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

Henrik Andershed, Margaret Kerr, Hilken Stattin, and Sten Levander

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 behavior, but a smaller number is more stable and persistent (e.g., Dalen & Levander, 1996; Farrington, 1992; Moffitt, 1993; Stattin & Magnusson, 1995). 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 behavior.

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., Green, Lengyel, Tengstrom, & Kullgren, 1999; Hare, 1996; Hare & McPherson, 1984; Hart, Kwapny, & Hare, 1988; Serin, 1991; Serin, Peters, & Barthoer, 1993). This personality pattern includes: (1) an arrogant and deceitful interpersonal style, involving manipulation, dishonesty, grandiosity, and glibness; (2) a defective emotional expression, 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 behavior (Cooper & Michie, 2001; Hart, 1995, see also chapter 3). 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 (Farrington, Kennedy, Patrick, & Cattini, 1995; Farr, 1999; McBratney, 1995) commit more crimes (Farrington, 1998; McBratney, 1998; Myers, Burdett, & Harris, 1997; Tamkin, Mercier, O'Day, Gold, & Hodgins, 1996) re engage in violent crime more often (Farrington, 1998), and commit more violent acts while institutionalized (Brandt et al., 1999; Forth, Hart, & Hare, 1999). 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 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 behavior? 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, Klassen, & Hare, in press) for adults and youths, respectively. In this procedure, a clinician assigns scores on the various psychopathic traits after carefully reviewing the institutionalized 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 material that allow the clinician to assess the person's credibility. Hence, the clinician's judgments are based, in part, on a comparison between the file material and the person's descriptions and explanations of his behavior. 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 behavioral rating scale that was designed to tap each of the nine traits in the PCL-R with a youth-appropriate version of the same behavior or trait. The items ask directly about psychopathy-like behavior (e.g., "behavior often for his/her mistakes. His/her emotions seem shallow and not genuine. Uses or "ones" other people to get what he/she wants; Liers, deceitful, and skillful; Sees 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 advance seeking and thrill seeking than other conduct-problem youths (Frick, Lynam, Lynam, & Silverthorn, 1999), less sensitive to cues of punishment when a reward-oriented response set is provoked (Fisher & Blair, 1999; O'Brien & Frick, 1999), less reactive to frightening and distressing stimuli (Bala, 1992), less likely to show deficits in intellectual functioning (Christian, Frick, Hill, Tyler, & Frassa, 1999), and whose antisocial behavior is less related to ineffective parenting (Wooten, Frick, Sheline, & 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 behavior 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, greed, dishonesty, 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 (Carlton, Frick, & Brody, 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 bias. 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 behavior.

6.2.1 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 defensively 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 admissible, but that other people would not. For instance, "I usually feel others 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 would predispose them to see other's own qualities as admirable strengths and other's people's qualities as deplorable weaknesses. On the other hand, we tried to avoid using items that would force 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 minimize problems with response distortion and social desirability, and by using items that indirectly tapped the various traits, we hoped to minimize 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 psychopathic personality constellation, as identified in previous research. An essential issue was which psychopathic traits would be relevant to youths in community samples. Cloninger (1986), through extensive clinical observations, identified sixteen characteristics as being typical of adult psychopathy. Hare (1991), developing and extending the work of Cloninger (1986) by developing the Revised Psychopathy Checklist, arrived at 20 characteristics typical of adult psychopathy. In both Cloninger's (1986) 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 behavior, many short-term unstable relationships, absence of delusions, criminal versatility, and association with inferior release, are some of the characteristics that Cloninger (1986) 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 behavior, criminal versatility, and many short-term relationships, seem to be more behavioral consequences of psychopathic personality traits such as shallow affect, lack of empathy, lying, impulsivity, and sensation-seeking. Hence, core traits of the psychopathic personality constellation are the characteristics that are more pure personality traits rather than behavioral characteristics such as criminal versatility, short-term relationships, etc. (Hare, 1991).

Hence, based on these two arguments, we designed the YPI to measure the core personality traits of the psychopathic personality constellation rather than behavioral traits associated with it. Furthermore, both Cloninger's definition (1986) and Hare's checklist (1991) include personality characteristics that concern the interpersonal style of the psychopath, including glibness and superficial charm, pathological lying, manipulativeness, and grandiose/egocentric traits. Also, they both describe the emotional/affective traits of the psychopath, lack of remorse or guilt, shallow affect or poverty in affective reactions, and a general callousness/lack of empathy. Finally, both Hare (1991) and Cloninger (1986) describe a behavioral/lifestyle aspect of psychopathy: impulsivity, irresponsibility, and need for stimulation/proveness 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 factor analysis (Hare, 2011). 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/scales, measuring each of the core psychopathic traits. More specifically, we assessed six to ten items included for each of the ten traits. From this larger pool of items, the best five items for each trait/scale 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 internal consistency and the alpha item-deleted statistics). 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 subsections with five items each (total 50 items). Specifically, the subsections in the YPI intended to measure different aspects of glibness and superficial charm (Glibness), manipulativeness, the grandiose/egocentricity aspect of the psychopathic personality constellation (Grandiose), the tendency to lie frequently and with ease (Lying), the cunning and manipulative traits (Manipulative), cal-
Psychopathy

laziness and lack of empathy (Callousness), the shallow or lack of empathy in affective reactions (Emotionality), 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 youth 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.

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Alpha</th>
<th>Sample Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishonesty</td>
<td>52</td>
<td>False: I try to make other kids feel sad.</td>
</tr>
<tr>
<td>Conductivity</td>
<td>73</td>
<td>True: I am more responsible than other people.</td>
</tr>
<tr>
<td>Ignorance</td>
<td>73</td>
<td>True: I do things to hurt other people.</td>
</tr>
<tr>
<td>Callousness</td>
<td>81</td>
<td>False: I try to make other kids feel sad.</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>80</td>
<td>True: I am more responsible than other people.</td>
</tr>
<tr>
<td>Unreliability</td>
<td>82</td>
<td>False: I am more responsible than other people.</td>
</tr>
<tr>
<td>Remorsefulness</td>
<td>86</td>
<td>False: I try to make other kids feel sad.</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>58</td>
<td>False: I try to make other kids feel sad.</td>
</tr>
<tr>
<td>Thrill-seeking</td>
<td>47</td>
<td>True: I do things just for the thrill of it.</td>
</tr>
<tr>
<td>Irresponsibility</td>
<td>71</td>
<td>False: I try to make other kids feel sad.</td>
</tr>
</tbody>
</table>

Respondents are asked to rate the degree to which they agree or disagree with each item. The YPI is a self-report measure designed to capture the characteristics of psychopathy in young people aged 10-18 years old.

6.2 Method

6.2.1 Subjects

The present study was part of a larger longitudinal study. The target population were students attending grade 1 in the fall of 1998 in a medium-sized community in Sweden. A total of 2,150 (95%) of the potential respondents were present during the data collection. In the spring of 1999, the teachers were asked to rate the subjects on issues such as school achievement and behavior in school. We received ratings from 834 adolescents, which resulted in a response rate of 62 percent. Then, in the spring of 2000, when the adolescents were in the last semester of grade 9, a follow-up assessment of the adolescents was conducted. The YPI was administered in this study 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) never, (2) sometimes, (3) 2-3 times, (4) 4-7 times, and (5) more than 7 times. The below reported conduct problems measures (Property offenses, Serious property offenses, Violent offenses, Serious violent offenses, Vandalism, Use of illegal drugs, and Conspicuous conduct problems) were administered to the adolescents twice. First in grade 1, in the Autumn of 1998, when the items were specified to yield delinquent acts up to then, about age 13, 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-
items up to age 15 (Cronbach's alpha .83) and the other in the mean of the 2002 measures labeled "Concurrent conduct problems" (Cronbach's alpha .86). Property offences were measured by eight items assessing less serious types of property offences (e.g. Have you taken anything from a shop, 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, newspaper, storage, or any other building, in an attempt to steal something? and Have you been involved in taking a car without permission (e.g. Have you threatened or forced someone to give you money, cigarettes, or anything else? and Have you been involved in a serious fight?). Cronbach's alpha 1998 = .83 and 2000 = .84. Violent offences were assessed 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 serious fight?). Cronbach's alpha 1998 = .69 and 2000 = .73. Serious violent offences were assessed by three items addressing the infliction 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, bat, or other weapon? or Have you been involved in purposely destroying windows, lamp posts, phone booths, public benches, garages, or other similar objects? 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 = .62. 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 = .82. 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 behaviour we used the number of different delinquent acts the subjects had committed (self-reported) between ages 13 and 16 (from Spring 2000).

Other self-reported problem behaviours

Addressed were three problem areas: Early behavioural problems (Cronbach's alpha .80), Poor behavioural control (Cronbach's alpha .72) and IJA 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 get 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 want to meet with me because they know I'll fight back immediately). IJA problems, problems with hyperactivity, impulsivity and attention (IIA) 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 distributed by nine individual items rated by the subjects teachers. The items, measured on 7-point response scales (with a range from never to always), were: (1) Gets into fights, (2) Gets into trouble, (3) Eats things, (4) Steals others, (5) Steers around, (6) Is restless, (7) Is uncoordinated, (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 Descriptive

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 Delinquency, Manipulation,lying, Callousness, Unemotionalness,责任感 (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 factor 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 (pl)structural 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 analysis (extraction by factors with an Oblimin rotation) for boys and girls separately. Among boys and girls, the two-factor structures were suggested by the Eigenvalue criterion (Eigenvalues > 1.0). However, the two-factor structure for boys was not theoretically interpretable. The subscales Unemotional, 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 distinctly (without any overlapping loadings), and the three factors were theoretically interpretable (see Table 2). Important(1), 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 & Milne, 2002).

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 ordered, we used Weighted Least Squares as our method of estimation with polychoric correlation matrices and its corresponding asymptotic covariance weight matrices (Kloke & Sturtz, 1995). Thus, we tested the model consisting of (1) a General, manipulative dimension describing the interpersonal aspects of the psychopathic personality, (2) an Unemotional, unemotional dimension describing the affective aspects, and (3) an Impulsive, irresponsible dimension describing the behavioral aspects. The YPI included Dishonest Charm, Lying, Grandiosity, and Impulsivity; the subscales Unemotional, Unemotional, and Remorselessness composed the Calousness, unemotional dimension; and the subscales Impulsivity, Impulsivity, and Thrill-seeking composed the Impulsive, irresponsible dimension. As shown in the confirmatory factor analysis, the fit indices of this three-factor model suggested a good fit to the data among boys: CFI = .96, goodness of fit index (GFI) = .93, non-normed fit index (NNFI) = .95, and among girls: CFI = .92, goodness of fit index (GFI) = .89, non-normed fit index (NNFI) = .92. Also included in Table 2 along with the results of the twofactor exploratory solution are the factor loadings and error variances from the confirmatory factor analysis 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 question, we conducted a multiple sample confirmatory factor analysis (Brown & Shapiro, 1995). Also, we restricted all common factor loadings and unique variances to be invariant across groups, which has been recommended as a stronger and proper test of measurement invariance (Floyd & Widaman, 1995). The three-factor model had an acceptable fit across gender: CFI = .95, GFI = .96, NNFI = .93. 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 the 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 shrewdness) and the second factor deals with the behavioral/lifestyle characteristics (e.g., impulsivity, irresponsibility, and paranoid lifestyle). To test this model, we combined the YPI subscales Dishonest Charm, Lying, Grandiosity, Manipulativeness, Callousness, Unemotional, and Remorselessness into a first factor, and the subscales Impulsivity, Impulsivity, 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 coefficient for the two-factor model: CFI = .89, GFI = .87, NNFI = .88, and for boys and girls, respectively. This was confirmed by a statistical test, the difference, Δ²(CFI = .90, GFI = .86, NNFI = .88, and Δ²(CFI = .89, GFI = .86, NNFI = .87) was significant. Also included in Table 2 along with the results of the two-factor exploratory solution are the factor loadings and error variances from the confirmatory factor analysis of the three-factor model.
Table 4. The three-factor solution of the YPI among boys and girls.

<table>
<thead>
<tr>
<th>Factor labels and factor analysis</th>
<th>Boys Principal factor analysis</th>
<th>Conformity factor analysis</th>
<th>Girls Principal factor analysis</th>
<th>Conformity factor analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach’s alpha</td>
<td></td>
<td>Cronbach’s alpha</td>
<td></td>
</tr>
<tr>
<td>Grandiosity</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Dishonesty</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Lying</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Manipulation</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
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<td>Cynicalism</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Unreliability</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
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<tr>
<td>Incompetence</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Thrill-seeking</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Responsibility</td>
<td>.90</td>
<td>.69</td>
<td>.90</td>
<td>.69</td>
</tr>
<tr>
<td>Percent variance explained</td>
<td>.46</td>
<td>.37</td>
<td>.46</td>
<td>.37</td>
</tr>
</tbody>
</table>

Note: Principal-axis factor analysis was used as the extraction method in the principal factor analysis and Cotte-Kopec criteria as the rotation method. Loadings higher than .40 are in boldface. The results of the confirmatory factor analysis in the present table are the loadings for the three-factor model, all of which are significant (p < .05). Each refers to the error variance associated with each subscale.

Table 5. Correlations between the YPI total, the three dimensions, and various self-reported conduct problems measures for boys and girls.

<table>
<thead>
<tr>
<th>Conduct problems up to age 15</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property offenses</td>
<td>.35*</td>
<td>.35**</td>
</tr>
<tr>
<td>Serious property offenses</td>
<td>.25*</td>
<td>.25**</td>
</tr>
<tr>
<td>Violent offenses</td>
<td>.24*</td>
<td>.24**</td>
</tr>
<tr>
<td>Serious violent offenses</td>
<td>.20*</td>
<td>.20**</td>
</tr>
<tr>
<td>Violations</td>
<td>.20*</td>
<td>.20**</td>
</tr>
<tr>
<td>Use of illegal drugs</td>
<td>.42*</td>
<td>.42**</td>
</tr>
<tr>
<td>Caught by police</td>
<td>.47*</td>
<td>.47**</td>
</tr>
<tr>
<td>Conduct conduct problems</td>
<td>.41*</td>
<td>.41**</td>
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<tr>
<td>Property offenses</td>
<td>.32*</td>
<td>.32**</td>
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<tr>
<td>Serious property offenses</td>
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</tr>
<tr>
<td>Violent offenses</td>
<td>.25*</td>
<td>.25**</td>
</tr>
<tr>
<td>Serious violent offenses</td>
<td>.20*</td>
<td>.20**</td>
</tr>
<tr>
<td>Violations</td>
<td>.20*</td>
<td>.20**</td>
</tr>
<tr>
<td>Use of illegal drugs</td>
<td>.25*</td>
<td>.25**</td>
</tr>
<tr>
<td>Caught by police</td>
<td>.22*</td>
<td>.22**</td>
</tr>
<tr>
<td>Delinquent personality</td>
<td>.44*</td>
<td>.44**</td>
</tr>
<tr>
<td>Age at first illegal drug use</td>
<td>.22</td>
<td>.22**</td>
</tr>
</tbody>
</table>

* p < .001  
** p < .01  
*** p < .05
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 alpha: Grandiose, manipulative & Callous, unemotional .79; Impulsive, irresponsible .79). The dimension scores were, in turn, averaged to obtain the YPI total score (Cronbach’s alpha YPI total .85). The correlations among the three dimensions were significant for both boys and girls (all ps < .001) and were higher among boys (between .46 and .59) and moderate to high among girls (between .36 and .60). The three dimensions correlated highly and significantly (p < .001) with the YPI total score among boys (between .75 and .93) and girls (between .75 and .90). 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 behavior (Hare & Hart, 1997). Hence, correlations between these personality dimensions as measured by the YPI and conduct problems would suggest that the YPI measures psychopathic traits. Table 8 shows correlations between the personality dimensions measured by the YPI and self-reported conduct problems. As shown in Table 8, various forms of conduct problems were correlated with the YPI total and all these 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 behavioral problems and poor behavioral 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 behaviors in adulthood (Andershed, et al., 2001; Lykken, 1999). 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 behavioral problems, poor behavioral control, and HIA problems were .55, .60, and .69 among boys and .49, .56, and .60 among girls.

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 socialized behaviors are demanded. Hence, as an additional form of validity we predicted that the teacher-rated items concerning problem behaviors should all be significantly related to the YPI total. Since the behaviors rated by the teachers were general problem behaviors (i.e., no behaviors 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 behavior and school achievement, and the relations were in the expected directions. That is, all problem behaviors correlated positively with the YPI (range between .23 and .33) and the school grades correlated negatively with the YPI (range between - .23 and -.39).

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 characterized by a specific constellation of interpersonal, emotional, and behavioral characteristics (e.g., Clasen, 1996; 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 assumption that a naturally occurring group characterized 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 on 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 9). As can be seen in Table 9, “low-low-low” (normal), “average-average-high” (impulsive, irresponsible, non-psychopathic), and “high-high-high” (psychopathy-like) groups emerge among boys and girls.

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

3. A correlation matrix showing these findings is available from the first author on request.
The question then was whether the psychopathy-like groups differed from the other groups on variables that would typically characterize psychopathic individuals. Specifically, adolescents with relatively pronounced psychopathic traits (i.e., the "high-high" group) should have higher scores on the self-report measures of conduct problems, early behavioral problems, poor behavioral 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 activity, and on early behavioral problems, poor behavioral 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).
6.3.6 Psychopathy and Conduct-problem Adolescents

Previous research suggests that delinquents with psychopathic personality traits display the most frequent, violent and pervasive criminal behaviour, and that they begin their criminal careers earlier than other delinquents (see Forth & Hallock, 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 sub-group 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 (48% of the boys) and 86 girls (44% 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 86 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 characteristics 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 characterized by a psychopathic personality constellation. t-tests showed that this psychopathic subgroup scored significantly higher (all p < .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: 35 percent (15 out of 44). However, among the female conduct-problem adolescents, this subgroup represented 44 percent of the total number of conduct-problem girls (24 out of 77).

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(49) = -2.74; p < .01), violent offences (t(49) = -2.85; p < .05), serious violent offences (t(49) = -2.02; p = .05), vandalism (t(49) = -3.30; p < .001), and delinquent versatility (t(49) = -3.51; 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...
We next investigated whether the high-VPI conduct-problem subgroup would show other behavioural problems that characterize psychopathic offenders: hyperactivity-impulsivity-attention (HIA) problems, early behavioural problems, and poor behavioural control. The mean differences on these behavioural measures between the psychopathic and non-psychopathic conduct-problem adolescents are displayed in Figure 5.

The high-VPI conduct-problem boys scored higher than the low-VPI conduct-problem boys on all these measures (see Figure 5). These differences were all statistically significant: HIA problems ($t_{(68)} = -2.55; p < .05$), early behavioural problems ($t_{(67)} = -2.15; p < .05$), and poor behavioural control ($t_{(67)} = -4.84; p < .001$). Among girls, the high-VPI conduct-problem girls also scored higher than the low-VPI conduct-problem girls on these measures, but poor behavioural control ($t_{(68)} = -4.17; p < .001$) was the only statistically significant difference.

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 (Stratford, Fraser, Patton, & Williams, 1994). Also, the differences concerning levels of various conduct-problem and other behavioral problems between the high-VPI 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, it is typically the case that not always is there a certain percentage of the target population that is present or even a certain percentage of the target population that is present in the sample. This is a problem that some students differ from the present sample in some way, and that different results would have been found if there had been present. Indeed, it is likely that these adolescents who would not have been present on the VPI 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 the reliance on self-reports. The only outside information about the subjects' behavior was information from teachers. However, self-reported conduct-problem measures are increased in validity of the VPI and the lack of other measures has been shown to be reasonably valid (e.g. Hinkley, Honda, & Winer, 1970; Hinkley, 1970; Sautter & Magni, 1980). Furthermore, the scope of the present study is limited to supporting the validity and reliability of the VPI among non-referred 16-year-olds. Studies should be conducted on younger and older adolescents to investigate the usefulness of the VPI for other ages.

Since the PCL:VY and the PCL:YV are intended for use on non-referred adolescents, a comparison between the PCL:VY and the PCL:YV in non-referred samples is warranted. Hence, the VPI needs to be validated relative to other types of data that would be particularly discriminating between the conduct-problem youths with a personality-like personality pattern and other conduct-problem youths. It has, for example, been hypothesized that the deficits of psychopaths can be explained by a weak behavioral inhibition system (Fowles, 1986). The behavioral inhibition system reacts to signals of punishment and non-reward, inhibiting ongoing behavior and redirecting attention to significant stimuli (Gray, 1975). Hence, a weak behavioral inhibition system implies that events of punishment are less readily detected and, once detected, are less likely to elicit a conditioned response. This idea is supported by studies on adults showing that psychopaths show attenuated skin conductance reactions during anticipation of a remote aversive stimulus (Hare & O'Leary, 1995; Frey, Frey, & Garssen, 1978; Ogilvie & Wong, 1969). Lack of protection of the startle reflex that normally occurs during processing of aversive stimuli (Patrick, 1963), and underdevelopment in areas of the brain that are involved in the acquisition of conditioned fear (LaBar et al., 2000). The hypothesis that the psychopathic personality constitution is associated with a weak behavioral inhibition system among youths as well, is also supported by findings on youths using the
Hart, & Haro, 1997). 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 above, it is important to note that legitimate concerns have been raised about applying the psychopathy construct to youths. The main concern deals with the lack of sufficient evidence 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 behavior 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 behavior. Understanding how to prevent such behavior is a major goal for researchers interested in the development of criminal behavior. To do this, it is essential to understand the unique risk and protective factors associated with the antisocial behavior 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 behavioral pattern. An area of great interest in future studies would be to learn about the factors that affect the development of these personality traits. In research examining these kinds of issues, the VPI can play an important role as the measure of psychopathic personality traits in youths.

6.5 References


