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CHAPTER 6 Psychopathic Traits in Non-Referred Youths: Initial Test of a New Assessment Tool

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6.1 Introduction

Few would deny that understanding and preventing youth criminality is an important goal in contemporary Western societies. But youth criminals are a heterogeneous group; many adolescents dabble in antisocial behaviour, but a smaller number is more stable and persistent (e.g. Dalteg & Levander, 1998; Farrington, 1992; Moffitt, 1993; Stattin & Magnusson, 1991). Hence, an important goal for research is to understand this heterogeneity and develop the means to identify the youths with the highest potential for violent, persistent criminal behaviour.

One clue for understanding the heterogeneity among youth criminals is the fact that adult criminals are a heterogeneous group, too. In particular, adult criminals with a personality pattern known as psychopathy tend to begin their criminal careers earlier than other criminals, commit more violent and more varied crimes, engage in more violence while incarcerated, and break parole more often, particularly by committing violent crimes (e.g. Grann, Långström, Tengström, & Kullgren, 1999; Hare, 1999; Hare & McPherson, 1984; Hart, Kropp, & Hare, 1988; Serin, 1991; Serin, Peters, & Barbaree, 1990). This personality pattern includes: (1) an arrogant and deceitful interpersonal style, involving manipulation, dishonesty, grandiosity, and glibness, (2) a defective emotional experience, involving shallow emotions and a pronounced lack of remorse, empathy, and a lack of personal responsibility for one's own actions, and (3) a facet involving impulsivity, irresponsibility, and sensation seeking behaviour (Cooke & Michie, 2001; Hare, 1991, see also chapter 1). The traits involved in the third facet are common among non-psychopathic criminals as well.

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These findings raise several questions for researchers trying to understand youth criminality. The first is whether a similar personality pattern distinguishes the most violent, persistent youth criminals from other youth criminals. Answering this question requires research on forensic youth samples, and, from the growing body of research that has been conducted, the answer seems to be that it does. Adolescent criminal offenders with pronounced psychopathic traits begin earlier than other youth criminals (Brandt, Kennedy, Patrick, & Curtin, 1997; Forth, 1995; McBride, 1998), commit more crimes (Forth, 1995; Grettton, 1998; McBride, 1998; Myers, Burket, & Harris, 1995; Tourpin, Mercier, Dery, Côté, & Hodgins, 1996), re-engage in violent crime more often (Grettton, 1998), and commit more violent acts while institutionalised (Brandt et al., 1997; Forth, Hart, & Hare, 1990). Hence, among forensic samples of youths as well as adults, those with psychopathic personality traits tend to be the most serious and persistent offenders.

Consequently, additional questions arise. How and when do these traits develop? How early can they be detected? Does the entire adult pattern apply to youths, or do only some of the traits apply? How severe do the levels of these traits have to be before they can be connected with problem behaviour? Answering these questions requires research with general population samples, which poses a problem because the methodology for assessing psychopathic traits in forensic samples is not appropriate for general population samples. The methods in question are two clinical rating procedures (PCL-R; Hare, 1991; PCL:YV; Forth, Kosson, & Hare, in press) for adults and youths, respectively. In this procedure, a clinician assigns scores on the various psychopathic traits after carefully reviewing the institutionalised person's file and then conducting a semi-structured interview. The file includes information about previous criminal acts, statements from psychologists or psychiatrists, and other materials that allow the clinician to assess the person's credibility. Hence, the clinician's judgements are based, in part, on a comparison between the file material and the person's descriptions and explanations of his behaviour. But because non-referred children and adolescents do not have files to review, this important part of the PCL methodology cannot be transferred to non-referred samples. In addition, for general population research one would also like to use instruments such as parent, teacher, and self-report questionnaires, which can easily be administered to large samples in a relatively short time.

To fill this need, an instrument for use on non-referred samples of youths has been developed in parent- and teacher-report versions (Frick & Hare, in press). This instrument, previously called the Psychopathy Screening Device and recently renamed the Antisocial Process Screening Device (APSD), is a 20-item behaviour rating scale that was designed to tap each of the 20 items in the PCL-R with a youth-appropriate version of the same behaviour or trait. The items ask directly about psychopathy-like behaviour (e.g., "Blames others for his/her mistakes; His/her emotions seem shallow and not genuine; Uses or

'cons' other people to get what he/she wants; Lies easily and skilfully; Seems to think that he/she is better than other people"). Although the factor structure obtained on large samples of non-referred youths is somewhat unclear, conceptually (see Frick, Bodin, & Barry, 2000), the APSD does seem to pick out a particularly problematic subgroup of youths with conduct-problems. In research on referred children and adolescents, the callous-unemotional factor of the APSD has been able to pick out a group of conduct-problem youths that is more adventure seeking and thrill seeking than other conduct-problem youths (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999), less sensitive to cues of punishment when a reward-oriented response set is primed (Fisher & Blair, 1998; O'Brien & Frick, 1996), less reactive to threatening and distressing stimuli (Blair, 1999), less likely to show deficits in intellectual functioning (Christian, Frick, Hill, Tyler, & Frazer, 1997), and whose antisocial behaviour is less related to ineffective parenting (Wootton, Frick, Shelton, & Silverthorn, 1997). These are all theoretically related to the psychopathy findings in adults. Also, in a large community sample, youths with high APSD scores exhibited the highest rates of conduct problems and were clearly most impaired on various indices of behaviour problems (Frick, Bodin, & Barry, 2000). These findings suggest that further research on non-referred samples should be conducted. One of the most important steps in this research is the development of a good self-report measure of psychopathic personality traits. A self-report measure would provide better insight into subjective dispositions, (e.g. lack of remorse, grandiosity, lack of empathy) which may be difficult to assess reliably and validly by outside "untrained" observers such as parents and teachers. In addition, self-report measures can be administered to many people at the same time; so they would be time- and cost-effective to use in studies on large samples of non-referred youths.

The APSD has been reworded for use as a self-report measure (Caputo, Frick, & Brodsky, 1999), but it has certain limitations. First, because it was not designed with self-report in mind, the items are straightforward measures of traits that are obviously negative, and this will likely increase response biases. Second, because the APSD contains only one item per trait (e.g. one item for manipulation and one item for shallow affect), it would be difficult to use for research on the trait level. This is a serious obstacle for developing a deeper understanding of the individual traits and their roles in the development of antisocial behaviour.

6.1.1 The Youth Psychopathic Traits Inventory

In the present study, we present a youth self-report instrument of psychopathic personality traits (the Youth Psychopathic Traits Inventory; YPTI), which was designed specifically to overcome the problems inherent in measuring psychopathic traits through self-report. One of the main problems is that deceitfulness, lying, and manipulation are core symptoms of the psychopathic

personality, which makes it difficult to get truthful responses to questions about characteristics such as shallow affect, lack of remorse or guilt, and grandiose sense of self-worth (Hare, 1996; Harpur, Hare, & Hakstian, 1989; Hart, Forth, & Hare, 1991). Another problem is that adult psychopaths tend to have a profound lack of insight into their own behaviour. Hence, even though they have a pronounced lack of empathy, they might affirmatively respond to questions such as "Are you a warm-hearted person?" because the psychopath generally does not see him or herself as a cold-hearted person. Even adolescents in the general population who have relatively pronounced psychopathic traits might have some difficulties with self-insight, which poses a clear obstacle to getting valid responses to self-report items concerning some of the core psychopathic traits. Hence, our guiding principles were to develop items that did not tempt people with these traits to lie and that tapped the various traits indirectly, rather than in a straightforward, transparent way. More specifically, we wanted to develop items that people with psychopathic traits would see as positive or admirable, but that other people would not. For instance "I usually feel calm when other people are scared" and "I don't let my feelings affect me as much as other people's feelings seem to affect them" are YPI items that make a lack of emotionality sound like a good thing to people whose emotions are shallow and who have a grandiose sense of self-worth and which should predispose them to seeing their own qualities as admirable strengths and other people's qualities as deplorable weaknesses. On the other hand, we tried to avoid using items that would frame the characteristics as deficits, such as "My emotions are less strong than other people's", because individuals with psychopathic traits would be unlikely to see themselves as lacking something that other people have. Thus, by using items that framed the psychopathic features as abilities, we hoped to minimise problems with response distortion and social desirability, and by using items that indirectly tapped the various traits, we hoped to minimise the problem of individuals with these traits lacking insight into how they compare with others (e.g. failing to see themselves as more cold-hearted or grandiose than others, even though they are).

The intention of the YPI was that it should measure the core personality traits of the psychopathic personality constellation, as identified in previous research. An essential issue was which psychopathic traits would be relevant to youths in community samples. Cleckley (1976), through extensive clinical observations, identified sixteen characteristics as being typical of adult psychopaths. Hare (1991), continuing and extending the work of Cleckley (1976) by developing the Revised Psychopathy Checklist, arrived at 20 characteristics typical of adult psychopaths. In both Cleckley's (1976) and Hare's (1991) descriptions of the adult full-blown psychopath, there are several characteristics that are not directly applicable or relevant for non-referred, community samples of youths. Characteristics such as promiscuous sexual behaviour, many-short-term marital relationships, absence of delusions, criminal versatility, and revocation of conditional release, are some of the characteristics that

Cleckley (1976) and Hare (1991) have identified as being strongly associated with psychopathy. However, these characteristics are naturally difficult to apply to non-referred youths in normal populations.

In addition, characteristics such as promiscuous sexual behaviour, criminal versatility, and many short-term relationships, seem to be more behavioural consequences of psychopathic personality traits such as shallow affect, lack of empathy, lying, impulsivity, and sensation-seeking, than core traits of the psychopathic personality constellation. This assumption is supported by a recent study using PCL-R ratings on referred adults (Cooke & Michie, 2001). This study showed that the core traits of the psychopathic personality constellation are the characteristics that are more pure personality traits rather than behavioural characteristics such as criminal versatility, short-term relationships, etc. (Cooke & Michie, 2001).

Hence, based on these two arguments, we designed the YPI to measure the core personality traits of the psychopathic personality constellation rather than behavioural traits associated with it. Furthermore, both Cleckley's definition (1976) and Hare's checklist (1991) include personality characteristics that concern the interpersonal style of the psychopath, including glibness and superficial charm, pathological lying, manipulation, and grandiose/egocentric traits. Also, they both describe the emotional/affective traits of the psychopath: lack of remorse or guilt, shallow affect/poverty in affective reactions, and a general callousness/lack of empathy. Finally, both Hare (1991) and Cleckley (1976) describe a behavioural/lifestyle aspect of psychopathy: impulsivity, irresponsibility, and a need for stimulation/proneness to boredom. This description of psychopathy is also in line with the items identified recently as being the core items of the PCL-R as shown through IRT-analysis (Cooke & Michie, 2001). Thus, in our self-report measure for the core psychopathic traits in non-referred youths, we focused on the core personality traits of the psychopathic personality constellation.

In the development of the YPI we developed several items for measuring each of these core psychopathic personality traits. Several self-report items were constructed to form internally consistent indices/subscales, measuring each of the core psychopathic traits. More specifically, we assessed six to ten items intended for each of the ten traits. From this larger pool of items, the best five items for each trait/subscale were picked out. These five items were chosen from the larger pool based on conceptual grounds and the results of reliability analyses (looking at the item-total correlations and the alpha-item-deleted statistic). Our goal was to find five items that would measure the trait in question as well and as broadly as possible. Hence, the YPI consists of ten subscales with five items each (total 50 items). Specifically, the subscales in the YPI intended to measure different aspects of glibness and superficial charm (*Dissonant charm*), the grandiosity/egocentricity aspect of the psychopathic personality constellation (*Grandiosity*), the tendency to lie frequently and with ease (*Lying*), the cunning and manipulative traits (*Manipulation*), cal-

lousness and lack of empathy (*Callousness*), the shallow affect/poverty in affective reactions (*Unemotionality*), the relative lack of adequate feelings of remorse and guilt (*Remorselessness*), impulsivity (*Impulsivity*), the need for stimulation and excitement, and proneness to boredom (*Thrill-seeking*), and irresponsibility (*Irresponsibility*). Two sample items of each of the ten subscales of the YPI are presented in Table 1.

Furthermore, the items of the YPI were developed for youths aged 12 and up, although it is an empirical question whether it can be used with younger participants. The items of the YPI were developed simultaneously in Swedish and English since one of the developers and authors of this chapter is American.

Table 1. The Cronbach's alpha coefficients and sample items for the ten subscales of the YPI.

Subscale	Alpha	Sample items
Dishonest charm	.82	- I have the ability to con people by using my charm and smile. - When I need to, I use my smile and my charm to use others.
Grandiosity	.73	- I am better than everyone on almost everything. - I am more important and valuable than other people.
Lying	.81	- Sometimes I lie for no reason, other than because it's fun. - I have often gotten into trouble because I have lied too much.
Manipulation	.80	- I can get almost anyone to believe anything. - To get people to do what I want, I often find it efficient to con them.
Callousness	.67	- When other people have problems it is often their own fault, therefore one should not help them. - I often become sad or moved by watching sad things on TV or film (R).
Unemotionality	.66	- I usually feel calm when other people are scared. - I don't let my feelings affect me as much as other people do.
Remorselessness	.68	- I have the ability not to feel guilt and regret about things that I think other people would feel guilty about. - To feel guilty and remorseful about things you have done that have hurt other people is a sign of weakness.
Impulsivity	.71	- It often happens that I do things without thinking ahead. - I prefer to spend my money right away rather than save it.
Thrill-seeking	.74	- I like to do things just for the thrill of it. - I get bored quickly by doing the same thing over.
Irresponsibility	.73	- It has happened several times that I have borrowed something and then lost it. - I have cut class more often than most other people.

Respondents are asked to rate the degree to which the individual statements or items apply to them, using 4-point Likert-type scales (1 *does not apply at all*, 2 *does not apply well*, 3 *applies fairly well*, 4 *applies very well*). On the first page of the questionnaire, information is given concerning the overall content of the items, and a sample item is given. Also, it is stressed in the information that there are no right or wrong answers and that our interest is in what the respondent thinks and feels about various things rather than what is right or wrong. Respondents are also informed that they should answer each statement as they most often feel and think, not only how they feel at the moment. In this study, the reliability and validity of the YPI were tested in a large community sample of male and female 16-year-olds.

6.2 Method

6.2.1 Subjects

The present study was part of a larger short-term longitudinal study. The target population were students attending 8th grade in the fall of 1998 in a medium sized community in Sweden, ($N=1,279$). 1,186 (93%) of the potential respondents were present during that data collection. In the spring of 1999, the teachers were asked to rate the subjects on issues such as school achievement and behaviour in school. We received ratings on 854 adolescents, which resulted in a response rate of 67 percent. Then, in the spring of 2000, when the adolescents were in the last semester of 9th grade, a follow-up assessment of the adolescents was conducted. The YPI was administered in this data collection. 1,024 (471 males and 553 females) of the adolescents (80% of the original target sample) responded to the YPI.

6.2.2 Measures

Self-report measures of conduct problems

All items in the scales reported under this heading were scored by self-report and had the same five-point response scale: (1) *no, that has not happened*, (2) *1 time*, (3) *2-3 times*, (4) *4-10 times*, and (5) *more than 10 times*. The below reported conduct-problems measures (Property offences, Serious property offences, Violent offences, Serious violent offences, Vandalism, Use of illegal drugs, and Caught by police) were administered to the adolescents twice. First in grade 8, in the Autumn of 1998, (when the items were specified to yield delinquent acts up to then, about age 15), and then in the end of grade 9, in the Spring of 2000 (when the items yielded delinquent acts committed between ages 15 and 16, i.e. concurrent conduct problems). These various measures were also combined in some analyses to yield two different composite measures. One is the mean of all of the above-mentioned 1998 measures labelled "Conduct prob-

lems up to age 15" (Cronbach's alpha .81) and the other is the mean of the 2000 measures labelled "Concurrent conduct problems" (Cronbach's alpha .86).

Property offences were measured by five items assessing less serious types of property offences (e.g. Have you taken anything from a mail, news-stand, or store without paying? and Have you taken money at home that wasn't yours?). Cronbach's alpha 1998 = .70 and 2000 = .73. *Serious property offences* were assessed by five items assessing more serious types of property offences (e.g. Have you been involved in breaking into a house, store, news-stand, store, age, or any other building, in an attempt to steal something? and Have you been involved in taking a car without permission?). Cronbach's alpha 1998 = .81 and 2000 = .8. *Violent offences* were addressed by three items assessing less serious violent behaviour (e.g. Have you threatened or forced someone to give you money, cigarettes, or anything else? and Have you been involved in a street fight?). Cronbach's alpha 1998 = .69 and 2000 = .71. *Serious violent offences* were assessed by three items addressing the inflicting of a more severe level of physical harm or imposing a higher level of threat than the previous measure (e.g. Have you been involved in physically abusing someone to the point that, according to what you believe or know, he or she needed medical attention? and Have you purposely abused anyone physically with a knife, stiletto, brass knuckles, or any similar weapon?). Cronbach's alpha 1998 = .59 and 2000 = .74. *Vandalism* was measured by two items: Have you been involved in purposely destroying windows, lamp posts, phone-booths, public benches, gardens, et cetera? and Have you been involved in painting graffiti or writing something on public walls or other public surfaces? Cronbach's alpha 1998 = .68 and 2000 = .59. *Use of illegal drugs* was measured by two items: Have you smoked marijuana or hashish? and Have you used illegal drugs other than marijuana? Cronbach's alpha 1998 = .73 and 2000 = .81. *Caught by police* was measured by one item: Have you ever been caught by the police for anything you have done? *Age at first contact with police* was measured through the question If you have been caught by the police for anything you have done, how old were you then? As the measure of *Concurrent delinquent versatility*, we used the number of different delinquent acts the subjects had committed (self-reported) between ages 15 and 16 (from Spring 2000).

Other self-reported problem behaviours

Addressed were three problem areas: Early behavioural problems (Cronbach's alpha .87). Poor behavioural control (Cronbach's alpha .74) and HLA problems (Cronbach's alpha .77). The items, that had a 4-point Likert-type response scale ranging from *does not apply at all* to *applies very well*, were administered to the adolescents in the follow-up data collection in the spring of 2000 along with the YPI.

Early behavioural problems were addressed by ten questions about what subjects had done before starting grade seven (e.g. I often did things that were illegal or not allowed; I often got in trouble in school). *Poor behavioural control*

was operationalised as the tendency to have problems with inhibiting aggressive behaviour. It was measured with five items (e.g. It often happens that I get so mad that I hit or kick things; People don't mess with me, because they know I'll fight back immediately). *HLA problems*, problems with hyperactivity, impulsivity and attention (HLA), were assessed with seven items (e.g. I have a hard time concentrating on assignments and I'm easily distracted; I'm restless and have a hard time sitting still; I do things without thinking ahead, am impulsive).

Teacher-rated problem behaviours

These were inventoried by nine individual items rated by the subjects' teachers. The items, rated on 7-point response scales (with a range from *never to always*), were: (1) Gets into fights, (2) Gets into trouble, (3) Bothers others, (4) Teases others, (5) Starts rumours, (6) Is restless, (7) Is unconcentrated, (8) Not good at mathematics, (9) Not good at the Swedish language. Also, three items assessed the students' grades in Swedish, English, and Mathematics.

6.2.3 Procedure

The adolescents completed the self-report measures during 80 minutes of regular school time. They worked in their ordinary classroom, separated from each other with enough space so that they could not see each others' responses. Specially trained research assistants administered the questionnaires. Teachers were not present. Subjects were told that their responses were confidential and that neither parents, friends, teachers, police, nor any other authority would see their responses. The subjects were also informed that their participation was voluntary. Teachers responded by completing and mailing in the questionnaires. They completed one questionnaire per student. The students' primary teacher who had had the most experience with them filled out the questionnaires. Teachers were paid for their participation.

6.3 Results

6.3.1 Internal Consistency and Descriptives

The internal consistencies and two sample items for each of the ten subscales of the YPI are presented in Table 1. As shown, all subscales had acceptably high alpha reliabilities.

Next we investigated whether there were differences between boys and girls in their scores on the ten different subscales of the YPI. As shown in Table 1, boys were found to score significantly higher than girls on Grandiosity, Manipulation, Lying, Callousness, Unemotionality, Remorselessness, Irresponsibility ($p < .001$), and Impulsivity ($p < .05$). No significant gender differ-

ences were found on levels of Dishonest charm and Thrill-seeking. However, because significant differences were found on the majority of the subscales of the YPI, all further analyses were conducted separately for boys and girls.

6.3.2 Factor Structure

Factor analyses were conducted on the ten subscales of the YPI. We chose this method over individual-item analyses because the subscales were internally consistent to an acceptable degree and because the YPI was designed for research on the subscale level. First, ten subscales of the YPI were entered into a principal axis factor analyses (exploratory factor analysis) with an Oblique Promax rotation among boys and girls separately. Among boys and girls, two-factor structures were suggested by the Eigenvalue criterion (Eigenvalue > 1.0). However, the two-factor structure for boys was not theoretically interpretable. The subscales Unemotionality, Remorselessness, and Callousness loaded in one factor and the rest of the subscales loaded in the other. For girls, the structure was even less clear, with several subscales loading above .30 on both factors. However, for three-factor solutions, the subscales loaded distinctively (without any overlapping loadings), and the three factors were theoretically interpretable (see table 2). Importantly, this distinct three-factor structure that appeared among both boys and girls is very much in line with the three-factor structure of the psychopathic personality that emerges in adult offenders using the PCL-R methodology (Cooke & Michie, 2001).

We then tested this three-factor model using confirmatory factor analyses. Because the distributions of the subscales were somewhat skewed, and because the scales were ordinal, we used Weighted Least Squares as our method of estimation with polychoric correlation matrices and its corresponding asymptotic covariance weight matrices (Jöreskog & Sörbom, 1993). Thus, we tested the model consisting of (1) a *Grandiose, manipulative dimension* describing the interpersonal aspects of the psychopathic personality, (2) a *Callous, unemotional dimension* describing the affective aspects, and (3) an *Impulsive, irresponsible dimension* describing the behavioural aspects. The YPI subscales Dishonest Charm, Lying, Grandiosity, and Manipulation composed the Grandiose, manipulative dimension; the subscales Callousness, Unemotionality, and Remorselessness composed the Callous, unemotional dimension; and the subscales Impulsivity, Irresponsibility, and Thrill-seeking composed the Impulsive, irresponsible dimension. As shown in the confirmatory factor analyses, the fit indices of this three-factor model suggested a good fit to the data among boys ($\chi^2 (32, N = 446) = 124.05, p < .001$, comparative fit index (CFI) = .98, goodness-of-fit index (GFI) = .98, non-normed fit index (NNFI) = .98), and girls ($\chi^2 (32, N = 535) = 184.31, p < .001$, CFI = .98, GFI = .98, NNFI = .97). Also included in table 2 along with the results of the forced three-factor exploratory solution are the factor loadings and error variances from the confirmatory factor analyses of the three-factor model.

6.3.3 Gender Similarities

To what extent, statistically, is this three-factor model congruent across gender? To answer this, we conducted a multiple sample confirmatory factor analysis (Jöreskog & Sörbom, 1993). Also, we restricted all common factor loadings and unique variances to be invariant across groups, which has been recommended as a stringent and proper test of measurement invariance (Floyd & Widaman, 1995). The three-factor model had an acceptable fit across gender ($\chi^2 (67, N = 981) = 327.10, p < .001$, CFI = .98, GFI = .98, NNFI = .98). Hence, the apparent gender similarities reported above were upheld by the statistical test.

Using confirmatory factor analysis, we also considered the "traditional" two-factor model (Hare, 1991) as a theoretical alternative to this three-factor model. In the two-factor definition, the first factor deals with the interpersonal and affective characteristics of the psychopathic personality constellation, (e.g., manipulation, pathological lying, lack of remorse or guilt, and shallow affect) and the second deals with the behavioural/lifestyle characteristics (e.g., impulsivity, irresponsibility, and parasitic lifestyle). To test this model, we combined the YPI subscales Dishonest charm, Lying, Grandiosity, Manipulation, Callousness, Unemotionality, and Remorselessness into a first factor, and the subscales Impulsivity, Irresponsibility, and Thrill-seeking into a second factor of the model. The two-factor model did not fit the data as well as the three-factor model, as indicated by higher chi-square and lower NNFI coefficients for the two-factor model, $\chi^2 (34, N = 446) = 152.89, p < .001$, CFI = .98, GFI = .98, NNFI = .97 and $\chi^2 (34, N = 535) = 221.19, p < .001$, CFI = .97, GFI = .98, NNFI = .96 for boys and girls, respectively. This was confirmed by a statistical test of the difference, $\Delta\chi^2 (2, N = 446) = 28.84, p < .001$, and $\Delta\chi^2 (2, N = 535) = 36.88, p < .001$ for boys and girls, respectively. Hence, the YPI subscales seem to represent three facets of personality rather than two, and the content of those facets is similar to three facets of the psychopathic personality that emerge in adult offenders using the PCL-R methodology (Cooke & Michie, 2001).

Table 2. The three-factor solution of the YPI among boys and girls.

Factor labels and subscales	Boys			Girls		
	Principal factor analysis			Principal factor analysis		
	Gran- dose, man- ipulative	Impul- sive, irres- ponsible	Callous, unemo- tional	Impul- sive, irres- ponsible	Gran- dose, man- ipulative	Confi- rmatory factor analysis
Grandiose, manipulative						
- Dishonest charm	.91	.05	-.17	.87	.25	.90
- Grandiosity	.60	-.14	.14	.62	.61	.58
- Lying	.59	.15	.04	.78	.39	.83
- Manipulation	.93	.01	-.08	.91	.18	.94
Callous, unemotional						
- Callousness	-.17	-.06	.75	.51	.74	.67
- Unemotionality	.25	.03	.53	.78	.39	.72
- Remorselessness	.21	.13	.55	.84	.30	.43
Impulsive, irresponsible						
- Impulsivity	-.10	1.01	-.09	.83	.32	.80
- Thrill-seeking	.11	.68	.01	.83	.31	.84
- Irresponsibility	.08	.48	.14	.72	.49	.69
Percent of variance explained	44.87	7.17	5.66	42.94	8.46	4.80

Note. Principal axis factoring has been used as the extraction method in the principal factor analyses and the Oblimin: Promax as the rotation method. Loadings higher than .40 are in boldface. The results of the confirmatory factor analyses in the present table are the loadings for the three-factor model, all of which are significant ($p < .05$). Error refers to the error variance associated with each subscale.

Table 3. Correlations between the YPI total, the three dimensions, and various self-reported conduct problems measures for boys and girls.

	Boys			Girls		
	YPI total	Gran- dose, man- ipulative	Callous, unemo- tional	Impul- sive, irres- ponsible	YPI total	Callous, unemo- tional
Conduct problems up to age 15						
- Property offences	.33*	.29*	.13**	.36*	.38*	.17*
- Serious property offences	.25*	.22*	.11**	.24*	.23*	.13***
- Violent offences	.24*	.17*	.18*	.22*	.20*	.10**
- Serious violent offences	.20*	.13**	.12**	.22*	.27*	.18*
- Vandalism	.30*	.24*	.15***	.34*	.32*	.10**
- Use of illegal drugs	.12**	.02	.11**	.17***	.09**	.04
- Caught by police	.17*	.13***	.06	.23*	.18*	.10**
Concurrent conduct problems						
- Property offences	.41*	.32*	.25*	.46*	.47*	.26*
- Serious property offences	.33*	.23*	.23*	.36*	.24*	.13***
- Violent offences	.33*	.25*	.25*	.31*	.34*	.19*
- Serious violent offences	.28*	.22*	.19*	.29*	.24*	.15*
- Vandalism	.34*	.25*	.22*	.37*	.32*	.16*
- Use of illegal drugs	.25*	.18*	.17*	.30*	.25*	.15***
- Caught by police	.22*	.16***	.13***	.24*	.20*	.09**
- Delinquent versatility	.44*	.33*	.27*	.49*	.51*	.27*
- Age at first police contact	-.22	-.23**	-.18	-.19	.08	-.06

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

6.3.4 Descriptives of Dimension Scores and Total Score

To obtain scores for the three factors/dimensions described above, the subscales for each dimension or factor were averaged (Cronbach's alphas: Grandiose, manipulative .84; Callous, unemotional .74; Impulsive, irresponsible .78). These dimension scores were, in turn, averaged to obtain the YPI total score (Cronbach's alpha YPI total .88). The correlations among the three dimensions all were significant among boys and girls (all $ps < .001$) and were high among boys (between .46 and .59) and moderate to high among girls (between .38 and .60). The three dimensions correlated highly and significantly ($p < .001$) with the YPI total score among boys (between .75 and .90) and girls (between .73 and .90).² Furthermore, as shown through *t*-tests, boys scored significantly higher than girls on the YPI total (all $ps < .001$), the Grandiose, manipulative dimension ($p < .001$), the Callous, unemotional dimension ($p < .001$), and the Impulsive, irresponsible dimension ($p < .05$).

6.3.5 Validity of the YPI

Validation with other self-report measures

Previous research has shown that psychopathic traits are linked to frequent, violent antisocial behaviour (Hart & Hare, 1997). Hence, correlations between these personality dimensions as measured by the YPI and conduct problems would suggest that the YPI measures psychopathic traits. Table 3 shows correlations between the personality dimensions measured by the YPI and self-reported conduct problems.

As shown in Table 3, various forms of conduct problems were correlated with the YPI total and the three dimensions among boys and girls alike. However, "use of illegal drugs" and "caught by police" up to age fifteen were only weakly correlated with the YPI, presumably because of the low frequencies of these items in this non-referred sample.

Early behavioural problems and poor behavioural control are other strong correlates of psychopathy, so strong in fact that these two factors are part of the PCL-R instrument (Hare, 1991). Also, hyperactivity-impulsivity-attention (HIA) problems in young age are related to psychopathy and antisocial behaviour in adulthood (Andershed, et al., 2001; Lynam, 1996). Hence, as further evidence of validity, self-reports of these three dimensions were correlated with the YPI. These dimensions indeed correlated strongly and significantly (all $ps < .001$) with the YPI. The correlations with the YPI total for early behavioural problems, poor behavioural control, and HIA problems were .53, .60, and .63 among boys and .49, .61, and .66 among girls.

2. A correlation matrix showing all individual correlations is available from the first author on request.

Validation with teachers' reports

It is reasonable to expect that adolescents who are high on the traits measured by the YPI would have difficulty thriving in a school setting, where different kinds of socialised behaviours are demanded. Hence, as an additional form of validity we predicted that the teacher-rated items concerning problem behaviours should all be significantly related to the YPI total. Since the behaviours rated by the teachers were general problem behaviours, (i.e., no behaviours that led us to predict that they should be related to a distinct YPI dimension), we only looked at the YPI total score in relation to the teacher-rated items. These correlation analyses showed that among both boys and girls the YPI was indeed significantly related to all of the teacher-rated measures of problem behaviour and school achievement, and the relations went in the expected directions. That is, all problem behaviours correlated positively with the YPI (range between .15 and .32) and the school-grades correlated negatively with the YPI (range between -.13 and -.20).³

Validation of the three dimensions through cluster analysis

The previous analyses were variable-oriented and aimed at ascertaining the validity of the three separate dimensions of YPI as well as the composite total scale. However, the psychopathic personality is characterised by a specific constellation of interpersonal, emotional, and behavioural characteristics (e.g., Cleckley, 1976; Hare, 1991). Hence, revealing the particular pattern of characteristics of the psychopathic personality calls for a person-oriented approach. We conducted cluster analyses, separate for boys and girls, using the Ward method to provide a direct test of the assertion that a naturally occurring group characterised by high scores on all three dimensions of the YPI exists in this sample of non-referred adolescents.

We expected to find three distinctively different groups: (1) a normal group, which should be low or average across the three dimensions of the YPI; (2) an impulsive, irresponsible, non-psychopathic group, which should be high on the impulsive, irresponsible dimension of the YPI but relatively low on the Grandiose, manipulative and Callous, unemotional dimensions of the YPI; and (3) a psychopathy-like group, which should be relatively high on all three dimensions of the YPI.

These three different groups did, indeed, appear in five-cluster solutions (see Table 4). As can be seen in Table 4, "low-low-low" (normal), "average-average-high" (impulsive, irresponsible, non-psychopathic), and "high-high-high" (psychopathy-like) groups emerge among boys and girls.

3. A correlation matrix showing these findings is available from the first author on request.

Table 4. Mean z-scores on YPI dimensions and cluster characterisations for the 5-cluster solution.

Cluster	N	Grandiose, manipulative	Callous, unemotional	Impulsive, irresponsible	Facet characterisation
Boys					
1	163	-39	-21	-29	Average-Average
2	74	-30	-13	.84	Average-Average-High
3	75	-1.26	-1.14	-1.33	Low-Low-Low
4	44	1.43	1.50	1.59	High-High-High
5	89	.82	.73	.15	High-Average-Average
Girls					
1	195	.03	-.19	.06	Average-Average-Average
2	157	-1.00	-.80	-.98	Low-Low-Low
3	43	.08	1.44	-.30	Average-High-Average
4	50	1.65	1.67	1.09	High-High-High
5	91	.72	.20	1.10	Average-Average-High

Note. All scores were z-transformed. Z-score transformations were made within boys and girls respectively. Low < -.75 Average: -.75 to .75 High: > .75.

The question then was whether the psychopathy-like groups differed from the other groups on variables that would typically characterise psychopathic individuals. Specifically, adolescents with relatively pronounced psychopathic traits (i.e., the "high-high-high" group) should have higher scores on the self-report measures of conduct problems, early behavioural problems, poor behavioural control, and HIA problems than the impulsive, irresponsible, non-psychopathic group (i.e., the "average-average-high" group).

Table 5 shows that the psychopathy-like "high-high-high" group scored higher on all of the variables studied than adolescents who had average and low levels of the YPI personality dimensions. In addition, on the measure concerning concurrent conduct problems and concurrent delinquent versatility, and on early behavioural problems, poor behavioural control, and HIA problems, the psychopathy-like boys even scored higher than the impulsive, irresponsible, non-psychopathic boys. The same pattern was found among girls, except that the psychopathy-like girls did not score significantly higher than the impulsive, irresponsible non-psychopathic "average-average-high" girls on HIA problems (see Table 5).

Table 5. Mean z-scores on various problem behaviours across the five clusters with contrast tests among boys and girls.

Boys	Cluster	Facet characterisation	t-values			
			A-A-A	A-A-H	H-H-H	H-H-H vs. A-A-A
Conduct problems up to age 15	Concurrent conduct problems	L-L-L	-.20	.39	-.46	.67
	Concurrent delinquent versatility	L-L-L	-.26	.26	-.44	1.04
	Concurrent delinquent versatility	L-L-L	-.25	.37	-.55	1.05
	Early behavioural problems	L-L-L	-.33	.45	-.67	.92
	Poor behavioural control	L-L-L	-.23	.46	-.98	1.18
	HIA problems	L-L-L	-.21	.57	-1.09	1.22
	Concurrent conduct problems	A-A-H	-.20	.39	-.46	.67
	Concurrent delinquent versatility	A-A-H	-.26	.26	-.44	1.04
	Early behavioural problems	A-A-H	-.33	.45	-.67	.92
	Poor behavioural control	A-A-H	-.23	.46	-.98	1.18
Girls	Concurrent conduct problems	L-L-L	-.05	-.46	-.20	.67
	Concurrent delinquent versatility	L-L-L	-.15	-.36	-.08	1.06
	Concurrent delinquent versatility	L-L-L	-.15	-.44	-.16	1.19
	Early behavioural problems	L-L-L	-.07	-.52	-.09	1.05
	Poor behavioural control	L-L-L	-.02	-.69	.06	1.00
	HIA problems	L-L-L	.03	-.79	-.12	.92
	Concurrent conduct problems	A-A-H	-.05	-.46	-.20	.67
	Concurrent delinquent versatility	A-A-H	-.15	-.36	-.08	1.06
	Early behavioural problems	A-A-H	-.07	-.52	-.09	1.05
	Poor behavioural control	A-A-H	-.02	-.69	.06	1.00

Note. All scores were z-transformed. Z-score transformations were made among boys and girls respectively. The measure "Conduct problems up to age 15" is an average of the self-report measures, property offences, serious property offences, violent offences, serious violent offences, vandalism, and use of illegal drugs up to age 15. The measure "Concurrent conduct problems" is an average of the same measures as above but yielding the ages between 15 and 16.

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

6.3.6 Psychopathy and Conduct-problem Adolescents

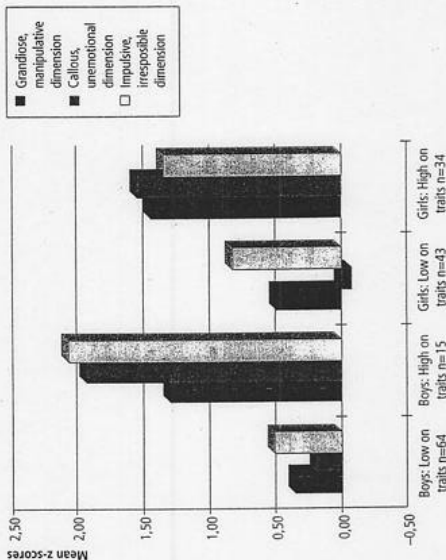
Previous research suggests that delinquents with psychopathic personality traits display the most frequent, violent and versatile criminal behaviour, and that they begin their criminal careers earlier than other delinquents (see Forth & Mailloux, 2000; Hart & Hare, 1997). Hence, a question that remained to be answered concerning the validity of the YPI was whether the three dimensions of the YPI, as a pattern, could identify a particularly problematic subgroup of conduct-problem adolescents in the general population. More specifically, the question was whether a naturally occurring subgroup could be found within the conduct-problem group that exhibited a pattern of high scores on all dimensions of the YPI, and to what extent this possible subgroup would be more frequent and violent in their conduct-problem behaviour as compared to conduct-problem adolescents without a psychopathic personality constellation.

To answer this question, we first selected the adolescents classified as having conduct-problems (0.5 standard deviation above the mean within gender on the composite measure of concurrent conduct problems), which led to the selection of 113 boys (19% of the boys) and 81 girls (14% of the girls). At the next step we clustered (using the Ward method) these conduct-problem adolescents (separately by gender) across the three dimensions of the YPI to see whether a subgroup exhibiting high levels across all three dimensions could be found (79 out of the 113 of the conduct-problem boys and 77 out of the 81 conduct-problem girls had also responded to the entire YPI and could thus be used in cluster analysis).

The resulting groups of these cluster analyses are shown in Figure 1. Among boys and girls, the second clusters in a two-cluster solution are high across all three dimensions of the YPI. The characterisations of these two clusters across the three YPI dimensions can be seen in Figure 1.

Thus, we found a naturally occurring subgroup of conduct-problem adolescents within the conduct-problem group that was distinctively different from other conduct-problem adolescents in that they were characterised by a psychopathic personality constellation. *T*-tests showed that this psychopathic subgroup scored significantly higher (all *ps* < .05) than the non-psychopathic subgroup on all of the three dimensions of the YPI (both for boys and girls). Furthermore, as shown in Figure 1, the subgroup of the conduct-problem adolescents with high YPI scores represented a minority of the conduct-problem boys: 19 percent (15 out of 79). However, among the female conduct-problem adolescents, this subgroup represented 44 percent of the total number of conduct-problem girls (34 out of 77).

Figure 1. Characterisation of the two derived clusters among the conduct-problem youths across the three dimensions of the YPI among boys and girls.

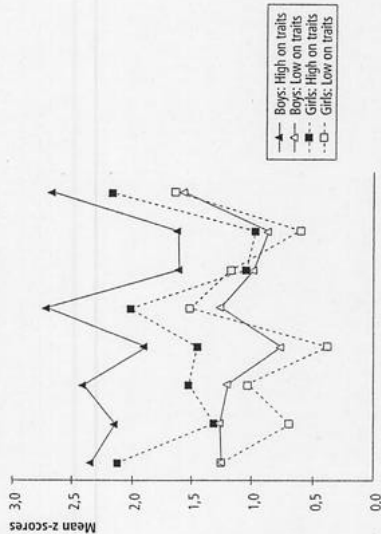


Our expectation was that the subgroup that scored high on the YPI traits would also score higher across all measures of conduct-problems. To examine this, we focused on the various concurrent measures of conduct-problem behaviour as well as other concurrent problem behaviours. Figure 2 displays the mean differences on different conduct-problem measures between the conduct-problem adolescents who were high on the YPI and the conduct-problem adolescents who were low on the YPI.

As shown in Figure 2, the high-YPI conduct-problem boys scored higher on the various measures of conduct problems than the low-YPI conduct-problem boys. Specifically, they scored significantly higher on property offences ($t_{(77)} = -2.74; p < .01$), violent offences ($t_{(96)} = -2.63; p < .05$), serious violent offences ($t_{(96)} = -2.00; p < .05$), vandalism ($t_{(96)} = -4.20; p < .001$), and delinquent versatility ($t_{(96)} = -3.82; p < .001$). They also scored higher on the other measures of conduct problems, even though those differences did not reach statistical significance. Furthermore, the high-YPI conduct-problem girls scored higher than the other conduct-problem girls on all measures of conduct-problems

(see Figure 2). However, these differences were significant only for property offences ($t_{(74)} = -2.57; p < .05$) and serious violent offences ($t_{(75)} = -2.04; p < .05$).

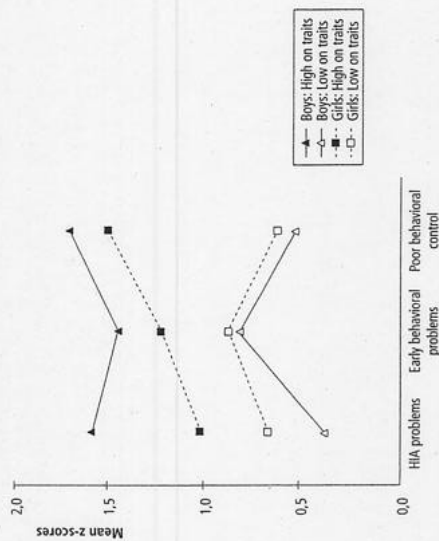
Figure 2. Characterisation of the two clusters of conduct-problem youths with high and low levels of the YPI traits among boys and girls across various measures of conduct-problem behaviour.



We next investigated whether the high-YPI conduct-problem subgroup would show other behavioural problems that characterise psychopathic offenders; hyperactivity-impulsivity-attention (HIA) problems, early behavioural problems, and poor behavioural control. The mean differences on these behavioural-problem measures between the psychopathic and non-psychopathic conduct-problem adolescents are displayed in Figure 3.

The high-YPI conduct-problem boys scored higher than the low-YPI conduct-problem boys on all three measures (see Figure 3). These differences were all statistically significant; HIA problems ($t_{(76)} = -5.99; p < .001$), early behavioural problems ($t_{(77)} = -2.19; p < .05$), and poor behavioural control ($t_{(77)} = -4.84; p < .001$). Among girls, the high-YPI conduct-problem girls also scored higher than the low-YPI conduct-problem girls on these measures, but poor behavioural control ($t_{(74)} = -4.17; p < .001$) was the only statistically significant difference.

Figure 3. Characterisation of the two clusters of conduct-problem youths with high and low levels of the YPI traits among boys and girls, across various measures of problem behaviour.



6.4 Discussion

In this initial test of the YPI, the instrument was found to be internally consistent, to have a theoretically meaningful and useful three-factor structure and to be related to conduct-problems and other behavioural problems. In addition, the three factors/dimensions of the YPI identified theoretically meaningful groups of adolescents as well as a distinct psychopathy-like subgroup of conduct-problem adolescents. The groups with a psychopathy-like personality pattern (high scores on all three of the YPI dimensions) were also the most antisocial and had the most behavioural problems in general. These adolescents were more involved in conduct-problems and other behavioural problems than were those with lower scores on the YPI dimensions (including those adolescents with high scores on the Impulsive, irresponsible dimension of the YPI).

Importantly, the YPI seems to be working equally well among boys and girls. The only big difference between boys and girls was that boys scored significantly higher than girls on each of the three dimensions. This is in line with

an earlier study showing that females scored lower than males in psychopathic traits (Stanford, Ebner, Patton, & Williams, 1994). Also, the differences concerning levels of various conduct-problems and other behavioural problems between the high-YPI conduct-problem adolescents and other conduct-problem adolescents were more distinct and more often significant among boys than among girls.

The present study has the advantage of being a population-based study. However, as is typically the case (but not always reported), a certain percentage of the target population was absent from school or did not respond to the YPI questions. It is possible that these students differed from the present sample in some way, and that different results would have been found if they had been present. Indeed, it is likely that adolescents who would have scored high on the YPI are over-represented among the missing. It is also likely, however, that their inclusion in the study would strengthen, rather than weaken, the results. Another limitation of this study is its reliance on self-reports. The only outside information about the subjects' behaviour was information from teachers. However, self-reported conduct-problem measures were used as validators of the YPI, and these kinds of measures have been shown to be reasonably valid (e.g. Hinde, Hirschi, & Weiss, 1985; Klein, 1985; Stattin & Magnusson, 1996). Furthermore, the scope of the present study is limited to supporting the validity and reliability of the YPI among non-referred 16-year-olds. Studies should be conducted on younger and older adolescents to investigate the usefulness of the YPI for other ages.

Since the PCL:YV (Forth, et al., in press) is not designed for, and non-optimal for use on non-referred adolescents, a comparison between the PCL:YV and the YPI in non-referred samples is not warranted. Hence, the YPI needs to be validated relative to other types of data that would be particularly discriminating between the conduct-problem youths with a psychopathy-like personality pattern and other conduct-problem youths. It has, for example, been hypothesised that the deficits of psychopaths can be explained by a weak behavioural inhibition system (Fowles, 1980). The behavioural inhibition system reacts to signals of punishment and non-reward, inhibiting ongoing behaviour and redirecting attention to significant stimuli (Gray, 1987). Hence, a weak behavioural inhibition system implies that cues of punishment are less readily detected and, once detected, elicit less arousal, less inhibition, and less stimulus processing. This idea is supported by studies on adults showing that psychopaths show attenuated skin conductance reactions during anticipation of a remote aversive stimulus (Hare & Crimley, 1974; Hare, Frazee, & Cox, 1978; Ogloff & Wong, 1990), lack of potentiation of the startle reflex that normally occurs during processing of aversive stimuli (Patrick, 1994), and underdevelopment in areas of the brain that are involved in the acquisition of conditioned fear (Laakso et al., 2001). The hypothesis that the psychopathic personality constellation is associated with a weak behavioural inhibition system among youths as well, is also supported by findings on youths using the

Antisocial Process Screening Device (Frick & Hare, in press) as the measure of psychopathic traits showing that the conduct-problem youths with callous, unemotional traits are more adventure- and thrill-seeking (Frick, Lilienfeld, Ellis, Loney, & Silverthorn, 1999), less sensitive to cues of punishment when a reward-oriented response set is primed (Fisher & Blair, 1998; O'Brien & Frick, 1996), and less reactive to threatening and distressing stimuli (Blair, 1999). Hence, the YPI should be further validated against various measures and indicators of behavioural inhibition system functioning.

Since there are many difficulties associated with using a self-report measure in assessing psychopathic personality traits, its area of use is limited. Therefore, it is important to stress when and where the YPI should and should not be used. First, the YPI is a research tool developed to facilitate basic research. It is only intended to be used in research settings where anonymity is guaranteed and where the responses on the instrument have no consequences for the individual. It is likely that the responses will be heavily biased if the respondents believe that their score may be used to evaluate them. Second, the YPI was developed to be used on youths only. We do not expect a self-report instrument including the present kind of items to work as well among adults as among youths. A self-report instrument with items that try to tap the degree of empathy and grandiosity, for example, should be more successful among youths than among adults because adults reflect more on individual items in a questionnaire and are more aware of what is considered good and bad. Hence, adults should be more likely to distort their answers on these kinds of items. Third, the YPI is not in any way intended to be an alternative or replacement for the PCL:YV (Forth et al., in press). Rather, the YPI and PCL:YV should complement each other, since both of these instruments are limited in terms of the settings in which they can be used. It is, for example, non-optimal methodologically to use the PCL:YV in non-referred samples, whereas the YPI is especially designed to work in that context. Hence, the YPI is not intended to be used instead of the PCL:YV on referred youths. In sum, the YPI is intended to be used as a research tool to facilitate basic research on the role of psychopathic traits in antisocial behaviour. For example, a potentially important use for the YPI is to distinguish youths with more general conduct-problem behaviour from those with severe forms of this behaviour.

Although the YPI was developed with the intention to be used only on non-referred youths, it remains an empirical question whether the YPI will work with institutionalised youth offenders. It may be of interest to investigate to what extent the YPI corresponds to the PCL:YV in the context where the PCL:YV is optimal. However, it is likely that a self-report of psychopathic traits would work in a less valid manner in institutionalised samples than among non-referred youths. This notion is supported by a study showing that correlations between self-report and clinical methods of assessing psychopathic personality traits tend to be somewhat higher in community and civil psychiatric populations than in clinical or forensic settings (e.g. Forth, Brown,

Hart, & Hare, 1996). Also, it would seem reasonable to say that the more extreme the psychopathic traits that are manifested in an individual, the worse the insight and the more strongly the manipulative and deceitful traits would influence and bias the responses on self-report items.

As noted also by other researchers in the area (e.g. Frick, Barry, & Bodin, 2000), it is important to note that legitimate concerns have been raised about applying the psychopathy construct to youths. The main concern deals with the negative connotations that the label psychopathy has for long-term outcome and for success of treatment, as well as the fact that the label implies a biological etiology of some kind. However, as noted by Frick and colleagues (Frick, Barry, & Bodin, 2000), the common alternative to explicitly applying the concept of psychopathy to children is to implicitly consider all children exhibiting conduct-problems/antisocial behaviour as showing a childhood manifestation of psychopathy. This alternative is even more problematic because many of the unique characteristics associated with psychopathy are likely to only apply to a smaller subgroup of youths exhibiting conduct problems (Frick, Barry, & Bodin, 2000).

Adult psychopathic criminals show a particularly severe and chronic form of antisocial behaviour. Understanding how to prevent such behaviour is a major goal for researchers interested in the development of criminal behaviour. To do so, it is essential to understand the unique risk and protective factors associated with the antisocial behaviour of youths with pronounced psychopathic personality traits. Also, studying psychopathic traits in large community samples can, for example, help identify factors that protect people with less extreme levels of these traits from developing a more severe behaviour pattern. An area of great interest in future studies would be how familial factors affect the development of these personality traits. In research addressing these kinds of issues, the YPI can play an important role as the measure of psychopathic personality traits in youths.

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