Developing a Transportable Biodata Instrument to Predict Employee Drug Abuse

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What Does Drug Abuse Have to Do with Employability?

- Illegal drug users have higher rates of
  - Absenteeism
  - Turnover
  - Health Costs
- Illegal drug use is associated with other forms of counterproductive work behavior
  - Theft
  - Sabotage
  - Slacking

What's Wrong with Urinalysis?

- Cost, especially for small employers
- Commonly known methods for avoiding positive results
- Cannot detect alcohol use
- Narrow operational definition: *Any* use of an *illegal* drug
- Judges a *trait* using physiological *state*

Using Biodata to Capture a Psychological Construct

- Risk factors & conscientiousness (integrity)
  - Not a diagnostic instrument
- Seemingly innocuous past behaviors can be self-reported and (presumably) verified
  - Reducing motivation to fake
- Factor analysis, internal consistency, and item-criterion correlations
  - Increased emphasis on construct validity

Purpose of Two Studies

1. Construct summated scales based on factors and alpha coefficients, explore item- and scale-weighted scoring

2. Calculate cross-validation coefficients and classification statistics

Defining Drug Abuse & Counter-Productivity

- Self-report measures (Study 1 & 2)
  - Use of illegal drugs in the prior six months
  - Abuse of alcohol in the prior six months
  - On-the-job use of alcohol/illegal drugs
- Work supervisor ratings (Study 2)
  - Likelihood of on-the-job use
  - Likelihood of counterproductive behaviors
  - General item regarding job performance

The Initial Sample

- Participants were 372 college students who worked at least 10 hours per week
- Mean age was 20.98, ranging from 18-55
- 62% female
- 89% Caucasian, 7% African-American
- Mean work hours per week was 25.17
- 24% illegal drug users, 63% alcohol abusers, 17% on-the-job abusers

The Survey of Life Experience

- Sixty-seven item survey that asks participants to complete sentences to describe their life experiences…

  The number of student clubs/committees I belonged to in high school

  One   Two   Three   Four or more   Never did this

Subscales of the SLE

1. Exp. w/ Cigarettes, Alcohol, & Drug Users
2. Delinquent Behavior
3. Positive Lifestyle
4. Parental/Family Substance Abuse
5. Early Conflict with Parents
6. Association with Delinquent Coworkers
7. Mischievous Behavior
8. Life Instability
9. Religious Behavior

Correlations Among Predictors and Criteria

Variables	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Experience w/ Cigarettes, Alcohol, & Drug Users	.78											
2. Delinquent Behavior	.43	.63										
3. Positive Lifestyle	-.11	-.07	.27									
4. Parental/Family Substance Abuse	.22	.23	-.06	.23								
5. Early Conflict with Parents	.22	.17	.13	.32	.34							
6. Association with Delinquent Coworkers	.49	.37	.05	.21	.18	.61						
7. Mischievous Behavior	.43	.37	.10	.15	.03	.51	.40					
8. Life Instability	.15	.13	-.12	.19	.25	.13	.18	.28				
9. Religious Behavior	-.13	-.09	-.11	-.22	-.16	-.06	-.20	-.01	.76			
10. Recent Illegal Drug Use	.45	.34	.01	.10	.04	.52	.38	.25	.10	.78		
11. Recent On-the-Job Abuse	.35	.25	-.06	.07	.22	.54	.36	.06	-.02	.45	.77	
12. Recent Alcohol Abuse	.55	.48	-.13	.22	.06	.41	.25	-.01	-.18	.39	.32	.85

Initial Validity Coefficients

- Subscales were weighted by regressing drug abuse criteria on nine summated scores
  - No benefit to weighting individual items
  - Weighting for on-the-job abuse produced strong validity coefficients across criteria
- $r = .39$ for Illegal Drug Use
- $r = .49$ for On-the-Job Drug Use
- $r = .47$ for Alcohol Abuse

The Second Sample

- Participants were 126 college students who worked at least 10 hours per week
- Mean age was 25.57, ranging from 18-53
- 68% female
- 69% Caucasian, 29% African-American
- Mean work hours per week was 31.52
- 25% illegal drug users, 56% alcohol abusers, 17% on-the-job abusers

Supervisors' Ratings

- 62 of 126 participants volunteered to give up anonymity so we could contact their work supervisors

- We received ratings for 21 of the 62 volunteers, a return rate of 34%

- No significant differences between participants whose supervisors returned ratings and those whose supervisors did not

Cross-Validation Coefficients

- Self-reported recent illegal drug use…… r = +.56

- Self-reported on-the-job abuse…………. r = +.56

- Self reported recent alcohol abuse……... r = +.53

- Supervisor rate likelihood OTJ abuse…...r = +.58

- Supervisor rate counter-productivity……r = +.41

- Supervisor rate job performance………...r = -.23

Classification of
Illegal Drug Users

	Actual (reported)		
Predicted	Nonuser	User	Percent Correct
Nonuser	86	5	95%
User	13	18	58%

Note: 122 cases classified. Using a cutting score that maximizes accuracy, the accuracy = 85%, specificity = 87%, sensitivity = 78%.

Conclusions

- More data, especially from non-college population in actual job search

- Needs internal consistency improvement

- Needs sensitivity improvement

- Overall, the SLE demonstrates potential as a less expensive procedure to reduce employee drug abuse and counter-productivity