Validity Example

Table 2 Potential inferences and sources of validity evidence for scores from selected psychometric instruments

Instrument type	Sample instrument	Intended inference from scores*	Potential sources of information for each validity evidence category				
			Content	Response process	Internal structure	Relations to other variables	Consequences
Multiple-choice exam	Internal medicine certifying exam	"Competence in the diagnosis and treatment of common conditions ... and excellence in the broad domain of internal medicine"[22]	Test blueprint; qualifications of question writers; well-written questions	Clarity of instructions; student thought process as he or she answers the questions; test security and scoring	Internal consistency; item discrimination	Correlation with clinical rotation grades, scores on other tests, or long-term follow-up of patient outcomes	Method of determining exam pass/fail score; differential pass/fail rates among examinees expected to perform similarly
Clinical performance evaluation	Mini-CEX	"Clinical competence of candidates for certification"[8]	Test blueprint; qualifications of question writers; well-written questions	Rater training; rater thought process as he or she observes performer; test scoring	Inter-rater reliability; factor analysis to identify distinct dimensions of clinical performance	Correlation with scores on other performance assessments	Method of determining pass/fail score; differential pass/fail rates among examinees expected to perform similarly
Patient assessment	PRIME-MD	This patient has one or more "of 18 possible current mental disorders"[3]	Qualifications of question writers; well-written questions; evidence that questions adequately represent domain	Language barrier; patient thought process as he or she answers the questions	Test-retest reliability; internal consistency	Correlation with clinically diagnosed depression; scores from other depression assessments, or health care use	Method of determining score thresholds; improvement in patient outcomes after implementation of this instrument
Questionnaire	Lung Cancer Symptom Scale	"Physical and functional dimensions of quality of life"[5]	Well-written questions; evidence that questions adequately represent domain	Language barrier; patient thought process as he or she answers the questions	Internal consistency; factor analysis	Correlation with an objective assessment of quality of life, eg, hospitalization	Improvement in patient outcomes after implementation of this instrument

Mini-CEX = Mini-clinical evaluation exercise; PRIME-MD = Primary Care Evaluation of Mental Disorders.
*Intended inference as represented by instrument authors in cited publication.

Teaching Scholars: Source of information for each validity evidence category							
Instrument type	Instrument name	Intended inference from scores	Content	Response process	Internal structure	Relations to other variables	Consequences