

Session Four: Objectives, Questions, and Hypotheses



Research Objectives

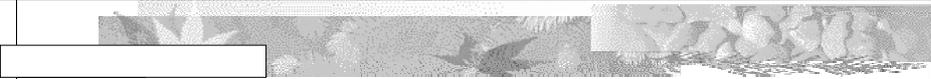
- Definition: declarative statements that focus on the identification and the description of variables or concepts and sometimes on determination of relationships of variables

Research Objectives

- The objectives of this study were to: (a) describe the self-reported physical and mental health, disability level, and social support of persons chronically ill with multiple sclerosis; and (b) contrast rural and urban residents in relation to health description, social support, and perception of health.

Research Questions

- Definition: interrogative statements that focus on what variables or concepts are to be described and what relationships might exist among them.



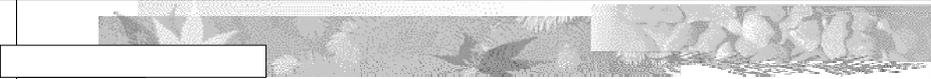
Research Questions

- What is the relationship between reported depressive symptoms and rate of return to work for patients following cardiac surgery?
- What is the relationship of anxiety and compliance with medications and follow-up appointments for patients following cardiac surgery?



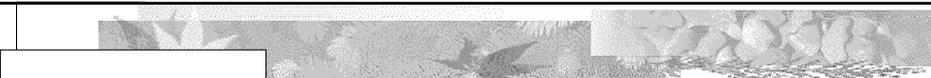
What Are Hypotheses?

- Definition: formal statement of the expected relationships among variables



Narrowing Study Focus

- Problem
- Purpose
- Hypothesis



Types of Hypotheses

- Simple vs. complex
- Nondirectional vs. directional
- Casual vs. associative
- Research vs. statistical (null)

Simple vs. Complex

- Simple: two variables
- Complex hypothesis: more than two variables

Directional Hypothesis

- Attitudes of pediatric nurses toward mentally retarded clients are more favorable than those of medical surgical nurses.

Nondirectional Hypothesis

- Attitudes of pediatric nurses toward mentally retarded clients are related to number of years in practice.

Casual vs. Associative

- Casual
- Group differences
 - Naturally occurring
 - Researcher controlled
- Associative
 - Relationship between variables

Research vs. Statistical (Null) Hypothesis

- Research hypothesis: states what researcher thinks is true
- Statistical (null) hypothesis: states that no difference or relationship exists

Example Hypothesis

- Research hypothesis
 - Cancer patients with chronic pain who listen to music with positive suggestions of pain reduction have less reported pain than those who do not listen to music.

Example Hypothesis

- Statistical (null) hypothesis
 - There is no difference in reported pain experienced by cancer patients with chronic pain who listen to music with positive suggestion of pain reduction and those who do not.

???

- Rates of utilization of health care facilities by ethnic minorities are higher in facilities with bilingual health care staff.

???

- There is a positive relationship between nurse attitudes toward AIDS patients and the number of AIDS patients they have cared for.

???

- There is a relationship between social distance in families and burden of care giving for chronically ill adults.

???

- There is no difference between attitudes of men and women toward caring for persons with AIDS.

Critiquing Objectives, Questions, and Hypotheses

- Are the objectives, questions, or hypotheses formally stated in the study?
- Are the objectives, questions, or hypotheses based on the purpose?
- Are the objectives, questions, or hypotheses linked to the study framework?
- Are the objectives or questions answered by the study? Are the hypotheses tested in the study?

What Are Variables?

- Definition: qualities, properties, or characteristics of persons, things, or situations that are manipulated or measured in research

Types of Variables

- Independent variables
- Dependent variables
- Research variables or concepts
- Extraneous variables
- Demographic variables

Operationalizing Variables

- Conceptual definition
 - The abstract meaning of a variable that usually is based on theory
- Operational definition
 - A way of defining a variable that makes it measurable or manipulable in the real world

Operationalizing a Variable

- Conceptual definition of coping behavior
 - “Coping behaviors are actions directed toward managing internal and environmental demands that tax or exceed a person’s resources.” (Lazarus and Folkman, 1984)

Operationalizing a Variable

- Operational definition of coping behavior
 - "Coping behaviors were measured with the Ways of Coping Checklist (WCC), a 68-item scale that contains eight subscales: one problem-focused scale, six emotion-focused scales, and one problem- and emotion-focused scale." (O'Brien, 1993)

Concept vs. Variable

- Concept pain: uncomfortable sensory and emotional experience
- Variables
 - Intensity of postoperative pain
 - Degree of emotional distress associated with postoperative pain
 - Perception of pain

Independent Variable

- IV (X)
 - Treatment
 - Stimulus
 - Manipulated
 - Experimental
 - Grouping

Dependent Variable

- DV (Y)
 - Outcome
 - Effect
 - Response

Critiquing Study Variables

- Are the independent, dependent, or research variables clearly identified in the study?
- Are the variables clearly defined both conceptually and operationally?

Critiquing Study Variables

- Are the attribute variables summarized?
- Were the extraneous variables identified and controlled as necessary in the study?