GOALS

• How do we translate abstract concepts into measurable variables?
• What are the implications of different types of measures?
  • Validity vs Reliability
  • Construct validity and measurement bias
• How do you **define** what you are talking about? What do you mean by your concept?
  • Are there ranges or categories?
  • What dimensions exist for this concept? How do they relate to each other?
  • Dimension: a distinguishable attribute of a concept
OPERATIONALIZATION

• How am I going to **measure** the concept?
  • What indicators exist for this concept?
    • Indicator: sign of presence or absence
    • What information is actually possible to observe?
  • What level of measurement do I want?
    • Am I working with categories or a scale? Is precision possible or desirable?
    • Aggregation: Can I combine categories into a single group without losing meaning?
• How will I determine how cases are categorized?
  • How can I ensure my decisions can be reproduced?
VALIDITY AND BIAS

VALIDITY

• Construct
• Internal
• External
• Face
• Predictive

BIAS

• Measurement
• Selection
• Omitted Variable
• Publication
• Survivorship
• Confirmation
Validity vs. Reliability

- Precision = level of detail in description
- Reliability = How reproducible
- Validity = Accuracy = How correct

Reliable, but not valid    Valid, but not reliable    Neither reliable nor valid    Reliable and valid
CONSTRUCT VALIDITY

• Construct validity
  • How well do your measures capture the original concepts in a study?

• Measurement bias
  • Do your measures skew the results in specific ways?
  • Do respondents have incentives to lie or forget?
  • Can you estimate the response error?
MEASUREMENT AND VALIDITY

- What are the indicators?
- What is the level of aggregation?
- How are cases categorized?

- Construct validity: Do the indicators fully capture the concept?
- Construct validity: Should maximize similarity within a category and distinctions between categories
- Reliability/Measurement bias: Can the measure be reproduced by others?