

Psyc 402 - Midterm 2 Study Guide

- 50 questions total, multiple choice
- Topics:
 - K04 - Reliability (12 questions)
 - K05 - Validity (14 questions)
 - K06 - Test Development (12 questions)
 - K07 - Test Administration (12 questions)

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Reliability (Ch 4)

- Constructs, definitions and difficulties with
- Classical Test Score Theory
- 4 kinds of Reliability
- Common R values for reliability
- SEM and Confidence Intervals
- Increasing Reliability

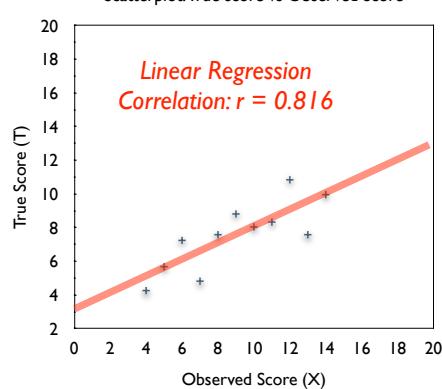
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Classical Test Score Theory

X	T
10	8.04
8	7.58
13	7.58
9	8.81
11	8.33
14	9.96
6	7.24
4	4.26
12	10.84
7	4.82
5	5.68

Scatterplot: True score vs Observed Score

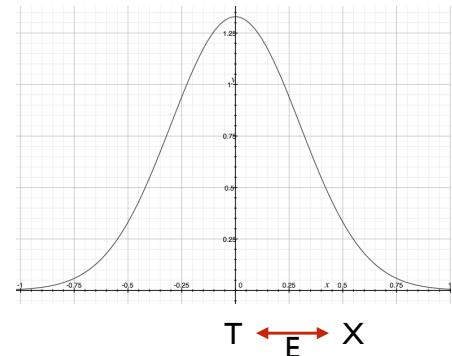


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Classical Test-Score Theory

- T = True Score
- X = Observed
- E = Error
- $X = T+E$
- $E = X-T$



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4 Kinds of Reliability

	Description	Name	Statistic
Time Sampling	1 test given two times	test-retest reliability	correlation between scores at two times
Item Sampling	2 different tests given once	Alternate or Parallel forms	correlation between scores on 2 versions
Internal Consistency	One test, multiple items	Split Half or internal reliability	Cronbach's Alpha
Observer Differences	One test w/ 2+ observers	inter-observer reliability	Kappa

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Validity (Ch. 5)

- Griggs v. Duke Power, Ricci v. DeStefano
- History of Validity
- 4 kinds of Validity
- Common R and R^2 values for validity
- Reliability and Validity

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4 Kinds of Validity

	Description	Notes	Statistic
Face	do items "look" valid?	informal, improper, non-scientific	none
Content	do test questions cover the topic?	logic & judgement - there are no stats to calculate	none
Criterion	does the test predict a specific event?	requires a well-defined criteria	Pearson's R (correlation) between Test and Criteria
Construct	does the test measure what it claims	modern theory: all validity is Construct validity	Convergent and Divergent correlations (Pearson's R)

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Test Development (Ch. 6)

- Definitions for several kinds of questions
- Pros & Cons of different kinds of questions
- Probability of Guessing
- Item Difficulty, Discriminability
- ICC

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Test Administration (Ch. 7)

- Assumptions of Classical Test Score theory
- Bias
- Ways of administering tests / the protocol
- Bias / demographic variables
- Reducing bias
- Computerized assessment, issues with
- Polygraph exams
- Low Base Rate / False Positive Paradox

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