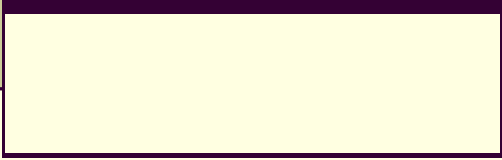


Measurement and Statistical analysis



Outline

- Scales of measurement
- Factors affecting measurement
- Reliability
- Validity
- Basic statistics

Scales of measurement

- Nominal
- Ordinal
- Interval
- Ratio

Reliability

- A reliable measure produces similar results when repeated measurements are made under identical conditions

$$\text{Observed Score} = \text{True Score} + \text{Error}$$

Types of Reliability

- Test-Retest Reliability
- Alternate/Parallel Forms Reliability
- Split-Half
- Cronbach Alpha
- Inter-Rater Reliability Reliability

Validity

- Refers to whether the measure you are using is really a reflection of the theoretical variable you are interested in
- Types:
 - Face
 - Criterion
 - Construct

Descriptive Statistics

- Very simple system to describe data set mathematically
- 3 general categories:
 - Central tendency
 - Variability
 - Depiction of distributions

Using Tables To Describe Distributions

- Frequency distribution
- Pie Chart
- Bar Charts
- Histograms
- Stem-Leaf Plots
