

Washington State Institute for Criminal Justice:

Research in Brief



Research Brief
Concurrent Validity of the Static Risk Offender Need Guide for
Recidivism (STRONG-R)

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Concurrent Validity of STRONG-R

Concurrent validity is the extent to which an assessment may be used to estimate an individual's present standing on a criterion (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1974). This form of validity examines the relationship, or the status of the tests scores, with an existing criterion, or more specifically the predictors and criterion(s) are obtained at the same time. For risk and needs assessment tools, a major criterion for concurrent validation is Anti-Social or criminal behaviors¹. For the purpose of assessing the current validity of for the Static Risk Offender Need Guide – Revised (STRONG-R), *Anti-Social History* is used as the criterion, and its other constructs are used as predictors.²

Method

The conventional methods for establishing concurrent validity include conducting correlational and multivariate analysis (Bashford, Flett, & Copeland, 2010; Donovan, Kivlahan, Doyle, Longabaugh & Greenfield, 2006; Jolliffe, et. al., 2003; Laux & Ahern, 2003; Maisto et. al., 2001; McGrath & Guller, 2008; Douglas & Webster, 1999). The current study assessed the concurrent validity of STRONG-R by examining whether the four confirmed constructs (*Education & Employment*, *Anti-Social Propensity*, *Substance Abuse Propensity*, and *Reintegration Needs*) were strongly correlated with the existing criterion (*Anti-Social History*). Then, a multivariate analysis was conducted to examine whether each of the constructs independently contribute to the variation of offenders' past Anti-Social behaviors³.

Table 1 Correlation Matrix – True Score Variance Model

Constructs	<i>Anti-Social History</i>	<i>Education & Employment</i>	<i>Anti-Social Propensity</i>	<i>Substance Abuse</i>	<i>Reintegration Needs</i>
<i>Anti-Social History</i>	1.00	-- --	-- --	-- --	-- --
<i>Education & Employment</i>	.997***	1.00	-- --	-- --	-- --
<i>Anti-Social Propensity</i>	.998***	.998***	1.00	-- --	-- --
<i>Substance Abuse</i>	.985***	.985***	.985***	1.00	-- --
<i>Reintegration Needs</i>	.990***	.990***	.992***	.976***	1.00

*** $p < .001$

¹ When evaluating concurrent validity, Brennan and Oliver (2000) used similar approach in which criterion behaviors are used as outcome measures, and correlational analysis was conducted.

² The constructs that used in the concurrent validity tests are previous identified and confirmed in Internal Structure study (Mei, & Hamilton, Z., 2016a; Mei, X. Routh, D. & Hamilton, Z., 2016b).

³ Instead of using total scores/total variance of the five constructs, we used the true score variance of the five constructs for analysis because all five constructs are conceptualized and operationalized as higher order factors (see Mei & Hamilton, 2016a; Mei & Hamilton, 2016b)



Results

First, correlation coefficients were obtained among the five constructs to examine the concurrent validity of STRONG-R. As showed in Table 1, the *Anti-Social History* was highly correlated with the other four constructs, *Education & Employment*, *Anti-Social Propensity*, *Substance Abuse Propensity*, and *Reintegration Needs* with correlation coefficients ranging from .990 to .998. This robust empirical evidence indicates the four constructs not only concurred with each other but also concurred with the criterion of offenders' *Anti-Social History*⁴.

Table 2 Predicting Anti-Social History - True Score Variance Model

Constructs	B	S.E.	β
Education & Employment	.291***	.013	.080
Anti-Social Propensity	.228***	.009	.063
Substance Abuse	.112***	.030	.031
Reintegration Needs	.580***	.021	.160
Model R² = .924			

*** $p < .001$

Second, a Structural Regression Analysis (SRA) was conducted, in which *Anti-Social History* was entered into the equation as the dependent variable and the constructs of *Education & Employment*, *Anti-Social Propensity*, *Substance Abuse Propensity*, and *Reintegration Needs* were entered as covariates. As presented in Table 2. All four constructs were found to be statistically significant predictors. The model explains 92.4% of the variance of *Anti-Social History*.

Conclusion

The current study provides strong evidence in support of the concurrent validity of the STRONG-R. To summarize, *Education/Employment*, *Anti-Social Propensity*, *Substance Abuse* and *Reintegration Needs* were found to be predictors of individuals' past Anti-Social behavior with great accuracy and reliability⁵. These four constructs provide justice professionals with valuable evidence that may serve as a useful first step for offender risk prediction, security classification, and treatment allocation. Additional examinations of the constructs' utilities are planned and will be provided in future reports.

⁴ It should be noted, these constructs have under gone additional tests construct validity tests (see Mei, Routh, & Hamilton, 2016a)

⁵ For the reliability and internal consistency of the scales of STRONG-R, see Mei, X. & Hamilton, Z. (2016b).



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