Validity of START:AV Assessments in Predicting Adverse Outcomes in Incarcerated Youth

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Introduction

Youth may experience many adverse outcomes especially when they come into contact with the criminal justice system. These risks range from substance abuse, to violence, to infliction of self-harm. Staff who work with these youth need to be able to determine who is at higher/lower risk in order to intervene and prevent such detrimental situations. (Viljoen, Cruise, Nicholls, Desmarais, & Webster, 2012) Making inaccurate judgments can lead to serious consequences for the youth and those around them (e.g., serious injury or death).

Currently there are many tools out there to assess violence risk with good predictive validity, but they have other limitations (Viljoen et al., 2012). A majority of these existing tools fail to consider protective factors or multiple adverse outcomes beyond violence (e.g., suicide, substance use). They also have not been sufficiently evaluated in juvenile correctional settings. Lastly, they do not adequately address the developmental differences that may exist between adults and adolescents with respect to their risk for adverse outcomes. (Singh, et al., 2013)

The START: AV (Short-Term Assessment of Risk and Treatability: Adolescent Version; Nicholls, Viljoen, Cruise, Desmarais & Webster, 2010) might address these limitations by guiding an assessment that is specifically tailored toward adolescents that accounts for such risk and protective factors. No research to date has examined the predictive validity in incarcerated youth.

The Present Study

We examined the predictive validity of the START:AV total scores and risk estimates with occurrence of adverse outcomes in eight domains: violence, self harm, suicidal behavior, self-neglect, unauthorized leave, substance abuse, victimization and institutional infractions.

Methods

START:AV Assessments

START:AV assessments were completed by 21 case managers on 77 adolescent offenders (63 boys and 14 girls). Assessors rated strengths and vulnerabilities independently, and subjects were assessed to be at either low, medium or high risk across the eight risk domains. We computed total strength and vulnerability scores by summing the individual item ratings.

Outcome Data

Data pertaining to adverse outcomes were coded based on progress reports available in the institutional files using an adapted version of the START Outcome Scale (SOS; Nicholls et al., 2007) (see Singh et al., under review). Outcome data were dichotomized to indicate whether the behavior occurred during follow-up (yes/no). An interrater reliability check on 10 cases showed an agreement rate of 90.5%.

Results

Descriptive Statistics

Table 1 shows the number of youth who experienced adverse outcomes during the follow-up period. The vast majority (80.5%) experienced some form of adverse outcome. Institution infractions were most common (77.9%), followed by violence (57.1%). No youth engaged in self-neglect and very few experienced self-harm, victimization, suicidal behaviors, and substance abuse.

Table 1. Prevalence of Adverse Outcomes

OUTCOME BEHAVIORS	No. of youth with adverse outcome	
	n	%
Any adverse outcome	62	80.5
Any violence (incl. verbal & physical & sexual)	44	57.1
Physical violence (incl. physical & sexual)	41	53.2
Nonsexual violence (incl. verbal & physical)	43	55.8
Nonsexual physical violence (incl. physical)	40	51.9
Self-harm	3	3.9
Suicidal behavior (incl. ideation & attempt)	1	1.3
Self-neglect	0	0.0
Unauthorized leave	6	7.8
Substance abuse	1	1.3
Victimization	2	2.6
Institutional infractions	60	77.9

Correlations between START:AV Ratings and Outcomes

Most correlations between the strength and vulnerability total scores and outcomes were not significant; however, more than half of the specific risk estimates were positively correlated with their outcomes.

Table 2. Correlations between START:AV Ratings and Adverse Outcomes

OUTCOME BEHAVIORS	Strength Total Score	Vulnerability Total Score	Risk Estimates
	r	*r*	*r*
Any adverse outcome	-.06	.11	--
Any violence	-.09	-.03	.29*
Physical violence	-.10	-.03	.31*
Nonsexual violence	-.08	-.04	.31*
Nonsexual physical violence	-.09	-.04	.34*
Self-harm	-.25*	.11**	.50**
Suicidal behavior	-.09‡	-.05*	-.06
Self-neglect	--	--	--
Unauthorized leave	-.20	.18	-.13
Substance abuse	-.02***	.05	.17
Victimization	-.31	.02	.36**
Institutional infractions	-.11	0.0	--

Notes. $N = 77$. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. $‡p < .10$.

Predictive Validity

Table 3 shows the Areas Under the Curve (AUC) of Receiver Operating Characteristic (ROC) curves for the START:AV ratings predicting adverse outcomes. Overall, the AUC values showed better predictive validity for the risk estimates than the total scores.

Table 3. Validity of START:AV Ratings in Predicting Adverse Outcomes

OUTCOME BEHAVIORS	Strength Total Score	Vulnerability Total Score	Risk Estimates
	AUC (SE)	*AUC (SE)*	*AUC (SE)*
Any adverse outcome	.46 (.08)	.58 (.08)	--
Any violence	.46 (.07)	.48 (.07)	.63 (.08)
Physical violence	.46 (.07)	.50 (.07)	.65 (.08)‡
Nonsexual violence	.48 (.07)	.47 (.07)	.65 (.08)‡
Nonsexual physical violence	.47 (.07)	.48 (.07)	.66 (.08)‡
Self-harm	.17 (.08)*	.62 (.17)	.97 (.08)
Suicidal behavior	.25 (.05)	.25 (.05)	.44 (.27)
Self-neglect	--	--	--
Unauthorized leave	.35(.13)	.67(.10)	.39-.12
Substance abuse	.41(.06)	.63(.06)	.87(.08)
Victimization	.02(.02)*	.48(.12)	.94(.05)‡
Institutional infractions	.42(.08)	.59(.08)	--

Note. $N = 77$. SE = standard error. Higher strength total scores indicate greater strength and higher vulnerability total scores indicate greater risk. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$. $‡p < .10$.

Discussion

Results show that the final judgments of low, moderate and high have better predictive validity than estimates based on total scores. However, the study is limited due to the small sample size and different follow-up periods across youth. START:AV may assist clinicians in identifying risk in adolescents in juvenile correctional facilities, but more research is needed. Future research should continue to examine the predictive validity of START:AV assessments in incarcerated youth in larger samples and for longer periods of time.

References

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