

Job Fit
system™

Pre-employment Assessments: *Do they do what we think they do?*

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JobFit Systems International

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Pre-employment Assessments: *Do they do what we think they do?*

Preliminary results from ACARP Project C14045
'Validating the JobFit System Functional Assessment Method'

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ACARP
Australian Coal Association Research Program

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Outline

- Background
- Attributes of excellence
- PEFA components
- Project outline
- Reliability results
- Validity results
- Implications of results
- Next steps



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Background

- 3 'types' of assessments
 - Medical / physio
 - Not supported
 - Clinical functional
 - Limited research
 - Field functional
 - Very very limited research

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Attributes of Excellence

Safety	Is the test safe to administer?
Reliability	Are the test results reproducible on any occasion between evaluators and participants?
Validity	Does the test measure what it reports to measure and is it predictive of performance?
Practicality	Is the test easy to administer with reasonable / minimal cost?
Utility	Does the functional test relate to job performance and does it meet the needs of the involved parties?

Based on Randolph (2000), Innes & Straker (2003), King et al (1998)
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PEFA Components

- Informed consent
- Medical history questionnaire
- Musculoskeletal screen
- Fitness test
- Postural tolerances (job-specific)
- Lifting and carrying (job-specific)
- Overall score

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PEFA components JobFit System & Scores

- JobFit System software compares worker capabilities to job demands
- Job demands database is used to develop job-specific assessment criteria
- Data matching capability is used to give PEFA score

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Project Outline

- 2 phases:
 - Reliability study & Validity study
- Objectives
 - Develop assessment method
 - Reduce incidence and severity of sprains & strains
 - Find out if there is a predictive relationship between assessment results and injuries

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Reliability Study

Reliability = consistency & repeatability

- Study design
 - 28 healthy UG coal miners and office professionals
 - 20 did test twice
 - All tests videotaped and rescored
- Live and video results for both assessors compared and analysed

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Reliability study results

Test	Test-retest	Inter-rater	Intra-rater
PEFA score	Good	Good	Excellent
Floor to bench lift	Moderate	Excellent	Excellent
Bench to shoulder lift	Moderate	Good	Good
Bench to overhead lift	Good	Good	Excellent
Bilateral carry	Good	Excellent	Excellent
Reach forward	Moderate	Good	Good
Reach overhead	Moderate	Good	Moderate
Stooping	Poor to moderate	Good	Good
Squatting	Poor to moderate	Moderate	Moderate
Climbing	Excellent	Excellent	Excellent
Fitness	Poor	NT	NT
Balance	Moderate	NT	NT

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Validity Study

Validity = predictability & transferability

- Measures:
 - Injury frequency rates
 - Types & location of injuries
 - Costs and duration of injuries
 - Turnover rates and productivity
- Analysis:
 - Task results and overall score

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Validity Study results (so far)

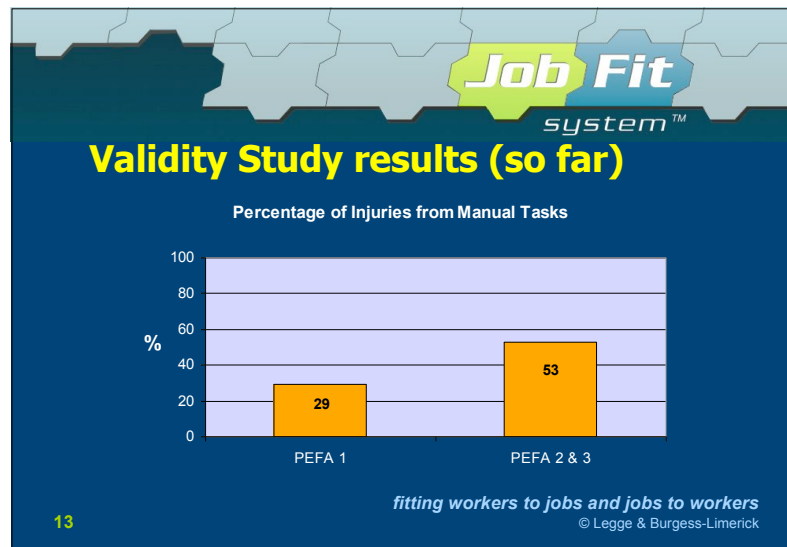
Sample:
403 pre-employments
304 hired
286 records suitable

Breakdown by Overall Score

PEFA 3
PEFA 2
PEFA 1

240 workers > 90 days

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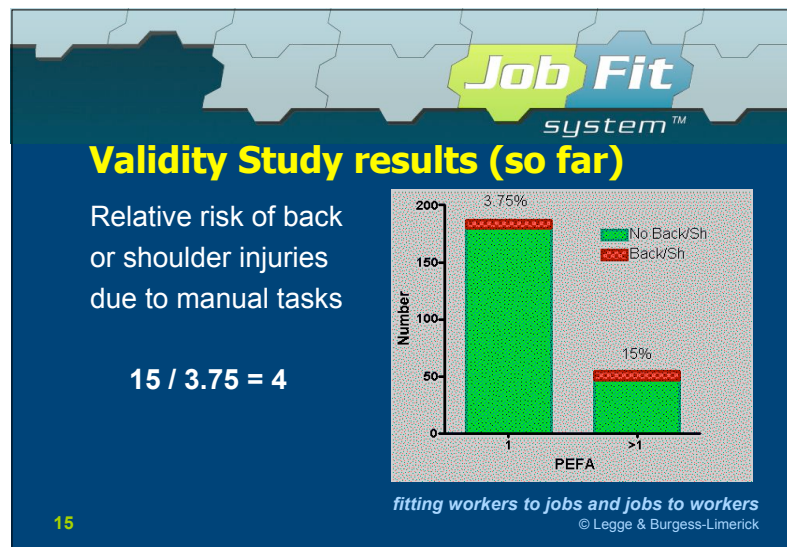
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Validity Study results (so far)

	RELATIVE RISK	CONFIDENCE
Any single injury	1.4	0.6 – 2.2
All injuries	1.2	0.74 – 2.1
Single manual inj.	2.1	0.8 – 5.6
All manual inj.	2.3	0.99 – 5.3
Single back / sh	3.0	1.1 – 8.6
All back / sh	3.9	1.5 – 10.2

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Next Steps (Matrix)

	Clinical Physical (Dr or PT etc)	Clinical Functional	Field Functional
Safety	High	High	Med
Reliability	Low	Med / High	Low / Med
Validity	Low	Med / High	Med / High
Practicality	High	High	Low
Utility	Med	Med / High	Med / High

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Next Steps

“... fitting a square peg into a round hole is not only difficult, but damages either the peg or the hole. Similarly, placing an individual into a job for which he or she may not be physically qualified increases the risk to the employer and the employee of costly injuries.”
(p. 815)

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