EXAMINATION OF CONVERGENT VALIDITY OF START: AV RATINGS AMONG MALE JUVENILES ON PROBATION

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Abstract. The Short-Term Assessment of Risk and Treatability: Adolescent Version (START: AV, Viljoen, Nicholls, Cruise, Desmarais, & Webster, 2014) provides a structural professional judgement on the risk of adverse outcomes related to harm to others and rule violations. The advantage of START: AV is in that it includes the assessment of both strengths and vulnerabilities. As it is a relatively new assessment tool, the questions related to psychometric properties of the measure are still topical, especially in intercultural context. The reliability and convergent validity of START: AV ratings were examined in a sample of 159 male juveniles (M_age = 16.97, SD = 0.81) on probation. Information about the psychosocial functioning of the minors was collected during the interviews with probation officers and rated by the researchers according to the START: AV User Guide. The Subtypes of Antisocial Behaviour (STAB; Burt & Donnellan, 2009), the Triarchic Psychopathy Measure (TriPM; Patrick, 2010), and the Criminal Sentiments Scale-Modified (CSS-M; Shields & Simourd, 1991) were used as convergent measures in this study. The results provided evidence for the reliability of the START: AV ratings and associations between behavioural variables, psychopathy constructs and START: AV are in favour of its concurrent validity. Pro-criminal attitudes were not associated with START: AV ratings, and further research is needed to test the manifestation of pro-criminal attitudes among juvenile offenders on probation. These findings support for further testing the START: AV on its predictive validity as well as utility in work with juvenile offenders.

Keywords: youth delinquency; risk of adverse outcomes; strengths; vulnerabilities.

The phenomenon of delinquency is observable in all societies; however, there is an ongoing debate, whether delinquent behaviour
is normative for juveniles, who as a group, have a stronger preference for risk and novelty (Siegel & Welsh, 2009), or it is an issue, which needs a big public concern. Research shows that only a small proportion (i.e. around 5%) of young people will commit delinquent acts on an ongoing basis while most of juveniles desist from offending without any form of intervention (Steinberg, Cauffman, & Monahan, 2015). Therefore, it is necessary to identify these juvenile offenders who further continue to break rules and are responsible for a disproportionate amount of crime as well as to analyse their current and past situations by identifying the principal risk and protective factors so as to assess the level of future risk and develop tailored intervention plans (Savignac, 2010).

Decades of research have found a huge number of factors significant to the origins and maintenance of delinquent behaviour (Skilling & Sorge, 2014), such as antisocial peers or attitudes, personality or misconduct problems, poor parent-child relations, educational difficulties and/or ineffective use of leisure time are the best predictors of delinquency (Campbell, Schmidt, & Wershler, 2016; Cauffman & Steinberg, 2012; Contreras, Molina, & Cano, 2011; Grieger & Hosser, 2014; Heilbrun et al., 2000; Simourd & Andrews, 1994). The domain of behavioural history is the strongest predictor of future delinquency (Casey, 2011; Cottle, Lee, & Heilbrun, 2001; Farrington, 2005; Frick, 2012; Frick, Ray, Thornton, & Kahn, 2014; Wasserman et al., 2003) meaning that the earlier the onset of behaviour problems, the worse predictions of desistance from antisocial behaviour are in the future (Dishion & Patterson, 2006; Loeber & Farrington, 2000; Moffitt, 1993, 2006).

Individual characteristics play an important role in manifestation of delinquent behaviour (Andrews & Bonta, 2010; Skilling & Sorge, 2014). Antisocial personality pattern refers to extremes of normal dimensions of personality that exist within general population (Grieger & Hosser, 2014; Hare & Neumann, 2010); however, there are some doubts whether any particular type of personality can be labelled for adolescents as there is a threat that some maladaptive features prevailing in adolescence can lead to the positive false assessment of antisocial personality (Hart, Watt, & Vincent, 2002; Seagrave & Grisso, 2002). On the other hand, callous-unemotional or impulsivity traits observed in childhood remain pretty stable through the lifetime (Dhingra & Boduszek, 2013; Frick, Kimonis, Dandreaux, & Farell, 2003; Roberts & DelVecchio, 2000; Lynam &
Gudonis, 2005; Lynam, Charnigo, Moffitt, Raine, Loeber, & Stouthamer-Loeber, 2009). Callousness and impulsivity are evaluated in a number of instruments developed for the assessment of delinquent juveniles, such as Antisocial Process Screening Device (APSD) (Frick & Hare, 2001), or Youth Psychopathic Traits Inventory (YPY) (Andershed, Kerr, Stattin, & Levander, 2002). The difficulties related to emotional and behavioural domains are also captured by a new operationalization of psychopathy, namely, the Triarchic Model of Psychopathy (Patrick, Fowles, & Krueger, 2009), which distinguishes three phenotypic constructs: Disinhibition, Boldness and Meanness (Drislane, Patrick, & Arsal, 2014, Drislane, Brislin, Kendler, Andershed, Larsson, & Patrick, 2015). Boldness entails resilience to stressors and tolerance towards uncertainty or danger, therefore it is associated with interpersonal dominance and sensation seeking (Venables & Patrick, 2012). The other two constructs: Disinhibition, related to impulsivity, irresponsibility, rule breaking, and Meanness, reflecting disregard for and exploitation of others, are reliable predictors of substance abuse problems (Patrick, Fowles, & Krueger, 2009), general and violent reoffending among adults and adolescent boys (Dhingra & Boduszek, 2013; Kimonis, Kennealy, & Goulter, 2016).

The importance of antisocial attitudes in the prediction of delinquent behaviour has a long history already (Andrews & Bonta, 2010; Evans, 2017; Mills, Kroner, & Hemati, 2004; Skilling & Sorge, 2014); however, this importance may vary across different types of offenders and different types of antisocial attitudes (Banse, Koppehele-Gossel, Kistemaker, Werner, & Schmidt, 2013, Mills, Kroner, & Forth, 2002). As the vast majority of studies are conducted within adult offender populations (see Walters, 2012), there is a lack of evidence that attitudes play an important role in juvenile offending. Some studies with juvenile samples support the use of criminal attitudes measures for predicting the repeated delinquent behaviour (Skilling & Sorge, 2014). However, pro-criminal, and particularly pro-violence cognitions, are more prevalent in gang-affiliated youngsters in comparison to their non-gang counterparts (Chu, Daffern, Thomas, Ang, & Long, 2014), and may mediate the prior delinquency-future delinquency relationship (Walters & DeLisi, 2013). Jones with colleagues (2012) found that youths’ antisocial attitudes were strongly related with alcohol abuse, particularly if associated with higher risks in peer or community domains. However, criminal behaviour was
beyond the scope of the study. It can be noted that exploration of relationships between attitudes and criminality in youth still requires more empirical research.

The above described factors are captured in most of the risk assessment instruments designed to help the professionals assessing major risk factors and making evidence-based judgements on future delinquent behaviour. The Short-Term Assessment of Risk and Treatability Adolescent Version (hereinafter referred to as START: AV) is one of the instruments specifically designed to assess the risk of juveniles (Viljoen, Nicholls, Cruise, Desmarais, & Webster, 2014). The START: AV belongs to the so-called 4th generation instruments which differ from previous ones by their emphasis on risk management and intervention planning rather than risk assessment alone (Baird et al., 2013). Moreover, START: AV assesses not only risk factors, defined as Vulnerabilities of the adolescent, but also protective factors (i.e. Strengths), which are extremely important for the desistance from offending behaviour (Brodowski & Fischman, 2013; de Vries Robbé, 2014; Dickens & O'Shea, 2018; Fortune & Ward, 2017; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995; Maruna & LeBel, 2010; Ward, 2017). Certainly the biggest advantage of the START: AV is that it is both developmentally and gender informed (Viljoen, Cruise, Nicholls, Desmarais, & Webster, 2012a).

The studies support the reliability and validity of START: AV based risk assessments completed in adolescent samples on probation (Viljoen et al., 2012b), correctional facilities (Desmarais et al., 2012), and clinical setting (Sher, Warner, McLean, Rowe, & Gralton, 2017). However, these studies are few and mostly conducted with abbreviated manual of the START: AV. There is a need for further investigations on psychometric characteristics of the START: AV using the full version of START: AV user guide (Viljoen et.al., 2014) and in samples other than from the place of origin of the instrument.

Our study was conducted within the sample of male juveniles, who were on probation in Lithuania, and the aim of the study was two-fold. First, we aimed at testing how reliable START: AV ratings based on information derived from the interviews with probation officers were. Second, we evaluate the convergent validity of START: AV ratings. On the basis of the literature review we formulate the following hypotheses:
1. Strengths are negatively associated with Vulnerabilities and Risks of Adverse Outcomes.

2. Estimated Risks of violence, non-violent offences, substance abuse, and unauthorized absence are positively associated with the previous history of delinquency, antisocial attitudes, demographic characteristics (e.g. age of onset), and domains of psychopathy.

**METHOD**

**Participants**

The sample consisted of 159 male adolescents who were under supervision of municipal probation offices. Youths were 17 years old on average ($M = 16.97$, $SD = 0.81$, range = 14.6–18.3). The vast majority of the sample (93.6%) was Lithuanians; 52.9% lived with both parents/caregivers, 33.7% lived in one-parent family, and 13.4% of youth were the residents of child care homes. Index offenses varied from theft (32.7%), robbery (22.7%), mischief (20.7%), to physical (12.0%) and sexual (5.3%) violence, illicit disposal of drugs (5.3%), and road traffic offences (1.3%). The average length of supervision was 12.66 months ($SD = 7.12$, range = 3–36). The majority of youth (72.7%) did not have prior contacts with the justice system and that was their first conviction ($M = 1.40$, $SD = 0.76$, range = 1–4); the mean age of the first contact with police was 14.88 years ($SD = 1.59$, range = 8–17).

Youth were on the 10th school grade on average ($M = 9.65$, $SD = 1.03$, range = 7–12). Twenty-seven percent of the sample had ever repeated the same school grade and 16.6% had ever terminated school deliberately.

The sample of juvenile offenders was recruited with the help of probation officers, who informed the caregivers of the supervised adolescents about the study and received their active consent for the youths’ participation. The juveniles also provided their consent for the participation. To be eligible to participate, minors had to be less than 18 years old and to be on the court-ordered supervision for the remaining three months at least. Fifty six probation officers from 37 municipal probation offices managed to involve the youth to the study; the number of study participants within municipal
probation offices varied from 1 to 15 ($M = 4.27, SD = 3.48$), and the number of study participants for probation offers varied from 1 to 9 ($M = 2.84, SD = 2.04$).

**Procedure**

The ethical approval for this study was granted by the Ethical Committee of Institute of Psychology, Vilnius University. The research was conducted in cooperation with the Prison Department under the Ministry of Justice of the Republic of Lithuania. One of the authors of the study has participated in START: AV training conducted by the authors of the instrument and after its completion has collected pilot interviews with probation officers. The research team participated in 2-day self-training in which training materials and interviews from the pilot study were used. After reaching satisfactory knowledge and skills in START: AV assessment, the team members started to collect interviews.

The eye-to-eye interviews with probation officers (interview length $M = 44.18$ minutes, $SD = 9.07$) focused on the past and current psychosocial functioning of the adolescent. Probation officers from all over Lithuania execute the State’s supervision ordered by the court; thus, receive legal records, usually meet minors twice a month, conduct curfew checks, communicate with caregivers, schools, police and, if necessary, child welfare services; therefore, contain most of the information relevant to the completion of risk assessment.

All interviews were audio-recorded and later rated by the members of the research team according to START: AV User Guide (Viljoen et al., 2014) identifying Strengths and Vulnerabilities of every item as well as estimating the risk of adverse outcomes. Thirty interviews were randomly selected and rated by pairs of evaluators on purpose to calculate the interrater reliability coefficients. It was assumed that there is a systematic source of variance associated with both juveniles and evaluators; therefore, the two-way random effect model was used for calculation of intra-class correlation coefficients (ICC) (McGraw & Wong, 1996). As interrater reliability of evaluations varied from fair to excellent (see Table 1), the rest of the cases were coded independently.

Strengths and vulnerabilities were summed up for total scores. Item 23 “Medical Adherence” and Item 25 “Case Specific Items” were excluded
from the analysis, as there were only few ratings for them. According to previous research practice (e.g., Viljoen et al., 2012b), the cut-off of 20% of the missing items (which equals to 5 non-rated Strength or Vulnerability items) was selected for the inclusion of START: AV protocols; this resulted in exclusion of 32 cases. For cases having less missing ratings we followed the instructions provided in previous studies (see Desmarais et al., 2012), and prorated total scores by formula: prorated total score = [(raw total score / 50) x number of missing items] + raw total score. After the comparison of included and excluded protocols it was found that the excluded juveniles did not differ from the included juveniles on all the evaluated demographic characteristics, such as age \( t(150) = -1.45, \ p = .15 \), nationality \( \chi^2(3, \ N = 156) = 1.07, \ p = .78 \), age of the first contact with police \( t(146) = -1.80, \ p = .07 \), number of convictions \( t(154) = -0.39, \ p = .70 \), length of supervision sentence \( t(148) = -1.79, \ p = .08 \), and deliberate school termination \( \chi^2(1, \ N = 156) = 0.59, \ p = .81 \). The expected difference was found in length of the interview \( t(156) = -2.45, \ p = .02 \) showing that the excluded protocols were characterized by a significantly shorter interview time that was most probably caused by the lack of information about juveniles.

**Measures**

**Demographic questionnaire** was developed to gather the sociodemographic information about the research participants and their previous delinquent behaviour. The questions related to the age, place of residence, school grade, family structure, age of the first contact with police, duration of probation, etc. This questionnaire was filled in by probation officers on the basis of the case records.

The instruments described below were chosen as concurrent measures for criminal risk estimates as their relationship with criminal behaviour is established in numerous studies cited above. Permissions to use the instruments in current study were acquired from their authors. The instruments were translated into Lithuanian by the research team. The Lithuanian version of the instruments was translated back into English by a professional translator, who was not familiar with the original texts. The back translations were submitted to the authors of the instruments and certain changes (if any) within Lithuanian versions was made according to their comments.
The **START: AV** (Viljoen et al., 2014) is a structured professional judgement scheme guiding the assessment of multiple adverse outcomes in adolescents between 13 and 18 years of age. The adverse outcomes are divided into two groups: (1) harm to others and rule violations, and (2) harm to the adolescent, each containing for four separate domains. As our study focuses on criminal behavior of juveniles, only the outcomes related to harm to others and rule violations were analyzed in this article, namely, risks of Violence, Non-Violent Offences, Substance Abuse, and Unauthorized Absence.

The structured professional judgement approach requires two types of decisions: first, the assessors should examine the acquired information and rate every item included in the instrument according to the rating criteria described in the User Manual. Second, they need to make a final decision on the risk level of each adverse outcome. START: AV contains 25 items, each coded as Strengths and Vulnerabilities evidenced during the past three months on the 3-point scale (0 = low, 1 = moderate, 2 = high). The Strengths and Vulnerabilities are rated separately from each other and those identified as especially relevant to risk management are referred to as key (for Strengths) and critical (for Vulnerabilities). Taking into consideration the rated items as well as the historical factors, the assessors estimate the risk of each adverse outcome over the next three months as low, moderate, and high. Alongside the risk ratings total scores of Strengths and Vulnerabilities were calculated for the research purposes, and each of them could range from 0 to 50.

The **Subtypes of Antisocial Behaviour Questionnaire** (STAB; Burt & Donnellan, 2009) measures self-reported history of delinquent behaviour. The STAB is composed of 32 items which are rated using a 5-point scale ranging from never (1) to nearly all the time (5). The STAB contains the following three scales: Physical Aggression (PA), Social Aggression (SA), and Rule Braking (RB), consisting of 10, 11, and 11 items respectively. The participants completed the STAB reporting if the indicated behaviour occurred any time in their life. In the current study, Cronbach’s α of STAB ranged from .68 to .92.

The **Triarchic Psychopathy Measure** (TriPM; Patrick, 2010) is a 58-item self-reported inventory that yields an overall psychopathy score along with 3 subscales of Disinhibition, Meanness, and Boldness corresponding to construct of the Triarchic model of psychopathy. The
Disinhibition scale evaluates general propensity towards externalizing problems and comprises 20 items; the Meanness scale evaluates the callous aggression subdomain of the externalizing spectrum, and the Boldness scale evaluates the adaptive component of psychopathy entailing traits of dominance, emotional stability, and adventurousness. The latter two scales comprise 19 items each. The participants were asked to rate their agreement to each statement on 4-point scale: true (0); somewhat true (1); somewhat false (2); false (3). In the present sample, Cronbach’s α ranged from .65 to .85.

**Criminal Sentiments Scale – Modified** (CSS-M; Shields & Simourd, 1991) is a self-reported instrument designed to measure three general categories of criminal attitudes (Martinez & Andres-Pueyo, 2015). It consists of 41 items: first 25 items compose the subscale of Attitudes towards the Law, Court, and Police (LCP); next 10 items compose the subscale of Tolerance for Law Violations (TLV) related to the category of neutralization. The latter 6 items compose the subscale of Identification with Criminal Others (ICO). Each item is scored on a 3-point scale: agree (0), undecided (1), disagree (2), with higher scores reflecting stronger criminal attitudes. Previous researches have shown that CSS-M possesses good psychometric properties and predictive validity in samples of adult criminals (Simourd & van de Ven, 1999); in our sample Cronbach’s α ranged from .53 to .91.

**RESULTS**

**START: AV Ratings: Reliability, Missing Items and Correlations Between Strength and Vulnerability Ratings**

The START: AV interrater reliability was calculated on 30 cases from the study pool. Each case was evaluated by two independent evaluators. The values of interrater reliability which are less than .40 indicate poor interrater reliability; between .40 and .59 mean fair; .60–.74 – good; .75–1.00 – excellent (Cicchetti, 1994). The interrater reliability of individual evaluations (ICC1) and average ratings (ICC2) of START: AV Strengths and Vulnerabilities total scores were excellent as varying from .82 to .96 (see Table 1). The 88% of separate START: AV items (i.e. 22 Strengths and 22 Vulnerabilities) ICC1 coefficients vary from fair to excellent; however, the analysis of
ICC values shows interrater agreement difficulties in rating such items as Coping, Social Support from Adults and Community. These difficulties can arise due to limited sources of information used for ratings.

**Table 1. Interrater reliability, descriptive characteristics, and internal correlations of the START: AV**

<table>
<thead>
<tr>
<th>START:AV ratings</th>
<th>ICC1</th>
<th>ICC2</th>
<th>M (SD)</th>
<th>% of not evaluated</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ST</td>
<td>VN</td>
<td>ST</td>
<td>VN</td>
<td></td>
</tr>
<tr>
<td>Total score</td>
<td>.82</td>
<td>.91</td>
<td>.90</td>
<td>.96</td>
<td>17.16 (9.40)</td>
</tr>
<tr>
<td>1. School and work</td>
<td>.70</td>
<td>.75</td>
<td>.83</td>
<td>.86</td>
<td>.52 (.62)</td>
</tr>
<tr>
<td>2. Recreation</td>
<td>.80</td>
<td>.81</td>
<td>.89</td>
<td>.89</td>
<td>.71 (.70)</td>
</tr>
<tr>
<td>3. Substance use</td>
<td>.66</td>
<td>.45</td>
<td>.80</td>
<td>.62</td>
<td>.34 (.57)</td>
</tr>
<tr>
<td>4. Rule adherence</td>
<td>.57</td>
<td>.75</td>
<td>.73</td>
<td>.85</td>
<td>.93 (.66)</td>
</tr>
<tr>
<td>5. Conduct</td>
<td>.50</td>
<td>.81</td>
<td>.67</td>
<td>.89</td>
<td>.69 (.66)</td>
</tr>
<tr>
<td>6. Self-care</td>
<td>.63</td>
<td>.74</td>
<td>.78</td>
<td>.85</td>
<td>.58 (.61)</td>
</tr>
<tr>
<td>7. Coping</td>
<td>.36</td>
<td>.73</td>
<td>.53</td>
<td>.85</td>
<td>.61 (.61)</td>
</tr>
<tr>
<td>8. Impulse control</td>
<td>.55</td>
<td>.64</td>
<td>.71</td>
<td>.78</td>
<td>.35 (.55)</td>
</tr>
<tr>
<td>9. Mental/cognitive state</td>
<td>.72</td>
<td>.79</td>
<td>.84</td>
<td>.88</td>
<td>.43 (.60)</td>
</tr>
<tr>
<td>10. Emotional state</td>
<td>.58</td>
<td>.78</td>
<td>.74</td>
<td>.88</td>
<td>.67 (.68)</td>
</tr>
<tr>
<td>11. Attitudes</td>
<td>.60</td>
<td>.79</td>
<td>.75</td>
<td>.89</td>
<td>.64 (.67)</td>
</tr>
<tr>
<td>12. Social skills</td>
<td>.73</td>
<td>.75</td>
<td>.85</td>
<td>.85</td>
<td>.90 (.74)</td>
</tr>
<tr>
<td>13a. Relationships – caregivers/adults</td>
<td>.59</td>
<td>.66</td>
<td>.74</td>
<td>.80</td>
<td>1.03 (.65)</td>
</tr>
<tr>
<td>13b. Relationships – peers</td>
<td>.41</td>
<td>.45</td>
<td>.58</td>
<td>.62</td>
<td>1.06 (.60)</td>
</tr>
<tr>
<td>14a. Social support – adults</td>
<td>.39</td>
<td>.69</td>
<td>.56</td>
<td>.82</td>
<td>1.02 (.67)</td>
</tr>
<tr>
<td>14b. Social support – peers</td>
<td>.46</td>
<td>.39</td>
<td>.63</td>
<td>.56</td>
<td>.92 (.63)</td>
</tr>
<tr>
<td>15. Parenting</td>
<td>.50</td>
<td>.73</td>
<td>.66</td>
<td>.85</td>
<td>.82 (.66)</td>
</tr>
<tr>
<td>16. Parental functioning</td>
<td>.48</td>
<td>.37</td>
<td>.65</td>
<td>.54</td>
<td>.83 (.65)</td>
</tr>
<tr>
<td>17. Peers</td>
<td>.49</td>
<td>.75</td>
<td>.66</td>
<td>.86</td>
<td>.47 (.62)</td>
</tr>
<tr>
<td>18. Material resources</td>
<td>.70</td>
<td>.86</td>
<td>.82</td>
<td>.92</td>
<td>.73 (.68)</td>
</tr>
</tbody>
</table>
**Table 1 cont.**

<table>
<thead>
<tr>
<th>START:AV ratings</th>
<th>ICC1</th>
<th>ICC2</th>
<th>M (SD)</th>
<th>% of not evaluated</th>
<th>r</th>
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<tbody>
<tr>
<td></td>
<td>ST VN ST VN ST VN ST VN ST VN</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>19. Community</td>
<td>.39  .61  .56 .76 .54 (.61) .68 (.68)</td>
<td>3.8  3.8</td>
<td>-.27**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. External triggers</td>
<td>.67  .29  .80 .45 .23 (.51)</td>
<td>.33 (.58)</td>
<td>35.2 35.2</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>21. Insight</td>
<td>.75  .73  .86 .84 .51 (.60)</td>
<td>.91 (.73)</td>
<td>11.9 13.2</td>
<td>-.60**</td>
<td></td>
</tr>
<tr>
<td>22. Plans</td>
<td>.77  .49  .87 .66 .77 (.65)</td>
<td>.63 (.62)</td>
<td>8.8 10.1</td>
<td>-.58**</td>
<td></td>
</tr>
<tr>
<td>24. Treatability</td>
<td>.76  .81  .87 .90 .84 (.60)</td>
<td>.57 (.68)</td>
<td>6.9 6.9</td>
<td>-.58**</td>
<td></td>
</tr>
<tr>
<td>Risk of Violence</td>
<td>.51  .68  .28 (.47)</td>
<td>20.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk of Non-violent offences</td>
<td>.66  .79  .42 (.64)</td>
<td>20.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk of Substance abuse</td>
<td>.49  .64  .37 (.66)</td>
<td>20.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risk of Unauthorized absence</td>
<td>.89  .94  .74 (.82)</td>
<td>20.8</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Note.* Total sample consisted of $N = 159$ juveniles, ICCs were calculated for ratings of 30 cases. ST = Strengths Total scores; VN = Vulnerabilities Total scores.

**Item 23.** Medication adherence was not included as medication was prescribed only for 7 participants of the study.

The ICC1 for Risk of Adverse Outcomes vary from .49 to .89 (Table 1) showing from fair to excellent interrater reliability. In all the cases the intra-class correlation coefficients for average ratings (ICC2) were higher in comparison to the coefficients for individual ratings (ICC1). The obtained reliability statistics confirm the reliability of individual ratings and provide rationale to use these ratings in testing the convergent validity of START: AV.

The analyses of missing ratings revealed the frequency of which the items were not evaluated due to the lack of information from probation officers (see Table 1). Social Support from Peers was rated as neither Strength nor Vulnerability in more than 50% of the cases; External Triggers – in 35%, Relationships with Peers – in 26% of cases. The least missing of ratings were on Rule Adherence (.6%), Strength in Self Care (.6%) and Vulnerability in Impulse Control (2.5%).

In general Strengths and Vulnerabilities of the sample were rated relatively low (the means are between 0 and 1). The same can be said about the Risks of Adverse Outcomes, the means of which range from .28 (Risk of Violence) to .74 (Risk of Unauthorized Absence).
For interpretation of the strength of associations we used Cohen’s (1992) guidelines, where effect sizes of correlations are: small $r > .10$, medium $r > .30$, large $r > .50$. The correlations between Strength and Vulnerability ratings were in an expected direction and ranging from medium to large with the exception of External Triggers. Our results are in line with the findings of other studies (e.g., Desmarais et al.; 2012), showing that associations for School/Work are among the largest while for Self-Care among the smallest.

**Associations Between START: AV Ratings and Behaviour-Related Variables**

As shown in Table 2 START: AV Strength total score was positively associated with an age of the first contact with police, and negatively associated with a number of convictions, deliberate school termination, and STAB scores. START: AV Vulnerability total score had associations inverse to the ones mentioned above. In addition, Risk of Violence, Risk of Non-Violent Offence, and Risk of Substance Abuse had associations similar to Vulnerability total score. The Risk of Unauthorized Absence was negatively correlated with the age of the first contact with police. Most of the correlations were of small and medium effect sizes. The length of supervision was not significantly correlated with any of the START: AV ratings.

**Table 2. Correlations between START: AV and convergent measures**

<table>
<thead>
<tr>
<th></th>
<th>Strength Total scores</th>
<th>Vulnerability Total scores</th>
<th>Risk of Violence</th>
<th>Risk of Non-violent offences</th>
<th>Risk of Substance abuse</th>
<th>Risk of Unauthorized absence</th>
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<td>-.40**</td>
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<tr>
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<td>.22*</td>
<td>.33**</td>
<td>.20*</td>
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<td>Physical Aggression</td>
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<td>.23**</td>
<td>.20*</td>
<td>.09</td>
<td>.03</td>
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<td>Vulnerability Total scores</td>
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<td>.13</td>
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<td>.19*</td>
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<td>-.07</td>
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**Note.** Age of FCP = Age of the first contact with police; Convictions = Number of convictions; Length SP = Length of supervision in months; DST = Deliberate school termination; STAB = Subtypes of Antisocial Behaviour Questionnaire; TriPM = Triarchic Psychopathy Measure; CSS-M = Criminal Sentiments Scale-Modified.

*a* DST (Deliberate school termination) is dichotomous variable meaning 0 = false, and 1 = true; Statistically significant correlations are bolded.

* p < .05 (2-tailed), ** p < .01 (2-tailed).

**START: AV Associations with Psychopathy and Attitudinal Measures**

The results of correlations between START: AV, TriPM, and CSS-M scores are presented in Table 2. START: AV Strengths total scores had positive correlations with Boldness and negative correlations with Disinhibition, while START: AV Vulnerability total scores had negative correlations with Boldness and positive correlations with Disinhibition. All indicated
correlations were of a small effect size. As expected Risk of Violence was associated with Meanness, and Risk of Non-Violent Offences was associated with Disinhibition. However, the associations between CSS-M and the Risks of two Adverse Outcomes (Substance Abuse and Unauthorized Absence) went on negative direction.

**DISCUSSION**

The main objective of this paper was to examine the interrater reliability and convergent validity of START: AV ratings in a sample of male juvenile offenders on probation. The START: AV ratings were based on information acquired during the interviews with probation officers, who supervise juvenile offenders. Our study revealed that this information is fairly comprehensive and relevant for estimating risk of different adverse outcomes, as the interrater reliability coefficients vary from fair to excellent and are similar to the interrater reliability coefficients found in other studies (e.g. Viljoen et al., 2012b). However, with regards to separate items, certain unevenness is observed: probation officers provide the most detailed information on rule adherence and from observation during direct communication either with a minor (e.g. self-care, impulse control, social skills) or with his caregivers (e.g. parenting; material resources). Yet, there is evident lack of information regarding juveniles’ communication with peers as well as important events happening in their lives: these items were not rated in half and one third of the cases respectively. The focus on certain aspects of psychosocial functioning of the juvenile can be related to the specific tasks of probation officers, as they are oriented mainly towards supervision how the court orders are executed. Anyway, the majority of the probation officers know the juveniles quite well and contain information necessary for START: AV assessment.

The interrater reliability indicators of START: AV ratings in our study were sufficient: the interrater reliability of START: AV Strengths and Vulnerabilities total scores were excellent. It means, that the description of items provided in the START: AV User Guide (Viljoen et al., 2014) ensures the unambiguous ratings by different raters of both Strengths and Vulnerabilities. We also found satisfactory interrater reliability of estimated Risk of Adverse Outcomes, and these findings were similar to the
other studies (e.g., Desmarais et al., 2012) opening the floor for further analysis.

Negative correlations between Strengths and Vulnerabilities were found in our study. Despite more general assumption that the presence of particular Strength does not mean the absence of particular Vulnerability and vice versa, the studies show that on group level negative correlations between Strengths and Vulnerabilities are up to the large effect size (e.g., Desmarais et al., 2012). The same results confirming our first hypothesis were obtained in our study.

The results have supported the second hypothesis, that the estimated Risks of Adverse Outcomes are positively associated with behavioural and personality variables. The effect sizes of the correlations ranged from small to medium, but relatively small effect sizes can be explained by different errors related to different assessment methods. The START: AV assessment is based on Structured Professional Judgement, and errors can be caused by lack of relevant information or misinterpretations made by assessors. Self-reported measures are prone to other type of errors, mostly related to random responding or socially desirable responses. However, in this type of research correlation coefficients even of a smaller range can prove the convergent validity of the instruments (Sellbom, Laurinavičius, Ustinavičiūtė, & Laurinaitytė, 2018).

Antisocial behaviour variables positively correlated with vulnerabilities and the risk of some Adverse Outcomes as well as negatively correlated with Strengths. The most abundant and the largest associations were found between START: AV Strengths and Vulnerabilities total ratings and age of the first contact with police, number of convictions, deliberate school termination, and self-reported antisocial behaviour. The Risk of Violence had the largest correlations with deliberate school termination and the STAB Physical Aggression scale; this confirms the validity of Violence Risk assessment. The Risk of Non-Violent Offences had larger correlations with age of the first contact with police, number of convictions, deliberate school termination, and all scales of STAB (particularly the scale of Rule-Breaking). These associations are in line with theoretical assumptions (e.g., Moffitt, 2006) and empirical findings (e.g., Casey, 2011) that history of antisocial behaviour is very important for the risk assessment and is necessary to be considered during the process of evaluation.
Associations between START: AV and psychopathy or attitudinal measures were not so numerous. The Meanness component of psychopathy, which reflects callousness and aggressiveness, was associated with the Risk of Violence, while Disinhibition, which reflects poor regulation of emotion and behaviour, was associated with the Risk of Non-Violent Offences. Disinhibition also correlated with the Strengths and Vulnerabilities total scores, showing the potential importance for the antisocial behaviour of juveniles. It should be noted that the above-mentioned correlations were consistent with the theoretical assumptions in terms of their direction; nevertheless, they were small of their effect size.

There were no correlations found between START: AV ratings and instruments measuring pro-criminal attitudes. None of Strengths/Vulnerabilities total scores and Risks of Violence/Non-Violent Offences was correlated with any of the CSS-M scales. Moreover, small negative correlations between Antisocial Attitudes and the Risks of Substance Use and Unauthorized Absence were found contradicting the findings of other studies (e.g., Skilling & Sorge, 2014). This discrepancy can be explained by different features of the samples of the studies. The majority of our sample (72.7%) had no prior history of convictions. In comparison the study of Skilling and Sorge (2014) involved male juveniles, 76% of whom had prior contact with the justice system. Furthermore, with regard to index offense, 53.4% of our study participants were charged for non-violent offences in comparison to 74% participants charged for violent (physical or sexual) offences in the study of Skilling and Sorge (2014). Therefore, we assume that criminal attitudes play a more significant role in the samples characterized by lengthier or more serious criminal history. This assumption is also supported by the study in a sample of German youth inmates, which found that antisocial cognition appears among four key factors predicting violent recidivism, but not general reoffending (Grieger & Hosser, 2014). Another study with female young offenders also showed that while CSS-M adequately measures pro-criminal attitudes, the attitudes themselves are not so important for the offending behaviour (O’Hagan, Brown, & Skilling, 2014).

On the other hand, despite the widely accepted notion of criminal attitudes as being the most important predictor of offending behaviour (Andrews & Bonta, 2010, Visu-Petra, Borlean, Chendran, & Buş, 2008), there is a lack of a uniform definition what criminal attitudes exactly refer
to as they might be defined as thinking styles, social cognition, criminal sentiments, pride in the commission or positive evaluation of a particular delinquent behaviour (Martínez & Andrés-Pueyo, 2015). All these definitions are inter-related but not overlapping; thus, further research is needed to clarify the extent to which criminal attitudes in general and criminal sentiments as measured by CSS-M in particular do manifest among juvenile offenders on probation.

LIMITATIONS AND FUTURE DIRECTIONS

We consider that the main limitation of the study is related to the source of information used for START: AV ratings, which were conducted on the basis of the interviews with probation officers solely. Probation officers collect information about the psychosocial functioning of juveniles; however, certain gaps exist, which do not allow to complete the START: AV ratings in full content. In our study the lack of information led to the exclusion of 32 cases where more than 20% of items were missing. It should be noted, that for individual evaluation for non-research purposes the direct contact with juveniles is the main source of information and it should not be omitted. In other words, the interview with juveniles, their caregivers, and collaterals as well as analysis of all relevant documents are necessary to be conducted until all information for completing the START: AV ratings is collected.

Taking into consideration that the overall goal of the risk assessment is to predict the recurrence of adverse outcomes in the future, the merit of any risk assessment instrument as well as the endorsement of its application in practise undoubtedly is in its prospective validity. The verification of the sufficient interrater reliability and convergent validity of the START: AV advances the further investigation of the instrument particularly focusing on its power to predict the adverse outcomes for juveniles within a period of three months or other specified reference period.

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REFERENCES


**START: AV VERTINIMŲ KONKURENCINIS VALIDUMAS VYRIŠKOS LYTIES PAAUGLIŲ, ESANČIŲ PROBACIJOS PRIEŽIŪROJE, IMTYJE**

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vertinimo instrumentas, yra svarbu įvertinti jo psichometrines charakteristikas atsižvelgiant į skirtingą kultūrinį kontekstą. START:AV vertinimo patikimumas bei konkurencinis validumas buvo tirtas 159 vyriškos lytis probuojamų paauglių, kurių amžius $M = 16.97$, $SD = 0.81$, imtyje. Informacija apie tyrimo dalyvių psichosocialinį funkcionavimą buvo surinkta interviu su juos prižiūrinčiais probacijos pareigūnais metu ir įvertinta START:AV instrumentu. Konkurencinio validumo tikrinimui buvo naudojami šie klausimynai: Asociaus elgesio tipų klausimynas (STAB; Burt & Donnellan, 2009), Triarchinės psichopatijos klausimynas (TriPM; Patrick, 2010) bei Kriminalinių nuostatų skalės modifikuota versija (CSS-M; Shields & Simourd, 1991). Gauti rezultatai parodė, kad START:AV Stiprybių ir Sunkumų suminiai balai pasižymi aukštu suderinamumu, o ryšiai tarp START:AV ir elgesio bei asmenybės veiksnių pagrindžia START:AV konkurencinį validumą. Nerastos sąsajos tarp START:AV vertinimų ir prokriminalinių nuostatų reikalauja nuodugnių kriminalinių nuostatų pasireiškimo probuojamiams paaugliams tyrimo. Apibendrinat galima pasakyti, kad tyrimo rezultatai sudaro tinkamas prielaidas tolesniams START:AV prognostinio validumo tyrimams bei šio instrumento praktiniam taikymui dirbant su delinkventiškais paaugliais.

Reikšminiai žodžiai: paauglių delinkventiškas elgesys; neigiamų pasekmių rizika; stiprybės; sunkumai.

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