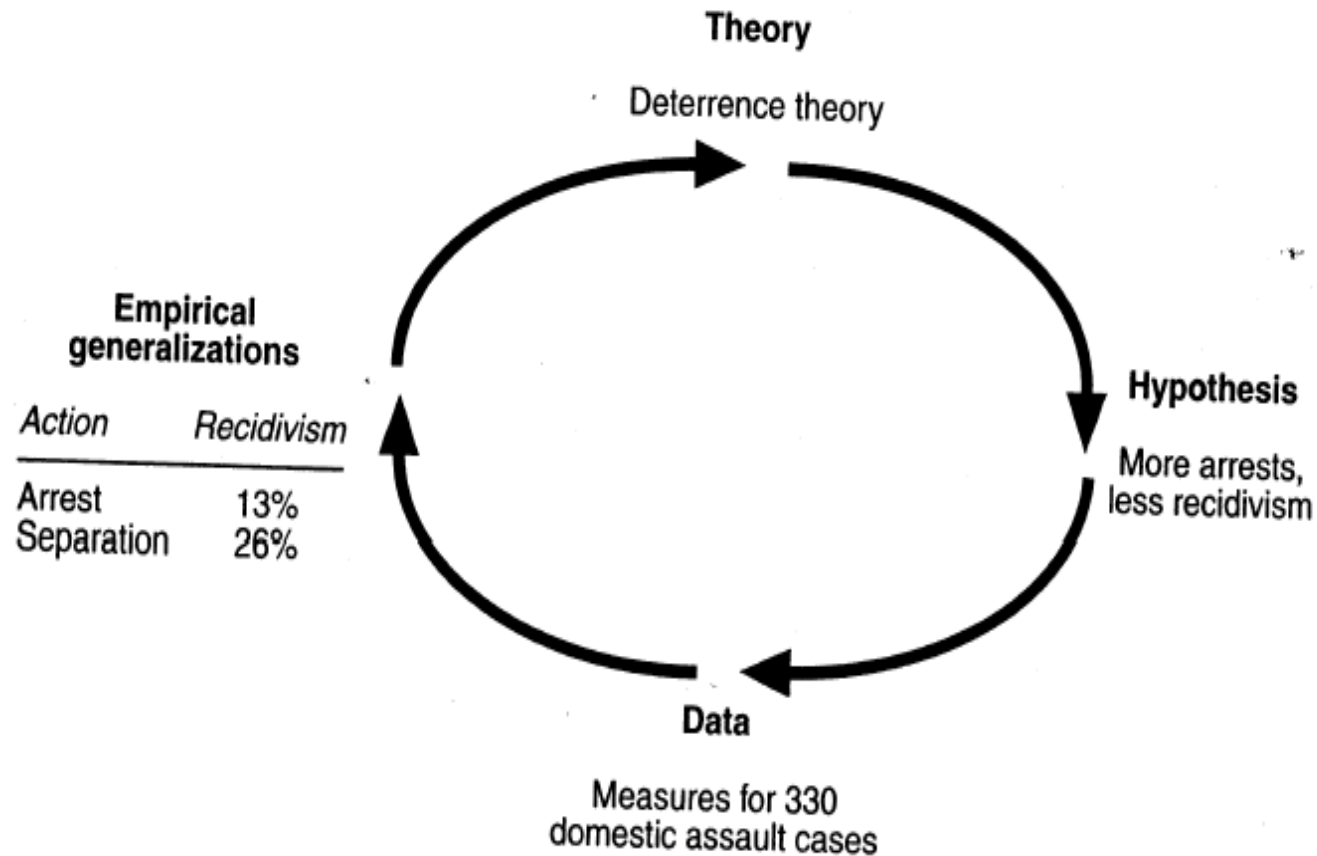
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- II. How do theories develop and change?
 - ▶ A. The process of theory development
 - 1. Within some paradigm, theories are developed
 - 2. These are tested empirically, by the derivation of hypotheses and carrying out of research
 - 3. Some hypotheses are confirmed, others are not
 - 4. The theory is adjusted to take account of these findings, e.g. using moderator variables as in Schutt example of deterrence theory
 - 5. If there are multiple theories within a paradigm (or between paradigms), it is possible to pose “critical experiments” that may adjudicate between them. E.g. Tolman vs. Hull in the 1950's
 - 6. Example from Schutt: the deterrence experiment

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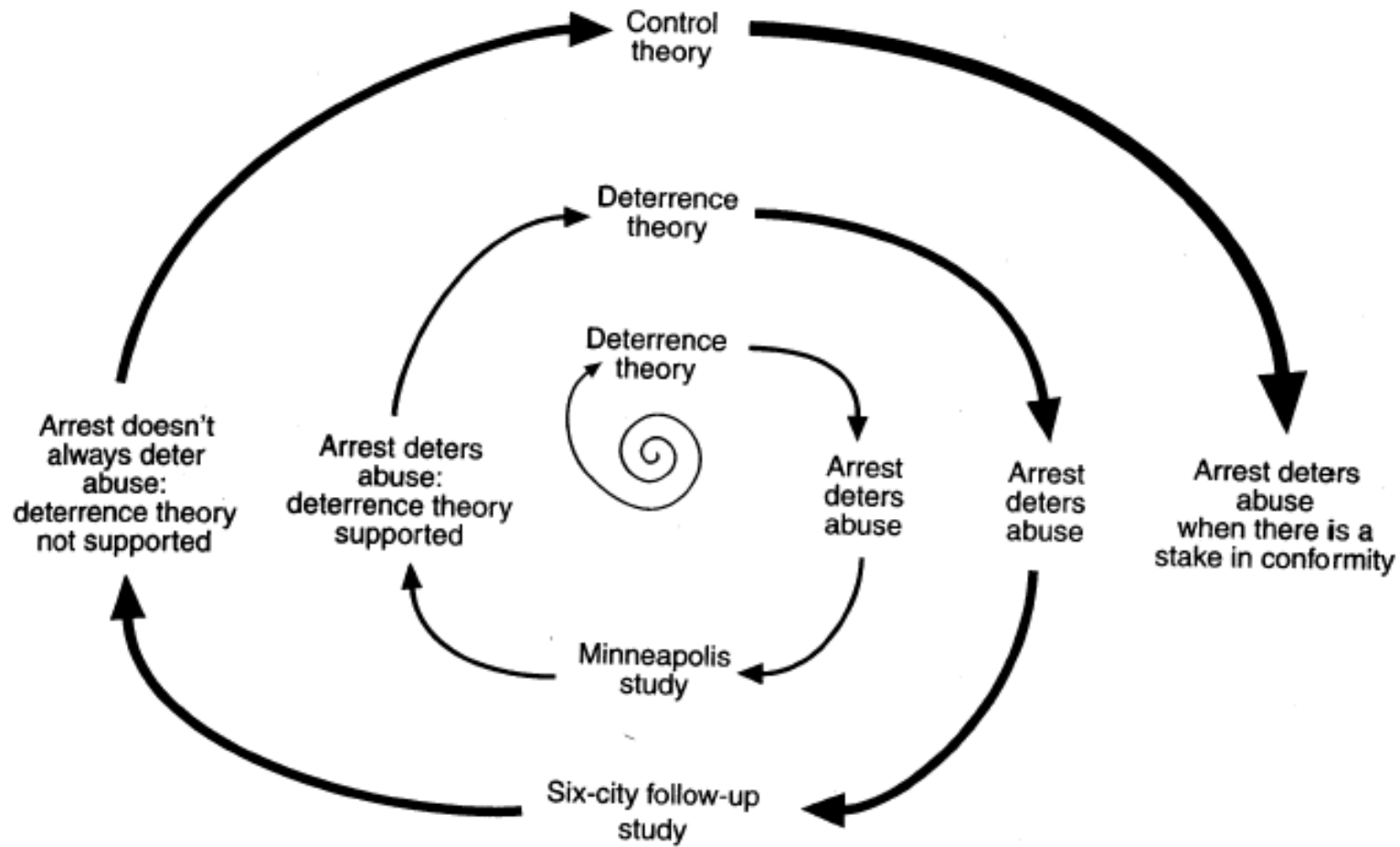
- Replication and extension: how one tests and retests theoretical ideas

Exhibit 2.6 **The Research Circle: Minneapolis Domestic Violence Experiment**

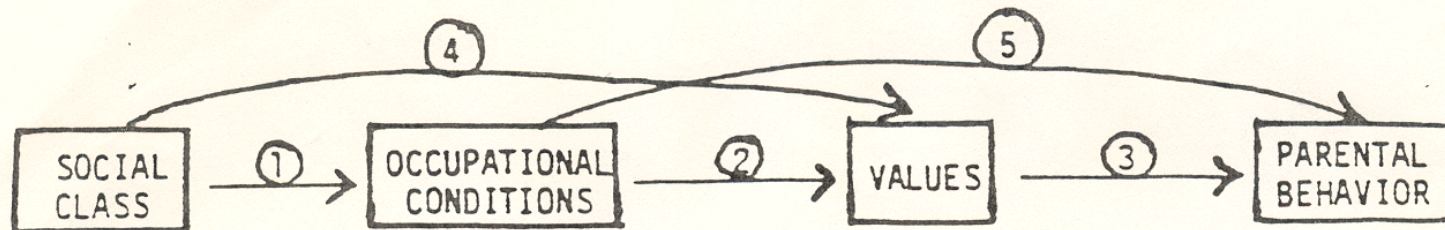


Source: Data from Sherman & Berk, 1984:267.

Exhibit 2.7 **The Research Spiral: Minneapolis Domestic Violence Experiment**



EXAMPLE OF A THEORY (KOHN, 1963; 1969) & ITS DEVELOPMENT



Prop. 1: Social class position is related to conditions of life associated with one's occupation.

Prop. 2: Occupational conditions are related to values regarding personality characteristics that are desirable.

Prop. 3: Values regarding desirability of personality characteristics are related to parental child-rearing practices.

Prop. 4: Social class is related to values.

Prop. 5: Occupational conditions are related to parental behavior.

Possible Operational Definition:

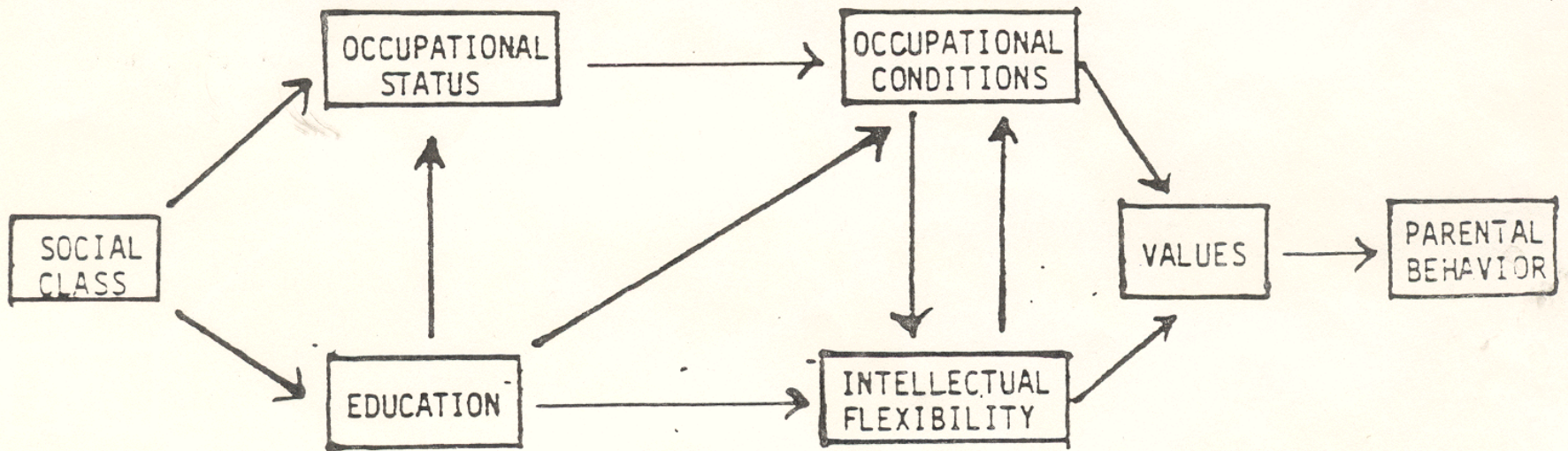
Social Class: Education, occupation, income, self-definition.

Occupational Conditions: observations, reference to available job descriptions, self-reports of degree of autonomy and self-direction on the job.

Values: Self-report measures from parents.

Parental Behavior: Observation of parent-child interaction, parents' self-reports of behavior, child reports of parent behavior.

Strong support was found by Kohn for ①, ②, ④. There is indirect evidence for ③ and ⑤. Analyses, however, revealed that there was ~~another~~ important variables, education, not originally included in the model and that a better theory would be: *↳ and intellectual flexibility*



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- ▶ B. The idea of paradigm shifts: Thomas Kuhn, “The Structure Of Scientific Revolutions”
 - 1. “Normal science” stage
 - 2. Crisis stage
 - Theories develop problems
 - New theories predict better than old theories
 - Does this mean the new theory takes over? No. Why not?
 - Commitments, emotional investment, ego-involvement
 - Social group support, sanctions, norms
 - Things that can happen
 - Refusal to publish the new, outlandish results
 - Ostracise or ridicule the people with the new ideas (e.g. “Tolmaniacs”)
 - 3. Succession stage – new paradigm eventually takes over as amount of data piles up and old model becomes untenable.
- ▶ C. On “truth.” The process of building theory is one of progressive approximations to “truth” but no theory is ever true. They are only more or less useful.