Assessment of “Juvenile Psychopathy” and Its Association with Violence: A Critical Review

John F. Edens, Ph.D.,* Jennifer L. Skeem, Ph.D.,1 Keith R. Cruise, Ph.D.,2 and Elizabeth Cauffman, Ph.D.3

Interest in the construct of psychopathy as it applies to children and adolescents has become an area of considerable research interest in the past 5-10 years, in part due to the clinical utility of psychopathy as a predictor of violence among adult offenders. Despite interest in “juvenile psychopathy” in general and its relationship to violence in particular, relatively few studies specifically have examined whether operationalizations of this construct among children and adolescents predict various forms of aggression. This article critically reviews this literature, as well as controversies regarding the assessment of adult psychopathic “traits” among juveniles. Existing evidence indicates a moderate association between measures of psychopathy and various forms of aggression, suggesting that this construct may be relevant for purposes of short-term risk appraisal and management among juveniles. However, due to the enormous developmental changes that occur during adolescence and the absence of longitudinal research on the stability of this construct (and its association with violence), we conclude that reliance on psychopathy measures to make decisions regarding long-term placements for juveniles is contraindicated at this time. Copyright © 2001 John Wiley & Sons, Ltd.

The association between psychopathy and violence has been well established over the past 20 years by an impressive body of outcome studies examining adult samples (for reviews, see Hare, 1991; Hemphill, Hare, & Wong, 1998; Salekin, Rogers, &

*Correspondence to: John F. Edens, Department of Psychology and Philosophy, Sam Houston State University, Huntsville, TX 77341-2447, USA. E-mail: psy_jfe@shsu.edu
1Jennifer L. Skeem, Ph.D., Law and Psychiatry Research Program, Western Psychiatric Institute and Clinic, University of Pittsburgh.
2Keith R. Cruise, Ph.D., Department of Psychology and Philosophy, Sam Houston State University.
3Elizabeth Cauffman, Ph.D., Law and Psychiatry Research Program, Western Psychiatric Institute and Clinic, University of Pittsburgh.

Portions of this paper previously were presented as part of a symposium at the 2000 convention of the American Society of Criminology, San Francisco, CA.

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Sewell, 1996). Interest in the construct of psychopathy as it applies to children and adolescents has become an area of considerable research interest in the past 5–10 years, due in part to the strength of the relationship between psychopathy and violence among adult offenders. Despite the interest in “juvenile psychopathy” in general and its relationship to violence in particular, relatively few studies specifically have examined whether this construct is associated with increased rates of aggression and violence among children and adolescents. More generally, given that psychopathy typically is construed as a relatively static personality disposition (see, e.g., Monahan & Steadman, 1994; Quinsey, Harris, Rice, & Cormier, 1998), attempts to apply this construct to juvenile populations raise several conceptual, methodological, and practical concerns related to clinical/forensic practice and juvenile/criminal justice policy.

This paper provides a critical review of the juvenile psychopathy literature, with particular attention given to research examining the relationship between psychopathy and violence. We begin with a brief overview of the construct of psychopathy as it typically has been conceptualized among adults. Next, controversies regarding the applicability of certain psychopathic “traits” to children and adolescents are reviewed, focusing on the potential age-inappropriateness of some of these features (e.g., parasitic lifestyle, irresponsibility, impulsivity), given their likely long-term instability. After reviewing several recently developed measures that purport to operationalize psychopathy specifically for juvenile populations, we summarize the existing literature examining the association between juvenile psychopathy and various forms of aggression, focusing in detail on those studies that address the prediction of future criminal violence. We conclude with a discussion of the clinical, juvenile justice, and public policy implications of this research, particularly as they relate to potential misuses of this construct when conducting juvenile risk assessments.

ADULT PSYCHOPATHY

Psychopathy as it is conceptualized among adults represents a distinct cluster of affective, interpersonal and behavioral characteristics (Hare, 1991). In perhaps the most influential conceptualization of this syndrome, Cleckley (1941) described the prototypical psychopath as an individual who was superficially charming and intelligent, but who also was insincere and untruthful, egocentric, and lacking in remorse and shame. Psychopaths were characterized as engaging in “fantastic and uninviting behavior,” having impersonal sex lives, failing to follow any life plan, and being prone to “inadequately motivated antisocial behavior.” However, they generally were presumed to lack other signs of mental disorder, such as “neurotic” anxiety or delusions or other “irrational” thinking.

Cleckley’s (1941) description of psychopathy has been reformulated into what over the past several years has become the gold standard for assessing this syndrome in forensic and correctional settings, the Psychopathy Checklist – Revised (PCL-R; Hare, 1991). The PCL-R consists of 20 items (see Table 1) that are intended to correspond to Cleckley’s original conceptualization of this syndrome. However, because it initially was developed and validated on (primarily Caucasian male) forensic and correctional samples, the PCL-R (and its predecessor, the PCL [Hare,
1980]) formulation of psychopathy is weighted much more heavily with items related to criminality and a socially deviant lifestyle (e.g., juvenile delinquency, revocation of conditional release, criminal versatility) than was Cleckley’s original set of descriptors (see Rogers, 1995).1

Part of the resurgent interest in psychopathy over the past few years is attributable to the documented relationship between the PCL/PCL-R and antisocial behavior, particularly future violence among released criminal offenders (Hare, 1991; Hemphill et al., 1998; Salekin et al., 1996). For example, Hemphill et al. reported average correlations of .27, .27, and .23 between the PCL measures and general recidivism, violent recidivism, and sexual recidivism, respectively, across several large-scale follow-up studies. Psychopathic individuals (i.e., those obtaining PCL-R scores ≥30) were approximately four times as likely to commit a future violent crime than were non-psychopathic offenders. Moreover, the PCL/PCL-R has been found in many studies to perform as well as (and in some cases better than) statistically derived actuarial measures designed specifically to predict future violence (Hemphill et al., 1998; Serin, Peters, & Barbaree, 1990; cf. Quinsey et al., 1998).

Table 1. Items comprising the Psychopathy Checklist – Revised and its factors

<table>
<thead>
<tr>
<th>Item</th>
<th>Interpersonal/Affective</th>
<th>Socially Deviant Lifestyle</th>
<th>Total score only</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Glibness/superficial charm</td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>Grandiose sense of self-worth</td>
<td></td>
<td></td>
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<tr>
<td>3.</td>
<td>Need for stimulation/ proneness to boredom</td>
<td></td>
<td></td>
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<tr>
<td>4.</td>
<td>Pathological lying</td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Conning/manipulative</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Lack of remorse or guilt</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>Shallow affect</td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td>Callous/lack of empathy</td>
<td></td>
<td></td>
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<tr>
<td>9.</td>
<td>Parasitic lifestyle</td>
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<td></td>
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<tr>
<td>10.</td>
<td>Poor behavioral controls</td>
<td></td>
<td></td>
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<tr>
<td>11.</td>
<td>Promiscuous sexual behavior</td>
<td></td>
<td></td>
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<tr>
<td>12.</td>
<td>Early behavior problems</td>
<td></td>
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<tr>
<td>13.</td>
<td>Lack of realistic long-term goals</td>
<td></td>
<td></td>
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<tr>
<td>14.</td>
<td>Impulsivity</td>
<td></td>
<td></td>
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<tr>
<td>15.</td>
<td>Irresponsibility</td>
<td></td>
<td></td>
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<tr>
<td>16.</td>
<td>Failure to accept responsibility for actions</td>
<td></td>
<td></td>
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<tr>
<td>17.</td>
<td>Many short-term marital relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Juvenile delinquency</td>
<td></td>
<td></td>
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<tr>
<td>19.</td>
<td>Revocation of conditional release</td>
<td></td>
<td></td>
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<tr>
<td>20.</td>
<td>Criminal versatility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1A screening version of the PCL-R also has been published (PCL:SV; Hart, Cox, & Hare, 1995) that has shown considerable promise as a measure of psychopathic features in non-correctional settings.
Although often treated as a relatively homogeneous construct, factor analyses of the PCL-R historically have identified two separate, but highly correlated ($r \approx .50$) factors: factor I reflects the core affective and interpersonal features (e.g., callousness, egocentricity, superficial charm, shallow affect) of psychopathy, and factor II represents the chronic unstable and antisocial lifestyle (e.g., irresponsibility, boredom proneness, parasitic lifestyle, impulsivity) associated with this construct. These two factors have shown differential correlations with criterion measures across several domains, with the Interpersonal/Affective factor (factor I) being associated more strongly with other theoretically consistent personality features (e.g., narcissism, dependence [inverse]), and the Socially Deviant Lifestyle factor (factor II) tending to correlate more highly with behavioral indices of a chronically unstable and antisocial lifestyle (e.g., poor school performance, lower socioeconomic status, substance abuse, Antisocial Personality Disorder criteria).

In terms of violence prediction, there has been some controversy in the literature regarding the relative utility of the Interpersonal/Affective versus Socially Deviant Lifestyle factors. Some reviewers (e.g., Quinsey et al., 1998; Salekin et al., 1996) have questioned the relationship between the Interpersonal/Affective factor and violence and have suggested that the Socially Deviant Lifestyle factor may be more influential in determining levels of risk. Based on their review of published and unpublished studies, Hemphill et al. (1998) concluded that, although the Socially Deviant Lifestyle factor appears to be a stronger predictor of general recidivism, both factors contribute equally to the prediction of future violence. This conclusion for violent recidivism, however, was based on only three studies in which no significant differences were obtained in terms of the relative magnitude of the correlations between the two factors and violent recidivism. Other studies not included in the Hemphill et al. review have been more equivocal about the relative association between the Interpersonal/Affective factor and violence (see, generally, Salekin et al., 1996).

Related to the controversy surrounding the incremental predictive validity of the two PCL-R factors is recent criticism of the two-factor conceptualization of psychopathy itself. Based on a comprehensive review of studies that have examined the factor structure of the PCL-R, Cooke and Michie (in press) have called into question the psychometric adequacy of this model, arguing that a more rigorous analysis of the results of these studies does not offer strong support for the two-factor conceptualization of psychopathy. Based on re-analyses of several large data sets ($n \approx 2,000$ North American and 600 Scottish forensic and correctional participants), they proposed a new, three-factor, hierarchical model in which what originally was defined as factor I (Interpersonal/Affective) is now conceptualized as two distinct factors, termed “Arrogant and Deceitful Interpersonal Style” (comprising PCL-R items 1, 2, 4 and 5; see Table 1) and “Deficient Affective Experience” (comprising items 6, 7, 8, and 16). Cooke and Michie (in press) also have suggested modifications to factor II (Socially Deviant Lifestyle) involving the deletion of various behavioral items (i.e. elimination of items 10, 12, 18, and 19). Based on their

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2Various labels have been applied to these two factors by authors from divergent theoretical perspectives. For the sake of simplicity, we refer to factor I as the “Interpersonal/Affective” factor and factor II as the “Socially Deviant Lifestyle” factor throughout this article. These descriptive labels are not meant to reflect endorsement of any particular theoretical model, however.
factor-analytic results, as well as item response theory analyses (Cooke & Michie, 1997), they have argued that these items are not strong indicators of the underlying construct assessed by this scale. The revised Socially Deviant Lifestyle factor, which they termed “Impulsive and Irresponsible Behavioral Style,” is comprised of PCL-R items 3, 9, 13, 14, and 15. To date no published studies have examined the extent to which these factors may be related differentially to external correlates (e.g., violence), although future research in this area clearly seems warranted.

In summary, although conceptual questions remain regarding its factor structure, among adult male samples the PCL/PCL-R has been shown to be a robust predictor of criminal behavior generally and violence specifically. This association, in conjunction with increasing pressure to identify juvenile delinquents who are likely to commit future violence (Cottle, Lee, & Heilbrun, 1999; Hawkins et al., 2000; Zinger & Forth, 1998), has sparked increasing interest in the concept of “juvenile psychopathy.” However, in the mental health field, adult diagnoses or concepts periodically have been applied to children and/or adolescents without taking into account important developmental factors that may affect the applicability or validity of these constructs (for a review, see Achenbach, 1995). In the following section, we discuss developmental considerations related to the application of the adult psychopathy construct to children and adolescents and identify specific features that warrant close scrutiny in terms of their utility as markers of “juvenile psychopathy.”

ARE ADULT FEATURES OF PSYCHOPATHY APPLICABLE TO JUVENILES?

The construct of psychopathy is widely (if not universally) construed as a stable personality disposition (Monahan & Steadman, 1994; Quinsey et al., 1998). Traditionally, diagnoses of personality disorders are applied to children and adolescents only “in those relatively unusual instances in which the individual’s particular maladaptive personality traits appear to be pervasive, persistent, and unlikely to be limited to a particular developmental stage” (American Psychiatric Association, 1994, p. 631, emphasis added). Some authors have argued that characteristics of psychopathy may be evident as early as childhood (e.g., Lynam, 1996). However, evidence supporting the claim that psychopathic traits – presuming they can be assessed reliably among juveniles – represent a stable personality pattern that continues into early adulthood is only indirect at present (see, e.g., Alm et al., 1996a, 1996b; Harpur & Hare, 1994; af Klinteberg, Humble, & Schalling, 1992). Adolescence is a time of enormous developmental change, during

3Elimination of child/adolescent behavior problem items from the PCL-R is a controversial position, in that Quinsey et al. (1998) have argued that these are central to the construct of psychopathy and account for much of the variance in the prediction of violent recidivism that is associated with PCL-R scores among adult offenders.

4Lynam (1996) has argued that psychopathy can be construed as an information processing deficit, the behavioral expression of which differs across different ages – hyperactivity/impulsivity in childhood; conduct disorder in adolescence; and psychopathy in adults.
which some juveniles engage in considerable delinquent behavior of a transient nature (see Moffit’s (1993) distinction between “life course persistent” and “adolescent limited” antisocial behavior). Because of this, demonstration of the stability of these traits is pivotal to evaluating the ecological validity of “juvenile psychopathy.”

Adolescents often are presumed to manifest psychopathy in much the same way as adults (see, Forth, Kosson, & Hare, in press; Forth & Mailloux, 2000). However, many of the PCL-R markers of psychopathy seem inapplicable to, or inappropriate for, adolescents. The inapplicability of a few PCL-R items has been apparent from the first attempts to apply them to a juvenile population. Early adaptations of the PCL-R for use with adolescents or “youthful offenders” excluded the parasitic lifestyle and many short-term marital relationships items because adolescents, particularly young ones, have limited work and relationship experiences upon which to base scoring of these items (Forth, Hart, & Hare, 1990; see also Poythress, Edens & Lilienfeld, 1998, who also eliminated revocation of conditional release and criminal versatility).

Aside from these more obviously developmentally inappropriate items, several additional groups of items included in the PCL-R also may be problematic when applied to adolescents, particularly juvenile delinquents. For each of these items, there are currently little data available for determining whether an adolescent (a) exhibits significantly “more” of the trait or behavior than normative peer groups, and (b) will continue to manifest these traits and behaviors in a temporally and situationally stable manner into adulthood.

Most of the PCL-R item groups that may not be age appropriate for adolescents are from the Socially Deviant Lifestyle (II) factor. The first item group includes need for stimulation/proneness to boredom, impulsivity, and poor behavioral controls. Some evidence suggests that sensation and thrill seeking may be stable from childhood to mid-adolescence, increase from mid- to late adolescence (approximately ages 16–19), and then decline over the course of adulthood (Giambra, Camp, & Grodsky, 1992; Zuckerman, Eysenck, & Eysenck, 1978). Because adolescents generally are more impulsive and prefer higher levels of stimulation than adults, these items arguably are age-inappropriate markers of psychopathy. Second, studies of time perspective show that individuals become more future oriented and more aware of the long-term consequences of their actions between childhood and adolescence (ages 11–18), and between adolescence and young adulthood (ages 16–22; Greene, 1986; Nurmi, 1991). Similarly, studies of social perspective taking suggest that individuals become more capable of considering situations from others’ points of view between adolescence and adulthood (Cauffman & Steinberg, in press; Selman, 1980). Because adolescents generally have more limited time and social perspective than adults, PCL-R items such as lack of goals and irresponsibility seem less applicable as definitive markers of psychopathy for adolescence than for adults. Third, several studies indicate slow, steady increases throughout adolescence in the capacity for self-direction (Greenberger, 1982) and in the formation of a stable sense of identity (Marcia, 1980). This, similar to the evidence above, indicates that a lack of goals and irresponsibility may be problematic when used to indicate the presence of psychopathy among adolescents. Arguably, individuals must have a sense for who they are and a capacity for directing their lives before they can focus on setting life goals and acting responsibly.
The fourth and final group of items is drawn from the Interpersonal/Affective (I) factor of the PCL-R. Both the research cited above and additional evidence call into question the applicability and stability of the lack of empathy/callousness and failure to accept responsibility items. These features are likely to be influenced by the limited time and social perspective of adolescents noted earlier. Scoring of the grandiose sense of self-worth item also may be impacted by the fluctuations of identity seen during adolescence (see, Alasker & Olweus, 1992; Block & Robins, 1993; Harter, 1990; Nottelmann, 1987). More specifically, research has suggested that levels of self-esteem among youth with externalizing behavior problems fluctuate considerably from childhood through adolescence (Lochman & Dodge, 1994).

As summarized by Steinberg and Cauffman’s (1996) model of maturity of judgment, individuals develop greater capacity during adolescence for (1) responsibility, (2) temporal and social perspective-taking, and (3) temperance (see also Cauffman & Steinberg, 2000). It seems problematic to ascribe presumably immutable psychopathic characteristics to adolescents whose socio-emotional abilities are not yet developed fully. Applying adult models of psychopathy to juveniles, however, risks doing so because many of the factors that denote adult psychopathy exhibit considerable fluidity during adolescence, particularly antisocial conduct (Moffit, 1993). Instruments such as the PCL-R may tap construct-irrelevant variance (Messick, 1995) associated with relatively normative and temporary characteristics of adolescence rather than deviant and stable personality features. Even among adolescents diagnosed with conduct disorder, the temporal stability of the diagnosis varies considerably (Lahey et al., 1995) and has not been studied well on the symptom level.

Clearly, longitudinal research that tracks the stability and course of putative characteristics of psychopathy from adolescence through adulthood is needed. However, even cross-sectional comparisons of adolescents matched with adults on offense and demographics could better indicate the extent to which “downward extensions” of conceptualizations of adult psychopathy are appropriate (see below, “Implications for clinical practice”). Existing evidence, however, suggests that the PCL-R risks overestimating the level of psychopathic features of adolescents. As they mature into adulthood, adolescents may cease to manifest putatively psychopathic traits and behaviors, particularly the impulsive, antisocial features tapped by the Socially Deviant Lifestyle factor. In a cross-sectional study of 14- to 18-year-old (M = 16, SD = 1) serious offenders, Brandt, Kennedy, Patrick, & Curtin (1997) found that adolescents’ age at assessment was inversely associated with their PCL:YV Socially Deviant Lifestyle factor scores (r = -.21). This is concordant with findings by Harpur and Hare (1994), who found, based on a large cross-sectional study, that Socially Deviant Lifestyle factor scores on the PCL measures decrease significantly from ages 13–70 (see footnote 4, p. 606). The authors reason that this relationship may be partially attributable to the fact that this factor taps antisocial behavior and personality “traits” that decline with age, including “sensation seeking, impulsivity, venturesomeness, and monotony avoidance” (p. 608, citations omitted). Moreover, Forth and Burke (1998) found that, even in non-offender, community-based samples, adolescents obtain their highest average scores on PCL items of need for stimulation, impulsivity, poor behavioral controls, and early behavioral problems. Thus, scores on measures of psychopathy arguably may be inflated by general characteristics of adolescence.

Based on this brief review, it is clear that the wholesale application of the adult psychopathy construct to children and adolescents may be inappropriate. A few researchers have attempted to create more developmentally appropriate measures of psychopathy by (a) modifying PCL-R items to facilitate scoring with adolescents (Forth et al., in press) or (b) developing new measures with item content that may be more applicable to children and adolescents (Frick, 1998; Frick & Hare, in press; Lynam, 1997). Other measures that were not developed specifically for adolescents (nor based specifically on the PCL conceptualization of psychopathy) also have been used with this population (e.g., Lilienfeld & Andrews, 1996). Before summarizing the existing literature regarding the association between these measures and violence, we briefly review their development and psychometric properties, focusing in particular on research examining their construct validity.5

Psychopathy Checklist: Youth Version

The initial studies examining psychopathy in adolescents utilized the PCL-R with modifications in the scoring of individual items in order to make them more appropriate for adolescents (Forth et al., 1990). Early scoring modifications included the omission of items related to parasitic lifestyle and many short-term marital relationships, given their limited applicability to adolescents. In addition, scoring criteria for the juvenile delinquency and criminal versatility items were modified to account for the shorter criminal histories of adolescent offenders. A few of the modifications employed in previous research have been codified into the Psychopathy Checklist: Youth Version (PCL:YV; Forth et al., in press). The PCL:YV parallels the PCL-R in item composition, but was designed to better account for adolescent life experiences by focusing more on peer, family, and school adjustment. The PCL:YV is recommended for use with adolescents 13 years of age and older, although an examination of existing studies suggest that it has been used with children as young as 12 years of age (Forth & Burke, 1998). Similar to the PCL-R, all items are scored on a three point-ordinal scale (0 = item does not apply; 1 = item applies but inconsistencies across interview and file information may be present; and 2 = item applies). The PCL:YV items are divided into Interpersonal/Affective (factor I) and Socially Deviant Lifestyle (factor II) scales, which can be summed to form a total score. However, few factor analytic results have been reported for the PCL:YV. One study (Brandt et al., 1997) that has examined the factor structure of the original modification of the PCL-R (described by Forth et al., 1990) for adolescents does not strongly support the two-factor model (comparative fit index (CFI) = .83).

5We do not review multi-scale inventories (e.g., MMPI-A, MAI) that contain subscales ostensibly assessing psychopathic features, given that most of these have not been shown to be useful measures of this construct (e.g., Hume, Kennedy, Patrick, & Partyka, 1996; but compare to Murrie & Cornell, 2000). Also, relatively few published reports specifically have addressed the ability of these scales to predict violence and other forms of aggression.
Definitive “psychopath/non-psychopath” cut scores have not been recommended for the PCL:YV, although the authors of the instrument indicate that the traditional PCL-R cut off of ≥30 serves as a reasonable marker for making this diagnosis (Forth et al., in press; cf. Forth & Mailloux, 2000, p. 48). Utilizing a cut score ≥30, Forth and Burke (1998) reported the following base rates of psychopathy averaged across multiple studies: incarcerated settings 28.3%, probation settings 12.0%, and community settings 3.5%. Base rates reported in published studies assessing juvenile psychopathy in incarcerated settings have ranged from 18 to 37%.

The PCL:YV has adequate levels of internal consistency (average α across settings = .83; average inter-item r = .22) and inter-rater reliability for total scores (average intraclass r = .93; Forth & Burke, 1998). However, estimates of inter-rater reliability on the individual PCL:YV scales and items have not been published, nor have estimates of test–retest reliability.

The convergent validity of the PCL:YV has been explored by examining the relationship between the factor and total scores and conduct disorder (CD) symptoms. Significant correlations were found for both frequency of overall CD symptoms (total r = .52; factor I r = .31; factor II r = .54) and frequency of aggressive CD symptoms (total r = .47; factor I r = .32; factor II r = .31) in young offenders (Forth & Burke, 1998). Sullivan (unpublished Master’s thesis) has reported modest but significant correlations (r ranging from .23 to .34) between the PCL:YV total scores and the adolescent version of the Minnesota Multiphasic Personality Inventory (MMPI-A; Butcher et al., 1992) indices of externalizing problems (Psychopathic Deviate Scale, Conduct Problems Content Scale, Anger Content Scale).

Although the PCL:YV was designed to better account for adolescent life experiences by focusing more on peer, family, and school adjustment, many of the concerns regarding the developmental appropriateness of the PCL-R items noted earlier also apply to the PCL:YV. For example, revised versions of the parasitic lifestyle and many short-term marital relationships items have been incorporated into the PCL:YV, despite adolescents’ limited work and relationship histories (Forth et al., in press). Although the scoring criteria for these items have been modified, the content of the items is of questionable validity as markers of psychopathy for young adolescents. Relatedly, although the scoring criteria for several problematic items (e.g., impulsivity, irresponsibility, lack of goals, and need for stimulation/proneness to boredom) have been revised in an attempt to better apply to adolescents, the stability of these items over significant time periods remains an open issue.

Psychopathy Screening Device

The Psychopathy Screening Device (PSD; Frick & Hare, in press) is a 20-item rating scale that was derived rationally from the item content of the PCL-R and adapted for children and adolescents. Unlike the PCL:YV, which must be completed by trained raters, the PSD typically is completed by parents and teachers, although a self-report version also has been investigated. Consistent with the PCL:YV, the PSD items are scored on a three-point ordinal scale. Although specific age ranges have not been specified, the PSD previously has been used in research.
with children and adolescents ranging in age from 6 to 18 years. Most of the published studies have examined children in the 6 to 13 age range, however.

Tentative support for the construct validity of the PSD has been provided by studies showing patterns of associations with theoretically relevant constructs that are similar to the adult literature. For example, among children with emotional and behavioral problems, PSD scores predict electrodermal responses to distress cues and threatening stimuli (Blair, 1999) as well as differences in moral reasoning (Blair, 1997). Also, initial factor analyses of the PSD identified a two-factor solution that appeared somewhat similar to the adult two-factor model (Frick, O’Brien, Wootton, & McBurnett, 1994). Similar to the PCL-R factors, the two PSD factors were highly correlated (r = .50). The first scale, corresponding loosely to the Socially Deviant Lifestyle factor (i.e., factor II) of the PCL-R, was labeled Impulsive–Conduct Problems (I/CP). Items loading on this factor consisted of (1) brags about accomplishments; (2) becomes angry when corrected; (3) thinks he/she is more important than others; (4) acts without thinking; (5) blames others for mistakes; (6) teases other people; (7) engages in risky or dangerous activities; (8) engages in illegal activities; (9) keeps the same friends; and (10) gets bored easily. The I/CP scale evidenced good internal consistency in the initial validation study (α = .83).

The second scale, which Frick et al. (1994) labeled Callous/Unemotional (CU), was comprised of six items (concerned about schoolwork, feels bad or guilty, emotions seem shallow, does not show emotions, acts charming in ways that seem insincere, is concerned about the feelings of others) that loosely approximate the Interpersonal/Affective factor (i.e., factor I) of the PCL-R. Acceptable internal consistencies also have been obtained for this scale (alphas ranging from .81 to .73).

Differential correlates of the two scales have been cited as further evidence of the PSD’s construct validity. For example, Frick et al. (1994) reported that the I/CU scale correlated more highly with the Delinquency (r = .58) subscale of the Child Behavior Checklist (CBCL; Achenbach, 1991) and the number of conduct disorder symptoms (r = .53) and combined conduct disorder/oppositional defiant disorder (ODD) symptoms (r = .68) than did the CU scale (CBCL Delinquency r = .45; CD symptoms r = .30; CD/ODD symptoms combined r = .40). Regression analyses in this study indicated that the CU scale contributed independently to the prediction of sensation seeking after controlling for ODD and CD symptoms, and a significant interaction between CU scales and DSM-III-R conduct problems predicted paternal arrest history. Other research examining the correlates of these scales has suggested that callous–unemotional traits are associated with a reward-oriented response style (O’Brien & Frick, 1996) and with higher levels of fearlessness (Barry, Frick, DeShazo, McCoy, Ellis, & Loney, 2000) among children with behavior problems. Furthermore, conduct problems among children who score low on the CU scale appear to be more strongly associated with dysfunctional parenting practices (Wooton, Frick, Shelton, & Silverthorn, 1997) and deficits in verbal intelligence (Loney, Frick, Ellis, & McCoy, 1998). These factors are not strong predictors of externalizing behavior among children who evidence callous–unemotional traits, however.

Although initial factor analyses of the PSD suggested two interdependent factors, a recent study by Frick, Bodin, & Barry (in press) suggests that a three-factor model may be a more useful approach for construing psychopathic features among
children. In a large community sample of third, fourth, sixth, and seventh graders (total \( n = 810 \)), items related to narcissism – which had been shown to load on the I/CP factor in previous research – formed a separate factor that was stable across both parent and teacher ratings. Support for this model was somewhat more equivocal when applied to a clinic-referred sample (\( n = 152 \)), with confirmatory factor analyses (CFAs) suggesting an adequate fit for both the two factor (NNFI = .90; CFI = .91) and three factor (NNFI = .91; CFI = .92) models. A differential pattern of external correlates was noted for the three subscales derived from these factors, with narcissism being associated most strongly with ODD and CD symptomatology, and the impulsivity subscale accounting for greater variance in symptoms of hyperactivity. Callous–unemotional traits showed very little association with DSM symptoms of conduct disorder after controlling for variance associated with the narcissism and impulsivity subscales.

No specific cut scores have been proposed for distinguishing between “psychopaths” and “non-psychopaths” on the PSD. However, Christian, Frick, Hill, Tyler, & Frazer (1997) used cluster analysis to investigate potential subtypes of psychopathy based on the CU scale and ODD/CD symptoms. In a sample of 120 clinic-referred children (age \( M = 8.68, \ SD = 2.07 \)), four groups were identified and labeled: (a) clinic control (\( n = 39 \)), (b) callous/unemotional (\( n = 41 \)), (c) impulsive conduct (\( n = 29 \)), and (d) psychopathic conduct (\( n = 11 \)). Relative to the other three clusters, children in the psychopathic conduct cluster manifested the greatest number of oppositional, aggressive, and covert property-destructive symptoms. These children also had significant histories of contacts with the police and parental histories of APD. Using a somewhat different approach to identifying subtypes, Frick et al. (in press) cluster analyzed the PSD scales derived from the three-factor model. Five clusters were obtained in the community sample – one of which was comprised of children (\( n = 114 \)) who displayed high scores across all three subscales. Compared to the other clusters, these children had by far the highest rates of DSM-IV symptoms of ODD and CD.

### Child Psychopathy Scale

The content of the Child Psychopathy Scale (CPS; Lynam, 1997) was derived rationally from the PCL-R and is composed of 41 items drawn from the CBCL (Achenbach, 1991) and a version of the California Child Q-Set (CCQ; Block & Block, 1980) through archival data analysis. Thirteen of the 20 PCL items were operationalized by creating scales using combinations of the CBCL and CCQ items (e.g., PCL-R item *lack of remorse or guilt* being assessed using CBCL item 26, “doesn’t seem guilty after misbehaving,” and CCQ item 72, “he often feels guilty” (reverse scored)). Similar to the original modifications of the PCL-R (Forth et al., 1990), CPS items that did not reflect childhood or adolescent experiences were not included (*promiscuous sexual behavior, many short-term marital relationships, and revocation of conditional release*). Also excluded were an additional three items;

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6In one study examining the self-report version (Caputo, Frick, & Brodsky, 1999), cut-off scores beyond the 95th percentile of a control group were employed to identify “clinically significant elevations” on the PSD scales.
grandiose sense of self-worth from the Interpersonal/Affective factor; need for stimulation/proneness to boredom and early behavior problems from the Socially Deviant Lifestyle factor. In a footnote, Lynam indicated that a CFA of the “scales” supported the two factor model; however, the two factors were virtually redundant with one another \( r = .95 \). Based on these results, Lynam only used CPS total scores for subsequent analyses. Unfortunately, little information regarding the psychometric properties and CFA results were reported.

Lynam (1997) developed and evaluated the CPS with a sample of 430 male fourth-graders from the Pittsburgh Youth Study, a longitudinal project tracking delinquent and non-delinquent children. In terms of its construct validity, CPS scores were found to correlate with various measures of impulsivity, including self-reported \( r = .25 \), teacher-rated \( r = .26 \), and behavioral impulsivity \( r = .32 \). In comparison to their non-psychopathic counterparts, psychopathic children were more prone to externalizing disorders and less likely to exhibit internalizing disorders. After controlling for prior delinquency, SES, IQ, and impulsivity, the CPS total score was found to add incremental validity in the prediction of delinquency at ages 12 and 13 in a stepwise hierarchical regression.

**P-Scan**

Derived from the PCL conceptualization of psychopathy, the Hare P-Scan: Research Version (Hare & Herve, 1999) is a recently published measure consisting of 90 items that are purported to indicate behaviors and traits related to this personality construct. Although titled a “research” instrument, the P-Scan currently is available for use by non-clinicians (e.g., judges, law enforcement officers, school counselors) in applied settings and is intended to serve as “a rough screening device that, when properly used, may provide users with important clues or working hypotheses about the nature of an individual of interest” (p. 1). Notably, the P-Scan manual describes the measure as *not* being a formal psychometric test, and repeatedly cautions against the use of this device to make diagnostic decisions.

The items comprising the P-Scan are scored on the familiar 0–2 PCL scale, and are grouped into “interpersonal,” “affective,” and “lifestyle” facets (30 items each). A total score can be derived as well, based on the average of the three facet scores. Total scores range from 0 to 60 and fall into one of three general levels (high, moderate, low). Scores greater than 30 are described as “cause for serious concern” (Hare & Herve, 1999, p. 11) and individuals who obtain such scores “should be referred for a professional evaluation and opinion by a psychologist or psychiatrist qualified to use the PCL-R, the PCL:SV, or the PCL:YV” (p. 7).

The P-Scan manual does not indicate age ranges for which the device is considered to be appropriate, although it clearly is intended for use with adolescents, based on references to the PCL:YV and to use by school counselors. The publisher of the device is more specific in its catalogue than the authors are in the manual, however, noting that the P-Scan is appropriate for ages 13 and older (Multi-Health Systems, Inc., 2000).

\(^7\)Lynam (1997) notes that this item did not correlate with the other CPS items.
Published data regarding the reliability and validity of the P-Scan apparently are unavailable at present. A review of relevant databases identified no published studies on this device, and the manual provides no information regarding normative data or psychometric properties. (The manual actually provides no data of any sort.) Inferences or hypotheses developed from P-Scan scores appear to lack any empirical foundation at this time. It could be argued that, because the P-Scan is presented as a “rough screening device” rather than a formalized psychological test, information related to psychometric properties is unnecessary for use in non-clinical decision-making. Nevertheless, quantifying a psychological construct and providing interpretive statements regarding the potential meaning of obtained scores (Hare & Hervé, 1999, pp. 6–7) clearly requires the publication of data that addresses the validity and utility of the hypotheses derived from these scores.

**Psychopathic Personality Inventory**

One relatively new self-report measure of psychopathy is included in this review because (1) preliminary studies indicate that it may be useful in assessing psychopathy and in predicting aggression and violence among late adolescents, and (2) there is some evidence supporting its validity across gender and setting (incarcerated and non-incarcerated populations). The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) is a 187-item self-report measure designed to assess the core personality features of psychopathy in non-criminal, adult populations. Although adequate levels of reliability (i.e., internal consistency, short-term test–retest) have been reported in initial validation studies for the PPI as well as in subsequent reports, the long-term stability of PPI scores has yet to be investigated. In terms of construct validity, the PPI has been shown to correlate moderately to highly with self-report, peer-report, and interview-based measures of psychopathy and to correlate moderately with self-report, peer-report, and interview-based measures of relevant cluster B (i.e. antisocial, narcissistic, histrionic) personality disorder features in college samples (Hamburger, Lilienfeld, & Hogben, 1996; Lilienfeld & Andrews, 1996; Lilienfeld et al., 1998). Preliminary research with “youthful offender” prison inmates (Poythress et al., 1998) suggests that this questionnaire correlates highly \( r = .54 \) with the PCL-R, and an optimally derived cutting score classified accurately 86% of the study participants as psychopathic/non-psychopathic. The PPI also correlates modestly with criminal history variables (e.g., number of prior arrests, history of juvenile delinquency) and moderately with measures of aggression, empathy (negatively), and primitive psychological defenses among prison and jail inmates (Edens, Poythress, & Lilienfeld, 1998; Sandoval, Hancock, Poythress, Edens, & Lilienfeld, 2000).

**Summary and Critique**

Studies utilizing three of the four measures based on the PCL-R conceptualization of psychopathy (i.e., PCL:YV, PSD, CPS) have examined their applicability across several samples of varying ages. Although preliminary, the psychometric properties
of these measures as well as their pattern of external correlates provide support for the argument that they are assessing a construct that is at least phenotypically similar to adult psychopathy (this assertion cannot be made for the P-Scan). However, several caveats regarding the ongoing validation of these measures warrant discussion. First, relatively little is known about the underlying factor structure of the PCL:YV. Noted earlier, the traditional two-factor model of psychopathy is in question, with more recent research providing support for the existence of three distinct factors among both adults and children (Cooke & Michie, in press; Frick et al., in press). Although it may be argued that total scores on the PCL measures are the most commonly employed metric for clinical decision-making, clarification of the basic dimensions that comprise the psychopathy construct clearly is needed to better define what is being measured. If different dimensions of psychopathy are differentially related to violence and aggression, this would have significant implications for assessing risk. For example, inflated self-worth, empathy deficits, and impulsivity have been shown to be related to aggression (for reviews, see Baumeister, Smart, & Boden, 1996; Edens, 1999; Miller & Eisenberg, 1988; Webster & Jackson, 1997) but the potential interactive effects of these factors rarely have been addressed systematically. A more thorough explication of the relationship among these factors will be an important area of future research among juveniles as well as adults.

A second concern relates more to the self- (and parent and teacher) report measures (PSD, CPS, PPI) than to the PCL:YV. Relatively little is known regarding the extent to which the former instruments are susceptible to the effects of response sets such as social desirability or positive impression management. Performance on these measures may be distorted significantly if there are negative consequences associated with the outcome. These measures have been studied primarily in contexts where participation was either anonymous or confidential – circumstances that are strikingly distinct from the typical forensic evaluation. The PPI is the only instrument reviewed that contains validity scales to assess response distortion and, to our knowledge, it is the only measure on which research examining the effects of dissimulation has been conducted (Edens, Buffington, & Tomicic, 2000; Edens, Buffington, Tomicic, & Riley, manuscript submitted for publication), with mixed results being obtained in terms of identifying “fake good” protocols.

The third and most important limitation to all of these measures is the absence of any long-term data regarding their temporal stability. This is a significant limitation that needs to be addressed, particularly given the developmental fluidity of some of the personality and behavioral “traits” ostensibly assessed by these measures (see above, “Are adult features...”). In the absence of such data, one cannot conclude that psychopathic features are stable from childhood to adulthood, let alone that these measures can assess reliably these features over significant time periods.

EMPIRICAL RESEARCH EXAMINING THE ASSOCIATION BETWEEN JUVENILE PSYCHOPATHY AND VIOLENCE

The research described in the preceding section suggests that, although significant questions remain to be addressed, the measures reviewed show some promise as
indices of psychopathic features and clearly warrant further empirical investigation. A more applied issue, however, relates to the potential clinical utility of these measures generally and their specific ability to identify accurately “high-risk” children and adolescents who are likely to engage in future violence. Authors frequently have asserted that the PCL measures are strong predictors of institutional misbehavior and long-term violence potential among juveniles (e.g., Forth & Mailloux, 2000; Hare & Hervé, 1999; Lyon & Ogloff, 2000) and thus provide important information regarding appraisals of risk. This section reviews the empirical basis of these claims.

Table 2 provides an overview of published studies that have examined the association between indices of aggression/violence and juvenile psychopathy. This list encompasses a wide range of studies in terms of samples employed, predictor and criterion measures used, and follow-up (or follow-back) time periods examined. For example, samples range in age from grade school to college age, and are drawn from diverse settings with ostensibly differing levels of psychopathology and delinquency/criminality (e.g., mental health clinics, youth detention centers, adult prisons, university settings). The racial/ethnic composition of the samples assessed also is relatively heterogeneous, although (similar to the adult literature) they are disproportionately male. In terms of criterion variables, measures have ranged from psychometrically sophisticated rating scales, such as self-report (e.g., Youth-Self Report Form; Achenbach, 1991), peer report (Multidimensional Personality Questionnaire – Aggression scale; Tellegen, unpublished manuscript), and parent/teacher (Child Behavior Checklist/Teacher Report Form; Achenbach, 1991) inventories, to “official” records such as institutional disciplinary infractions related to aggressive/violent behavior and reconvictions for violent crimes. Criterion measures have been collected over varying time periods as well, ranging from methodologically weaker postdictive and concurrent designs – in which “predictor” variables are assessed after, or in conjunction with, the criterion measures – to more rigorous predictive studies in which data upon which psychopathy ratings are made are collected prior to the outcome variables. Most of the studies used the psychopathy measures as continuous predictor variables and computed correlations with outcome measures, although a few also used the psychopathy scales as categorical predictors (e.g., Brandt et al., 1997) or as a criterion measure (e.g., Myers, Burket, & Harris, 1995).

Studies assessing the relationship between psychopathy and general delinquency or conduct disorder symptoms only (in the absence of specific measures of aggression or violence) were not included in this review, nor were studies assessing the association between violence and delinquency/conduct disorder (in the absence of measures of psychopathy). Unpublished theses/dissertations, conference papers and raw data sets also are not reviewed. It is worth noting that several researchers we contacted indicated that they have ongoing projects and unpublished dissertations (e.g., Gretton, unpublished doctoral dissertation) that address the predictive validity of the various psychopathy measures noted earlier as they relate to violence among juveniles. Given that these have yet to go through the rigorous vetting process associated with publication in a peer-reviewed journal, however, none of these projects was included in the present review. Conclusions and recommendations derived from forensic evaluations arguably should be based on research that has gone through this process (e.g., Daubert v. Merrell Dow Pharmaceuticals, Inc., 1993). See Grisso (1998; pp. 80–81) for a related discussion of admissibility standards regarding juvenile assessment.

This research was identified by searching various databases (e.g., PsychLit, PsychInfo, Medline) using keywords such as “child/adolescent/juvenile,” “psychopathy/psychopathic,” and “aggression/violence/delinquency,” and by contacting researchers who previously have published empirical studies in this area.
Table 2. Published studies examining the association between psychopathy and aggression/violence among children and adolescents

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Predictor(s)</th>
<th>Criterion Measures</th>
<th>Timeframe</th>
<th>Sample*/*n</th>
<th>Mean age/range</th>
<th>Race/ethnicity†</th>
<th>Outcome (significant unless otherwise noted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brandt et al. (1997)</td>
<td>Modified PCL-R</td>
<td>(1) CBCL Aggression (2) Major institutional infractions: (a) Verbal (b) Physical (3) Time until violent reoffense</td>
<td>Concurrent Incarcerated delinquents/130</td>
<td>16.1/14–18 28% Cau 70% AA 2% His</td>
<td>(1) r = .31 (2a) r = .31 (2b) r = .28 (3) High psychopathy group &lt; low psychopathy group</td>
<td></td>
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<tr>
<td>Caputo et al. (1999)</td>
<td>Offense category</td>
<td>PSD-SR: (1) I/CP (2) CU</td>
<td>Postdictive Juvenile offenders/69</td>
<td>16.18/13–18 28.6% Cau 68.6% AA 1.4% His 1.4% Other</td>
<td>(1) ns (2) Sex offenders &gt; violent offenders/noncontact offenders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edens et al. (1999)</td>
<td>(1) Modified PCL-R (2) PPI</td>
<td>Institutional disciplinary infractions: (a) Physical Aggression (c) Combined</td>
<td>Postdictive Youthful offender prison inmates/50</td>
<td>18.6/17–21 32% Cau 54% AA 12% His 2% Other</td>
<td>(1a) r = .18 ns (b) r = .18 ns (c) r = .28 (2a) r = .06 ns (b) r = .23 (c) r = .24</td>
<td></td>
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<tr>
<td>Forth et al. (1990)</td>
<td>Modified PCL</td>
<td>(1a) Number of previous violent offenses (1b) Number institutional charges for violent or aggressive behavior (2) Number of charges or convictions for violent reoffense</td>
<td>Postdictive Maximum security youth detention center inmates/75</td>
<td>16.3/13–20 77.3% Cau 22.7% NA</td>
<td>(1a) r = .27 (1b) r = .46 (2) r = .26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Measure(s)</td>
<td>Method</td>
<td>Sample Size</td>
<td>Mean Age</td>
<td>Race/Percentage</td>
<td>Effect Size(s)</td>
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<tr>
<td>Frick et al. (1994)</td>
<td>CBCL Aggression</td>
<td>Concurrent Clinic-referred</td>
<td>52 boys-12 girls</td>
<td>8.5/6-13</td>
<td>82% Cau 18% Other</td>
<td>(a) $r = .67$ (b) $r = .36$</td>
<td></td>
</tr>
<tr>
<td>Lilienfeld &amp; Andrews (1996)</td>
<td>MPQ Aggression (peer ratings)</td>
<td>Concurrent College students</td>
<td>41 male-55 female</td>
<td>18.7/NR</td>
<td>(1) NR (2) NR (3) NR</td>
<td>(1) $r = .43$ (2) $r = .38$ (3) NR</td>
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<tr>
<td></td>
<td>(self-report)</td>
<td></td>
<td>64 male-45 female</td>
<td>18.7/NR</td>
<td>(1) NR (2) NR (3) NR</td>
<td>(1) $r = .43$ (2) $r = .38$ (3) NR</td>
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<tr>
<td>Lynam (1997)</td>
<td>Violence Classification</td>
<td>Postdictive “High risk” boys</td>
<td>NR/12-13</td>
<td>54% AA</td>
<td>(1) $r = .32$ (2) $r = .19$ (3) $r = .31$</td>
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<tr>
<td></td>
<td>YSR Aggression</td>
<td>Concurrent and controls</td>
<td>403</td>
<td>NR</td>
<td>(approximate)</td>
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<tr>
<td></td>
<td>TRF Aggression</td>
<td>Concurrent</td>
<td>401</td>
<td>46% Other</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>344</td>
<td>46% Other</td>
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</tr>
<tr>
<td>Murdock, Hicks, Rogers, &amp; Cashel, 2000</td>
<td>Violent institutional infractions</td>
<td>Predictive</td>
<td>Juvenile offenders/95</td>
<td>15.78/NR</td>
<td>54% AA</td>
<td>(1) $r = -0.4$ (Cau) ns (2) $r = 0.39$ (AA) (3) $r = -0.29$ (His) ns</td>
<td></td>
</tr>
<tr>
<td>Myers, Burket, &amp; Harris, 1995</td>
<td>Self-reported:</td>
<td>Modified PCL-R</td>
<td>Adolescent psychiatric inpatients/10 male &amp; 20 female</td>
<td>15.33/14-17</td>
<td>83% Cau 17% AA</td>
<td>(1) PCL-R (fighters) $&gt; PCL-R$ (nonfighters); $t = 2.47$ (2) PCL-R (serious injury group) $&gt; PCL-R$ (no serious injury group); $t = 2.98$ (3) No differences; $t = 1.79$ ns</td>
<td></td>
</tr>
<tr>
<td>Author(s)</td>
<td>Predictor(s)</td>
<td>Criterion Measures</td>
<td>Timeframe</td>
<td>Sample*&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Mean age/range</td>
<td>Race/ethnicity&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Outcome (significant unless otherwise noted)</td>
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<tr>
<td>Rogers, Johansen, Chang, &amp; Salekin, 1997</td>
<td>Modified PCL-R</td>
<td>Aggressive institutional infractions: (1) Physical (2) Verbal</td>
<td>Predictive</td>
<td>Adolescent offenders in residential treatment/81 (gender NR)</td>
<td>15.62/NR</td>
<td>46.9% Cau 17.3% AA 33.3% His</td>
<td>(1) Physical (2) Verbal</td>
</tr>
<tr>
<td>Toupin, Mercier, Dery, Cote, &amp; Hodgins, 1995</td>
<td>Modified PCL-R (French version)</td>
<td>(1) DISC aggression (concurrent) (2) DISC aggression (one year follow-up)</td>
<td>(1) Concurrent (2) Predictive</td>
<td>Treatment-referred conduct disordered adolescents/52 (42 at follow-up)</td>
<td>15.6/13–17</td>
<td>NR</td>
<td>(1) NR (2) r = .30</td>
</tr>
</tbody>
</table>

Note: CBCL = Child Behavior Checklist (Achenbach, 1991; Achenbach & Edelbrock, 1983); CPS = Childhood Psychopathy Scale (Lynam, 1997); DISC = Diagnostic Interview Schedule for Children (French version; Bergeron, Valla, & Breton, 1992); MPQ = Multidimensional Personality Questionnaire (Tellegen, unpublished manuscript); NR = Not reported; PCL = Psychopathy Checklist (Hare, 1980); PCL-R = Psychopathy Checklist-Revised (Hare, 1991); PPI = Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996); PSD-P/T = Psychopathy Screening Device – Parent/Teacher Report (Frick & Hare, in press); PSD-SR = Psychopathy Screening Device-Self Report (Frick & Hare, in press); TRF = Teacher Report Form (Achenbach, 1991; Achenbach & Edelbrock, 1983); YSR = Youth Self Report Form (Achenbach, 1991).

<sup>1</sup>Cau = Caucasian; AA = African American; His = Hispanic; NA = Native American; NR = Not reported.

*All samples are exclusively male unless otherwise noted.
As shown in Table 2, all of the measures of psychopathy reviewed above demonstrated at least some utility in predicting (or postdicting) violence. Perhaps the most striking fact revealed in the table is the relative uniformity of these correlations. Many of those reported for total scores approximated $r = .30$, with the majority ranging between .20 and .40. This applies to a diverse collection of studies that vary in the indices of aggression/violence used and in the follow-up time frames examined.\(^{10}\) This suggests a robust, moderate association between the various operationalizations of psychopathy and aggressive behavior, and is relatively consistent with the PCL-R research that has examined this relationship among adult offenders (Hemphill et al., 1998; Salekin et al., 1996).

Several studies that assess the utility of the PCL/PCL-R (employing the modifications suggested by Forth et al., 1990) are worth noting. Only two published studies have examined the prediction of re-arrest for a violent offense among adolescents (Brandt et al., 1997; Forth et al., 1990). First, in a sample of 71 adolescent offenders with an average follow-up period of 27.2 months (SD = 9.3), Forth et al. found that the PCL did not correlate significantly with general recidivism ($r = .14$) when coded dichotomously (yes/no), but was associated significantly ($r = .26$) with the number of charges or convictions for a violent reoffense. No information regarding the frequency or distribution of violent reoffending in this sample was reported, although the base rate for general reoffending was 79%. The strength of the individual relationships between violence and the Interpersonal/Affective and Socially Deviant Lifestyle factor scores also was not reported.

Second, Brandt et al. (1997) examined the predictive validity of the PCL-R using group level (i.e., low, medium, high psychopathy) classifications over an 18- to 24-month follow-up period. Although no significant differences were obtained for nonviolent re-offenses, survival analyses indicated that the high psychopathy group took the least time to be referred for a violent re-offense and the low psychopathy group took the longest. Other than being reported as statistically significant, no indices of the magnitude of this relationship were reported. Notably, PCL-R total and factor scores did not increase the accuracy of predicting violent re-offenses after controlling for several demographic, criminal history, and clinical variables (e.g., MMPI and CBCL scales). However, both PCL-R factor scores increased the accuracy of predicting combined violent/non-violent reoffenses after controlling for these same variables. Specifically, the Socially Deviant Lifestyle factor (II) accounted for unique variance ($\Delta R^2 = .05$) after entering these variables, and the Interpersonal/Affective factor (I) accounted for unique variance ($\Delta R^2 = .03$) after entering the other variables as well as Socially Deviant Lifestyle factor scores. Unfortunately, analyses examining the predictive utility of the PCL-R and its subscales in isolation (e.g., zero-order correlations) were not reported.

Five studies have examined the utility of the PCL measures in predicting violence while institutionalized. Three of these (Brandt et al., 1997; Murdock Hicks et al., 2000; Rogers et al., 1997) involved the prediction of institutional infractions that occurred after the PCL assessment, whereas the remaining two (Edens,

\(^{10}\)Because of the diversity of samples and predictor and criterion measures employed in these studies, the use of meta-analytic procedures to summarize this body of research was judged to be inappropriate.
Poythress, & Lilienfeld, 1999; Forth et al., 1990) were postdictive designs. As shown in Table 2, the results of these studies are fairly similar, with most of the correlations between verbally aggressive and violent infractions and psychopathy approximating .30 (range of reported $r = .18$ to $.46$). Notably, both Brandt et al. (1997) and Rogers et al. (1997) obtained correlations of .28 with physical violence for their samples. Although the study by Murdock Hicks et al. (2000) did not report these results for the total sample, a review of the PCL:SV/violent infraction correlations reported separately for the three racial/ethnic groups suggests that this correlation would approach that of the other studies. Unfortunately, these studies did not compare the incremental predictive validity of the Interpersonal/Affective and Socially Deviant Lifestyle factors in predicting institutional violence. However, the studies by both Brandt et al. (1997) and Rogers et al. (1997) reported correlations of generally similar magnitude for the factors, with Interpersonal/Affective factor (I) correlations of .23 and .30, and Socially Deviant Lifestyle factor (II) correlations of .33 and .30, respectively. Similarly, in the study by Edens et al. (1999) both factors I and II were significantly correlated with the combined disciplinary infraction category of physical/verbal aggression ($rs = .30$ and .28, respectively).

Only two of these five studies examined the incremental validity of the PCL measures in comparison to other indices of psychopathy, and have produced mixed results. In contrast to Brandt et al. (1997; see above), Murdock Hicks et al. (2000) found the PCL:SV did not provide any incremental validity beyond the MMPI-A in terms of the prediction of both violent and total (i.e., violent and non-violent) infractions. Similarly, Edens et al. (1999) found that neither the PCL-R nor the PPI evidenced any incremental validity beyond the other measure in the prediction of verbally aggressive/physically violent disciplinary infractions.

None of the studies noted above reported analyses for the three-factor hierarchical model of the PCL measures recently espoused by Cooke and Michie (in press) and Frick et al. (in press). However, re-analysis of the data from Edens et al. (1999) indicated that, whereas a subscale comprising the items from the Arrogant and Deceitful Interpersonal Style factor correlated significantly with physical/verbal aggression ($r = .29$, $p < .05$), Deficient Affective Experience was not significantly associated with this criterion ($r = .21$, $p = ns$). Although the Socially Deviant Lifestyle factor (factor II) was significantly correlated ($r = .28$, $p < .05$) with physical/verbal aggression in the original analysis, it was not significantly associated ($r = .14$, $p = ns$) with Cooke and Michie’s revised factor II (Impulsive and Irresponsible Behavioral Style) in which several of the items, including those tapping child/adolescent behavior problems, have been eliminated. Although it could be argued that this finding supports the position that early behavior problems play an important role in the prediction of violent behavior (e.g., Quinsey et al., 1998), given that these results are based on a re-analysis of data from only 50 youthful offenders, they should be viewed as preliminary. Moreover, the attenuated relationship between the Impulsive and Irresponsible Behavioral Style subscale and verbal/physical aggression could be explained somewhat by a decrease in the reliability of

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11A more detailed description of these results is available from the first author.
this scale after the “extraneous” PCL-R items were deleted (i.e., α dropped from .75 to .58 after eliminating items 10, 12, and 18).  

Although the bulk of the studies noted in Table 2 used the PCL derivatives to operationalize psychopathy, the other measures (i.e., PSD, CPS, PPI) showed similar patterns of correlations with criterion measures. This finding is particularly informative, given that most of the PSD and CPS studies examined relatively younger (i.e., grade-school-aged) samples than did the PCL studies and also often used different outcome measures. In a few of these studies, associations were examined between measures that were completed by the same raters (e.g., parent-report psychopathy (PSD) correlated with parent-reported aggression (CBCL aggression)), which may have resulted in somewhat inflated results due to rater bias. However, those in which different raters completed the measures produced similar (and in some cases, stronger) results.

Summary and Critique

In summary, the studies reviewed above generally indicate that there is a moderate association between various measures of juvenile psychopathy and various types of aggression across a range of settings and age levels. Furthermore, the magnitude of this association is consistent with research conducted with adults. However, there are several limitations to this literature that should be noted. First, the extent to which the association between psychopathic traits and aggression will remain stable over time is unknown. Because the studies summarized above provide only a quasi-cross-sectional analysis of this relationship, they provide little support for the argument that psychopathy during adolescence is a robust predictor of future violence, particularly violence that occurs beyond late adolescence. Second, we do not have strong evidence to suggest that these measures of psychopathy have incremental predictive validity when compared to other leading predictors of juvenile violence (e.g., conduct disorder, poor peer associations, actuarial risk assessment scales; Hawkins et al., 2000).  

Third, the association between adolescent psychopathy and “official” indices of violence has been examined in only a few published studies. Only two studies have used the PCL measures to predict violent recidivism, and only five have assessed the relationship between psychopathy and institutional violence. In terms of practical applications related to juvenile offender decision-making, these criminal justice outcome measures are more relevant than the indices used in other studies (e.g., parent/teacher rating scales).

Although we are aware of ongoing research that will improve upon our existing knowledge base, at present there are several reasons to exercise caution in applying the construct of juvenile psychopathy in clinical/forensic settings. In our opinion,

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12Because this sample was comprised of “youthful offenders,” items 9 (parasitic lifestyle) and 19 (revocation of conditional release) on factor II were not scored. Therefore, α for this scale was based on seven items in the original analysis. Also, α for the Impulsive and Irresponsible Behavioral Style subscale is based only on four (3, 13, 14, and 15) of the five items comprising this factor, given that item 9 was not scored.

13The study by Rogers et al. (1997) was one of the few to address this issue, wherein the PCL-R was found to be a more robust predictor of violence than CD symptoms – but only in relation to the prediction of institutional misbehavior. General and violent recidivism data were not available in this study.
clinicians may appropriately use validated measures of juvenile psychopathy to aid in making short-term predictions of violent behavior among adolescents if they clearly acknowledge the measures’ limitations (e.g., unclear long-term stability and factor structure). However, measures of juvenile psychopathy should not be used to make long-term predictions of violent behavior, nor to make clinical decisions with long-term implications. The following section reviews specific concerns about using measures of psychopathy for the latter purposes.

IMPLICATIONS FOR CLINICAL PRACTICE IN JUVENILE JUSTICE SETTINGS

As suggested by the research presented above, our knowledge about the nature, stability and consequences of juvenile psychopathy is relatively limited. Nevertheless, some researchers (Forth, 1999; Harris, Skilling, & Rice, unpublished manuscript; Lyon & Ogloff, 2000; Towers, Heilbrun, & Peters, 2000) have implied or asserted that assessments of psychopathy will aid in deciding whether to transfer juvenile offenders to the adult court system, whether to decertify adolescents already transferred to the adult system, and/or what type of sentence juveniles should receive (i.e. length, security level, and availability of treatment). In Canada, diagnoses of psychopathy have been used to justify decisions that juvenile offenders be tried in adult court and serve longer sentences in order to protect the public (Zinger & Forth, 1998). Although not as widely employed as in Canada, measures of psychopathy apparently are beginning to be used in the assessment of adolescent offenders in the United States as well (Towers et al., 2000). Because the PCL measures almost universally are regarded as the “gold standard” for assessing psychopathy, the Revised and Youth Version of the PCL are most likely to be used for these purposes. This section analyzes the extent to which the use of the PCL measures is likely to be helpful or harmful for making long-term decisions about transferring and sentencing juvenile offenders, given the current state of relevant research. Although clinicians and the courts clearly could benefit from some empirical guidance in making these decisions, we conclude, based on three concerns, that measures of juvenile psychopathy should not be relied upon heavily in this process at present.

The chief concern raised by using measures of psychopathy to make weighty legal decisions about juveniles is that we fundamentally do not know whether these measures identify a small subgroup of adolescents who, based on stable personality traits, will engage persistently in antisocial and violent behavior throughout the course of their lives (see Forth & Burke, 1998). To date, there have been no published longitudinal studies of the stability of psychopathy, as assessed by the PCL or other assessment tools, from early adolescence through adulthood. It is unclear to what extent some juveniles identified as psychopathic – particularly those whose classifications resulted primarily from elevations on the Socially Deviant Lifestyle factor – may be more representative of the “adolescent-limited” type of offender whose antisocial behavior is likely to desist following adolescence (Moffit, 1993). This fact alone should bar the courts from making consequential, long-term decisions about a juvenile offender based on a single assessment of psychopathy during teenage years.
Although there apparently have been no direct investigations of the stability of psychopathy, the evidence reviewed above (see “Are adult features...”) suggests that adolescents’ scores on the PCL instruments may be inflated by normative developmental characteristics. The PCL:YV rests on the untested assumption that psychopathy is expressed in much the same way whether an offender is 13 or 43 years old. It is comprised of the same 20 items as the adult PCL-R, with only modified scoring criteria for items that seem developmentally inappropriate for adolescents (e.g., parasitic lifestyle). Because it is based on the adult PCL-R, the PCL:YV includes normative adolescent “traits” that have been shown to wane with age, such as impulsivity, need for stimulation, and poor behavioral controls (see Forth & Burke, 1998; Harpur & Hare, 1994). If the PCL:YV taps construct irrelevant variance associated with adolescence, it risks misclassifying juvenile offenders as psychopathic. Research is needed on adolescent and adult samples, matched for basic demographic (e.g., race, SES) and offense characteristics, to determine the extent to which (1) adolescents obtain higher scores on potentially age-inappropriate items than adults, and (2) the base rates of psychopathy are higher among adolescent offenders than adults (compare rates of Brandt et al., 1997; Forth & Burke, 1998; and Trevathan & Walker, 1989, with those of Hare, 1991, and Hart et al., 1995). If psychopathy is a stable personality disorder, it should not be more prevalent among incarcerated adolescents than adults. Misclassifications of even a small proportion of juvenile offenders as psychopathic based on the contribution of age-inappropriate indicators of juvenile psychopathy would be associated with grave consequences if they guided judicial decision-making.

Second, using psychopathy assessments in juvenile justice settings raises concerns about the strength of the data supporting assumptions that psychopathy (a) is strongly associated with future, persistent violence, and (b) is untreatable, even in adolescence. With respect to the first issue, measures of psychopathy may be useful for winnowing a large group of juvenile offenders into a smaller subgroup that is moderately likely to re-offend in the relatively near future (see, e.g., Forth & Burke, 1998). However, the magnitude of the correlation between juvenile psychopathy and future violence argues against sole reliance on psychopathy ratings to predict violence for adolescent offenders (Edens et al., 1999; Rogers et al., 1997; see also Forth & Mailloux, 2000, p. 48).

Given the emphasis traditionally placed by the juvenile justice system on offender rehabilitation, the second issue regarding whether adolescents with psychopathy are responsive to treatment is pivotal. However, we could locate only one published study that addressed treatment compliance and one conference presentation that more directly addressed the issue of treatment amenability. First, in a sample of 81 adolescent (age $M=16$ years, $SD=1$) admissions to a state hospital, Rogers et al. (1997) found a significant, but “modest” ($r=.25$) correlation between scores on the modified PCL-R and ratings of treatment noncompliance. Second, O’Neill, Heilbrun and Lidz (2000) studied an ethnically diverse sample of 64 adolescents (age $M=16$ years, $SD=1$) who were charged with drug offenses and were referred by the court to complete an intensive, 3-month-long partial hospitalization program to treat substance abuse. The authors found that adolescents’ total scores on the PCL:YV were significantly associated with the number of days that they attended the treatment program ($r=-.42$), and with graduate students’ global, 5-point ratings of adolescents’ clinical improvement coded from discharge summaries.
This research is welcome, given the absence of data in this area, but has two limitations. First, as noted by the authors, the treatment in this study was a relatively short, intensive program designed to address substance abuse, rather than psychopathy-relevant symptoms including criminogenic needs (see Andrews, Bonta, & Hoge, 1990; Simourd & Hoge, 2000). Second, the measurement of psychotherapy outcome is complex (see Garfield & Bergin, 1994), and difficult to reduce to a single rating gleaned from a discharge summary. In short, given available data on the subject, using measures of psychopathy to provide juvenile courts with a prediction regarding how an offender will respond to treatment, particularly treatment designed to address psychopathy, seems inappropriate. In fact, even the empirical literature on the treatment of adults diagnosed with psychopathy is “inconclusive at best,” indicating only that the therapeutic community model, which also is not founded upon the principles of successful rehabilitation, is ineffective (Zinger & Forth, 1998). As recently noted by Forth and Burke (1998), relative to adult offenders, “psychopathic young offenders may be more malleable and may benefit more from treatment. Given the implications that psychopathy has for society in general and the criminal justice system in particular, future research initiatives are needed to address the issues surrounding the development of effective intervention and management strategies for psychopathic youth” (p. 224, citations omitted).

Third and finally, the use of psychopathy measures in juvenile justice settings raises ethical issues. We have argued that there is significant potential for error associated with using existing measures to classify adolescents as psychopaths and, on that basis, to predict that they are likely to engage in persistent violence, regardless of whether they are provided with treatment. Because these errors may result in serious infringements on adolescents’ liberty and treatment options, mental health professionals are obligated to meet high standards in assessing psychopathy (Zinger & Forth, 1998). Given that there is currently limited scientific justification for issuing conclusions about an adolescent’s diagnosis, long-term violence potential, and treatability based on measures of psychopathy, doing so is ethically questionable (see American Psychological Association (APA), 1992; §2.01(b); §2.02(a); §7.02). Psychologists are bound to identify situations in which assessment techniques “may not be applicable” based on factors such as an individual’s age (APA, 1992, §2.04).

As acknowledged by Forth et al. (1990), even if one were able to obtain stable, age-appropriate assessments of juvenile psychopathy that strongly predicted long-term violence potential and treatment response, measuring psychopathy during adolescence still raises ethical issues. Diagnoses of psychopathy may be issued with “dispassion and scientific neutrality” (Toch, 1998, p. 151), but are far from morally neutral in content (see also Blackburn, 1988; Gunn, 1998; cf. Frick et al., 1994). Individuals labeled as psychopathic are presumptively (and permanently) “sleazy, unsavory, repugnant, and dangerous” (Toch, 1998, p. 151). Labeling a young adolescent as a psychopath may violate ethical principles of social responsibility (APA, 1992, Principle F) and doing no harm (§1.14). Arguably, one should assign such a damning label to a young and developing adolescent only (a) when the diagnosis is based on empirically validated methods and (b) when justified by a high likelihood that the information will prevent serious harm to others.
Adolescence is a time of significant developmental change. Because most adolescents manifest some "traits" and behaviors during this period that may be phenotypically similar to symptoms of psychopathy, adolescence may be the most difficult stage of life in which to detect this personality pattern. It is imperative that we learn more about the stability, nature, and manifestations of psychopathy during the adolescent years, and develop and refine age-appropriate risk assessment tools based on this knowledge (e.g., Borum, 2000). These developments are a prerequisite for embracing the construct of psychopathy as a valid, useful component in the evaluation of juvenile offenders.

REFERENCES


Juvenile psychopathy and violence


