Psychological Experimentation

Scientific Method

- Step 1: Develop hypothesis
- Step 2: Identify nature of experiment
- Step 3: Collect and analyze data
- Step 4: Draw conclusions from research data

Empirical Evidence

- Step 1: Formulate a hypothesis
  - Must be testable
  - Statement of relationship between two or more variables
  - Variables are factors that can change in ways that are measurable

Empirical Evidence

- Step 2: Design study and collect data
  - Descriptive
    - Observing and Describing behavior
      - Naturalistic Observation
      - The Case Study
      - The Survey
  - Experimental
    - Method for identifying cause and effect relationships between two or more variables by following a set of rules and guidelines to minimize error or bias

Empirical Evidence

- Step 3: Analyze data and draw conclusions
  - Statistics
    - Statistically significant
    - Meta-Analysis
      - a method designed to increase the reliability of research by combining and analyzing the results of all known trials of the same product or experiments on the same subject

Empirical Evidence

- Step 4: Report Findings
  - Repeatable results

Descriptive Methods

- Naturalistic Observation
  - Gathering information through direct observation/no attempt to change or control the situation
- Case Studies
  - In-depth analysis of the thoughts, feelings, beliefs, or behaviors of a single person
- Survey
  - Asking many individuals to answer a fixed set of questions
- Correlation Studies
  - Conducted to find the association or relationship between the occurrence of two or more events

Experimental Method

- Cause and Effect
  - Independent Variable
    - treatment or something researcher can to control or manipulate
  - Dependent Variable
    - one or more behaviors used to measure the effects of the treatment groups
  - Experimental
    - Group of subjects who receive the treatment
  - Control
    - Group of subjects who undergo the same procedures but do not receive the treatment
  - Placebo
    - An intervention that resembles medical therapy but, in reality, has no medical effect