



Transporting the Validity of Assessments

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Overview

- Identify the legal and professional requirements for transporting validity
- Determine when transportability is appropriate and when it's not
- Share strategy for transporting validity



Background Information on Validity Requirements

- Fair Employment Legislation Enforced by the EEOC
 - Title VII of the Civil Rights Act of 1964
 - Civil Rights Act of 1991
 - Age Discrimination in Employment Act of 1967
 - Title I and Title V of the Americans with Disabilities Act



Background Information on Validity Requirements

- Programs Enforced by the OFCCP
 - Executive Order 11246 (1965)
 - Section 503 of the Rehabilitation Act of 1973 as amended
 - The Vietnam Era Veterans' Readjustment Assistant Act of 1974
- Programs Enforced by State/Local FEPs



Background Information on Validity Requirements

- Summary

- Once adverse impact is found, selection procedure must be shown to be
 - Job-related
 - Business necessity
- To be demonstrably job related, selection procedures must be
 - Discriminating
 - Non-discriminatory
 - Documented



Background Information on Validity Requirements

- Professional Literature
 - Validity is unitary concept that refers to the inferences that can be drawn from a selection procedure.



Background Information on Validity Requirements

- Professional Literature
 - There are multiple sources of validity:
 - Relationship between test and other variables
 - Criterion
 - Construct
 - Content of test and job
 - Internal structure of the test
 - Response processes
 - Consequences of personnel decisions



What is transportability?

- Process of justifying the use of validity in one or more situations to another.



What is validity generalization?

- “Applying validity evidence obtained in one or more situations to other similar situations on the basis of simultaneous estimation, meta-analysis, or synthetic validation arguments” (Standards, 1999, p.184).



How are transportability and validity generalization different?

- Validity generalization is a specific approach to transportability based on particular kinds of analyses.
- Both are strategies for generalizing validity evidence (Principles, 2003):
 - Transportability
 - Synthetic validity/job component validity
 - Meta-analytic validity generalization



Possible Situations for Use of Transportability Procedures

- Different, but similar jobs
- Same job, different locations
- Same job, different companies



Transportability

- What are the requirements for transportability?
- When is the use of transportability appropriate?



Legal and Professional Documents

- Uniform Guidelines on Employee Selection Procedures
- Standards for Educational and Psychological Testing
- Principles for the Validation and Use of Personnel Selection Procedures
- Relevant Court Cases
- Literature



Uniform Guidelines for Employee Selection Procedures

- Section 5 General standards for validity studies
- Section 7 Use of other validity studies
- Section 15 Documentation of impact and validity evidence



Section 5: General standards for validity studies

- User may continue the use of a selection procedure which is not fully supported by the required evidence of validity if
 - user has substantial evidence of validity
 - user has in progress (when technically feasible) a study to produce the evidence needed



Section 7 A and B: Use of other validity studies

- Validity studies conducted by other users are acceptable when they include:
 - Validity evidence
 - Job similarity
 - Fairness evidence



Section 7 C: Use of other validity studies

- If validity evidence from a multi-unit study satisfies the requirements, evidence of validity specific to each unit is not required unless there are variables which are likely to affect validity significantly.



Section 15: Documentation of impact and validity evidence

- Section 15 details what evidence from a criterion-related validity study must be supplied:
 - job information
 - relevance of criteria
 - other variables (e.g., similarity of samples)
 - use of selection procedures
 - bibliography



Q and A #35

- Allows use of publisher's validity reports and technical manuals.



Q and A # 66

- Outlines circumstances under which validity can be transported
 - Other study shows validity.
 - Jobs are similar in major work behaviors as shown by a job analysis.
 - Evidence of fairness exists in original study or fairness study is conducted in new location.
 - Variables affecting applicability are taken into account.



Summary of the Uniform Guidelines

- The original study must demonstrate substantial evidence of validity, job similarity, and fairness.
- The person using another validity study must provide information about
 - job behaviors
 - relevance of the criteria
 - sample characteristics
 - use of the selection procedures
 - bibliography



Standards for Educational and Psychological Tests (1999)

- Discussion, p. 15
- Standard 1.20
- Standard 1.21
- Discussion, p. 155
- Standard 14.2
- Standard 14.6



Summary of the Standards

- The 1999 Standards provide strong support for the use of validity generalization under the proper conditions.
- The Standards warn against using local studies unless “exceptionally sound.”
- The Standards weigh the benefits of good cumulative research and single validation studies.
- In Standard 14.6, the Standards implicitly supports transportability but gives little guidance on how to establish “close correspondence” of job requirements.



Summary of the Standards

- Studies of generalizability of validity should take into account
 - Differences in how the predictor construct is measured
 - Type of job
 - Type of criterion measure used
 - Type of test taker
 - Time period of study



Summary of the Standards

- Predictor and criterion variables should be “comparable”
- Meta-analysis should incorporate all available studies meeting inclusion criteria



Summary of the Standards

- Documentation of meta-analytic evidence should include
 - Methodological choices for identifying and coding studies
 - Correcting for artifacts and the assumptions made
 - Examining potential moderators



Summary of the Standards

- Close correspondence means that the job requirements or underlying psychological constructs are substantially the same (as is determined by a job analysis), and that the predictor is substantially the same. (Comment on Standard 14.6)



Principles for the Validation and Use of Personnel Selection Procedures (2003)

- **Transportability Definition**
 - A validation rationale by which evidence about the similarity of different work settings is used to infer that the demonstrated validity of a selection procedure in one work setting generalizes to another specific work setting.



Principles

- Considerations for Transportability
 - Technical soundness of the original study
 - Relevance of original study to the new situation
 - Job comparability
 - Job setting
 - Job context
 - Applicant group
 - Sample characteristics related to interpretation of results
 - Population definition
 - Sampling biases
 - Deviations from representativeness
 - Restriction of range in the predictor or criterion score



Historical Antecedents

- History of profession supporting situational specificity of validity
 - Ghiselli and Brown (1955)
 - 1980 Principles
 - 1975 Principles
 - 1970 Principles



Earlier court cases support situational specificity

- Hicks v. Crown Zellerback Corp (1970)
 - Court upheld need for situational specificity in validity studies
- Griggs v. Duke Power Co. (1971)
 - Court “approves” EEOC’s standards requiring an employer to show that a test is valid for the particular job for which it is used.



Earlier Court Cases - cont'd

- Albermarle Paper Co. V. Moody (1975)
 - Court required validation unless there were no significant differences between the studied and unstudied jobs.



Court rejects “poor” transportability studies

- Dickerson v. U.S. Steel Corp (1978)
 - Court rejected validity transportability for craft apprentices in two different plants:
 - Job analysis was inadequate. Therefore conclusion of “no significant differences” was unfounded.
 - Company failed to show no differences in the applicant populations at the two different sites.



Court rejects “poor” transportability studies

- Vanguard Justice Society, Inc. v. Hughes (1979/1984)
 - Rejected transportability of tests for police officers:
 - Original studies were not introduced into evidence and were determined “not sufficient.”



Courts support transportability

- Friend v. City of Richmond (1978)
 - Court ruled in favor of transportability of test for fire fighters.
 - Plaintiffs showed no differences in duties of fire fighters in CA and VA.
 - Local validation in every city is “ludicrous.”



Other court cases allowing transportability of tests

- Test user has met Section 7 of the Guidelines:
 - Brunet v. City of Columbus (1986)
 - Rivera v. City of Wichita Falls (1982)
 - Buckner v. Goodyear Tire and Rubber Co. (1972)



Transportability without analysis

- Watson v. Fort Worth Bank and Trust (1988)
 - Allowed transportability based on “common sense” - without analysis.
- Davis v. City of Dallas (1985/1986)
 - Allowed transportability of educational requirements for police officers based on “substantial public interest.”



Court supports transportability but rationale is unclear

- EEOC v. Atlas Paper Box (1987/1989)
 - District Court upheld transportability:
 - Finding was based on expert testimony that the Wonderlic is valid for all types of clerical work.
 - It's not clear if the decision was based on meta-analysis or transportability from other studies.
 - The expert did not identify any specific study but testified that the test was valid for all types of clerical jobs.



Court supports transportability but rationale is unclear

- EEOC v. Atlas Paper Box (1987/1989)
 - Case was reversed on appeal.
 - The expert's testimony provided no evidence of similarity between the local situation and prior situations.



Recent court cases supporting transportability

- Pegues v. Mississippi State Employment Services (1980/1983)
- Bernard v. Gulf Oil Corp. (1989)
- Taylor v. James River (1989)
- Youngblood v. Dalzell (1991)
- Cox v. Consolidated Rail Corp. and Frazier v. Consolidated Rail Corp. and United Transportation Union (1987)
- Lanning v. SEPTA (1998)



Pegues v. Mississippi State Employment Services (1980/1983)

- Court concluded that validity changed little across location, different job duties, or applicant populations and supported validity generalization.



Bernard v. Gulf Oil Corp. (1989)

- Court upheld transportability process:
 - Concurrent validity for two craft jobs.
 - Compared “most important abilities” in two jobs with most important abilities in other craft jobs.
 - Found important abilities overlapped.



Taylor v. James River (1989)

- James River
 - Used PAQ to analyze jobs in wood products industry
 - Used JCV to support use of tests



Taylor v. James River (1989)

- U.S. District Court issued summary judgment in favor of the defendant
 - Validation strategy conformed to professional and legal standards
 - PAQ methodology conformed to professional and legal standards



Taylor v. James River (1989)

- “Employers are not required, even when defending standardized or objective tests, to introduce formal validation studies showing that particular criteria predict action [sic] on the job performance.”



Youngblood v. Dalzell (1991)

- Selection for City of Cincinnati firemen
- Plaintiffs challenged written test
- Defendants used a transportability study to argue the test was valid and had no adverse impact



Youngblood v. Dalzell (1991)

- “The examination used by the City of Cincinnati has been compared with similar tests in other cities and determined to be statistically reliable. The results of such comparable tests may therefore be ‘transported’ to any city with similar jobs and deemed valid in that city.”



Conrail Cases (1987)

- Expert witness for the defendants supported validity argument with
 - validity generalization
 - transportability
 - Conducted a content validity study that was used to transport the validity study done for the Burlington Northern Railroad



Conrail Cases (1987)

- “Based on the strong similarities between the job of engineer on both railroads, it was appropriate for Dr. Sharf to transport the validity evidence developed for the Burlington Northern Training program to Conrail’s tests.”



Research Literature

- Guion (1998)

- Brannick (2001)
- Hoffman, Holden, and Gale (2000)
- Johnson and Jolly (2000)
- Hoffman (1999)
- Hoffman and McPhail (1998)
- Rafilson, Allscheid, and Weiss (1994)



Guion (1998)

- “Acceptable evidence of validity may be based on validation research done elsewhere, but only with severe restrictions. The question is whether the outside research generalizes to the user’s situation; some people refer to such generalizing as ‘transporting’ the validity evidence” (p. 186).



Guion (1998) - cont'd.

- Characterizes discussion of transportability as “quaint” since the development of VG research.



Guion (1998) - cont'd.

- Requirements for transportability
 - documentation and reporting be available in a form “similar to” the form required by the Guidelines.
 - evidence of the similarity of the job at hand and the job in the original study, identified by the same method of job analysis
 - criterion in the original study is relevant to local job
 - demographic characteristics of the applicant pool or research sample in the original study must be similar



Guion (1998) – cont'd.

- Questions

- How much similarity is required beyond key characteristics of the job?
- Why is demographic similarity required given research of 1970s?



Johnson and Jolly (2000)

- Gives an overview of literature and litigation involving transportability
- Provides a “how to” on transportability
- Gives example of transportability study across multiple plants of a multi-plant food processing company



Brannick (2001)

- Explains how to conduct an empirical Bayesian meta-analysis and to apply it to the transportation of test results



Hoffman and McPhail (1998)

- Distinguishes
 - transportability
 - validity generalization
 - synthetic validity
 - J-coefficient
 - job component validity
- Provides example of job component validity



Hoffman and McPhail (1998)

- Use transportability when
 - user does not have time or financial resources to conduct local validation
 - user finds local validation technically unfeasible
 - user believes local validation is poor practice due to inadequate power



Hoffman and McPhail (1998) - cont'd.

- Transportability is frequently impractical because
 - no “source” study exists
 - no permission to use relevant existing study
 - inability to locate necessary data
 - jobs or roles are changing too rapidly



Hoffman and McPhail (1998) - cont'd.

- “Transportability is most frequently a practical option where the test publisher has shown the forethought and taken the necessary steps to build-in this option while conducting their original validation research.”
- Recommendation: Job component validity



Rafilson, Allscheid, and Weiss (1994)

- Compared position of 115 police officers in large eastern city to positions of 250 police officers used to develop and validate the National Police Officer Selection Test (POST)



Questions about Transportability

- When should I do a transportability study?
- Does use of a test for the same job at a different location require any validation study?



Questions about Transportability

- What are the limits of transportability?
 - Same job to same job in different locations?
 - Similar job to similar job?
 - Job component to job component?
 - KSAO to KSAO?



Questions about Transportability

- What should I be comparing?
 - Tasks to task?
 - KSAOs to KSAOs?
 - Why?



Questions about Transportability

- How do I do a transportability study in a situation where the concept of job is non-existent?



Questions about Transportability

- What is the appropriate measure of similarity?
- How similar is similar? What is close enough?



Questions about Transportability

- What are the risks of doing transportability compared to doing a local validity study?
 - A validity generalization study?
 - Nothing?



Questions about Transportability

- Are there better alternatives to transportability?
 - Validity generalization?
 - Synthetic validity?
 - Job component validity?



Questions about Transportability

- Is transportability worth the effort?
- For cases in which content validity is appropriate, would it be safer to do a validity study than to rely on transportability?



Strategy for Demonstrating Transportability

- Evaluate original validity study
 - Validity
 - Fairness
 - Job analysis materials



Variables Affecting the Decision to Use Transportability

- Quality of original validity study
- Fairness study
- Documentation of original study
- Availability of original job analysis data
- Currency of study
- Similarity of
 - Jobs
 - Job setting
 - Job context
 - Applicant group



Strategy for Demonstrating Transportability

- Evaluate other issues
 - Use of cut scores
 - Size of company
 - Number of people in the title
 - Resources of the company
 - Feasibility of research to generate other evidence of validity
 - Stability of jobs or roles
 - Legal environment



Strategy for Demonstrating Transportability

- Demonstrate similarity of target job to original job
 - Decide if job or job family will be unit of analysis
 - Collect information regarding both OJ and TJ
 - KSAs or tasks
 - Importance, frequency, or criticality
 - Compare jobs statistically
 - Overlap statistics
 - Deviations
 - Correlations



Similarity Statistics

$$\text{Overlap} = N_S / N_S + N_D$$

$$\text{Deviation} = \text{Sqrt} (\Sigma(\text{TJ}_{tc} - \text{JF}_{tcc})^2 / N_{\text{tasks}})$$

Correlation between TJ and OJ task criticality ratings



Strategy for Demonstrating Transportability

- Decide if tasks overlap.
 - Do the critical tasks overlap?
 - By how much?
 - Are the tested constructs included among the KSAs that overlap?
 - Are the overlapping KSAs required at the same level as those in the original job or as measured by the tests?



Example: Decision Rules

■ Confident Match

- >50% of all tasks performed are common **AND**
- >50% of critical tasks are common **OR**
- >65% of KSAs are common **OR**
- Correlation $\geq .70$

■ Possible Match

- 35% of all tasks performed are common **AND**
- 35% of critical tasks are common **OR**
- 50% of KSAs are common **OR**
- Correlation $\geq .50$

■ No Match



Strategy for Demonstrating Transportability

- Decide if tasks overlap.
 - Are there particular conditions that mitigate the differences between the jobs (e.g., specialized terminology, work organization, bargaining unit requirements, etc.)?
 - Are the applicant pools similar?



Strategy for Demonstrating Transportability

- If data suggest match, consider what other information supports use of the test in the targeted job.
- Assess the risk of relying on transportability argument for validity.



Strategy for Demonstrating Transportability

- Note: Decision about overlap is NOT formulaic. It requires the professional judgment of the researcher!



Strategy for Demonstrating Transportability

- Document process and results.