

Validity: Theoretical Basis

PSYC3302: Psychological Measurement and Its Applications

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Week 5

Learning Objectives

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Introduction to the concept of validity
- Overview of the theoretical basis of validity:
 - 1 Trinitarian view of validity
 - 2 Unitary view of validity
- Alternative perspectives on validity
- Contrasting validity and reliability

Validity in Everyday Usage

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- In everyday language, we say something is valid if it is sound, meaningful, or supported by evidence
 - e.g., we may speak of a valid theory, a valid argument, or a valid reason
- In legal terminology, lawyers say something is valid if it is "executed with the proper formalities"—such as a valid contract or will
- In psychometrics, *validity* is a term used to refer to the meaningfulness of a test score—what the test score truly means

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- A basic definition of validity is "how well a test measures what it claims to measure"
- This definition is very common, but it is an oversimplification
- A better definition is that validity is "the degree to which evidence and theory support the interpretations of test scores entailed by the proposed uses" of a test
- This definition has at least four important implications

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- 1 Validity concerns interpretations and uses of scores
- 2 Validity is not a property of the test itself
- 3 Validity is a matter of degree
- 4 Validity is based on theory and evidence

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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1. Validity Concerns Interpretations and Uses of Scores

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- A measure itself is neither valid nor invalid
- The issue of validity concerns the *interpretations* and *uses* of a measure's scores
- For example, a person's Operation Span can be validly interpreted as a measure of her or his working memory
- It would be less valid to interpret a person's Operation Span as a measure of her or his short-term memory
- It would be totally invalid to interpret a person's Operation Span as a measure of her or his self-esteem

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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- 3 Validity is a matter of degree
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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

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2. Validity Is Not a Property of The Test Itself

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- As a short-hand, test users sometimes refer to a particular test as a "valid test"
- For example, someone might say that the "Operation Span task is valid"
- However, what is really meant is that the test has been shown to be valid for a particular use, with a particular population of people, at a particular time
- Validity is not a property of the test itself
- It is a property of the interpretation and uses of test scores

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- No test is "universally valid" for all time, for all uses, with all types of test-taker populations
- Rather, tests may be shown to be valid within *reasonable boundaries* of a contemplated usage
- If those boundaries are exceeded, the validity of the test may be called into question
- The validity of a test may have to be re-established with the passage of time or changes in culture

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- 1 Validity concerns interpretations and uses of scores
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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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3. Validity is A Matter of Degree

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Like reliability, validity is not an all-or-nothing issue—it exists on a continuum
- Validity is conceived in terms of *strong* versus *weak*, rather than simply *valid* or *invalid*
- For test users, validity should be a deciding factor in their choice of psychological test
- A test should be selected only if there is *strong enough* evidence supporting its intended use and interpretation

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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4. Validity is Based on Theory and Evidence

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Validity is based on theory and empirical evidence
- It is not good enough to hear someone say that the test (or scores) are valid in someone's experience
- There must be strong objective data supporting the interpretation and use of a test
- There are many popular published tests that have little to no validity e.g.,
 - hand writing analysis as an indicator of someone's personality
 - the "Color Quiz" as indicator of someone's personality

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Validity is arguably the most important issue in evaluating a test's psychometric quality
- Psychological measurement is only meaningful and useful if measurements have acceptable validity for their intended purpose
- Validity is a crucial basis for:
 - 1 the meaningful interpretation of behavioural research
 - 2 making sound societal decisions based on such research
 - 3 making informed test-based decisions about individuals

The Importance of Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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The Importance of Validity: 1. Interpreting Behavioural Research

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Test validity is essential to the meaningful interpretation of behavioural research
- For example, suppose a social psychologist wants to know if exposure to violent video games increases a child's tendency to behave aggressively
- He measures children's "inclination to behave aggressively" and the amount of hours spent playing violent video games, finding a modest positive correlation between the two measures
- However, any conclusion that exposure to violent video games increases the tendency to behave aggressively requires that "inclination to behave aggressively" was measured with good validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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The Importance of Validity: 2. Societal Decision Making

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Without good test validity, decisions about societal issues could be misinformed, wasteful, or harmful
- For example, suppose based on empirical research showing that exposure to violent video games increases aggressive behaviour, a decision is made to regulate the level of violence depicted in video games
- If the research is characterised by "good" test validity, then this is a legitimate decision with the potential to benefit society
- However, if the research is characterised by "poor" test validity, then such a course of action would be highly questionable and potentially wasteful of time and money

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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The Importance of Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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The Importance of Validity: 3. Test-based Decisions About Individuals

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Validity is necessary to make appropriate decisions about individuals
- As we have discussed in previous lectures, scores on psychological tests are used to make important and sometimes life altering decisions
- If those decisions are based on measures with sound validity they will hopefully benefit test users and test takers
- If such decisions are based on poorly validated tests—or the inappropriate use of tests validated for a different purpose—then test users and test takers may suffer harm

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- There are two prominent perspectives in psychology and education for conceiving validity:
 - 1 Trinitarian view
 - 2 Unitary view

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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 - 2 **Unitary view**

The Trinitarian View of Validity

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Traditionally, validity has been conceptualised in terms of three different measures—the so-called *trinitarian* view (Guion, 1980):
 - 1 **Content validity:** a measure based on an evaluation of the content covered by items in a test
 - 2 **Criterion-related validity:** a measure obtained by evaluating the relationship of scores obtained on the test with scores on other tests
 - 3 **Construct validity:** a measure obtained by performing an analysis of:
 - a how scores on the test relate to other test scores and measures, and
 - b how scores on the test can be understood within some theoretical framework

The Trinitarian View of Validity

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- In this view, construct validity is "umbrella validity" because every other variety of validity falls under it
- Trinitarian approaches to validity assessment are not mutually exclusive
- All the types of validity evidence contribute to a unified picture of a test's validity
- A test user might not need to know about all three
- Depending on the use to which a test is being put, one type of validity evidence may be more relevant than another

The Trinitarian View of Validity

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- The trinitarian view of validity has been criticised
- Messick (1995) called the approach "fragmented" and "incomplete"
- He called for a unitary view of validity, one that takes into account several different elements of validity
- This includes a consideration of the implications of test scores in terms of societal values and the consequences of test use

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Classic and Contemporary Approaches

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

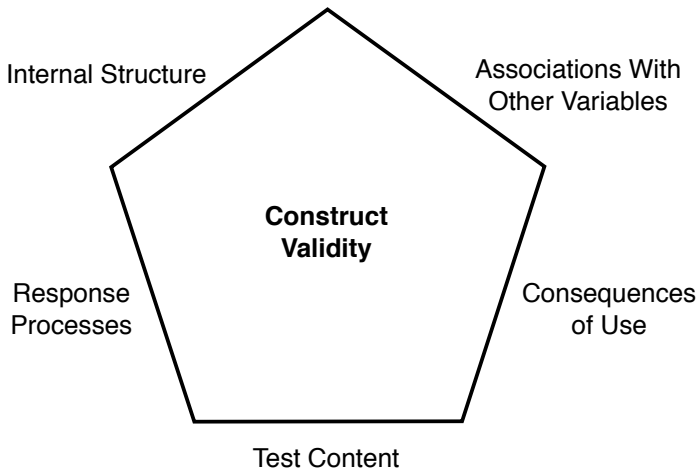
Test Content
Internal Structure
Response
Processes
Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- The contemporary perspective on validity—known as the *unitary view*—places **construct validity** as the essential concept in validity (Messick, 1998)
- As already noted, construct validity is the degree to which test scores can be interpreted as reflecting a particular construct
- According to the unitary view, there are five types of evidence relevant to establishing the construct validity of test score interpretations

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response Processes

Associations With Other Variables

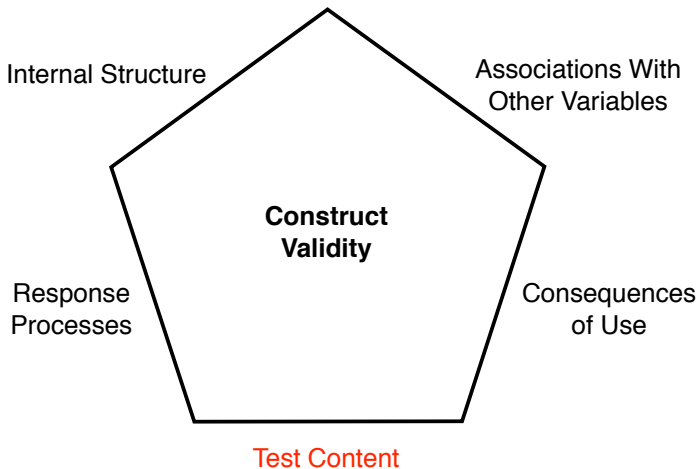
Consequences of Testing

Other

Perspectives

Reliability & Validity

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response Processes

Associations With Other Variables

Consequences of Testing

Other Perspectives

Reliability & Validity

Test Content

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- This is the match between the content of a test and the content that *should* be included in the test
- If a test is to be interpreted as a measure of a particular construct, then the content of the test should reflect the important facets of that construct
- The description of the nature of the construct should help define the appropriate content of the test
- There are two types of validity relevant to test content:
 - 1 Content validity
 - 2 Face validity

Test Content

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Test Content: 1. Content Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- **Content validity** describes a judgement of how representative a test's content is of the full range of content that is relevant to the construct being measured
- For example, the content covered by the construct *assertiveness* is wide-ranging
- A content-valid test of assertiveness would be one that contains items that are adequately representative of this wide range
- Such a test might include items sampling from hypothetical situations at home, work, and in social situations

Test Content: 1. Content Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitarian View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- In educational achievement tests, a test is content-valid when the proportion of materials covered approximates the proportion of material given in the course
- A final exam in introductory statistics would be content-valid if the proportion and type of introductory statistics problems approximates that presented in the course
- For an employment test to be content valid, its content must be representative of the job-related skills required
- This might be achieved by observing successful veterans on the job, noting the behaviours necessary for success, and designing a test to include a representative sample of those behaviours

Test Content: 1. Content Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- There are two key threats to content validity:

1 Construct-irrelevant content

- a test should not include content that is irrelevant to the construct being measured

2 Construct underrepresentation

- a test should include the full range of content relevant to the construct being measured, as much as possible

Test Content: 1. Content Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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Test Content: 1. Content Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- There are two key threats to content validity:

1 Construct-irrelevant content

- a test should not include content that is irrelevant to the construct being measured

2 Construct underrepresentation

- a test should include the full range of content relevant to the construct being measured, as much as possible

Test Content: 1. Content Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- In practice, there is a trade-off between the ideal of content validity and the reality of testing
- A test should include an "adequate" sample of construct relevant content
- However, for practical reasons it might not be possible to include items assessing every aspect of the construct thoroughly
- Constraints on time, respondent fatigue, respondent attention, and so on, place constraints on the amount of content included in a measure

Test Content

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- This is the match between the content of a test and the content that *should* be included in the test
- If a test is to be interpreted as a measure of a particular construct, then the content of the test should reflect the important facets of that construct
- The description of the nature of the construct should help define the appropriate content of the test
- There are two types of validity relevant to test content:
 - 1 Content validity
 - 2 Face validity

Test Content

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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- There are two types of validity relevant to test content:
 - 1 Content validity
 - 2 **Face validity**

Test Content: 2. Face Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- **Face validity** relates to what a test *appears* to measure to the person being tested, rather than what the test actually measures
- If a test appears to measure what it claims to measure "on the face of it", then it could be high in face validity
- A test labelled "The Introversion/Extraversion Test", with items that ask people if they have responded in an introverted or extraverted way in different situations may have high face validity
- A personality test in which respondents report what they see in inkblots may have low face validity

Test Content: 2. Face Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Face validity is not typically considered important from a psychometrics perspective
- However, if a test lacks face validity, it could contribute to a lack of confidence in the perceived effectiveness of the test
- This may result in a decrease in the test taker's cooperation or motivation to do his or her best
- Lack of face validity might also lead to an unwillingness of test users to employ a particular test
- A test with high face validity might be better received by test takers and test users

Test Content: Content Validity vs. Face Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

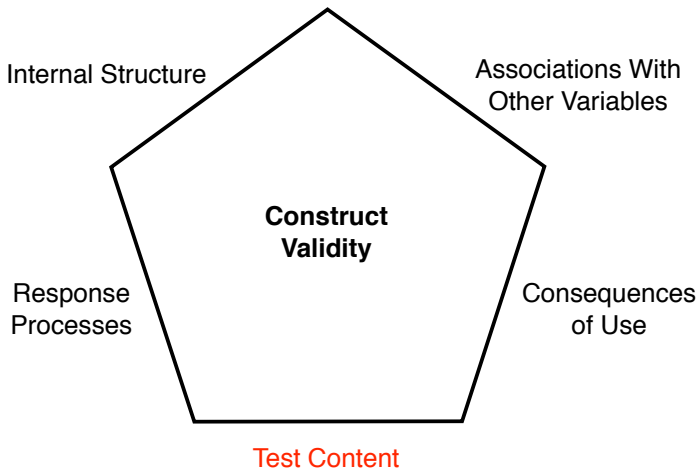
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Content validity can be evaluated only by experts in a field
- They need to understand the theoretical and empirical meaning of the psychological construct being assessed by a test
- By contrast, face validity must be assessable by non-experts
- It is the respondents who are likely to take the test who must be kept in mind when assessing face validity

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response Processes

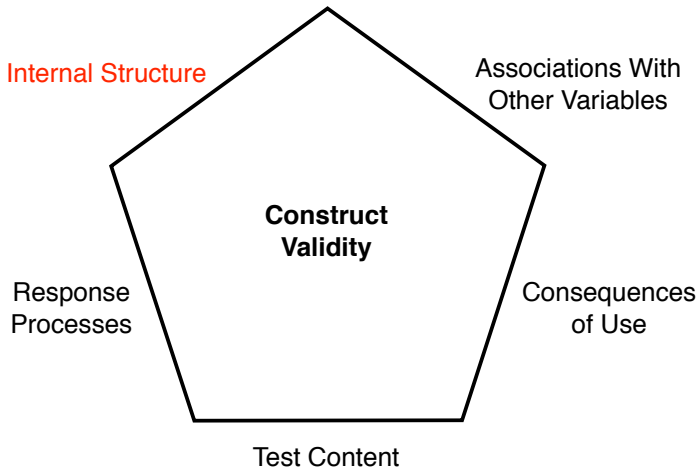
Associations With Other Variables

Consequences of Testing

Other Perspectives

Reliability & Validity

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response Processes

Associations With Other Variables

Consequences of Testing

Other Perspectives

Reliability & Validity

Internal Structure of a Test

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- A test's internal structure is the way the parts of a test are related to each other:
 - some tests include items that are highly correlated with each other, forming a single cluster
 - other tests include items that fall into two or more clusters
- The theoretical basis of a construct has implications for the internal structure of a measure of that construct
- **Factorial validity** concerns the match between the *actual* internal structure of a test and the structure the test *should* possess

Internal Structure of a Test

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- The Rosenberg Self-Esteem Inventory (RSEI; Rosenberg, 1989) is used to measure a single coherent theoretical construct—namely, global self esteem
- The RSEI includes 10-items, such as "I take a positive attitude toward myself" and "At times I think I am no good at all"
- The RSEI should therefore have a specific internal structure amongst its 10-items
- Since global self-esteem is single coherent theoretical construct, all items on the RSEI should correlate strongly with each other to form a single cluster

Internal Structure of a Test

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- By contrast, the Multidimensional Self-Esteem Inventory (MSEI; O'Brien & Epstein, 1988) measures global self-esteem along with 8 components of self-esteem:
 - competence, likeability, loveability, personal power, self control, moral self-approval, body appearance, and body functioning
- If MSEI scores are validly interpreted as measures of these components of self-esteem, responses to the test items should exhibit a structure consistent with the theoretical definition of the construct
- Specifically, items should not form one tight cluster, they should (more or less) form one cluster for each of the different components

Internal Structure of a Test

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

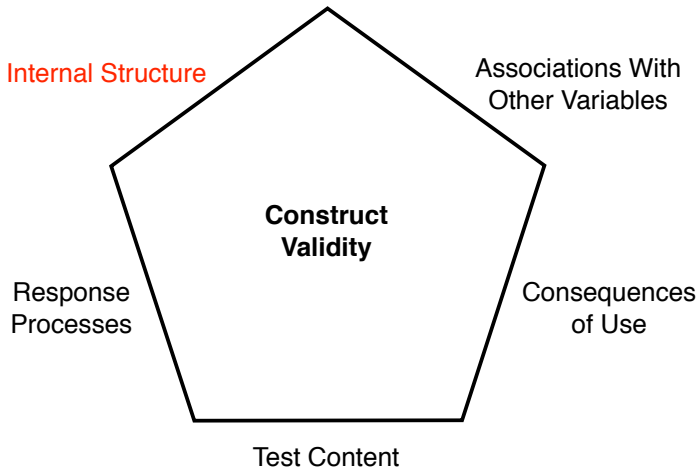
Reliability &
Validity

- Researchers use a statistical procedure known as factor analysis to evaluate the factorial validity (internal structure) of the scores derived from a test
- Some items on a test might be more strongly correlated with each other than with other items
- Items that are highly correlated with each other form clusters of items—known as *factors*

Note:

- Next week's lecture is devoted to a detailed examination of factor analysis

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content

Internal Structure

Response Processes

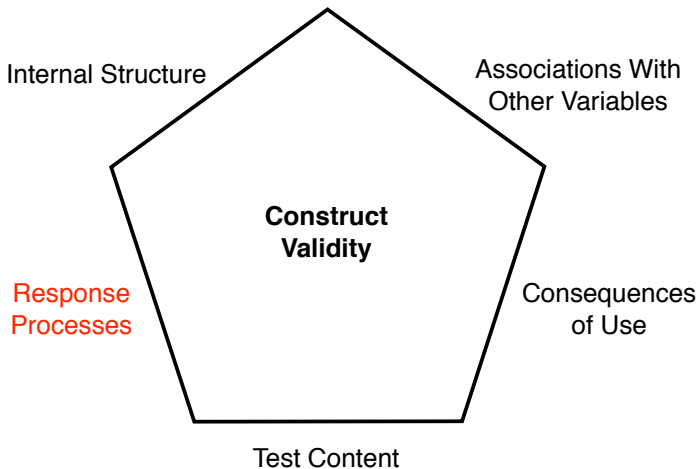
Associations With Other Variables

Consequences of Testing

Other Perspectives

Reliability & Validity

Unitary View



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response Processes

Associations With Other Variables
Consequences of Testing

Other Perspectives

Reliability & Validity

Response Processes

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Many psychological tests are based on assumptions about the psychological processes that people use when completing a measure
- According to the third type of validity evidence, there should be a close match between the psychological processes that the respondents *actually* use when completing a measure, and the process that they *should* use
- You can't just assume that people are going to do what you expect them to do

Response Processes

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Suppose a researcher administers a test designed to elicit students' critical evaluative thinking of evidence-based scientific arguments
- During the test, the students should be engaged in the cognitive process of examining argument claims and evidence, and the relevance, accuracy, and sufficiency of evidence
- To obtain evidence of validity based on response processes, the researcher might use "think-aloud" procedures
- If the think-alouds reveal evidence for the cognitive processes presumed to underlie the task, we have evidence of validity in terms of response processes

Response Processes

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

**Response
Processes**

Associations With
Other Variables

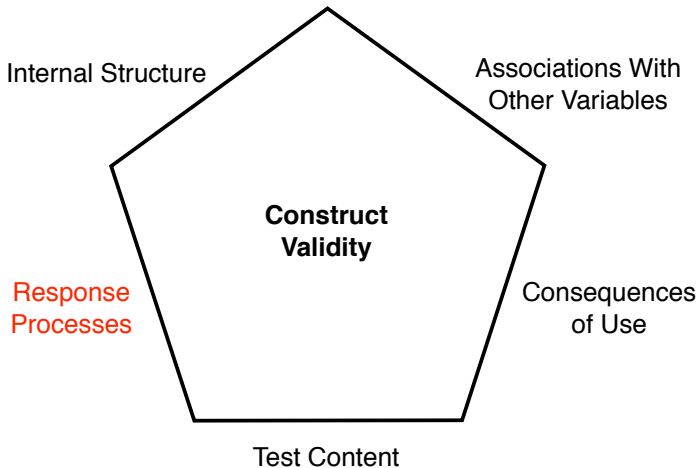
Consequences of
Testing

Other
Perspectives

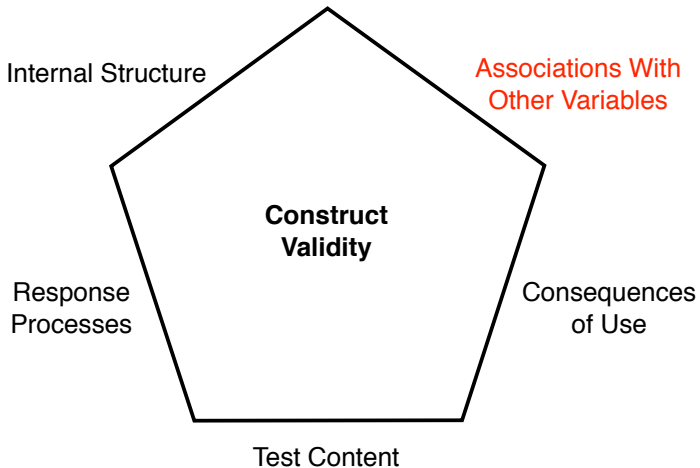
Reliability &
Validity

- In addition to the think-aloud protocol, some further methods for obtaining validity evidence of the response processes include:
 - cognitive interviews
 - focus groups
 - response times
 - eye movements

Associations With Other Variables



Associations With Other Variables



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response Processes

Associations With Other Variables
Consequences of Testing

Other Perspectives

Reliability & Validity

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- This type of validity emphasises the theoretical understanding of the construct we are trying to measure
- We must consider the way in which the construct is connected to other relevant psychological variables
- Our theoretical understanding of the construct we are trying to measure should lead us to expect a particular pattern of associations with other variables
- This type of validity evidence emphasises the match between a measures *predicted* and *observed* associations with other measures

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- For example, to interpret score on the RSEI as reflecting global self-esteem, we must theorise about the nature of self esteem
- We might expect self-esteem to be positively associated with happiness and social motivation, but negatively associated with depression
- Further, we might expect there to be no association between self-esteem and intelligence
- If RSEI scores can be validly interpreted as a measure of self esteem, then the actual associations between RSEI scores and measures of these other constructs should match the pattern predicted by the theory

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- **Convergent evidence**—also known as **convergent validity**—is the degree to which test scores are correlated with tests of related constructs
- Suppose the RSEI is positively correlated with measures of happiness and social motivation, but negatively correlated with a measure of depression
- Given this is what our theory of global self-esteem predicts, the pattern of associations provides convergent evidence for the RSEI as a measure of global self-esteem
- Convergent evidence may come not only from correlations with tests claiming to measure related constructs but also from correlations with tests claiming to measure an identical construct

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- **Discriminant evidence**—also known as **discriminant validity**—is the degree to which test scores are uncorrelated with tests of unrelated constructs
- Suppose the RSEI is uncorrelated (or only weakly correlated) with various measures of intelligence
- Given this is what our theory of global self-esteem predicts, the null associations provide divergent evidence of construct validity for the RSEI
- By contrast, if we found RSEI scores are positively correlated with measures of intelligence, then the RSEI would lack discriminant validity

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Another distinction relating to this type of evidence is between **concurrent validity evidence** and **predictive validity evidence**
- Concurrent validity evidence refers to the degree to which test scores are correlated with other relevant variables that are measured *at the same time* as the test undergoing validation
- For example, if we are trying to establish the validity of a new intelligence test we might correlate it with a "benchmark measure" of intelligence
- Concurrent validity does not have to be based on measures administered precisely at the same time

Associations With Other Variables

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

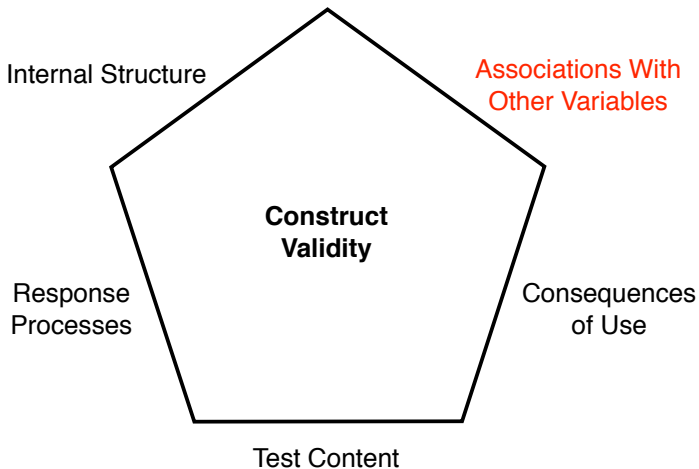
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Predictive validity evidence refers to the degree to which scores on the test undergoing validation are correlated with relevant variables that are measured *at a future point in time*
- A typical example concerns intelligence tests
- The validity of such tests is supported by the fact that they can predict performance in high school and at university even when administered between the ages of 5 and 11
- Predictive validity evidence is very impressive
- However, it is relatively rare because of the time and resources required to keep track of people over time

Consequences of Testing



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response Processes

Associations With Other Variables

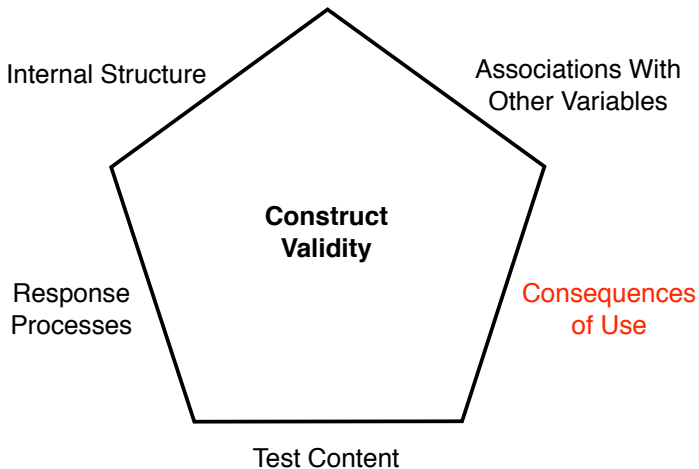
Consequences of Testing

Other

Perspectives

Reliability & Validity

Consequences of Testing



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Validity

Importance of Validity

Classic & Contemporary Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response Processes

Associations With Other Variables
Consequences of Testing

Other Perspectives

Reliability & Validity

Consequences of Testing

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- One novel proposition in the unitary view of validity is the concept of **consequential validity**
- It refers to the social and personal consequences associated with using a particular test
- For example, suppose two tests are equally predictive of some criterion measure, but one of the tests yields scores that are biased against women
- We would consider the non-biased test to be associated with greater consequential validity

Consequences of Testing

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- There is some debate about the importance of consequential validity
- The debate is not about whether tests should not adversely and unfairly affect some people
- The debate is about whether the consequences of testing should be considered a part of the *scientific evaluation of the meaning of test scores*
- Some people consider this a "dangerous intrusion of politics into science"
- Proponents of consequential validity would point out that you cannot divorce science from personal and social values

Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- With the exception of consequential validity, the validity discussed thus far has been framed within the context of scores that are linked to a construct that has a clear theoretical basis
- There are three other types of validity that arguably do not fit as strongly within this construct/theory framework:
 - 1 Criterion Validity
 - 2 Induction-Construct Development Interplay
 - 3 Measurement as Theory

Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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 - 2 **Induction-Construct Development Interplay**
 - 3 **Measurement as Theory**

1. Criterion Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- **Criterion validity** (mentioned earlier) is a judgement of how adequately a test score can be used to infer an individual's standing on some measure of interest—the criterion
- A *criterion* is the standard against which a test or test score is evaluated
- For example, we might administer the Beck Depression Inventory to a population of outpatients to see if it can successfully differentiate patients with depression from those without depression (the criterion)
- Concurrent validity and predictive validity (discussed earlier) are examples of criterion validity—they refer the extent to which test scores are related to, or predict, some criterion measure

1. Criterion Validity

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- According to the traditional perspective on criterion validity, the psychological meaning of test scores is relatively unimportant
- All that matters is a test's ability to differentiate groups or predict some measure
- From the unitary view, criterion validity on its own is not enough—the meaning of a measure must always be pursued
- The unitary view suggests criterion validity evidence should be subsumed within the broader concept of construct validity

Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

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 - 2 **Induction-Construct Development Interplay**
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Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- With the exception of consequential validity, the validity discussed thus far has been framed within the context of scores that are linked to a construct that has a clear theoretical basis
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 - 1 Criterion Validity
 - 2 **Induction-Construct Development Interplay**
 - 3 Measurement as Theory

2. Induction-Construct Development Interplay

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Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- There are occasions where a measure is developed solely from an inductive perspective
- For example, you might create a measure of personality by including all of the "person-descriptive" adjectives in the dictionary (e.g., gregarious, moody, unpredictable)
- People rate the degree to which all of the adjectives describe them
- Then the researcher would factor analyse all of the responses to help uncover the common dimensions

2. Induction-Construct Development Interplay

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- This is how the Five Factor model of personality was discovered
- However, there was a lot of refinement in the model along the way
- This purely inductive approach to test development led to some developments in theories of personality
- And the theory developments have in turn led to measurement refinements

Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- With the exception of consequential validity, the validity discussed thus far has been framed within the context of scores that are linked to a construct that has a clear theoretical basis
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 - 2 **Induction-Construct Development Interplay**
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Other Perspectives on Validity

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View

Unitary View

Test Content

Internal Structure

Response

Processes

Associations With

Other Variables

Consequences of

Testing

Other
Perspectives

Reliability &
Validity

- With the exception of consequential validity, the validity discussed thus far has been framed within the context of scores that are linked to a construct that has a clear theoretical basis
- There are three other types of validity that arguably do not fit as strongly within this construct/theory framework:
 - 1 Criterion Validity
 - 2 Induction-Construct Development Interplay
 - 3 **Measurement as Theory**

3. Measurement As Theory

Psychological
Measurement

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Validity

Importance of
Validity

Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure
Response
Processes

Associations With
Other Variables
Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- This approach to validity emphasises the connection between tests and psychological constructs
- Constructs are a crucial part of validity and they should be the guiding forces in test development and validation
- This approach rejects much of the unitary view except the importance attached to constructs and the theoretically based examination of response processes

Contrasting Reliability and Validity

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Processes

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Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Reliability and validity are related but distinct psychometric characteristics
- Reliability refers to the *consistency* of a measuring tool
- Reliability is the degree to which differences in test scores reflect differences among people in their levels of the construct that affects test scores, *whatever that construct might be*
- We can discuss reliability without being aware of the construct being measured by a test

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Response
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Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
Validity

- Validity, by contrast, is directly related to the nature of the construct supposedly being assessed by the measure
 - validity is a property of test score interpretations (whereas reliability is a property of test scores)
 - validity is closely tied to psychological theory (whereas reliability is not)
- Reliability is a necessary—but not sufficient—condition for validity
- The reverse is not true—a test might have excellent reliability, but we may still not interpret scores on the test in a valid manner

References

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Classic &
Contemporary
Approaches

Trinitarian View
Unitary View

Test Content
Internal Structure

Response
Processes

Associations With
Other Variables

Consequences of
Testing

Other
Perspectives

Reliability &
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Furr, M. R., & Bacharach, V. R. (2014; Chapter 8).
Psychometrics: An Introduction (second edition). Sage.