Overview
- Notes – Quiz Wednesday, attendance
- Theory vs. Observation
- Developing Hypotheses
- Anatomy of a research article
- APA reference citation
- Annotated Bibliography

Getting Ideas: Start Broad
Theory vs. Observation (Empirical)
- Theory-driven research represents deductive reasoning
  - Most all older adults take different drugs at different times of the day. With age, older adults show decline in higher-order mental processing (e.g., problem solving). Declines in problem-solving ability with age will contribute to inaccurate prescription drug use for older adults.
- Observation (empirical) -driven research represents inductive reasoning
  - Dr. Johnson has recently noticed that his older patients are not asking for prescription drug refills at the appropriate time. Dr. Johnson also notices that this is more likely true among his patients that scored just below the “dementia” range on the Mini-Mental Status Exam. These observations suggest...

Research Questions vs. Hypotheses
- Research questions
  - May be used in a new area of inquiry
  - May not be very specific due to lack of current research on the topic of interest
- Hypotheses
  - Very specific
  - Informed hypotheses - based on previous empirical research
Narrow your Focus: Hypotheses

- What are hypotheses?
  - Specific statement that makes a prediction
  - May have more than one

- What is included in a hypothesis?
  1. Operationalization of Research Question
     - Independent Variable
     - Dependent Variable
  2. Directional vs. Nondirectional Hypotheses
  3. Formulate the Null and Alternative Hypothesis

Operationally define the Research Question

- What is an operational definition?
  - A definition that puts "ideas" into observable behaviors

- What is the Independent variable?
  - What you want to change, modify, manipulate
    - "I"

- What is the Dependent variable?
  - Behaviors that you observe/measure as your outcome

Examples

Directional vs. Nondirectional Hypotheses

- Directional
  - Example

- Nondirectional
  - Example
Null and Alternative Hypotheses

- What?
  - You want to reject the null hypothesis and accept the alternative hypothesis (at least for now), thus ‘supporting’ your alternative hypothesis.
  - Example

Class Activity

1. A research question: Kate recently noticed that she does better on exams if she drinks caffeine before taking the exam. Her research question is whether or not drinking caffeine improves test performance.

2. Is it derived from theory or observation? Why?

3. Narrow your focus. Create at least one study hypothesis. Operationally define your study variables in the form of a null and alternative hypothesis.

6. Indicate which variable is the independent variable and which variable is the dependent variable.

7. Indicate which hypothesis is your null hypothesis and which hypothesis is your alternative hypothesis.

8. Is your hypothesis directional or nondirectional?

Anatomy of a Research Article

- Source Information
- Introduction
- Method
- Results
- Discussion
- References
Introduction

1. Introduce the Problem
   - Why is the problem important?
   - How do the hypotheses/research questions relate to the problem?
   - What are the theoretical implications of the study (i.e., how does it inform the big picture?)
   - How does the study relate to previous research in this area? (i.e. agree and/or disagree, add to previous research, etc.)

2. Develop the Background
   - Discuss literature in the field, but should not be exhaustive, historical account of everything that ever happened!
   - Discuss and cite previous research that is relevant to the current study.
   - Demonstrate that there is a logical flow from previous research to the current study.
   - If the study could possibly be controversial, the background should include research from both sides.
Introduction

3. State the Purpose and Rationale
   - Should be near the end of the introduction
   - Definition of study variables
   - A formal statement of hypotheses with a clear rationale for EACH hypothesis.

   Questions that should be answered:
   - What variables do I plan to manipulate?
   - What results do I expect?
   - Why do I expect these results? --- this should be very clear.

Method

- Study Design
  - Experimental, Quasiexperimental
- Participants
  - Demographics
  - Recruitment Procedures
- Procedure
  - What, specifically, was done?
  - Very detailed, can be replicated
- Measures or Materials
  - Any specific materials (i.e., a Skinner Box) or measures (i.e., the Beck Depression Inventory).
  - Should mention the reliability of the study measures.

Results

- Overview of analyses and representation of findings
- Usually present descriptive results first
- Then present primary results (related to hypotheses)
- May also present secondary, or exploratory results
- Use statistical terminology and refer to charts, tables, and graphs to depict findings more clearly
Discussion

- Review the findings, assess if they support or do not support hypotheses
- Provide 'informed' explanations for the findings
- Compare to previous research
- Limitations to the study
- Applications of the study
- Future research

References

- How to cite APA style
- Please refer to sample paper in Cozby pgs. 303-331

Sample Annotated Bibliography


This article discusses the long-term physical and psychological effects of elder abuse. Reid first discusses the types of abuse, including physical, financial, psychological, and sexual, and then examines how each of these types of abuse leads to long-term consequences for victims. Reid conducts interviews and surveys of victims to gauge the type of abuse suffered and the effects of such abuse. The sample was gathered over a ten year time period from the author's clients (he is a psychologist) who volunteered their participation. Results indicated that elder victims of abuse experience extremely negative physical and psychological effects that were very difficult to overcome. The author concluded that more research needs to be done in order to fully understand the extent to which victims can overcome these obstacles.