Research Methods (Psy 365)

Hypotheses

What We Will Cover in This Section

• Research hypotheses.
• Statistical hypotheses.
• Statistical hypotheses.
• How they work together.

Research Hypothesis

• A statement of what the researcher expects to find expressed in words.
  – The heart of the research project.
Characteristics of Effective Hypotheses

1. TESTABLE
   The researcher can set up a situation that permits one to assess if it is true or false.
2. CONSISTENT
   The hypothesis is consistent with other hypotheses.
3. PARSIMONIOUS
   The hypothesis is simple.
4. RELEVANT
   The hypothesis is relevant to the problem being studied.

Logical Hypotheses

- Null hypothesis ($H_0$)
  - Statement of the conditions that would exist if the research hypothesis was false.
- Alternative hypothesis ($H_a$)
  - The conditions that would exist if the research hypothesis was true.

Statistical Hypothesis

- The statistical conditions that would must exist if the null hypothesis is not true.
  - A probabilistic situation.
Exercise

• Develop hypotheses for each of the following possible situations.

A fool and his money are soon parted.

• What is the RESEARCH HYPOTHESIS?
• What is the
  – NULL HYPOTHESIS?
  – ALTERNATIVE HYPOTHESIS?
• What is the STATISTICAL HYPOTHESIS?

Early to bed, early to rise, makes a man healthy, wealthy, and wise.

• What is the RESEARCH HYPOTHESIS?
• What is the
  – NULL HYPOTHESIS?
  – ALTERNATIVE HYPOTHESIS?
• What is the STATISTICAL HYPOTHESIS?