JOHNS HOPKINS BLOOMBERG SCHOOL *of* PUBLIC HEALTH

Section B
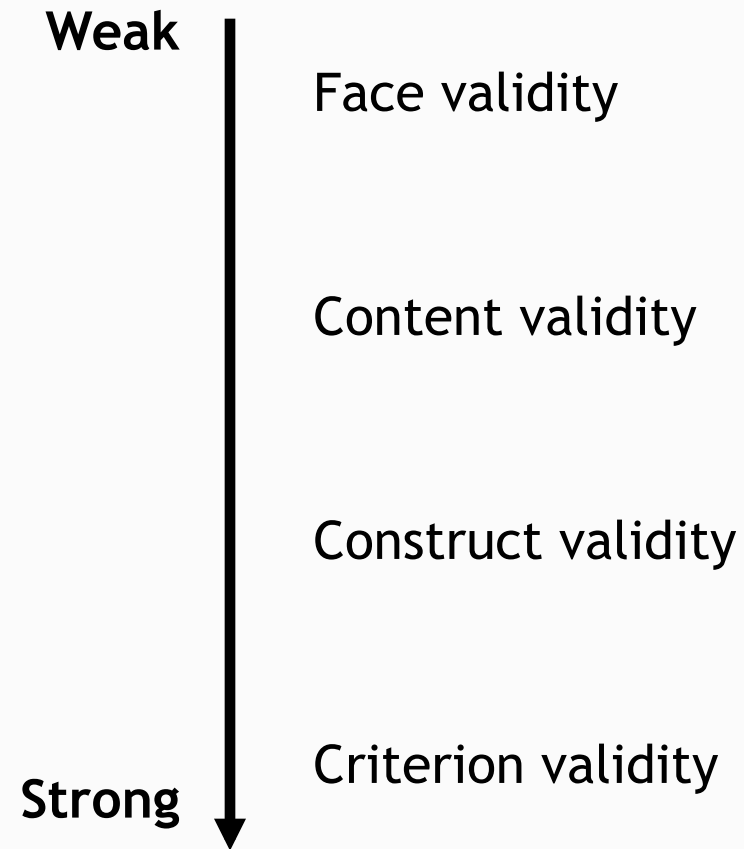
Instrument Validation

Measurement Validity

- Definition
  - The extent to which a test measures what it purports to measure

- Goal
  - Diagnostic systems that accurately summarize signs and symptoms to indicate etiology and suggest prevention, prognosis, and treatment

Problems with Relying on Standard (Western) Measures

- Cultural validity
  - How closely concepts in a questionnaire match local concepts; Western/outside concepts may not apply locally

- Unknown local concepts
  - Are there important local issues/concepts unknown to us? How to include questions we don't know we should be asking?

- Translation problems
  - Who translates? Translation/back-translation methods inadequate, can result in semantic equivalence but real-world insignificance (e.g., "lighting fires")

- RISK: Evaluations don't accurately measure impact

Types of Validity

Weak

Face validity

Content validity

Construct validity

Criterion validity

Strong

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- Criterion validity
  - Strength of comparison with external standard
  - Concurrent/discriminant and predictive

Reliability

- Consistency between measures of the same thing—a direct function of the amount of measurement error in a variable
  - Consistency across time (test-retest)
  - Consistency across assessors (inter-rater)
  - Internal consistency of instrument (alpha)

Reliability vs. Validity

- Consistent measurement vs. information about etiology and underlying disorder

- DSM and ICD: Operational definitions based on consensus and experience; reliable

Utility

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- Categorical vs. dimensional perspectives

Validity Challenges

- Gold standard diagnostic techniques rare
  - Disease process can be well understood, but measurement is inaccurate
  - Disease process can be imperfectly understood, with controversy as to which signs and symptoms to use even if they can be measured accurately

Cross-Cultural Issues

- No gold standard

- Can be difficult to define mental illness

- Lack of cross-cultural research on consistency in disorder expression