- Basic Concepts of research
    - Scientific Method
        - Method of studying nature based on systematic observation and rules of evidence
        - Empirical evidence (Most relied on) – Based on public Observation (Others can confirm)
        - Operational definitions – Describing the empirical evidence, or at least the specific procedures that were used in obtaining that evidence
            - 60% of Chicago bus drivers day-dream while driving
            - 60% of Chicago bus drivers answered yes to the question "Do you daydream while bus-driving?"
                - Tells the specific procedure
                - Operational Definition
                - Can evaluate quality of evidence
        - Theory – Tentative Explanation that explains some event or relationship ~ Tested, stronger with more testing
        - Hypothesis – Predictions based on a theory, tested in a study
            - Purpose of a study is to confirm or reject a hypothesis
        - Sample – A group of participants, who will be studies to learn about an entire population
            - Representativeness of a sample
                - Typical of entire population
        - Replication – Doubt the results of a study until it is repeated over and over
            - Replication is the repetition of studies in hopes of finding similar or the same results
        - Research Methods
            - Descriptive Studies – Methods of observation used to describe predictable behaviors and/or mental processes (study individuals in their lives)
                - Survey Method
                    - Uses questionnaires or interviews in order to obtain information
                    - Biggest disadvantage : People lie
                    - Biggest advantage : A lot of info in a short amount of time
                    - Researcher bias is also a disadvantage
                - Naturalistic observation (Jane Goodall)
                    - Record behavior in a real-life natural setting
                    - Participants should not be aware of their participation

        - Advantage – Recording 'True' Behavior
        - Disadvantage – Time consuming; limited numbers
    - Clinical Method
        - Method of studying individuals while they receive treatment for a psychological disorder
        - Disadvantage – Aware of observation
        - Advantage – Can see if certain things are working
    - Case Study
        - In depth investigation, usually specific to a single person
        - Advantage – In depth
        - Disadvantage – A <u>long</u> time; only a single individual
    - Correlation Method
        - Attempts to measure the strength of a <u>relationship</u> between 2 variables
        - Does not attempt to determine cause and effect
        - Relies on quantitative measures (variables measured in numerical terms)
        - Coefficient of Correlation – Numerical expression of the strength and direction of a relationship between two variable
        - Scale of – 1.00 to + 1.00
        - At 0, there is no relationship between the variables
        - 

Positive Correlation
        - 

Positive Correlation
        - 

Negative Correlation
        - -.6 or +.6 is a strong correlation
        - Correlation does NOT mean causation
        - Negative Correlation
        - -.6 or +.6 is a strong correlation
        - Correlation does NOT mean causation
        - Negative Correlation
        - -.6 or +.6 is a strong correlation
        - Correlation does NOT mean causation

- Formal Experiments
    - Designed to SHOW cause and effect
    - Researcher manipulates the independent variables in order to show how they affect the independent variable
    - Jean Pierre Lehmann (Experiment on violent behavior
    - Windy Josephson (Strengthened Jean's Research)
    - Steps in conducting formal experiments
        - Establish Variables (Dependent/Independent)
        - Independent – Variable whose quantitative value is controlled by the researcher
        - Dependent – Variable whose quantitative value is expected to depend on the independent variable
        - Random selection – Choosing a group from a larger population (sample)
        - Randomly assign
            - Experimental Group
            - Control Group
                - Group not exposed to any level of the independent Variable
- Placebo Effect
    - When a behavior is changed by a condition in a formal experiment that is inactive
- Blind formal experiment – An experiment in which the researcher measuring the dependent variable has no idea who is in the experimental and who is in the control group
- Experimenter bias – Knows test, and is thus influenced
- Double-Blind Formal Experiment
    - Both the researcher and the participants don't know which group they are in
    - Eliminates both experiment and participant bias