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Reliability and Construct Validity of the Dutch Psychopathy Checklist: Youth Version

Findings From a Sample of Male Adolescents in a Juvenile Justice Treatment Institution

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The present study examines the reliability and construct validity of the Dutch version of the Psychopathy Check List: Youth Version (PCL:YV) in a sample of male adolescents admitted to a secure juvenile justice treatment institution ($N = 98$). Hare's four-factor model is used to examine reliability and validity of the separate dimensions of psychopathy. Interrater reliabilities are good to excellent for the PCL:YV total score and most factor scores, except for the affective factor. Several suggestions are offered for optimizing reliability of this factor. Finally, meaningful associations between PCL:YV scores and scores on the Minnesota Multiphasic Personality Inventory–Adolescent and the Interpersonal Checklist–Revised support the construct validity of the PCL:YV total score as well as the four factors in the Dutch context.

Keywords: *psychopathy checklist; youth version; psychopathy; nomological network; construct validity; reliability*

The assessment of psychopathic traits in adolescents has become an important aspect of forensic psychological assessment, with potentially grave implications for sentencing, diversion practice, and treatment (Petrila & Skeem, 2003; Skeem & Cauffman, 2003). In adult male offenders, the concept of psychopathy is associated with an early onset of antisocial behavior (Forth & Burke, 1998; Hare, Hart, Forth, Harpur, & Williamson, 1998), deviant performance on neurocognitive tasks (e.g., Levenston, Patrick, Bradley, & Lang,

2000; Newman & Schmitt, 1998), higher recidivism rate (Gendreau, Goggin, & Smith, 2002; Hildebrand, de Ruiter, & de Vogel, 2004; Walters, 2003), and limited response to treatment (Ogloff, Wong, & Greenwood, 1990; Rice, Harris, & Cormier, 1992; Seto & Barbaree, 1999). However, positive effects of treatment on the violent and criminal behaviors of adults and adolescents with psychopathic traits have also been demonstrated (Caldwell, Skeem, Salekin, & Van Rybroek, 2006; Skeem, Monahan, & Mulvey, 2002). Several scholars have argued that the identification of psychopathic traits in childhood or adolescence may offer a better understanding of the etiology of the disorder and may provide starting points for targeting interventions (Forth, Hart, & Hare, 1990; Forth & Mailloux, 2000; Frick, Bodin, & Barry, 2000). For this purpose, the Psychopathy Checklist–Revised (PCL–R; Hare, 1991, 2003), the most widely validated measure for the assessment of psychopathy in adults, has been extended downward for use with adolescents.

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The Psychopathy Checklist: Youth Version (PCL:YV; Forth, Kosson & Hare, 2003) closely resembles the PCL-R, but item descriptions were modified to take into account the restricted life experience of the adolescent and to emphasize peer contacts instead of romantic relationships (Forth et al., 2003). Similar to the PCL-R, the items of the PCL:YV are scored on a 3-point rating scale (0 = *item does not apply*, 1 = *item applies to a certain extent*, 2 = *item definitely applies*), resulting in a dimensional total score ranging from 0 to 40. In contrast to the PCL-R, there is no designated cutoff score for the PCL:YV. Scores should be interpreted as dimensional ratings of the degree to which an adolescent matches the prototypical psychopath (Forth et al., 2003).

The factor model underlying the PCL:YV is still under investigation. Although earlier studies suggested a similar two-factor structure as the one traditionally thought to underlie adult psychopathy (e.g., Brandt, Kennedy, Patrick, & Curtin, 1997; Forth & Mailloux, 2000), the PCL:YV manual (Forth et al., 2003) provided evidence of two alternative models that have been proposed for the PCL-R, a modified version of the hierarchical three-factor model (Cooke & Michie, 2001) and a parceled four-factor model (Hare, 2003). In both models, the original Factor 1 (Hare, 1991) is divided into an interpersonal dimension (new Factor 1) and an affective dimension (new Factor 2). A new Factor 3 comprises impulsive behavioral traits and an irresponsible lifestyle. The Hare (2003) four-factor model included an additional fourth factor comprising antisocial behaviors. Several studies have demonstrated both models to have generally good fit in male adolescents. The four-factor model was more parsimonious from a mathematical-modeling perspective (Jones, Cauffman, Miller, & Mulvey, 2006; Neumann, Kosson, Forth, & Hare, 2006; Salekin, Brannen, Zalot, Leistico, & Neumann, 2006), whereas the three-factor model is considered to be more theoretically coherent (e.g., Cooke & Michie, 2001; Cooke, Michie, Hart, & Clark, 2004). In fact, other child and adolescent psychopathy measures, such as the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) and the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2001), do not (YPI) or only scarcely include antisocial items (APSD; one item).

Critics have argued that the use of a simple downward extension of adult psychopathy measures such as the PCL-R may not be warranted because of several methodological and ethical problems (Hart, Watt, & Vincent, 2002; Seagrave & Grisso, 2002). One

concern is that psychopathy may not be manifested in the same way across the life span. More specifically, behaviors and attitudes similar to operational definitions of adolescent psychopathy, for instance, rapid changes in peer relationships and risk-taking behavior, may in fact be caused by the transient developmental process of adolescence. This increases the possibility of 'false positives'—a diagnosis of psychopathy when psychopathy is, in fact, not present. The negative connotations associated with the term *psychopathy* (e.g., dangerousness, untreatability) necessitate that high psychometric standards be met before using psychopathy measures in clinical forensic practice. Careful scrutiny of the psychometric properties of the PCL:YV in the past decade, has provided accumulating evidence of the reliability and construct validity of PCL:YV ratings, which are briefly summarized below.

Evidence of Reliability

Good interrater reliability and internal consistency of the PCL:YV total score has been demonstrated in several studies (e.g., Brandt et al., 1997; Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002; O'Neill, Lidz, & Heilbrun, 2003; Skeem & Cauffman, 2003). Campbell, Pulos, Hogan, and Murry (2005) performed a meta-analysis of 28 independent adolescent samples, to examine the reliability of the PCL:YV and related instruments (i.e., PCL-R, modified versions of the PCL-R, and the PCL, screening version; Hart, Cox, & Hare, 1995). The interrater reliability and internal reliability of the total score were good (.91 and .85, respectively). However, several factors were found to affect reliability. For instance, interrater reliability was found to be better in samples with greater PCL:YV total score variability, whereas samples with a large number of participants with uniformly low or high PCL:YV scores were more difficult for raters to agree on. Furthermore, the use of the PCL-R in adolescent samples led to better internal consistency than the use of the PCL:YV, suggesting that the modifications associated with the PCL:YV have introduced greater heterogeneity in scoring.

Evidence of Construct Validity

The concept of the nomological network (Cronbach & Meehl, 1955) provides an appealing theoretical

framework for understanding the construct validity of psychopathy. In this framework, constructs are continually redefined and clarified through their relationships with other constructs. A first layer of the nomological network surrounding psychopathy involves the interrelationship between various measures of psychopathy. The construct validity is supported when these measures strongly relate to each other. However, limited convergence has been demonstrated between the PCL:YV and other measures of psychopathic traits in adolescence (Lee, Vincent, Hart, & Corrado, 2003; Murrie & Cornell, 2002; Salekin, Leistico, Trobst, Schrum, & Lochman, 2005; Skeem & Cauffman, 2003). A method effect (self-report vs. clinician ratings) was demonstrated to underlie this lack of convergence (Lee et al., 2003), suggesting that these different methods do not capture the concept in the same manner.

A second layer in the nomological network is the relationship of psychopathy measures with measures of other personality disorders. Construct validity is supported when psychopathy measures are strongly associated with related disorders and demonstrating divergent relationships with unrelated disorders. Psychopathic traits, as measured by the PCL:YV, are related to an early onset of antisocial behavior and generally have a greater number and variety of conduct disorder (CD) symptoms and more severe CD symptoms than boys without these traits (Forth et al., 1990; Kosson et al., 2002; Myers, Burket, & Harris, 1995; Rogers, Johansen, Chang, & Salekin, 1997).

A third layer of the nomological network involves the relationship with psychopathy measures with normal-range personality dimensions. Construct validity is supported when psychopathy measures demonstrate theoretically meaningful relationships with personality dimensions. Indeed, several researchers have demonstrated that the construct of adolescent psychopathy could be meaningfully placed into a personality framework. For instance, Brandt et al. (1997) demonstrated that PCL:YV scores were related to the clinical scales 4 and 9 (reflecting amoral rebelliousness and impulsive tendencies) of the Minnesota Multiphasic Personality Inventory–Adolescent version (MMPI-A). Furthermore, psychopathic traits were found to be related to the Big Five factors Agreeableness and Conscientiousness (Salekin et al., 2005) and to an emotionally cold (Salekin et al., 2005) and dominant (Forth, Brown, Hart, & Hare, 1996) interpersonal style. However, some findings have been equivocal. For instance, though a lack of anxiety and negative affectivity is conceptually supposed to be a central feature of psychopathy (for a review, see Skeem,

Mulvey, & Grisso, 2003), PCL:YV scores were not (Brandt et al., 1997; Skeem & Cauffman, 2003) or even positively associated with negative affect (Kosson et al., 2002). However, to determine whether this finding makes theoretical sense, the unique relations between the separate psychopathy dimensions and anxiety should be examined. Specifically, the interpersonal or affective dimension would be expected to correlate negatively with anxiety, whereas the lifestyle and behavioral features have been demonstrated to have a positive relationship with negative affect (e.g., Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999).

Because increased importance is placed on the separate psychopathy dimensions, recent research has focused on evaluating their construct validity by comparing each dimension with external criteria (Farrington, 2005). For instance, Hall, Benning, and Patrick (2004) examined the associations of the four PCL-R factors with personality, behavior, and adaptive functioning in adult male offenders. The interpersonal psychopathy dimension was found to be related to social dominance, low stress reactivity, and increased adaptive functioning. Furthermore, the affective factor was related to low social closeness and violent offending, and the lifestyle factor was associated with negative emotionality, disinhibition, reactive aggression, and poor adaptive functioning. The antisocial dimension generally demonstrated similar correlations as the lifestyle dimension but had greater positive correlations with assault charges and overall number of violent charges. Differential associations between Hare's traditional two psychopathy factors and external criteria have also been demonstrated in adolescent samples (Lynam et al., 2005). However, the new factor models proposed by Cooke and Michie (2001) and Hare (2003) have not yet been tested on their construct validity in youth.

The Present Study

Because prior studies regarding the psychometric properties of the PCL:YV are almost exclusively based on North American samples, cross-cultural validation seems a logical next step. The implementation of the PCL:YV in a new cross-cultural context should be accompanied by an evaluation of the psychometric status of the instrument in that particular context. Therefore, the first aim of the present study is to examine the interrater and internal reliability (item homogeneity and internal consistency) of the Dutch

language version of the PCL:YV (Psychopathie Checklist: Jeugd Versie [PCL:JV]; de Ruiter, de Vries, & Das, 2002) in a sample of 98 male adolescents in a juvenile justice treatment institution.

The second aim is to explore the construct validity of the Dutch PCL:YV by relating psychopathy total and factor scores to scores on the Dutch MMPI-A (Butcher et al. 1992; Dutch version: van Dijk, Cornelissen, & Derksen, 2000). In addition, PCL:YV scores are related to scores on the Interpersonal Checklist (ICL-R; LaForge & Suczek, 1955; Dutch version: de Jong, van den Brink, & Jansma, 2000). Based on previous findings, PCL:YV total scores are expected to be positively associated with

- externalizing (antisocial) behavior (MMPI-A clinical scale 4, personality disorder (Pd) subscale 2, content scales conduct problems, school problems, anger),
- substance abuse problems (MMPI-A supplementary scales MAC-R, PRO, and ACK),
- impulsivity (MMPI-A clinical scale 9, subscales Sc3, Sc4, Sc5),
- dominant and hostile interpersonal style (ICL-R dominance vector),
- and inversely related to
- social introversion (MMPI-A clinical scale 0, subscales social introversion (Si)1, 2, hysteria (Hy)1; MMPI-2 clinical scale 3); content scale social discomfort)
- submissive and friendly interpersonal style (ICL-R affiliation vector).

The third aim of the study is to examine the construct validity of Hare's (2003) four-factor model. Psychopathy dimensions are expected to be differentially associated with external correlates. More specifically, the interpersonal dimension is expected to be primarily inversely associated with scales measuring social introversion, and a submissive and friendly interpersonal style. In addition, this dimension is expected to be primarily positively related to a dominant interpersonal style. The lifestyle and antisocial dimensions are expected to be most strongly related to scales measuring externalizing behavior, substance abuse, and impulsivity. Although the PCL:YV total score is expected to be unrelated to anxiety, the affective psychopathy dimension is expected to show a significant inverse relation to anxiety (MMPI-A content scale ANX).

There is reason to believe that the psychological characteristics of sexual offenders are somewhat different from the psychological characteristics of other

offenders (e.g., less extravert and impulsive, more neurotic; see for a review, van Wijk et al., 2006). In a mixed offender sample such as the present one, this may affect the relations of the PCL:YV to the selected MMPI-A and ICL-R scales. Therefore, the final aim of the study is to examine whether the associations of the PCL:YV with external correlates are robust across offender types (sexual vs. nonsexual offenders).

Method

Participants

The study sample comprised male adolescents admitted to a secure section of *Jongerenhuis Harreveld*, a juvenile justice treatment institution. *Jongerenhuis Harreveld* admits juveniles from all over the Netherlands and is specialized in the treatment of juvenile sex offenders and mentally disordered juvenile offenders. This results in the admission of only the most severely disordered boys. Boys are either sentenced to a supervision order or a mandatory treatment order by the court. The duration of a mandatory treatment order varies from 2 to 6 years, depending on the seriousness of the offense, on whether a mental disorder was present at the time of the offense, and on whether the parenting situation was seriously compromised. A supervision order is a civil measure, which can be imposed when a child's development is threatened because of incompetent parenting and/or behavioral problems of the child. During the supervision order, the parents and a legal guardian share the responsibility of the adolescent's custody.

From January 2002 until December 2004, every newly admitted boy was asked to participate in the study. Written informed consent was obtained from almost all recruited boys (response rate: 90.7 %; $N = 114$). Furthermore, their parents were informed about the purpose and procedure of the study and were given the opportunity to object to participation (passive informed consent). The PCL:YV was administered at the conclusion of treatment to a small subset of boys (10.3%, $n = 13$). Because the PCL:YV was designed for adolescents between the ages 11 and 18 years (Forth et al., 2003), 29 boys (23%) were removed because they were aged 19 years or older when the PCL:YV was coded. At admission, the mean age of the boys in the final sample ($N = 98$) was 16.0 years ($SD = 1.3$, range = 13-18). In terms of ethnic origin of the participants, 72% of them were Caucasian European, 7% Surinamese, 5%

Table 1
Revisions of Item Descriptions

PCL:YV Items	Revised Item Description
Item 9: Parasitic orientation	A score of 1 can be given in case the adolescent uses criminal activity to provide financially for himself or does not have any clear means of financial support.
Item 11: Impersonal sexual behavior	For scoring this item, emphasis is placed on infidelity, voluntary prostitution, extremely high frequency of impersonal sexual relationships ("players"), and/or a great variety of sexual activity.
Item 13: Lacks goals	Takes into account whether the adolescent has demonstrated to be committed to short-term goals.
Item 17: Unstable interpersonal relationships	A score of 1 can be given when there is no clear sign of instability of the relationships, but the relationships can be characterized as quite superficial.
Item 18: Serious criminal behavior	The item description was replaced by the item description of this item in the PCL-R.

Note: PCL:YV = Psychopathy Checklist: Youth Version.

Moroccan, 3% the Netherlands Antilles, and 13% of another ethnic background. Furthermore, 94% of the boys were placed in the institution in accordance with a mandatory treatment order and 51% in accordance with a supervision order. Of the boys with a mandatory treatment order, 36% had been convicted for a violent offense, 59% for a sexual offense, 2% for a property offense, and 2% for arson. Although boys with a supervision order were not convicted for any criminal offense, they were all suffering from serious (antisocial) behavior problems requiring residential treatment in a secure facility.

Instruments

PCL:YV. PCL:YV ratings were based on the administration of the Dutch translation (Vertommen, Verheul, de Ruiter, & Hildebrand, 2002) of the semi-structured PCL-R interview designed by Hare (1991) together with collateral information available for each adolescent on admission. This information included police files, psychiatric and psychological evaluations, and observational reports from previous institutional care. Each participant was rated by two independent raters. For the items 9 (*parasitic orientation*), 11 (*impersonal sexual behavior*), 13 (*lacks goals*), 17 (*unstable interpersonal relationships*), and 18 (*serious criminal behavior*), the descriptive criteria were slightly revised from the Canadian original. Revisions comprised clarifications on when the

level of psychopathic symptoms becomes nonnormative. For example, because a certain lack of commitment to long-term goals (Item 13) is a common part of adolescence, raters were advised to also take into account whether the adolescent had demonstrated commitment to more short-term goals. Clarifications were added to the item description in separate textboxes in the manual (see Table 1 for an overview of these revisions). Dr. Adelle Forth, first author of the PCL:YV (Forth et al., 2003), was informed of these revisions.

The four-factor model (Hare, 2003), comprising an Interpersonal (Factor 1), Affective (Factor 2), Lifestyle (Factor 3), and Antisocial (Factor 4) dimension, was used for the examination of the reliability and construct validity of the separate psychopathy dimensions.

MMPI-A. In this study, the MMPI-A (Butcher et al., 1992; authorized Dutch version: van Dijk et al., 2000) was used. Dutch norms are available for adolescents 13 to 19 years of age. The MMPI-A is a 478-item self-report questionnaire, which offers insight into psychopathology and personality traits. The instrument consists of a number of validity scales, which allow insight into the response style of the participant (e.g., socially desirable or inconsistent responding). Furthermore, 9 clinical scales, 15 content scales, and 6 supplementary scales provide information on the presence or absence of a variety of psychopathological symptoms. A study of the MMPI-A in a Dutch general population sample of 1,182 adolescents showed that American adolescents score significantly higher on most MMPI-A scales (Derksen, van Dijk, & Cornelissen, 2003). The 1-week test-retest reliability is reasonable, and the internal consistency of most of the scales is adequate except for two clinical scales (Scale 3 [hysteria] and Scale 5 [masculinity/femininity]), one content scale (low ambition), and one supplementary scale (MacAndrew Alcoholism; Derksen et al., 2003). For the present study, MMPI-A profiles were considered invalid when scores on the true response inconsistency (TRIN) and/or variable response inconsistency (VRIN) scales were more than 75. Furthermore, 92% of the boys completed the MMPI, and all but four of these boys produced a valid profile (internal consistency of total score: $\alpha = .90$).

ICL-R. The authorized Dutch translation of the ICL-R (de Jong et al., 2000) was used to map interpersonal behavioral styles. The ICL-R is a renewed version of the checklist developed by LaForge and Suczek (1955)

and is based on Leary's (1957) model of interpersonal behavior. The ICL-R consists of 160 items, which are rated with responses "yes" or "no." The instrument contains 10 behavioral dimensions: PA (managerial–autocratic), BC (competitive–exploitive), DE (aggressive–blunt), FG (distrustful–skeptical), nFnG (reserved–aloof), HI (modest–self-effacing), JK (docile–dependent), LM (cooperative–overconventional), NO (responsible–overgenerous), and nNnO (extravert–gregarious). The scores on the 10 dimensions can be transformed into a vector score, which indicates whether the interpersonal style is predominantly characterized by dominance versus submissiveness and by hostility versus friendliness. The ICL-R manual provides information on the psychometric properties of the ICL-R Dutch version samples. The intercorrelations and the circumplex analysis support the hypothesized circular arrangement of the interpersonal styles. The test–retest reliability of the interpersonal styles is moderate to good (ICCs range from .57 to .83; de Jong et al., 2000).

ICL-R ratings were obtained from the boys themselves as well as from group leaders who acted as the adolescents' designated mentor during their stay in the institution. The response rates were 76% for the group leaders and 90% for the boys (internal consistency rates for group leaders and boys, $\alpha = .76$ and $\alpha = .91$, respectively).

Procedure

All PCL raters ($N = 12$) worked as mental health professionals at *Jongerenhuis Harreveld* and received training in the administration and scoring of the PCL-R/PCL:YV by the second author (Corine de Ruiters, PhD) and/or Pascale van der Wolf, MSc, who were both trained by Dr. Robert D. Hare and Dr. David J. Cooke. The training included a review of the clinical construct of psychopathy and the research literature pertaining to it and practice scoring, using videotapes of two Dutch adult forensic psychiatric patients and three adolescent offenders. After the coding of the PCL:YV by two independent raters, a meeting was planned to obtain a final (consensus) rating for the adolescent. This procedure was chosen to maximize information exchange and to facilitate scoring accuracy. In most cases, the supervising psychologist of the ward conducted the PCL interview and the PCL:YV rating. This procedure was chosen for several reasons. In the first place, the interview was the first occasion for extended contact and provided an opportunity for rapport building with the

adolescent. Second, we believe it is important to investigate whether the PCL:YV can be reliably coded by practicing clinicians because this partially determines its ecological validity.

The administration of the MMPI-A and the ICL-R took place in groups of three adolescents at a time, supervised by a psychologist or a research assistant. A standardized introduction to the tests was given, and a standardized glossary of terms was used when the boys asked for explanation of a term used in one of the tests. The supervising psychologist had the task of obtaining the ICL-R ratings from the group leaders.

Statistical Analyses

The first set of analyses aimed at providing descriptive information concerning the distribution of PCL:YV ratings in the sample. Second, the internal consistency (Cronbach's alpha) and the interrater reliability of PCL:YV total scores, factor scores, and individual item scores were examined. Because computation of the interitem correlation requires a score for each item, the value 1 was assigned to omitted items. Furthermore, 17 cases (17%), for which the PCL:YV coding of only one rater was available, were removed from the analyses concerning interrater reliability. Interrater reliabilities were assessed by means of the intraclass correlation coefficient (ICC). The ICC is an appropriate measure for agreement of variables measured on the same ordinal scale (McGraw & Wong, 1996). Because there are two sources of variance (random selection of participants from a larger population and random selection of raters from a larger pool of raters), a two-way random effects model is used. Consistent with other studies (e.g., Frick, Cornell, Barry, Bodin, & Dane, 2003; Loney, Taylor, Butler, & Iacono, 2007; Skeem & Cauffman, 2003), the absolute agreement type is used to find out whether the way of rating by the two raters is identical. ICCs are available as a single measure and an average measure. Average-measure ICC is used when an instrument is coded by multiple raters, and the average score will be used as a final score. The single-measure ICC is appropriate when the instrument will be rated by only one rater. In this study, both ICCs are reported, so we can examine whether the use of multiple raters increases reliability. ICCs can vary from 0 to 1.0. The following categories are used for evaluating the observed interrater reliability: $ICC \geq .75 = excellent$, $.60 \leq ICC < .75 = good$, $.50 \leq ICC < .60 = moderate$, and $ICC < .50 = poor$ (Fleiss, 1986). The reliability of average ratings from two or more

Table 2
Mean Item Scores, Corrected Item–Total Correlations and
Interrater Reliability of PCL:YV Items (N = 81) Reliabilities

Item Description	<i>M</i>	<i>SD</i>	Item–Total <i>r</i>	ICC Single Rater	ICC Average Measure
1. Impression management	0.74	0.75	.27**	.27	.43
2. Grandiose sense of self-worth	0.90	0.73	.55**	.55	.71
3. Stimulation seeking	1.11	0.81	.60**	.60	.75
4. Pathological lying	0.88	0.76	.57**	.56	.72
5. Manipulation for personal gain	0.95	0.73	.39**	.38	.55
6. Lack of remorse	1.51	0.60	.31**	.32	.48
7. Shallow affect	1.41	0.54	.38**	.38	.55
8. Callous or lacking empathy	1.47	0.66	.30**	.31	.47
9. Parasitic orientation	0.71	0.73	.42**	.42	.59
10. Poor anger control	1.38	0.75	.65**	.64	.78
11. Impersonal sexual behavior	1.30	0.87	.70**	.70	.82
12. Early behavior problems	1.14	0.84	.51**	.51	.67
13. Lacks goals	1.07	0.71	.18	.18	.31
14. Impulsivity	1.33	0.71	.25*	.25	.40
15. Irresponsibility	1.34	0.70	.38**	.37	.54
16. Failure to accept responsibility	1.48	0.66	.28**	.28	.44
17. Unstable interpersonal relationships	1.08	0.70	.22*	.22	.37
18. Serious criminal behavior	1.76	0.50	.57**	.58	.73
19. Serious violations of conditional release	0.51	0.75	.64**	.63	.78
20. Criminal versatility	1.02	0.83	.78**	.78	.88

Note: PCL:YV = Psychopathy Checklist: Youth Version; ICC = intraclass correlation coefficient.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

raters will be larger than the reliability of only one rater (Shrout & Fleiss, 1979).

The relationship between PCL:YV scores and scores on the MMPI-A and ICL-R were examined by computing Pearson product–moment correlation coefficients. Correlations were based on PCL:YV consensus scores or on single ratings when consensus scores were not available. Linear regression with the stepwise procedure (based on the *F* statistic) was conducted to determine which psychopathy dimension(s) were significant predictors of the personality characteristics measured by the MMPI-A and ICL-R. In addition, linear regression analyses were performed to determine whether sexual offending was a moderator of the association between psychopathy scores and the outcome measures. The criterion for entry was set at .05 and for removal at .10.

Results

Reliability of Individual PCL:YV Items

Table 1 presents descriptive statistics, item–total correlations, and interrater reliabilities for the individual PCL:YV item ratings. PCL:YV item means

ranged from .51 (serious violations of conditional release) to 1.78 (serious criminal behavior). The single-rater ICCs for the individual items ranged from .18 (lacks goals) to .78 (criminal versatility; median ICC = .45, see Table 1). Based on the single ICC, 11 (out of 20) items should be categorized as having poor interrater reliability according to the guidelines provided by Fleiss (1986). The ICCs for the average of two independent raters ranged from .31 (lacks goals) to .88 (criminal versatility, median ICC = .60). Of the 20 items, 7 of them possess poor interrater reliability, on the basis of average ICC.

All but three items (lacks goals, impulsivity, and unstable interpersonal relationships) had corrected item-to-total correlations significant at the .01 level, indicating that most items contribute substantially to the PCL:YV total score (see Table 2).

Internal Reliability of PCL:YV Total and Factor Scores

The kurtosis of the total PCL:YV consensus score was $-.40$ ($SE = .70$). The scores were normally distributed (Kolmogorov–Smirnov *Z* test: $Z = .55$, $p = .92$). The consensus score ranged from 11 to 39, with a mean of 24.6 ($SD = 6.2$), a median of

24, and a mode of 25. In the study group, 18 boys (22.2%) could be categorized as low on psychopathic traits (PCL:YV total score ≤ 20), 46 boys (56.8%) fell into the moderate range ($20 < \text{PCL:YV total score} < 30$), and 16 boys (19.8%) could be considered high on psychopathic traits (PCL:YV total score ≥ 30).

Table 3 presents internal consistency and interrater reliability of PCL:YV total and factor scores. The single-measure ICC for the affective dimension was “poor,” and “good to excellent,” for the total score and the interpersonal and antisocial dimensions, and “moderate” for the lifestyle dimension. Average ICCs were “excellent” for the total score and the interpersonal and antisocial dimensions, “good” for the lifestyle dimension, and “moderate” for the affective dimension.

Cronbach's coefficient α for the consensus total score indicated good internal reliability (.89). However, the mean interitem correlation was .17, which is below the cutoff of .20 for a scale to be considered homogeneous (e.g., Green, Lissitz, & Mulaik, 1977; Nunnally & Bernstein, 1994). When the three items with poor item-to-total correlations were excluded from the analysis, Cronbach's α increased to .90, and the mean interitem correlation increased to an adequate .21.

Construct Validity

PCL:YV scores and MMPI-A scale. Table 4 presents an overview of the correlations between PCL:YV total and factor scores and selected MMPI-A scales. In line with our expectations, the PCL:YV total score was significantly positively associated with all MMPI-A scales measuring antisocial/externalizing behaviors (Scale 4 and Pd3: conduct problems and anger, respectively), except the content scale school problems. Further, psychopathic traits as measured by the PCL:YV were significantly positively related to substance abuse problems (MAC-R, ACK). However, the association between the PCL:YV total score and alcohol/drug problem proneness (PRO) did not reach significance ($r = .20$). Contrary to our expectations, results indicated no significant associations between PCL:YV total scores and MMPI-A scales measuring impulsivity and anxiety. Finally, the PCL:YV total score showed the expected significant positive association with denial of social anxiety (Hy1), and significant negative associations with scales measuring social introversion (scale 0, Si1, Si2, social discomfort).

Table 3
Descriptive Statistics and Reliabilities
of PCL:YV Total Scores ($N = 81$)

Reliability Index	PCL:YV
ICC total (single rater)	.74
Average measure	.85
Cronbach's α coefficient	.89
Mean interitem r	.17
ICC factor 1 (single rater)	.64
Average measure	.78
Cronbach's α coefficient	.81
Mean interitem r	.34
ICC factor 2 (single rater)	.45
Average measure	.62
Cronbach's α coefficient	.76
Mean interitem r	.29
ICC factor 3 (single rater)	.54
Average rater	.70
Cronbach's α coefficient	.73
Mean interitem r	.22
ICC factor 4 (single rater)	.68
Average rater	.81
Cronbach's α coefficient	.75
Mean interitem r	.22

Note: PCL:YV = Psychopathy Checklist: Youth Version; ICC = intraclass correlation coefficient.

The construct validity of the separate psychopathy dimensions was examined by identifying their associations with selected MMPI-A scales. First, in line with our expectations, the interpersonal psychopathy dimension was significantly negatively associated with all scales measuring social introversion. However, the expected significant positive association with denial of social anxiety (Hy1) could not be demonstrated. Because the other psychopathy dimensions also demonstrated significant associations with social introversion, linear regression analysis was performed to identify their unique predictive value. Results demonstrated that although the interpersonal dimension was predictive of a lack of social avoidance (Si2; $R^2 = .12, p < .01$) and social discomfort ($R^2 = .07, p < .01$), the lifestyle dimension was predictive of denial of social anxiety (Hy1; $R^2 = .09, p < .01$) and lack of shyness (Si1; $R^2 = .11, p < .01$). Second, the affective psychopathy dimension did not show the expected significant inverse association with the content scale (anxiety). Third, the lifestyle and antisocial dimensions related to all MMPI-A scales measuring antisocial/externalizing behavior, except the content scale (anger). Findings from linear regression analyses identified the lifestyle dimension as the most significant predictor of authority problems (Pd2; $R^2 =$

Table 4
Correlations of PCL:YV Total and Factor Scores With MMPI-A Clinical Scales,
Harris–Lingoes Subscales, Content Scales, and Supplementary Scales ($N = 94$)

Externalizing (Antisocial) Behavior	PCL:YV				
	Total	Factor 1 (Interpersonal)	Factor 2 (Affective)	Factor 3 (Lifestyle)	Factor 4 (Antisocial)
Sc4 (psychopathic deviate)	.24*	.04	.18	.16	.31**
Pd2 (authority problems)	.33**	.09	.20	.38**	.33**
Pd3 (social imperturbability)	.25*	.16	.19	.29**	.32**
Conduct problems	.27*	.09	.17	.36*	.10
School problems	.14	-.05	.12	.25*	.04
Anger	.25*	.13	.22*	.17	.13
Substance abuse problems					
Mac-Andrew alcoholism	.40**	.28*	.21*	.49**	.19
Alcohol/drug problem acknowledgment	.20	.01	.11	.41**	.11
Alcohol/drug problem proneness	.25*	.07	.14	.35**	.22*
Impulsivity					
Sc4 (lack of ego, mastery–conative)	.08	-.05	.13	.08	-.01
Sc5 (lack of ego, mastery–defective inhibition)	.08	.13	.09	.06	-.12
Sc9 (hypomania)	.15	.09	.12	.21**	.01
Anxiety	.11	.14	.11	.07	-.03
Social introversion					
Hy1 (denial of social anxiety)	.24*	.15	.20*	.30**	.29**
Sc0 (social introversion)	-.30**	-.28**	-.14	-.34**	-.26*
Si1 (shyness)	-.32**	-.24*	-.23*	-.33**	-.29**
Si2 (social avoidance)	-.37**	-.35**	-.22*	-.24*	-.19
Social discomfort	-.31*	-.28*	-.21*	-.26*	-.26*

Note: Hy = hysteria (MMPI-2 clinical scale 3); MMPI = Minnesota Multiphasic Personality Inventory; PCL:YV = Psychopathy Checklist: Youth Version; Pd = personality disorder; Sc = scale; Si = social introversion scale.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

.14, $p < .01$), conduct problems ($R^2 = .13$, $p < .01$), and school problems ($R^2 = .06$, $p < .05$). The antisocial dimension was the strongest predictor of Scale 4 (psychopathic deviate; $R^2 = .10$, $p < .01$). Notably, the content scale anger was best predicted by the affective psychopathy dimension ($R^2 = .05$, $p < .05$). The lifestyle dimension was found to be the strongest predictor of alcoholism (MAC-R; $R^2 = .24$, $p < .01$), alcohol/drug problem acknowledgment (ACK; $R^2 = .17$, $p < .01$), and alcohol/drug problem proneness (PRO; $R^2 = .12$, $p < .01$). Unexpectedly, the lifestyle dimension was significantly associated with only one of the MMPI-A scales measuring impulsivity (Scale 9: $r = .21$, $p < .01$; $R^2 = .05$, $p < .05$).

PCL:YV scores and interpersonal styles. As can be seen in Table 5, PCL:YV psychopathy was related to a self-reported dominant interpersonal style, but contrary to expectations, not significantly inversely related to self-reported affiliation. Conversely, psychopathic traits were unrelated to mentor-reported dominance, but significantly negatively related to mentor-reported

affiliation. Regarding the separate psychopathy dimensions, self-reported dominance was found to be most strongly predicted by the interpersonal psychopathy dimension ($R^2 = .06$, $p < .05$), whereas the antisocial dimension most strongly predicted mentor-reported lack of affiliation ($R^2 = .05$, $p < .05$).

Sexual offenders versus nonsexual offenders. Sexual offending proved to be a significant moderator of the association between PCL:YV total scores and conduct problems ($R^2 = .17$, $p < .01$), as well as anxiety ($R^2 = .07$, $p < .05$). Specifically, correlational analyses demonstrated that in sexual offenders, the PCL:YV total score was significantly associated with conduct problems ($r = .58$, $p < .01$). Furthermore, all four dimensions were significantly positively associated with conduct problems (interpersonal: $r = .33$, $p < .05$; affective: $r = .43$, $p < .01$; lifestyle: $r = .59$, $p < .01$; antisocial: $r = .33$, $p < .05$). In contrast, in nonsexual offenders, the PCL:YV total score was unrelated to conduct problems ($r = .06$, *ns*), and only the lifestyle dimension demonstrated a significant

Table 5
Correlations of PCL:YV Total and Factor Scores,
ICL-R Self-ratings ($N = 88$), and ICL-R Mentor Ratings ($N = 72$)

ICL-R Ratings	PCL:YV				
	Total	Factor 1 (Interpersonal)	Factor 2 (Affective)	Factor 3 (Lifestyle)	Factor 4 (Antisocial)
ICL-R self-ratings (interpersonal style)					
Dominance	.25*	.24*	.12	.21	.24*
Affiliation	-.20	-.03	-.21*	-.18	-.22*
ICL-R mentor ratings (interpersonal style)					
Dominance	.15	.18	.12	.09	.10
Affiliation	-.31**	-.17	-.21	-.25*	-.31**

Note: PCL:YV = Psychopathy Checklist: Youth Version; ICL-R = Interpersonal Checklist–Revised.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

positive association ($r = .36, p < .05$). Regarding anxiety, the PCL:YV total score did not show a significant association for either sexual ($r = .26, ns$) or nonsexual ($r = .10, ns$) offenders. However, in sexual offenders, the interpersonal as well as the lifestyle dimensions demonstrated a modest but significant positive association with anxiety ($r = .32, p < .05$ and $r = .29, p < .05$, respectively).

Discussion

Reliability of the PCL:YV

This study was the first to evaluate the psychometric qualities of the PCL:YV in a Dutch sample. In this sample of 98 male adolescents admitted to a secure juvenile justice treatment institution, interrater reliabilities of the Dutch language version of the PCL:YV were “good to excellent” for the PCL:YV total score, “good” for the interpersonal and antisocial dimensions, “moderate” for the lifestyle dimension, but “poor” for the affective dimension. The present results are in line with previous research demonstrating good interrater reliability for the PCL:YV total score (Campbell et al., 2005; Lee et al., 2003; Kosson et al., 2002) and for the traditional two psychopathy factors of Hare (Skeem & Cauffman, 2003). However, the present reliabilities were less strong than those reported by Campbell et al. (2005). Different procedures for examining interrater reliability may account for this. Specifically, for most studies included in the meta-analysis, the PCL:YV was rated by independent professionals, whereas the current study used practicing clinicians. Future research should focus on the extent to which PCL:YV scores are as reliable across examiners in applied settings

(particularly in adversarial contexts) as they are in research settings (Edens & Vincent, in press).

Inadequate interrater reliability for the affective dimension of psychopathy, has been previously demonstrated by Spain, Douglas, Poythress, and Epstein (2004). They found a highly similar reliability coefficient (single-rater ICC = .43), which they explained by one highly discordant paired rating. In the present study, the four items of the affective factor were among those with the highest means, demonstrating limited variance. In other words, according to the raters of the present study, a deficient affective experience was a general characteristic of the participants in this sample. In line with the suggestion made by Campbell et al. (2005), it may be difficult for a clinician to judge whether the observed affective deficiency is indeed indicative of psychopathy, in a seriously antisocial sample such as the present one. The present study demonstrated good internal consistency for the PCL:YV total score ($\alpha = .89$), and dimension scores (α ranging from .73 to .81). However, according to Nunnally and Bernstein (1994), a reliability of .90 or above is the desirable standard when utilizing scores in a high-stake setting. Although the PCL:YV total score reaches this standard, the present findings indicate dimension scores should not be used in clinical practice. The mean interitem correlation was below the criterion of .20 (Green et al., 1977; Nunnally & Bernstein, 1994). This finding was highly similar to that obtained in recent North American studies of male adolescents on probation (Kosson et al., 2002), and incarcerated male adolescents (Lee et al., 2003; Skeem & Cauffman, 2003). Further analysis suggested that the relatively low interitem correlation was due to inadequate item–total correlations for the following items: lacks

goals, impulsivity, and unstable interpersonal relationships. These items also demonstrated poor interrater reliability and are among those most criticized (e.g., Hart et al., 2002; Seagrave & Grisso, 2002), because they may be more characteristic of the general adolescent population rather than specific to psychopathy.

Results from this and other studies suggest that modifications of the PCL:YV may increase reliability of ratings. First, an increase of items defining the separate dimensions may improve the content coverage of the construct to be measured. For example, Frick (2003) recently expanded the callous-unemotional dimension of the APSD (Frick & Hare, 2001) to a 24-item rating scale measuring callous and unemotional traits in adolescents; the inventory of callous-unemotional traits (ICU; Frick, 2003). The self-report version of the ICU was found to have good reliability and correlated significantly with measures of conduct problems, psychosocial impairment, and the Big Five personality dimensions Agreeableness and Conscientiousness in a community sample of adolescent boys and girls (Essau, Sasagawa, & Frick, 2006). Second, reliability may also be improved by using a multimethod approach (i.e., interviews, observations, psycho(physio)logical assessment, file review) that has been advocated for the assessment of psychopathic traits in preadolescent children by Johnstone and Cooke (2004). Finally, more refined item descriptions, indicating when the level of psychopathy symptoms becomes nonnormative, may increase reliability at the item level (Salekin & Frick, 2005).

Construct Validity

Psychopathic traits, as measured by the PCL:YV total score, were associated with a dominant and hostile interpersonal style, antisocial and externalizing behavior, and substance abuse problems and inversely associated with social introversion and a friendly and submissive interpersonal style. The construct validity of the interpersonal dimension was supported by a significant association with a self-reported dominant interpersonal style and significant inverse associations with MMPI-A scales measuring social introversion. In support of its divergent validity, the interpersonal dimension was demonstrated to be unrelated to antisocial or externalizing behavior and to most MMPI-A scales measuring substance abuse problems. It is somewhat surprising that although adolescents high on psychopathic traits acknowledged their dominant interpersonal behavior,

the mentors reported only a significant inverse relation to affiliation. One can only speculate about the reason for this discrepancy. It may be that the adolescent with psychopathic traits is not dominant in interpersonal relationships but does endorse these characteristics on a self-report instrument because the adolescent considers them desirable. Alternatively, the mentor may not realize the adolescent is interpersonally dominant because the adolescent subtly utilizes his dominance to manipulate the mentor. These diverging results increase interest in the quality of the working alliance between the adolescent with psychopathic traits and the mentor.

The affective dimension showed limited associations with external correlates, which is surprising, given that it is generally considered to be the core dimension of psychopathy (Cooke & Michie, 2001; Vincent, 2002). In an extensive examination of the construct validity of the three Cooke and Michie (2001) factors in an adult sample, Hall et al. (2004) also found the affective factor to have few personality correlates. It was, however, most clearly associated with the more serious forms of antisocial deviance, such as assault, weapons possession, and murder (Hall et al., 2004), a finding that has also been demonstrated in previous research in youth (Christian, Frick, Hill, Tyler, & Frazer, 1997; Frick et al., 2003) and adults (Porter, Woodworth, Earle, Drugge, & Boer, 2003). Furthermore, psychophysiological responses to emotional stimuli have been successfully used to identify emotional deficits in psychopathic adults (e.g., Patrick, Bradley, & Lang, 1993) as well as in adolescents with psychopathic traits (Stevens, Charman, & Blair, 2001). Because psychopaths are characterized by a lack of insight regarding their own emotional deficits, it may be that the affective dimension is relatively resistant to assessment via self-report instruments (Hall et al., 2004). Future research should provide a more comprehensive evaluation of the construct validity of the affective dimension by including psychophysiological variables and observer ratings. Finally, Edens, Skopp, and Cahill (2008) found differential effects for the interpersonal and affective dimensions in moderating the association between harsh and inconsistent parental discipline and antisocial behavior, suggesting our understanding of the construct validity of the affective dimension may further increase by focusing on its unique effects on associations with external correlates.

Significant debate exists about whether the antisocial dimension should be included in the assessment of psychopathy (Cooke et al., 2004; Hare, 2003; Neumann, Vitacco, Hare, & Wupperman,

2005). In the present study, the lifestyle and antisocial dimensions generally demonstrated similar patterns of correlations with external criteria. However, there were some discrepancies which may indicate that both dimensions have unique clinical utility as markers of psychopathic traits in youth. Specifically, the lifestyle dimension was demonstrated to be the strongest predictor of impulsivity, authority problems, conduct problems, school problems, and substance abuse problems. This is in line with previous findings in adults by Hall and colleagues (2004), leading these authors to suggest that the lifestyle dimension may tap a generalized tendency to engage in socially deviant behaviors, thereby overlapping substantially with the construct of externalizing behavior problems. In contrast, the antisocial dimension was more strongly associated with Scale 4 (psychopathic deviate) of the MMPI-A, which can be qualified as the most serious indicator of antisocial behavior in this study.

Findings were rather robust across offender types (sexual vs. nonsexual offenders). However, sexual offending was found to be a moderator of the association between psychopathic traits and conduct problems as well as anxiety. Specifically, in the present group of sexual offenders, psychopathic traits were accompanied by conduct problems and anxiety. This finding is in conflict with the generally accepted notion that within the group of childhood-onset conduct-disordered youth, psychopathic traits are only prevalent within a subgroup of youth without anxiety (Frick & Ellis, 1999; Silverthorn & Frick, 1999). However, a co-occurrence of psychopathy and clinically significant levels of anxiety or depression has also been demonstrated by Stinson, Becker, and Tromp (2005) in a sample of 68 adult sexual offenders. An explanation of this finding may lie in the widely acknowledged heterogeneity in sexual offenders regarding their risks, criminal diversity, treatment needs, and personality profiles (e.g., Boer, Wilson, Gauthier, & Hart, 1997). Previous findings in adult samples have indicated that (a) psychopathy scores differ across types of sexual offenders (e.g., rapists, child molesters, incest offenders; Barbaree, Seto, Serin, Amos, & Preston, 1994; Olver & Wong, 2006) and (b) there is an interaction between psychopathy factor scores and type of sexual offense (Porter et al., 2000). Taking into account the relatively small current study sample, more research is needed to identify whether the presence of affective disorders is yet another characteristic explaining the heterogeneity in (psychopathic) sexual offenders.

Conclusion

This study provides initial support for the reliability of the Dutch-language version of the PCL:YV for use with male adolescents admitted to a juvenile justice treatment institution. However, interrater reliability findings suggest raters should be cautious when evaluating the affective dimension of psychopathy in adolescents. In addition, researchers should focus on ways to improve reliability, for example, by refining the PCL:YV items. Associations between PCL:YV scores and MMPI-A and ICL-R scales provide support for the construct validity of the total score of the Dutch PCL:YV as well as the interpersonal, lifestyle, and antisocial psychopathy dimensions. The construct validity of the affective dimension could not be supported. This may be the result of the poor reliability of this dimension as well as the limited number of relevant external correlates that were included in the study. More research with different (e.g., noncriminal) and larger samples is needed to further examine the scientific status of the PCL:YV within the Dutch context. This research should also include thorough examination of the convergent and divergent validity by using various methods of assessing the personality dimensions targeted by the PCL:YV.

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