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Article

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Abstract

This is the first study that tested the psychometric properties of the Child Problematic Traits Inventory (CPTI) in clinic-referred children (ages 6-13 years). Teachers ($N = 159$) and parents ($N = 173$) completed the CPTI and various other measures. Confirmatory factor analyses supported the CPTI's three-factor structure when teachers and parents rated the 28 CPTI items. Teacher- and parent-reported CPTI scores showed the expected relations with external correlates (e.g., conduct problems and proactive aggression). Crucially, the validity of the CPTI scores was also supported across informants (i.e., when linking teacher-reported CPTI scores to parent-reported external correlates, and vice versa) and across methods (i.e., regardless if a questionnaire or a diagnostic interview was used to measure external correlates). We conclude that the CPTI holds promise as a research tool for assessing psychopathic traits in clinic-referred children. Until our findings have been replicated and extended, the CPTI should not be used for clinical decision making.

Keywords

psychopathic, personality traits, callous–unemotional, conduct problems, aggression

The study of childhood and adolescence psychopathic personality or psychopathy has made great progress over the past two decades (e.g., Salekin, 2016). Yet a fundamental issue that needs ongoing attention is the assessment of this personality construct in youth (Salekin & Lynam, 2010), especially in young children. With the intent to provide a psychometric sound assessment of psychopathic traits from early childhood onward, the Child Problematic Traits Inventory (CPTI; Colins, Andershed, et al., 2014) was recently developed. This novel tool was designed for use in 3- to 12-year-old children, and primarily to be a teacher-rated instrument (for details, see Colins, Andershed, et al., 2014). In developing the CPTI, the aim was to assess psychopathic personality in (early) childhood in a way that closely resembles how it is often conceptualized in adolescence and adulthood (e.g., Andershed, Kerr, Stattin, & Levander, 2002; Cooke & Michie, 2001; Frick, Bodin, & Barry, 2000; Salekin, 2016). This implies (1) that the 28 CPTI items were intended to load on three theoretically proposed dimensions or factors, being an interpersonal factor (labeled Grandiose–Deceitful [GD]), an affective factor (labeled Callous–Unemotional [CU]), and a behavioral factor (labeled Impulsive–Need for Stimulation [INS]) and (2) that these three factors load onto an overarching latent psychopathy construct (i.e., Psychopathic Personality). In the original validation study, exploratory and confirmatory factor analyses (CFA) showed that the CPTI's proposed three-factor model fit the data well in 2,056 three- to five-year-old community-residing Swedish children, and across gender and age groups (Colins, Andershed, et al., 2014). The CPTI scores showed excellent internal consistency (αs .88-.96); exhibited positive and significant correlations with conduct problems, attention-deficit/hyperactivity disorder (ADHD) symptoms, and fearlessness; and were also, as expected, negatively correlated with easy temperament (Colins, Andershed, et al., 2014).

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Psychometric Properties of the CPTI: Empirical Evidence

Another Swedish study then replicated and extended the psychometric support for the CPTI in another community sample of 5-year old Swedish children (N = 1,188). The proposed three-factor structure of the teacher-reported CPTI was confirmed, also across gender (Colins, Fanti, Larsson, & Andershed, 2017). The CPTI scores showed good to excellent internal consistency (αs .89-.96) and exhibited the expected correlations with teacher and parent ratings of fearlessness, ADHD symptoms, conduct problems, and prosocial peer involvement.

Four other studies have subsequently replicated and extended psychometric support for the CPTI in community samples of children in countries other than Sweden. A Dutch study (N = 287; ages 3-7 years) replicated the CPTI's three-factor structure when relying on teacher reports and confirmed the good to excellent internal consistency of the CPTI scores (αs .91-.96; Colins, Veen, Veenstra, Frogner, & Andershed, 2018). This study also showed the expected correlations of CPTI scores with teacher-rated conduct problems, proactive and reactive aggression, easy temperament, and teacher-rated CU traits that were assessed with an alternative measure of CU traits (Willoughby, Waschbusch, Moore, & Propper, 2011). Notwithstanding that the CPTI was developed to be primarily rated by teachers, an Italian study relied on teacher-, mother- and father-reported CPTI scores stemming from two independent samples (N = 381-406; ages 6-12 years). This study, overall, supported the CPTI's three-factor structure and the internal consistency of the CPTI scores (αs .84-.86) across the three informants (Somma, Andershed, Borroni, & Fossati, 2016). The CPTI scores, overall, showed the expected relations with problem behavior at school and temperament dimensions, such as fearlessness and easy temperament. A Chinese study (N = 686; ages 6-12 years) supported the three-factor structure and revealed good to excellent internal consistency of CPTI scores across informants (Wang et al., 2018). Teacher- and mother-reported CPTI scores also showed the expected relations with mother-, father-, and/or child-rated conduct problems, hyperactivity, and temperament dimensions. A Spanish study (N = 842; ages 3-12 years), finally, showed that teacher-reported CPTI items loaded on the expected three factors and that this three-factor structure was invariant across age-groups and gender (López-Romero et al., 2018). This study also reported excellent internal consistencies (αs $>$ .90) and positive associations between CPTI scores and fearlessness, aggression, conduct problems, low prosocial behavior, and psychopathic traits dimensions measured by the Antisocial Process Screening Device (Frick & Hare, 2001).

Potential Relevance of the CPTI

The number of studies that scrutinized the CPTI's psychometric properties is still limited, but the available evidence suggests that the CPTI is a promising research tool to assess psychopathic traits in young community-residing children. The present study attempts to move CPTI research a step forward by exploring the factor structure, internal consistency, and validity of the CPTI scores among clinic-referred children for the first time. Doing so is highly relevant since CU traits are considered important to identify a severe subgroup of aggressive or conduct-disordered children and adolescents (e.g., Frick, Ray, Thornton, & Kahn, 2014) and are already incorporated in diagnostic classification systems as a specifier for conduct disorder (CD; American Psychiatric Association, 2013; Frick & Moffitt, 2010). A study that also focusses on traits dimensions other than CU traits in clinic-referred children also bears great relevance since scholars recommend to start examining the potential of interpersonal and behavioral traits dimensions for subtyping children and adolescents with CD and conduct problems (Andershed et al., 2018; Colins, Andershed, Salekin, & Fanti, 2018; Salekin, 2016, 2017). As such, clinicians may soon start to show an interest in a standardized assessment of these traits, rendering it important to explore if the CPTI performs well in clinical settings, at least from a psychometric perspective.

Notwithstanding that various tools that aim to assess psychopathic traits in children already exist, including the Antisocial Process Screening Device (Frick & Hare, 2001), and the Youth Psychopathic Traits Inventory–Child Version (van Baardewijk et al., 2008), none of these tools were designed specifically for assessing these personality traits in early childhood (i.e., younger than 6 years). The few tools that were modified or developed for very young children, assess only one (e.g., Ezpeleta, de La Osa, Granero, Penolo, & Domenech, 2013; Willoughby et al., 2011) or two (Scholte & van der Ploeg, 2007) of the three aforementioned psychopathy dimensions, or combine two dimensions into one brief scale (e.g., Waller et al., 2012). A measure such as the CPTI that assesses various dimensions of the adult psychopathy construct is much warranted to empirically test two intriguing ideas, being that psychopathic personality is rooted in early childhood (Raine, 2013), and that children with a putative psychopathic personality can be identified by the age of 8 years (Blair, 2010). The CPTI can also facilitate the study of stability and change of psychopathic personality throughout life without introducing unwanted variance in test scores due to differences in content and factor structure (Byrd, Kahn, & Pardini, 2013; Campbell, Doucette, & French, 2009).

This Study

The present study contributes substantially to the literature by being the first to scrutinize the psychometric properties of the teacher- and parent-reported CPTI among clinic-referred children. First, we hypothesized that CFA would show acceptable to good model fit indices for the three-factor structure of the CPTI. Thus, we expected that the CPTI items would load on the three expected latent dimensions. Second, we tested the reliability in form of internal consistencies of the three factors of the CPTI and the total score. We hypothesized that the CPTI total and factor scores would show good to excellent internal consistencies. Third, we hypothesized that zero-order correlations would show that CPTI total and factor scores to be significantly and positively correlated with conduct problems, oppositional defiant behavior, ADHD symptoms, and various indices of aggression, as well as with diagnoses of CD, oppositional defiant disorder (ODD), and ADHD. Fourth, psychopathy is commonly defined as a constellation of co-occurring traits, suggesting that the combination of the three psychopathic traits dimensions should eventually be the main focus of interest when studying psychopathy. We, therefore, also hypothesized that the correlations between a CPTI factor score and external correlates would be considerably weaker when controlling for the overlap with the other two CPTI factor scores (partial correlations) as compared with zero-order correlations between a CPTI factor score and these external correlates (e.g., Colins, Fanti, Larsson, et al., 2017). Such evidence would not only suggest that the three CPTI dimensions are at least in part dependent on each other in their relation to the external criterion measures but also would corroborate with the commonly accepted view that psychopathic personality can best be described as a constellation of co-occurring traits (e.g., Colins, Fanti, Larsson, et al., 2017). Finally, informant agreement in the area of youth psychopathy is typically studied while relying on child self- and parent-reports (e.g., Ooi et al., 2017) or on mother and father reports (e.g., Fanti, Kyranides, Lordos, Colins, & Andershed, 2018). Actually, relatively few studies examined how well parents and teachers correspond when rating a child in terms of psychopathic traits. To fill this void, the current investigation also examined associations between teacher- and parent-reported CPTI scores.

Method

Participants and Procedure

This study used data from 6- to 13-year-old children who were, between February 2016 and January 2018, referred to an academic center for child and youth psychiatry in the Netherlands. This center provides inpatient and outpatient treatment programs and deals with children from all over the Netherlands with severe and complex mental health problems who are in need of intensive care. As part of a standardized clinical protocol, parents completed the Child Behavior Checklist (Verhulst & van der Ende, 2013), and a sociodemographic questionnaire, whereas parents, and if possible teachers, completed a computerized diagnostic interview (the Development and Well-Being Assessment; Goodman, Ford, Richards, Gatward, & Meltzer, 2000). These data were made available to the authors for the purpose of the present study. As part of a biobank protocol, parents and teachers also completed the CPTI along with various questionnaires that can be used to bolster what is known about the validity of CPTI scores among clinic-referred children. Specifically, parents were approached in the context of an ongoing biobank protocol approved by the ethics board of Leiden University Medical Center. For children for whom parents agreed to participate, biomaterials (buccal cells and urine) and physical measures (height, weight, resting heart rate) were collected. If the parents gave permission to contact the teacher of their child, the child's teacher was asked to complete various questionnaires. Of note, children who were 12 years or older were also required to give written informed consent, and parents were required to have a sufficient comprehension of Dutch to enroll in the biobank. Details about this procedure can be retrieved from the Supplemental material, Part 1 (available in the online version of the article).

In total, 758 parents were asked to enroll in the biobank protocol, of which 180 (23.8%) eventually agreed. For 173 children, CPTI parent reports were available (M_{age} = 9.5 years, SD = 1.8;[1] 74.0% boys; 84.4% children with parents who were both born in the Netherlands), and for 159 children we had CPTI teacher reports (M_{age} = 9.6 years, SD = 1.7; 74.2% boys; 83.6% children with parents who were both born in the Netherlands). Children who were not included in the analyses did not differ significantly from children who were included in terms of gender, age, parental socioeconomic status (SES), and percentage of children with internalizing, externalizing, and total problems scores that fell in the borderline or clinical range (see Measures section), with one notable exception: The percentage of children with internalizing problems scores that fell in the clinical range was significantly lower in the sample of 21 children that was not included in the analyses than in the sample of 159 children that was included in these analyses (78.0% vs. 57.1%, p = .03; details available on request). The lower number of CPTI teacher ratings is explained by parents who refused to approach their child's teacher (n = 13), by teachers who did not complete the questionnaires (n = 7), and by children who were not attending school and, therefore, did not have a teacher that could be approached (n =1). Of note, CPTI reports from both informants were available for 152 children.

Measures

The Child Problematic Traits Inventory. The CPTI (Colins, Andershed, et al., 2014) is a 28-item questionnaire that aims to assess psychopathic personality traits in children aged 3 to 12 years and is based on the three-factor model of psychopathy (Cooke & Michie, 2001). Eight items intend to measure the interpersonal or GD psychopathy dimension (e.g., "Thinks that he or she is better than everyone on almost everything"), 10 items intend to measure the affective or CU psychopathy dimension (e.g., "Never seems to have bad conscience for things that he or she has done"), and 10 items intend to measure the behavioral or INS psychopathy dimension (e.g., "Provides himself or herself with different things very fast and eagerly"). The rater is instructed to assess each item based on how the child usually and typically behaves rather than based on how he or she behaves at the moment, using the following response scale: 1 = *Does not apply at all*; 2 = *Does not apply well*; 3 = *Applies fairly well*; and 4 = *Applies very well*. Because the factor scores in this study consisted of different numbers of items, and to facilitate comparisons with prior CPTI studies, we computed the mean score for each CPTI factor. We also calculated the total score (mean of 28 items). Because evidence suggests that the CPTI also works well when parents complete the CPTI (Somma et al., 2016; Wang et al., 2018), the present study will calculate these mean scores for teacher- and parent-rated CPTI items.

The Child Behavior Checklist 6-18. The Child Behavior Checklist (CBCL; Verhulst & van der Ende, 2013) is a parent-reported questionnaire that assesses a variety of emotional and behavioral problems that occurred in the past 6 months. All CBCL items use a 3-point response scale ranging from 0 (= *Does not apply*) to 2 (= *Applies very well or often*). These items can be used to calculate scores on three broad-band scales: Internalizing, Externalizing, and Total Problems. The Internalizing Problems score is based on the sum of the Anxious/Depressed, Withdrawn/Depressed, and Somatic Complaints narrow-band syndrome scale scores, whereas the Externalizing Problems score is based on the sum of the Rule-Breaking Behavior and Aggressive Behavior narrow-band syndrome scale scores. The sum of the Externalizing and Internalizing Problems scale and the four remaining narrow-band syndrome scales (Social Problems, Thought Problems, Attention Problems, and Other Problems) constitutes the Total Problems score. The CBCL also includes *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*)–oriented scales that are based on international experts' judgments about the extent to which CBCL items correspond with *DSM* symptoms.

To describe our clinical sample in terms of mental health problems, we used the three broadband scores, and will report the number and percentages of children with scores in the normal, borderline, and clinical range. To test the validity of the CPTI scores, we will use one narrow-band scale (Social Problems; 11 items; e.g., "Gets teased a lot"; "Not liked by other kids"; "Doesn't get along with other kids"; α and mean interitem correlation coefficient (MIC) in the present study = .76 and .22, respectively), along with three *DSM*-oriented scales: Conduct Problems (17 items; e.g., "cruelty, bullying, or meanness to others," "gets in many fights," and "steals"; α = .83; MIC = .21); Oppositional Defiant Problems (5 items; e.g., "Argues a lot," "Disobedient at school," "Temper tantrums or hot temper"; α = .82; MIC = .49), and Attention-Deficit/Hyperactivity Problems (7 items; e.g., "Can't concentrate, can't pay attention for long"; "Can't sit still, restless, or hyperactive"; and "Impulsive or acts without thinking"; α = .81; MIC = .39). The mean of the items was calculated to create the three *DSM*-oriented and the narrow-band Social Problems scale scores.

The Teacher-Report Form. The Teacher-Report Form (TRF; Verhulst & van der Ende, 2013) is the teacher version of the CBCL, which uses the same response scale as the CBCL. For the purpose of the present study, the Social Problems scale (11 items; α = .74; MIC = .21) and the following three *DSM*-oriented problem scales were used: Conduct Problems (13 items; α = .87; MIC = .32), Oppositional Defiant Problems (5 items; α = .82; MIC = .48), and Attention-Deficit/Hyperactivity Problems (13 items; α = .91; MIC = .44).

Instrument for Reactive and Proactive Aggression. Parents and teachers completed the Instrument for Reactive and Proactive Aggression (IRPA; Polman, de Castro, Thomaes, & van Aken, 2009) to rate the frequency of three forms of aggression over the period of a month. These three forms involved Physical Aggression (3 items: "Hitting"; "Kicking"; and "Pushing"), Verbal Aggression (2 items: "Name calling" and "Arguing"), and Covert Aggression (2 items: "Doing sneaky things" and "Gossiping"). These seven form items were rated on a 5-point scale (0 = *Never*, 1 = *Once or twice*, 2 = *Weekly*, 3 = *Several times a week*, 4 = *Daily*). In case of a score on a form item of 1 or higher, teachers also rated six aggression function items. Function items consisted of three items referring to Proactive Aggression (i.e., "To hurt or to be mean"; "Because this child takes pleasure in it"; and "To be the boss") and three items referring to Reactive Aggression (i.e., "Because someone teased or upset him or her"; "Because this child felt threatened by someone"; and "Because this child was angry"). These six function items were rated on a 5-point scale (0 = *Never*, 1 = *Rarely*, 2 = *Sometimes*, 3 = *Most of the time*, 4 = *Always*). Only when a child did show a certain type of aggression (i.e., physical, verbal, or covert) to any extent, scores for reactive and

proactive aggression were calculated (this implies that the number of youth included in the analyses that link CPTI scores to reactive and proactive aggression scores were lower than the aforementioned numbers of youth). In the present study, the internal consistency of the IRPA scale scores that included more than three items were calculated: teacher-reported Reactive Aggression: $\alpha = .94$; MIC = .43; teacher-reported Proactive Aggression: $\alpha = .93$; MIC = .45; parent-reported Reactive Aggression: $\alpha = .93$; MIC = .39; and parent-reported Proactive Aggression: $\alpha = .93$; MIC = .40.

Development and Well-Being Assessment. The Development and Well-Being Assessment (DAWBA; Goodman et al., 2000) interview generates *ICD* and *DSM* psychiatric diagnoses in 2- to 17-year-olds and can be administered either by humans or by computers. Information from different informants is drawn together by a computer program that also predicts the likely diagnosis or diagnoses, generating six probability bands, ranging from a probability of less than 0.1% of having the relevant diagnosis to a probability of more than 70% of having the relevant diagnosis. Notwithstanding that the computer-generated predictions can be used for research purposes, the computer predictions are intended to provide a starting point for experienced clinical raters who decide whether to accept or overturn the computer diagnoses (or lack of diagnoses) in the light of their review of all the data. As part of the intake protocol (see Participants and Procedure section), parents (mother and/or father) and teachers were asked to complete the computerized version of the DAWBA. Unfortunately, the clinician-based diagnoses are not yet available for research purposes, and we, therefore, rely on the computer-generated probability bands for *DSM-IV* ODD, CD, and ADHD diagnoses. These bands scores range from 0 (<.1% probability of having the disorder) to 5 (70% ≤ probability of having the disorder).

Parental SES. Based on the highest education level of the mother or father, parents were assigned to one out of four education level categories (1 = *completed high school or less*, 2 = *completed intermediate vocational education*, 3 = *completed higher vocational education*, 4 = *completed university education*) as a proxy of SES.

Statistical Analyses

We first reported the number and percentage of children with CBCL and TRF Internalizing, Externalizing, and Total Problems scores in the normal, borderline, and clinical range. We also presented descriptive information for all continuous variables used for validation purposes for the total sample, and we explored if gender, age of the child, and parental SES should be included as control variables in the correlational analyses described further in this section.

Second, we conducted CFA using the mean- and variance-adjusted weighted least squares estimator appropriate for use with ordinal items (Flora & Curran, 2004) to test the three-factor model of the CPTI. Model fit was assessed using root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker–Lewis index (TLI). RMSEA scores less than .05 indicated good fit, whereas scores between .05 and .08 indicated acceptable fit. A CFI and TLI score of .95 or greater indicated excellent fit, and a CFI and TLI score of .90 or more indicated good fit (Hu & Bentler, 1999). The three-factor model was specified with the 28 items as observed variables and the three factors as latent and correlated constructs. The model was specified to include an overarching latent psychopathic personality construct joining the three latent factor constructs. For reasons of comparison, and in line with prior CFA work with the CPTI (Colins, Andershed, et al., 2014) and other tools that assess psychopathic traits (Anestis, Caron, & Carbonell, 2011; Colins, Bijttebier, Broekaert, & Andershed, 2014), we also tested a one-factor structure (with all 28 items in the same factor).

Third, to evaluate the internal consistency of the CPTI total and factor scores, Cronbach's alphas were calculated and interpreted as follows: <.60 = insufficient; .60 to .69 = marginal; .70 to .79 = acceptable; .80 to .89 = good; and ≥.90 = excellent (Barker, Pistran, & Elliot, 1994). Given that Cronbach's alpha depends on the number of items, we also calculated the MIC, which is independent of scale length and should be in the range of .15 to .50 to be considered acceptable (Clark & Watson, 1995). Of note, since both Cronbach's alpha and MIC can be affected by skewness and other problems, these cutoffs and accompanying interpretations (e.g., insufficient consistency) should be considered as guidelines instead of strict rules (Greer, Dunlap, Hunter, & Berman, 2006).

Fourth, relatively few studies tested how well teachers and parents agree in their ratings of a child. Since most of these studies calculated zero-order correlations (Pearson *r*) to scrutinize cross-informant agreement, we also calculated zero-order calculations between parent- and teacher-rated CPTI scores. To enable comparison with a prior CPTI study that used the intraclass correlation coefficient (ICC) to examine agreement between parents and teachers (Somma et al., 2016), we also reported the ICCs (one-way-random).

Fifth, zero-order correlations—and for the CPTI factors also partial correlations (controlling for the other two CPTI factors and control variables)—between the CPTI scores and the external criterion variables, were computed. The correlation coefficients were interpreted as follows: weak < .30; moderate = .30 to .50; and strong ≥ .50 (Cohen, 1988). CFA was conducted in M*plus* (Muthén & Muthén, 2013). All other analyses were conducted in SPSS 25, with $p < .05$ as an indicator of statistical significance.[2]

Table 1. Number and Percentage of Children With Problem Scores in the Normal, Borderline, and Clinical Range.[a]

	Sample CPTI Teacher Reports (N = 159)			Sample CPTI Parent Reports (N = 173)		
Range	Internalizing	Externalizing	Total	Internalizing	Externalizing	Total
Normal	19 (11.9)	17 (10.7)	9 (5.7)	25 (14.5)	24 (13.9)	11 (6.4)
Borderline	16 (10.1)	33 (20.8)	23 (14.)	16 (9.2)	34 (19.7)	22 (12.7)
Clinical	124 (78.0)	109 (68.9)	127 (79.9)	132 (76.3)	115 (66.5)	140 (80.9)

Note. CPTI = Child Problematic Traits Inventory. Data are presented as *n* (%). Scores in the borderline range indicate that enough problems are reported to be of concern but not so many that the child clearly needs professional help. Scores in the clinical range indicate high enough levels of problems to be of clinical concern.
[a]Based on combining teacher (TRF) and parent reports (CBCL) by means of the highest score prevails method. This implies that the informant with the highest score was used to determine if scores fell in the normal, borderline, or clinical range.

Table 2. Descriptive Statistics of Study Variables Based on Parent and Teacher Ratings.

	Sample CPTI teacher reports			Sample CPTI parent reports		
Variable	*N*	*M*	*SD*	*N*	*M*	*SD*
CPTI Total score	159	1.76	0.58	173	2.05	0.51
CPTI Grandiose–Deceitful traits	159	1.44	0.60	173	1.66	0.63
CPTI Callous–Unemotional traits	159	1.90	0.79	173	2.00	0.70
CPTI Impulsivity–Need for Stimulation traits	159	1.87	0.63	173	2.39	0.55
Conduct problems	153	3.52	4.43	173	5.51	4.67
Oppositional Defiant problems	153	3.04	2.70	173	5.23	2.82
Attention-deficit/hyperactivity problems	153	11.27	7.06	173	8.97	3.52
Social problems	153	4.04	3.46	173	7.30	4.13
Physical aggression	158	0.39	0.64	173	0.87	0.86
Verbal aggression	158	0.76	0.96	173	1.50	1.16
Covert aggression	158	0.34	0.59	173	0.53	0.69
Reactive aggression	110[a]	1.39	1.05	163[a]	1.94	0.89
Proactive aggression	111[a]	0.68	0.75	163[a]	0.69	0.68

Note. CPTI = Child Problematic Traits Inventory.
[a]Mean scores are based on a lower *N* because these scores are only calculated when informants reported that the child display physical, verbal, and/or covert aggression.

Results

Descriptive Information

Table 1 shows that most children who enrolled in our study had Internalizing, Externalizing, and Total Problems scores that warrant clinical concern. Table 2 presents descriptive information for all continuous variables used in this study. Additional analyses revealed no significant gender differences for parent-reported CPTI scores and external correlates and a few significant gender differences when relying on teacher ratings. Specifically, higher scores were found in boys for teacher-rated conduct problems ($F = 5.57$; $p = .02$), oppositional defiant problems ($F = 4.97$; $p = .03$), attention-deficit/hyperactivity problems ($F = 4.07$; $p = .04$), and physical aggression ($F = 7.21$; $p = .008$). Age of the child was significantly related to parent ratings of conduct problems ($r = -0.16$; $p = .03$), oppositional defiant problems ($r = -.19$; $p = .02$), attention-deficit/hyperactivity problems ($r = -.17$; $p = .03$), social problems ($r = -.16$; $p = .03$), and physical aggression ($r = -.23$; $p < .001$), and teacher ratings of INS ($r = -.22$; $p = .005$), physical aggression ($r = -.21$; $p = .008$), reactive aggression ($r = -.35$; $p < .001$), and attention-deficit/hyperactivity problems ($r = -.19$; $p = .02$; details available on request). Because of these gender differences and associations with age of the child, these two variables were used as control variables in the partial correlation analyses. Parental SES was not significantly related to CPTI scores or any of the external correlates and, therefore, was not included as a control variable.

Factor Structure

For the teacher-reported CPTI ($N = 159$), CFA results showed that the three-factor model better fit the data (RMSEA = .09; CFI = .96; TLI = .95) than the one-factor model (RMSEA = .13; CFI = .91; TLI = .90). Yet it must

Table 3. Factor Loadings of the Three-Factor Model Based on Confirmatory Factor Analyses for the Teacher- and Parent-Reported CPTI Scores.

	Teacher-reported CPTI			Parent-reported CPTI		
Item	GD	CU	INS	GD	CU	INS
5. Lies often to avoid problems	.91			.82		
7. Seems to see himself or herself as superior compared to others	.76			.81		
9. Often lies to get what he or she wants	.97			.88		
15. Seems to lie more than other children of the same age	.96			.90		
18. Is often superior and arrogant toward others	.76			.67		
21. To get people to do what he or she wants, he or she often finds it efficient to con them	.88			.74		
24. Thinks that he or she is better than everyone at almost everything	.70			.69		
26. To frequently lie seems to be completely normal for him or her	.95			.91		
2. Seldom express sympathy for others		.75			.59	
4. Usually does not seem to share other's joy and sorrow		.78			.70	
8. Never seems to have bad conscience for things that he or she has done		.82			.75	
11. Often seems to be completely indifferent when other children are upset		.83			.77	
13. Does not become upset when other are being hurt		.77			.62	
17. Seldom remorseful when he or she has done something not allowed		.92			.90	
20. Often does not seem to care about what other people feel and think		.82			.80	
22. Sometimes seems to completely lack the capability to feel guilt and remorse		.92			.92	
25. Never express feelings of guilt when he or she has done something not allowed		.95			.91	
27. Does not get express guilt and remorse to the same extent as other children of the same age		.94			.90	
1. Likes change and that thing happen all the time			.41			.21
3. Often has difficulties with awaiting his or her turn			.83			.76
6. Seems to do certain things just for the thrill of it			.80			.88
10. Provides himself or herself with different things very fast and eagerly			.90			.72
12. Often does things without thinking ahead			.80			.64
14. Often consumes things immediately rather than saving them			.72			.41
16. Seems to have a great need for change and excitement			.66			.57
19. Does not like waiting			.81			.74
23. Seems to get bored quickly			.69			.63
28. Quickly gets tired of things and wants new things to happen all the time			.79			.52

Note. CPTI = Child Problematic Traits Inventory; GD = Grandiose–Deceitful; CU = Callous–Unemotional; INS = Impulsivity–Need for Stimulation.

be noted that the RMSEA for the three-factor model was above the commonly used value of .08. Table 3 displays factor loadings of the 28 CPTI items derived from the CFA and shows that all items loaded well and statistically significant ($p < .001$) on the expected CPTI factor.

For the parent-reported CPTI ($N = 173$), the three-factor model also better fit the data (RMSEA = .08; CFI = .94; TLI = .94) than the one-factor model (RMSEA = .13; CFI = .86; TLI = .85). All but one item (Item 1 "Likes change and that thing happen all the time"; factor loading = .21) loaded well and statistically significant ($p < .001$) on the expected CPTI factor (see Table 3). Rerunning the CFA without Item 1 did not alter the model fit indices (RMSEA = .07; CFI = .97; TLI = .97).

Internal Consistency of the CPTI Scores and Correlations Between CPTI Scores

Overall, the Cronbach's alphas for the CPTI total and factor scores were indicative of good to excellent internal consistency in the total sample, whether teachers or parents completed the CPTI. Likewise, when relying on the MIC as an index of internal consistency the CPTI total and factor scores were at least indicative of adequate internal consistency (Table 4).

When teachers completed the CPTI, significant zero-order correlations were found between CPTI factor scores and the CPTI total score, and between the three CPTI factor scores. In the total sample, these correlations were

Table 4. Internal Consistency Indices for the Teacher- and Parent-Reported CPTI Scores.

	Teacher-reported CPTI (N = 159)		Parent-reported CPTI (N = 173)	
Score	α	MIC	α	MIC
Total score	.93	.37	.92	.30
Grandiose–Deceitful	.90	.53	.87	.45
Callous–Unemotional	.85	.53	.92	.52
Impulsivity–Need for Stimulation	.87	.39	.79	.28

Note. CPTI = Child Problematic Traits Inventory; α = Cronbach's alpha; MIC = mean interitem correlation.

Table 5. Correlations Between CPTI Total and Factor Scores and External Correlates Using a Single Informant.

	Teacher-reported CPTI and teacher-reported external correlates							Parent-reported CPTI and parent-reported external correlates						
	Total	GD		CU		INS		Total[a]	GD		CU		INS	
External Correlates	Z-O[a]	Z-O[a]	Part.	Z-O[a]	Part.	Z-O[a]	Part.	Z-O[a]	Z-O[a]	Part.	Z-O[a]	Part.	Z-O[a]	Part.
Conduct problems	.75***	.67***	.35***	.62***	.26**	.64***	.30***	.72***	.68***	.43***	.56***	.26**	.55***	.21**
Oppositional-defiant problems	.63***	.51***	.14	.50***	.16*	.61***	.37***	.64***	.56***	.24**	.51***	.26**	.53***	.26**
ADH problems	.71***	.49***	−.05	.54***	.26**	.77***	.62***	.56***	.42***	.01	.32***	.04	.68***	.57***
Social problems	.42***	.41***	.19*	.32***	.06	.39***	.17*	.40***	.36***	.13	.25**	.03	.41***	.25**
Physical aggression	.48***	.43***	.20*	.36***	.04	.46***	.14	.43***	.36***	.17*	.37***	.19*	.32***	.03
Verbal aggression	.55***	.55***	.32**	.43***	.01	.46***	.11	.46***	.42***	.22**	.34***	.12	.38***	.08
Covert aggression	.67***	.64***	.31**	.57***	.24*	.54***	.24*	.55***	.63***	.47***	.32***	−.05	.46***	.13
Proactive aggression	.47***	.50***	.37***	.27***	−.04	.46***	.31**	.49***	.46**	.24**	.37**	.15	.38***	.12
Reactive aggression	.06	.01	.01	.04	.05	.10	−.04	.21**	.15	.02	.20*	.12	.16*	.06

Note. CPTI = Child Problematic Traits Inventory; GD = Grandiose–Deceitful factor; CU = Callous–Unemotional factor; INS = Impulsive–Need for stimulation factor; Z-O = Zero-order correlations; Part. = Partial correlations partialling out child's gender and age and the other two CPTI factors; ADH = attention-deficit/hyperactivity.

[a]These zero-order correlation coefficients remained substantially similar after controlling for age and gender, with one exception being that parent-reported INS was no longer significantly related to parent-reported reactive aggression (r = 0.15, p = 0.06; details available on request).

*$p < .05$. **$p < .01$. ***$p < .001$.

$r_{GD\text{-}total}$ = .84; $r_{CU\text{-}total}$ = .88; $r_{INS\text{-}total}$ = .82; $r_{GD\text{-}CU}$ = .63; $r_{GD\text{-}INS}$ = .60; and $r_{CU\text{-}INS}$ = 52. All these correlations were significant at $p < .001$. When parents completed the CPTI, the same pattern of results emerged, with all correlations being significant at $p < .001$: $r_{GD\text{-}total}$ = .85; $r_{CU\text{-}total}$ = .84; $r_{INS\text{-}total}$ = .79; $r_{GD\text{-}CU}$ = .55; $r_{GD\text{-}INS}$ = .60; and $r_{CU\text{-}INS}$ = .42.

Cross-Informant Correlations of CPTI Scores

The parent-reported CPTI total and factor scores were significantly positively related to their corresponding teacher-reported CPTI score: $r_{total\text{-}total}$ = .40; $r_{GD\text{-}GD}$ = .47; $r_{CU\text{-}CU}$ = .23; and $r_{INS\text{-}INS}$ = .41(all rs significant at $p < .001$, except for $r_{CU\text{-}CU}$: p = .005). All other between-informant correlations were significant (rs .18-.41), except for the correlation between parent-reported CU factor score and teacher-reported INS factor score (r = .16, $p > .05$; details available in the Supplemental material, Part 2, available in the online version of the article). The ICCs for the corresponding CPTI scores were: $ICC_{total\text{-}total}$ = .46; $ICC_{GD\text{-}GD}$ = .59; $r_{CU\text{-}CU}$ = .36; and $r_{INS\text{-}INS}$ = .30.

Validity of the CPTI Scores: Single Informant

Teacher-Reported CPTI Scores in Relation to Teacher-Rated External Correlates. At the zero-order level, the teacher-reported CPTI total and factor scores were moderately to strongly positively related to conduct, oppositional defiant, attention-deficit/hyperactivity, and social problems, and to physical, verbal, covert, and proactive aggression (Table 5). Table 5 also shows that none of the teacher-reported CPTI scores were significantly related to reactive aggression. Overall, the partial correlations reported in Table 5 were clearly lower than the zero-order correlations, and for some variables these partial correlations were nonsignificant. Nevertheless, after controlling for the two other CPTI factors (and age and gender) the GD factor score remained

significantly related to conduct and social problems, and physical, verbal, covert, and proactive aggression, the CU factor score to conduct, oppositional defiant, and attention-deficit/hyperactivity problems, and covert aggression, and the INS factor score to conduct, oppositional defiant, attention-deficit/hyperactivity, and social problems, and covert and proactive aggression.

Parent-Reported CPTI Scores in Relation to Parent-Rated External Correlates. Using the parent-reported CPTI scores yielded a substantially similar pattern of results as when using the teacher-reported CPTI scores, with some notable exceptions, though. First, at the zero-order level, the CPTI total and CU and INS factor scores were significantly related to reactive aggression. Second, partial correlations showed that the GD factor score was not related to social problems, that the CU factor score was significantly positively related to physical aggression and unrelated to covert aggression, and that the INS factor score was not significantly positively related to covert and proactive aggression (Table 5).

Validity of the CPTI Scores: Across Informants

Teacher-Reported CPTI Scores in Relation to Parent-Rated External Correlates. At the zero-order level, all teacher-reported CPTI scores were significantly positively related to parent-rated external correlates other than reactive aggression, with a few exceptions, being that the teacher-reported CU factor score was not significantly related to parent-reported verbal and covert aggression (Table 6). As expected, the partial correlations were clearly lower than the zero-order correlations. Of note, at the partial correlation level, the teacher-reported GD factor score remained significantly related to all but two (attention-deficit/hyperactivity problems and proactive aggression) of the parent-rated external correlates. The teacher-reported CU and INS factor score remained significantly related to zero and one (attention-deficit/hyperactivity problems) of the parent-rated external correlates, respectively.

Parent-Reported CPTI Scores in Relation to Teacher-Rated External Correlates. Linking teacher-reported CPTI scores to parent-rated external correlates yielded a substantially similar pattern of results at the zero-order level as when linking parent-rated CPTI scores to teacher-reported external correlates, with one notable exception: The parent-reported CU factor score was merely significantly positively related to teacher-rated conduct problems, attention-deficit/hyperactivity problems, and proactive aggression (Table 6). At the partial correlation level, the parent-reported GD factor score remained significantly related to conduct problems and covert aggression, and the INS factor score to attention-deficit/hyperactivity and social problems, and to physical and proactive aggression. None of the partial correlation coefficients for the parent-reported CU factor score reached statistical significance in relation to teacher-reported external correlates.

Teacher- and Parent-Reported CPTI Scores in Relation to Computer-Generated Probability Bands for CD, ODD, and ADHD Diagnoses. At the zero-order level, all teacher-reported CPTI scores were significantly positively related to CD, ODD, and ADHD diagnoses (Table 7). After controlling for the two other CPTI factors (and age and gender), teacher-reported GD and INS remained significantly related to CD and ADHD diagnoses, respectively, whereas teacher-reported CU traits were no longer significantly related to CD, ODD, or ADHD diagnoses. This pattern of findings was replicated when using parent-reported CPTI scores, though it must be noted that parent-reported GD also remained significantly positively related to an ADHD diagnosis at the partial correlational level (Table 7).

Discussion

This study was the first to test the psychometric properties of the teacher- and parent-reported CPTI in a sample of clinic-referred children. Our findings provide additional support for the utility of the CPTI for assessing psychopathic traits in children through teachers and parents. As such, the CPTI seems responsive to prior calls to develop psychometrically sound and comprehensive assessment tools of psychopathic traits in children (Hawes et al., 2014; Waller et al., 2015).

Factor Structure

As hypothesized, the proposed three-factor structure of the CPTI was confirmed. Specifically, the factor loadings were consistently high (most of them substantially higher than .40), and clearly suggested that the parent- and teacher-reported CPTI coherently and distinctively assess three different, but interrelated dimensions resembling the interpersonal, affective, and behavioral dimensions of the psychopathy construct. Admittedly, the three-factor model fit for the teacher-reported CPTI was slightly above the RMSEA cutoff value of .08 that is often used as an indication for acceptable model fit. However, when sample size is somewhat small, such an RMSEA value may be of less concern if the other indices suggest good model fit (Brown, 2014). Taking into account that CPTI reports from merely 159 teachers were available, and considering RMSEA, CFI, and TLI in tandem, our CFA findings suggest that the three-factor structure of the teacher-reported CPTI holds in clinic-referred youth.

The current investigation also provides evidence that the three-factor structure of the CPTI was confirmed while

Table 6. Across Informant Correlations Between CPTI Total and Factor Scores and External Correlates.

	Teacher-Reported CPTI and Parent-Reported External Correlates							Parent-Reported CPTI and Teacher-Reported External Correlates						
	Total	GD		CU		INS		Total	GD		CU		INS	
External Correlates	Z-O	Z-O	Part.	Z-O	Part.	Z-O	Part.	Z-O	Z-O	Part.	Z-O	Part.	Z-O	Part.
Conduct problems	.52***	.51***	.34***	.40***	.06	.46***	.07	.40***	.44***	.30**	.22**	−.05	.36***	.17
Oppositional-defiant problems	.49***	.46***	.24**	.39***	.11	.42***	.09	.27**	.27**	.12	.15	−.05	.26**	.13
ADH problems	.37***	.29***	.05	.27**	.06	.39***	.21*	.36***	.34***	.18	.19*	−.06	.40***	.21*
Social problems	.29***	.32***	.25**	.22**	.001	.23**	−.04	.18*	.17*	.04	.01	−.15	.31***	.30**
Physical aggression	.30***	.31***	.24**	.23**	.03	.25**	−.06	.22**	.19*	.03	.09	−.08	.30***	.21*
Verbal aggression	.21*	.26**	.23**	.12	−.09	.19*	−.01	.28**	.27**	.14	.14	−.04	.29***	.11
Covert aggression	.23**	.31***	.22**	.13	−.10	.20*	.05	.31***	.38***	.32**	.14	−.08	.30***	.04
Proactive aggression	.27**	.25**	.08	.21*	.04	.26**	.11	.34***	.31***	.18	.24*	.07	.28**	.20*
Reactive aggression	.11	.12	.14	.09	.01	.06	−.10	.04	−.03	−.12	.01	−.04	.12	.16

Note. CPTI = Child Problematic Traits Inventory; GD = Grandiose–Deceitful factor; CU = Callous–Unemotional factor; INS = Impulsive–Need for stimulation factor; Z-O = Zero-order correlations; Part. = Partial correlations partialling out child's gender and age and the other two CPTI factors; ADH = attention-deficit/hyperactivity.

[a]These zero-order correlation coefficients remained substantially similar after controlling for age and gender, except that (1) teacher-reported (TR) INS was not correlated with parent-reported (PR) verbal aggression ($r = .14$; $p = .09$); (2) that PR CPTI total was not related to TR physical aggression ($r = .14$, $p = .16$) and TR social problem ($r = .16$, $p = .10$) and marginally significantly related to TR verbal aggression ($r = .19$, $p = .053$) and TR oppositional defiant problems ($r = .31$, $p = .06$); (3) that PR GD was not related to TR physical aggression ($r = .13$, $p = .13$) and TR social problems ($r = .16$, $p = .12$); and (4) that PR CU was marginally significant correlated to TR conduct problems ($r = .19$, $p = .06$) and not related to TR ADH problems ($r = .14$, $p = .14$) (details available on request).

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 7. Correlations Between CPTI Total and Factor Scores and External Correlates Using DAWBA Probability Bands That Were Based on Multiple Informants.

	Teacher-reported CPTI scores ($N = 124$)[a]							Parent-reported CPTI scores ($N = 136$)[b]						
	Total	GD		CU		INS		Total	GD		CU		INS	
External Correlates	Z-O[c]	Z-O[c]	Part.	Z-O[c]	Part.	Z-O[c]	Part.	Z-O[c]	Z-O[c]	Part.	Z-O[c]	Part.	Z-O[c]	Part.
Conduct disorder	.54***	.58***	.39***	.38***	−.02	.46***	.17	.50***	.54***	.36***	.33***	−.004	.42***	.12
Oppositional defiant disorder	.37***	.32***	.12	.29***	.09	.32***	.15	.38***	.35***	.14	.32***	.14	.30***	.09
ADHD	.30**	.24**	.47	.20*	.01	.34**	.20*	.48**	.44*	.17*	.29***	−.002	.50***	.31***

Note. DAWBA = Development and Well-Being Assessment; CPTI = Child Problematic Traits Inventory; GD = Grandiose–Deceitful factor; CU = Callous–Unemotional factor; INS = Impulsive–Need for stimulation factor; Z-O = Zero-order correlations; Part = Partial correlations partialling out child's gender and age and the other two CPTI factors; ADHD = attention-deficit/hyperactivity disorder.
[a]For these analyses, DAWBA data from 124 out of the 159 children with teacher-reported CPTI scores were available.
[b]For these analyses, DAWBA data from 136 out of the 173 children with parent-reported CPTI scores were available.
[c]These zero-order correlation coefficients remained substantially similar after controlling for age and gender (available on request).
*$p < .05$. **$p < .01$. ***$p < .001$.

relying on the parent-reported CPTI, thereby adding to prior work that tested the parent-reported CPTI in community samples. Nevertheless, one item (Item 1: "Likes change and that things happen all the time") had a low factor loading on its corresponding factor (INS), a finding that corroborates with prior work with the parent-reported CPTI in Italian and Chinese community samples (Somma et al., 2016; Wang et al., 2018). Thus, across samples and cultures, this item seems to be a nonoptimal indicator of the behavioral dimension of the psychopathy construct, at least when parents completed the CPTI. Yet in this study as well as in prior work (Wang et al., 2018) the removal of this item from the CFA did not improve model fit. Unless future work repeatedly demonstrates that this item negatively affects the model fit, this item should not yet be altered or deleted.

Internal Consistency

As hypothesized, the CPTI total and factor scores, overall, demonstrated good to excellent reliability in terms of internal consistency. The excellent internal consistency of the CPTI CU score is particularly interesting in the context of prior CU research with young children. Indeed, the Cronbach's alphas for the CU score of the Antisocial Process Screening Device (APSD; Frick & Hare, 2001) parent and/or teacher report versions varies from low to acceptable (e.g., Dadds, Fraser, Frost, & Hawes, 2005; Fite, Greening, Stoppelbein, & Fabiano, 2009; Kimonis et al., 2006). Research with young children showed good to excellent internal consistency of the Inventory of Callous–Unemotional traits (ICU; Frick, 2003) total score (Ezpeleta et al., 2013; Kimonis et al., 2016). Unfortunately, and for reasons detailed elsewhere (Colins, Andershed, Hawes, Bijttebier, & Pardini, 2016; Hawes et al., 2014), the factor structure and item content of the ICU has been questioned. To deal with these psychometric problems, various alternative ICU versions are currently being proposed (Hawes et al., 2014; Ray, Frick, Thornton, Steinberg, & Cauffman, 2016) and it remained to be seen which version will be the soundest one. For now, it seems that one and the same version of the CPTI can be used across cultures and settings. The good to excellent internal consistency of the CPTI scores are particularly important since scales that provide internally consistent scores increase the ability to detect underlying mechanisms and risk features involved in the development of antisocial behavior and psychopathic personality (Farrington, Ullrich, & Salekin, 2010; Waller, Gardner, & Hyde, 2013).

Cross-Informant Agreement

This is one of the very few studies that reported correlations between parent and teacher reports of psychopathic traits in children. CPTI total, GD, and INS scores were moderately to strongly correlated across these two informants (*r*s .40-.47), though a poor correlation was reported for the CU score ($r = .23$). Overall, these *r*s were a bit higher than those reported in prior work on psychopathic traits in which both parents and teachers completed the CPTI (*r*s .14-.24; Wang et al., 2018), the Antisocial Process Screening Device (*r*s .18-.26; Barhight, Hubbard, Swift, & Konold, 2017; Kahn, Frick, Youngstrom, Findling, & Youngstrom, 2012; Klyce, Conger, Conger, & Dumas, 2011), or other tools (e.g., $r = .20$; Viding, Blair, Moffitt, & Plomin, 2005).[3] Of course, if informants would perfectly agree in their ratings, there would be no need to get involved in a costly and time-consuming assessment protocol that requires information from multiple sources. Consequently, the lack of strong correlations between informants' scores should not be used to question the validity of a psychopathy measure under

consideration, especially since there are various reasons to explain the discrepancy between informants (e.g., Colins, Vermeiren, Schuyten, Broekaert, & Soyez, 2008). Nevertheless, diagnostic assessment often emphasizes information from multiple informants, and, consequently, researchers and clinicians often wonder when and how information from multiple informants should be used or combined (Alexander, McKnight, Disabato, & Kashdan, 2017), especially when informants provide conflicting information. Therefore, future CPTI studies that rely on multiple informants and try to deal with these two important questions are timely and much needed.

Validity of the CPTI Scores

Zero-order correlations revealed that teacher-reported CPTI scores were, as hypothesized, positively associated with teacher-rated external correlates, with the exception that none of the CPTI scores was significantly related to reactive aggression. This finding runs counter to prior work showing that all CPTI scores were positively correlated to reactive aggression (Colins, Fanti, Larsson, et al., 2017; Colins, Veen, et al., 2018), and we don't have a good explanation why this relation could not be confirmed in our clinic-referred sample while relying on teacher-reports. Zero-order correlations also revealed that parent-reported CPTI scores were positively associated with all parent-rated external correlates, with one exception, being that CPTI GD was not significantly related to reactive aggression. In sum, when relying on a single informant to rate both the CPTI and external correlates, the pattern of results conformed to theoretical expectations, thereby supporting the validity of both the teacher- and parent-reported CPTI scores in clinic-referred 6- to 13-year-old children. Notwithstanding that single informant approaches and the sole reliance on rating scales to assess external correlates are commonly applied strategies in psychometric evaluations of psychopathy (Colins, Noom, & Vanderplasschen, 2012; Goodwin, Sellbom, & Salekin, 2015) and CU rating scales (e.g., Colins et al., 2016; Essau, Sasagawa, & Frick, 2006), such strategies might artificially inflate the correlation magnitudes.

To circumvent this latter pitfall, we also examined teacher-reported CPTI scores in relation to parent-rated external correlates that were assessed through questionnaires, and vice versa. When focusing on teacher-reported CPTI scores, the current investigation replicated prior work that revealed positive associations between teacher-reported CPTI scores and parent-rated conduct, oppositional defiant, and attention-deficit/hyperactivity problems (Colins, Fanti, Larsson, et al., 2017; Wang et al., 2018). Importantly, this study also generated novel evidence, showing that teacher-reported CPTI scores were also positively related to parent-reported social problems and physical, verbal, covert, and proactive aggression, though it must be noted that the teacher-reported CPTI CU score was not related to parent-reported verbal and covert aggression. Taken together, this study supports the validity of the teacher-reported CPTI scores when using parent-reported external correlates. Importantly, the same conclusion can be drawn for the less studied parent-rated CPTI scores, though it is important to note that parent-reported CU traits were merely significantly associated to teacher-reported conduct and attention-deficit/hyperactivity problems and proactive aggression. Next, this study could also rely on diagnostic interviews completed by multiple informants. As such, this study is the first CPTI investigation that explored if support for the validity of CPTI scores is likely to be explained by the sole reliance on rating scales. Crucially, higher teacher- and parent-reported CPTI scores were related to higher probabilities of having CD, ODD, and ADHD diagnoses, a finding that corroborates with the evidence that CPTI scores were positively related to conduct, oppositional defiant, and attention-deficit/hyperactivity problems as measured through rating scales. Altogether, support for the validity of both the teacher- and parent-reported CPTI holds, even when using stringent tests that help overcome methodological pitfalls seen in many prior studies on psychopathy or CU traits.

Psychopathic Personality and Psychopathic Traits

Notwithstanding that partial correlation analyses were not strictly necessary for testing the psychometric properties of the CPTI, the outcomes of these analyses bear relevance from a conceptual point of view. Indeed, most researchers do agree that psychopathy is a syndrome consisting of traits that co-occur within the same person, while their analyses are predominantly performed on the separate factors (e.g., Colins, Fanti, Salekin, & Andershed, 2017; Salekin, 2016). Overall, this study showed that each single CPTI factor was considerably less strongly correlated to external criterion measures after controlling for the other two CPTI factors than was the case at the zero-order level. This set of findings suggests that the relation between the different CPTI factors and external correlates measures in part lies in the combination of the three CPTI factors. To bolster what is known about child psychopathic personality, future studies that further test three-way-interaction effects between the CPTI factors (Colins, Andershed, et al., 2014) or identify children who are high on all CPTI factors (Frogner, Gibson, Andershed, & Andershed, 2016) are urgently needed. Such evidence would show that the CPTI not only reliably and validly assesses psychopathic *traits dimensions* (i.e., *factor scores*) but also can be used to identify children with a personality that at least at the surface looks like psychopathy. From a theoretical point of view, such work will be of indisputable importance, especially since it has been argued that

children with a putative psychopathic personality can be identified by the age of 8 years (Blair, 2010).

Our partial correlation analyses are also interesting in light of an increasing number of studies that assess or study CU traits in relation to conduct problems and aggression without reference to the other psychopathic traits. While these studies cannot provide information as to whether it is the CU construct or the other psychopathy dimensions that account for the results (Frick et al., 2014), the present study showed that, after controlling for the other two CPTI factors, the CPTI CU factor only occasionally remained significantly positively related to conduct problems and one of five aggression indices, though only when the same informant rated the CPTI as well as the measures that were used to assess the external correlates of interest (Table 5). Importantly, after controlling for the CPTI CU and INS factors, the CPTI GD factor remained significantly positively related to conduct problems and various indices of aggression, not only when the same informant rated all questionnaires (Table 5) but also when the CPTI and the other measures were completed by different informants (Table 6). GD also was the only CPTI factor that remained significantly positively related to a CD diagnosis (see Table 7). This set of findings suggests that the association between CU traits and conduct problems and aggressive behavior identified by prior work might be due to the shared variance with other psychopathic traits. To account for this possibility, it would be beneficial for researchers not only to use measures that do not combine GD and CU traits into one dimension but also to report on *all* factor scores of psychopathy measures. Such joint efforts would allow scholars and clinicians to better understand the unique relation between psychopathy factors and various external correlates (Colins et al., 2017, Salekin, 2016, 2017).

Strengths and Limitations

There were a number of strengths to this study, including the availability of clinical sample, the use of multiple informants, and the use of well-validated and commonly used questionnaires and a diagnostic interview to measure external correlates. As always, the findings should be viewed with some limitations in mind. First, given the modest response rate (see Participants and Procedure section), our findings may not generalize to the entire population of clinic-referred youth. Second, the sample size was too small to test for measurement invariance across gender and age. Though prior work showed that the teacher-reported CPTI's factor structure was invariant across age (Lopez-Romero et al., 2018) and gender (Colins, Fanti, Larsson, et al., 2017; López-Romero et al., 2018; Wang et al., 2018), this was not the case for the parent-reported CPTI (Wang et al., 2018). Third, we did not include alternative measures to assess psychopathic traits, which imply that we do not know how much the CPTI overlaps with other tools that were designed for use in 6- to 13-year-old children. Fourth, there were no follow-up data available yet. As such, the cross-sectional design of the study did not allow to test the usefulness of psychopathic personality traits to predict future problems and treatment outcomes.

Conclusion

In conclusion, this study replicated and substantially extended prior work on the psychometric properties of the teacher- and parent-reported CPTI in a clinic-referred sample. The CPTI holds promise as a teacher- and parent-rated tool for assessing psychopathic traits in childhood and may further our current understanding of child psychopathy. More research is clearly needed to investigate the usefulness of the CPTI in clinical samples, and we explicitly recommend not using this tool for clinical purposes. The CPTI is at present a research tool and should only be used as such.

Authors' Note

Henrik Andershed developed the CPTI, the tool that is at the core of this article.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Only two 13-year-olds were included, which implies that 99% of the participants were aged between 6 and 12 years.
2. Because of the large number of analyses, it can be argued that we should use a lower alpha level. To address this concern, we will indicate if correlations were significant at $p < .001$, $p < .01$, or $p < .05$.
3. Some notable exceptions must be noted for psychopathy total ($r = .43$; Frick et al., 2000) or CU scores ($r = .38$ and .40, respectively; Frick et al., 2003; Waschbusch, Carrey, Willoughby, King, & Andrade, 2007).

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