

Validity Study

Relationship between Cognitive Ability and Background Variables and Disciplinary Problems in Law Enforcement

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We investigated the relationship between cognitive ability, education, and seven other background variables and whether a police officer was terminated for cause. The results indicated that on the basis of 1,987 law enforcement personnel, both cognitive ability ($r = -.09$) and education ($r = -.10$) were negatively related to being fired for cause

Sample

The sample consisted of 1,987 sworn personnel employed by a variety of law enforcement agencies in the Southeastern United States. The mean age of sample participants was 30.18 years ($SD = 8.43$, range 17-77). The mean education level was 13.34 years ($SD = 1.95$, range 5-21). The majority of the officers were white (75.4%) or African American (22.8%) with a small percentage of Hispanics/Latinos (0.9%), Asians (0.4%), or other (0.6%) making up the rest of the sample. In terms of sex, 85.3% were men and 14.7% were women.

Predictor Information

Cognitive ability was measured using the Shipley Institute for Living Scale. The Shipley is a 60-item test measuring vocabulary and abstract thinking. The test can be group administered, is timed, and takes 20 minutes to complete. Reliabilities for the vocabulary, abstraction, and total score are .87, .89, and .92 respectively. The Shipley correlates about .70 with the Wechsler-Bellevue Scale.

In previous studies investigating the validity of the Shipley in a law enforcement context, Surrette, Aamodt, and Serafino (1990) found no correlation between Shipley scores and probationary performance ($r = .00$). However, Gardner (1994) found a correlation of .16; Scogin, Schumacher, Gardner, and Chaplin (1995) a correlation of .39 between Shipley scores and performance ratings; and Mullins and McMains (1996) found a significant correlation with academy performance ($r = .50$).

Other predictors used in this study included years of education, previous military experience, credit rating, discipline problems at work, arrest record, and traffic citations.

Criterion Information

The performance measure used in this study was whether an officer had been terminated for cause for such reasons as absenteeism, discipline problems, and improper use of force.

Validity Information

As shown in Table 1, both cognitive ability and education were significantly related to being fired for cause. Though the correlations are relatively low, they are consistent with those found in the literature investigating the relationship between cognitive ability and education and disciplinary problems in law enforcement agencies (Aamodt, 2003). Such results provide support for departments with education requirements or those using cognitive ability tests. As shown in Table 2, cognitive ability and education are the only predictors that are moderately correlated ($r = .35$).

Table 1: Correlations with being fired for cause

Predictor	Mean	N	Correlation with being fired for cause
Cognitive ability	100.49	861	-.09*
Education	13.34	1,987	-.10*
Military experience (0=no, 1=yes)	.29	1,987	-.02
Bad credit (0=no, 1=yes)	.23	1,987	-.05*
Fired from previous job (0=no, 1=yes)	.15	1,987	-.04
Arrest record (0=no, 1=yes)	.18	1,987	.02
Number of traffic citations	.53	1,987	.01
Sex (0=male, 1=female)	.15	1,987	.01
Age	30.18	1,987	.00

Table 2: Correlations among variables

Predictor	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Sex								
2. Age	.02							
3. Education	.12	-.07						
4. Bad credit?	-.14	.15	-.09					
5. Fired from previous job?	-.02	-.07	-.06	.14				
6. Arrest record?	-.05	.05	-.02	.11	.12			
7. Traffic citations received	.03	-.11	.06	.01	.05	.06		
8. Previous military experience	-.17	.18	-.03	-.04	-.01	-.06	-.01	
9. Cognitive ability	.09	.04	.35	-.08	.01	.05	-.07	.05

Note: N = 2,919 for all correlations except those involving cognitive ability (n=1,627)
Correlations greater than .04 are significant at the .05 level of confidence

References

- Aamodt, M. G. (2003). *The end of a 10-year journey: Research in law enforcement selection*. Paper presented at the annual meeting of the Society for Police and Criminal Psychology, Corpus Christi, Texas.
- Gardner, J. F. (1994). *The predictive validity of psychological testing in law enforcement*. Unpublished master's thesis, University of Alabama.
- Mullins, W. C., & McMains, M. (1996). Predicting patrol officer performance from a psychological assessment battery: A predictive validity study. *Journal of Police and Criminal Psychology, 10*(4), 15-25.
- Scogin, F., Schumacher, J., Gardner, J., & Chaplin, W. (1995). Predictive validity of psychological testing in law enforcement settings. *Professional Psychology: Research and Practice, 26*(1), 68-71.
- Surette, M. A., Aamodt, M. G., & Serafino, G. (1990). *Validity of the New Mexico Police Selection Battery*. Paper presented at the annual meeting of the Society for Police and Criminal Psychology, Albuquerque, NM.

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