I. Observational / Descriptive Methods

A. Observation is both a Research Design and a measurement tool

B. Designs
   1. Naturalistic Observation
   2. Structured Observation
   3. Field Experiments (not covered in book)
   4. Case Studies
   5. Archival Research (not really observation, but it is descriptive)

C. Observational Measures
   1. These measures can be used in either the lab, or the real world.
      - Lab Example – Mary Main’s Strange Situation Measure of attachment / Piaget
      - Real World – Our Cell Phone Study
   2. The measures can be either Quantitative or Qualitative.
      - Our study takes a more Quantitative Focus.
      - Qualitative observations might have focused on the purpose of each participant’s cell phone use.
II Advantages of Descriptive Methods

1. Provides Basic Knowledge: gives you a rich source of data
2. Flexibility in Research Question
3. Identifies Ecological Function:
   Studying in the real environment you can ID the adaptive function of certain phenomena

Side Note: Internal and External Validity

- External Validity = Generalizability
  - To the Population (Representativeness)
    - Based on Random Sampling from Population
  - To other Settings
    - Mundane (ecological) Realism = Does it look like the real world and Could it occur in the real world
    - Experimental Realism = are participants involved
    - Psychological Realism = are the real world, psychological processes triggered

Side Note: Internal and External Validity

- Internal Validity = Ability to Infer Cause Effect Relationships
  - Random Assignment to Condition = Equivalent Groups
    - Individual differences are equally dispersed between groups
  - Follow experimental protocols to control confounding variables (unequal treatment of groups)
Population

N = 43

Convenience Grouping

AKA: Quasi-Experimental Variable

Random Assignment To Condition

Random Number Generator was used here

N = 43

n = 18

n = 25

n = 22

n = 21

Group 1

Group 2
III. Naturalistic Observation: We observe phenomena in the environment in which they actually occur. e.g. Jane Goodall and her observations of Chimps in Gombe, Tanzania, Africa.

A. **External Validity (Generalizability)**
   - to population (representativeness) = Low (no random sampling)
   - to situation (Realism)
     - Mundane (Ecological) Realism = high
     - Experimental Realism (involvement) = high
     - Psychological Realism = high

B. **Internal Validity** = Low, no random assignment

C. **Strengths:**
   - Research agenda can be rather flexible
   - Can identify ecological function (role of behaviors in adapting to the environment.
   - High in Realism (looks and functions like the real world, because it is measured in the real world).
   - Provides Basic Knowledge

D. **Weakness:**
1. Reactance
   - Studying a phenomenon will change it in some way
   - People react differently when they know you are watching them
     - Social Desirability / Self-Presentation Strategies - Impression Management
     - Self Deceptive Positivity
     - Self-Awareness / Self-Consciousness

   Solutions -
   - Unobtrusive Observation
   - The Participant Observer (Ethnographic Approach)
   - Habituate Participants to observation.
   - Unobtrusive Measures (Indirect Measures)
D. Weakness

2. Frequency of Behaviors.
   - Infrequent behaviors will be difficult to observe

3. Non-equivalence of Behaviors
   - There may be non-equivalence of complex behaviors. Difficult to compare two subjects behaviors that differ, even to a small degree, with respect to elicitors and outcomes.
   - Solutions – Structured Observation

IV. Structured Observation:
Constrain the situation (real world or lab) so that desired event will occur consistently and frequently (equivalence of elicitors).

**External validity**
- Generalizability to population = can be high (more control over sample selection)
- Generalizability to situation = Realism
  Mundane (Ecological) Realism = can be low (especially in lab)
  Experimental Realism = can be high
  Psychological Realism = should be high

**Internal Validity** = Low, no random assignment

B. Structured Observation:

**Strengths:**
- Increase likelihood of seeing desired behaviors & increase equivalence of behaviors.
- reduce time & cost

**Weakness:**
- May lose realism & increase artificiality
  - e.g. when does the Levin study happen in the real world.
V. Field Experiment:

**External validity**
- to population = can be high (more control over sample selection)
- to situation = Realism
  - Mundane Realism = Should be high
  - Experimental Realism = Can be high
  - Psychological Realism = should be high

**Internal Validity** = Can be high, if use random assignment to condition, though you lose control in the real world.

**Strengths:**
- Higher level of control = can infer causality

**Weakness:**
- May loose realism & increase artificiality

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VI. Case Study:

**External validity**
- to population = Low
  (one subject tells us little about the population)
- to situation = Realism
  - Mundane Realism = Can be high
  - Experimental Realism = Should be high
  - Psychological Realism = should be high

**Internal Validity** = very low

**Strengths:**
- Can investigate very rare psychological phenomenon.

**Weakness:**
- No causal inferences or generalizability to the population

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VII. Observer Bias

- Confirmatory Bias in Hypothesis Testing
- Perceptual Bias
- Error

- Solutions - Inter-Rater Reliability
  - Two raters must agree at some minimum level (depending on the type of ratings and data).
  - Generally 70-80% agreement is considered adequate.