Predictors of Adolescent Psychopathy: Oppositional and Conduct-Disordered Symptoms

Richard Rogers, PhD, John Johansen, PhD, James J. Chang, MS, and Randall T. Salekin, MS

Psychopathy is an important clinical construct in the evaluation and treatment of adolescent offenders. In this study, predictors of adolescent psychopathy are explored in 81 adolescents from a residential treatment program for dually diagnosed offenders. The number of aggressive conduct disorder symptoms and total rate (number × frequency of symptoms) of deceit/theft symptoms are predictive of adolescent psychopathy. Although age of onset for conduct disorder symptoms is associated with psychopathy, its interpretation appears to be confounded by gender and ethnicity correlates. Unexpectedly, adolescent psychopathy was only modestly associated with institutional infractions. Past research and current findings are summarized with reference to their forensic implications.

Adolescents with prominent antisocial and aggressive symptoms constitute one-third to one-half of all mental health referrals to children's clinics.[1] The clinical categorization of these adolescents remains uncertain. Depending on the setting and the circumstances, several overlapping conceptualizations have been invoked: delinquency, oppositional and defiant disorder, conduct disorder, and psychopathy. Understanding the differences as well as the similarities in these constructs is essential to their forensic and clinical applications.

Dr. Rogers is professor of psychology, University of North Texas, Denton, TX. Dr. Johansen is a staff psychologist for the Adolescent Program, Vernon State Hospital. James Chang and Randall Salekin are doctoral students in the clinical psychology program at the University of North Texas. Address correspondence to: Richard Rogers, PhD, Dept. of Psychology, University of North Texas, P.O. Box 311280, Denton, TX 76203-1280.

Clinical Constructs

Delinquency and Antisocial Behavior

Loeber and Dishion[2] in their classic review of delinquency describe the unbounded enthusiasm of early researchers for finding the antecedents of adult criminality. As summarized across 29 studies, the definition of delinquency is highly variable. The majority of research has defined delinquency primarily in terms of arrest, conviction, or adjudication. Others have used police contact or self-reported acts of delinquency as their criteria. Stouthamer-Loeber and Loeber[3] differentiated general delinquency from serious delinquency; the latter is distinguished by

typically violent offenses (i.e., as detailed in Part I of the FBI Crime Index). In their thorough review, they attempted to identify clinical correlates found with serious delinquency, including drug use, truancy, lying, stealing, general problem behaviors, and poor educational achievement. Research has also established other specific risk factors for delinquent youth: early onset of delinquency,[4–6] aggressiveness in school,[7] peer pressure toward delinquency,[8, 9] lack of family support,[8] family conflict,[9] and antisocial parents.[10, 11] From a family perspective, the research has emphasized traditionally the effects of family dysfunction on the antisocial behavior of youth; however, Frick and Jackson[12] proposed a bidirectional model in which antisocial behavior also contributes to family dysfunction.

Moffitt[13] distinguished, in male youth, between chronic (i.e., "life-course-persistent") and temporary ("adolescent-limited") antisocial behavior. Chronic antisocial behavior is characterized by early onset, neuropsychological abnormalities, and increased physical aggression. In contrast, temporary antisocial behavior has a late onset and a limited repertoire of criminal behavior. Temporary antisocial behavior is conceptualized developmentally as a rebellious phase in maturation; most adolescents with late-onset antisocial behavior desist in their deviant behavior and evolve into a prosocial adult adjustment. Thus, the age of onset and clinical correlates have profound forensic implications with respect to the stability and severity of antisocial behavior. As articulated by Moffitt,[13] adolescent-limited antisocial behavior predicts positive outcomes, while childhood-onset antisocial behavior offers few prosocial alternatives and typically characterizes chronic deviant behavior.

Development patterns for antisocial behavior are different for female youth. Silverthorn and Frick[14] have hypothesized a delayed-onset of antisocial behavior for girls that begins in early adolescence but shares common features with an early onset in boys. Unlike early-onset boys, delayed-onset girls manifest a chronic pattern of general maladjustment that is less focused on criminal or violent behavior. A variety of psychiatric, biological, and social factors have been posited in explaining these gender differences.[15]

Conduct Disorder Within a diagnostic framework, conduct disorder (CD) extends beyond narrow definitions of delinquency (e.g., unlawful acts) to encompass a constellation of antisocial symptoms, including aggression, deceitfulness, rule violations, and property destruction.[16] The diagnosis of CD has hardly remained static during the last two decades.[17] In sharp contradistinction from DSM-III,[18] the DSM-III-R model[19] emphasized aggressive behaviors towards others. DSM-IV[20] expanded the inclusion criteria for conduct disorder but retained its aggressive emphasis.

The delineation between CD and the related diagnosis of oppositional and defiant disorder (ODD) has been especially challenging. As noted by Loeber *et al.*,[21] CD and ODD could be conceptualized as different expressions of the same etiology.[22] Alternatively, the two disorders may reflect distinct diagnostic entities that share common symptoms, much like

many adult disorders.[23] Utilizing a two-dimensional approach (i.e., covert to overt, nondestructive to destructive), ODD symptoms cluster in the overt nondestructive quadrant[24] and appear to have a different course than CD.[21, 24] These bipolar dimensions (overt/covert and nondestructive/destructive) may be useful for forensic experts in describing a range of conduct problems and their implications for future acting out (e.g., covert acts increase with age; physical fighting predicts future CD).[25–27] Compounding the differential diagnosis is the comorbidity problems with attention deficit disorder; efforts were made with DSM-IV to minimize symptom overlap.[28]

Recent studies have attempted to categorize ODD and CD by the age of onset: oppositional behavior, intermediate CD, and advanced CD. Male youth who had progressed to advanced CD symptoms were likely to exhibit persistent CD, warranting the diagnosis over multiple years.[29] This distinction is especially important to forensic practice: symptom patterns (e.g., absence of advanced symptoms, such as physical cruelty, stealing, truancy, forced sex, and breaking and entering) is likely to predict a *temporary* diagnosis of CD. The ramifications of this distinction are profound; forensic psychiatrists and psychologists are able to make refined predictions regarding the stability of CD, a considerable improvement over indiscriminately categorizing all conduct-disordered male adolescents. Follow-up research[30] has confirmed this finding but has also indicated other factors (i.e., no parent with antisocial personality disorder and above average intelligence)[29] as predictive of positive outcomes.

Psychopathy Psychopathy extends beyond CD to describe important characterological and behavioral dimensions. From Hare's[31] work on the Psychopathy Checklist-Revised (PCL-R) with adult offenders, two important factors emerged: F_1 indicates the "selfish, callous and remorseless use of others" and F_2 the "chronically unstable, antisocial, and socially deviant lifestyle." As noted by Rogers and Bagby,[32] Hare overlooked important components of both factors: for F_1, superficial charm and grandiosity; and for F_2, impulsivity and sensation seeking. Frick *et al.*[33] extended the construct of psychopathy to children: F_1 is impulsive/conduct problems and F_2 is callous/unemotional. In this analysis, self importance is disregarded as a salient characteristic of F_1. Frick and his colleagues found that these factors are moderately associated with CD symptoms and that F_1 appears to predict sensation seeking.

Forth *et al.*[34] studied psychopathy in 75 adolescent offenders held in a maximum security detention center. They found a moderate correlation with CD symptoms ($r = .64$) and that psychopathy correlated with early onset ($r = .25$), previous violent behavior ($r = .27$), and institutional infractions for aggressive behavior ($r = .46$). Interestingly, Harpur and Hare[35] found that male adolescent (16–20 years) offenders tended to score much higher on F_1 than F_2 and that this disparity between factors diminished with age. As a retrospective study, Klinteberg *et al.*[36] suggested that impulsivity and low socializa-

tion may contribute to early criminal behavior and be manifested in persons who are later classified as psychopathic.

Lynam[37] theorized that psychopathy is likely to evidence common antecedents with ODD, CD, and hyperactivity. He hypothesized a psychopathic deficit with neuropsychological correlates that is manifested in childhood as a lack of behavioral constraint (e.g., hyperactivity, inattention, and impulsivity) and that has parallels in adulthood of irresponsible and impulsive behavior.

The present investigation is conceptualized as an exploratory study of ODD and CD as predictors of adolescent psychopathy. The primary predictors were ODD symptoms and CD symptoms, organized by DSM-IV constellations (i.e., aggressiveness, property destruction, deceit-theft, and rule violation symptoms). Four perspectives of these predictors were examined: (1) number of symptoms, (2) frequency of symptoms, (3) average age of onset, and (4) earliest age of onset. Several combined perspectives were also explored: (1) number × frequency and (2) number × average age of onset.

Previous research has established gender differences and also hinted that ethnicity may influence the expression of psychopathy. For example, Forth and her colleagues[34] found differences in psychopathy between white and Native American adolescents. Other ethnic differences are apparent in the expression of CD and antisocial behavior. For instance, the classic study of Robins *et al.*[11] found that familial patterns of delinquency appear to be different between African Americans and whites. Ethnic differences are also observed in recidivism data for adolescent offenders,[38] although some differences may reflect ethnic biases in the disposition of juvenile delinquents.[39] In this exploratory study, we wanted to examine what predictors remained after accounting for the effects of gender and ethnicity. A hierarchical regression model was employed in which sociodemographic variables were entered first, followed by ODD and CD constellations.

Method

Participants A consecutive sample of 81 admissions to the Adolescent Program at Vernon State Hospital were utilized in this study. The Adolescent Program serves dually diagnosed adolescent offenders from ages 14 to 17 in a residential program that is typically six months in duration. The sample had a mean age of 15.62 years (SD = 1.03) with 7.95 years (SD = 1.30) of education. The ethnic composition was 14 (17.3%) African American, 27 (33.3%) Hispanic American, 38 (46.9%) Anglo-American, and 2 (2.4%) other. As expected within a delinquent population, the most common diagnoses were CD and substance abuse disorders.

Instruments. *DICA-R* The ODD and CD modules of the DICA-R[40] were routinely administered to each adolescent admitted during a six-month period in 1996. The advantage of these modules over other structured interviews is that standardized questions are asked about each symptom, including its onset, duration, and frequency (see Rogers[41]).

PCL-R The PCL-R[31] was also administered to each admission. The semistruc-

Table 1
Hierarchical Multiple Regression with the Number of ODD and CD Symptoms for Predicting Psychopathy[a]

Predictor Variable	r	R	ΔR^2	R^2	Standardized β	F
Demographics[b]						
Male	.35	.35	.12	.12	.35	9.97*
CD subtypes						
Aggressive	.65	.70	.37	.49	.62	34.11*
Deceit/theft	.60	.76	.08	.57	.34	30.88*
ODD	.48	.77	.02	.60	.20	25.17*
Serious infractions	.09	.79	.03	.62	−.18	22.24*

[a] r, zero-order correlation; R, multiple R; R^2, cumulative R^2 (i.e., proportion of variance accounted for); ΔR^2, change in R^2 at each regression step: β, regression coefficient; F, F ratio.
[b] Demographic variables were entered first to determine the full degree to which they were related to psychopathy scores.
*$p < .01$.

tured interview was adapted for adolescents. Following the recommendation of Forth *et al.*,[34] 2 of the 20 items were omitted because they have limited relevance to adolescent offenders (i.e., parasitic lifestyle and marital relationships).

Institutional Records In addition to the DICA-R and PCL-R, institutional records were reviewed for two purposes. First, in accordance with the PCL-R, they provided a partial cross-check on offenders' reports of past antisocial behavior. Second, they afforded an opportunity to evaluate institutional adjustment, especially in terms of serious institutional infractions.

Procedure Within the first week of admission, adolescents were administered a standard battery of tests that included the DICA-R and the PCL-R. These measures typically were administered by a staff psychologist and incorporated into the treatment planning for each adolescent. Clinically, these measures were included in the admissions evaluations as part of a risk assessment for violent infractions during their residence in the Adolescent Program.

Results and Discussion

Number and Frequency of ODD and CD Symptoms as Predictors The first analyses employed the number and frequency of ODD and CD symptoms as predictors of psychopathy, after sociodemographic variables were entered. As observed in Table 1, gender contributed slightly to the prediction of psychopathy ($\Delta R^2 = .12$), but the primary predictor was aggressive CD symptoms ($\Delta R^2 = .37$), which accounted for more than one-third of the total variance. Interestingly, deceit/theft, ODD, and serious infractions contributed to predictions of psychopathy, but were collectively responsible for only a modest portion of the variance (combined $\Delta R^2 = .13$). This regression model is strong, accounting for a total of 62 percent of the variance.

In contrast with the *number* of ODD/CD symptoms, their *frequency* appears to be strongly affected by ethnicity

Table 2
Hierarchical Multiple Regression with the Frequency and Total Rate of CD Symptoms for Predicting Psychopathy

Predictor Variable[a]	*r*	*R*	ΔR^2	R^2	Standardized β	*F*
Analysis 1: Frequency of CD symptoms						
Demographics						
Anglo-American	−.56	.56	.32	.32	−.56	13.52*
CD Subtypes						
Aggressive	.60	.79	.30	.62	.55	22.51*
Deceit/theft	.45					
Destruction of property	.39					
Serious infraction	−.02					
Analysis 2: Total rate (Number × frequency) of CD symptoms						
Demographics						
Male	.36	.36	.13	.13	.36	7.88*
Anglo-American	−.27	.42	.05	.18	−.23	5.77*
CD Subtypes						
Deceit/theft	.65	.70	.32	.49	.65	16.88*
Aggressive	.55	.75	.07	.56	.30	16.42*
Serious infractions	.09					
Destruction of property	.44					

[a] Demographic variables were entered first to determine the full degree to which they were related to psychopathy scores.
*$p < .01$.

($\Delta R^2 = .32$) with less frequency in white subjects. In this regression model (see Table 2), aggressive CD symptoms continue to be a strong predictor ($\Delta R^2 = .30$), but other CD symptoms do not load. The *total rate* (number × frequency) was also computed and entered into a separate regression model. As reported in Table 2, a very different pattern emerged. After accounting for gender and ethnicity (combined $\Delta R^2 = .18$), deceit/theft CD symptoms were the major predictor ($\Delta R^2 = .32$), with aggressive CD contributing very little to the prediction ($\Delta R^2 = .07$). In conclusion, the repetitiveness of deceit/theft appears salient to predictions of psychopathy.

Age of Onset for ODD and CD Symptoms as Predictors This set of regression models examined the usefulness of average age of onset and earliest age of onset in predicting psychopathy, after first entering sociodemographic variables. As summarized in Table 3, ethnicity contributed substantially to the regression ($\Delta R^2 = .26$). For *average age*, aggressive CD symptoms continue to be a significant predictor ($\Delta R^2 = .20$). In contrast, destruction of property symptoms were the only *earliest age* predictor after ethnicity and accounted for a relatively small percentage of the variance ($\Delta R^2 = .14$).

Age of onset models appear to be less effective than the number of ODD and CD symptoms in predicting psychopathy. First, age of onset models (i.e., 40% and 47%) account for substantially less vari-

Table 3
Hierarchical Multiple Regression with Average and Earliest Age of Onset of CD Symptoms for Predicting Psychopathy

Predictor Variable	r	R	ΔR^2	R^2	Standardized β	F
Analysis 1: Average age at onset						
Demographics						
Anglo-American	−.51	.51	.26	.26	−.51	11.38*
CD Subtypes						
Aggressive	.54	.69	.21	.47	.47	13.88*
Deceit/theft	.35					
Destruction of property	.00					
Serious infractions	−.07					
Analysis 2: Earliest age at onset						
Demographics						
Anglo-American	−.51	.51	.26	.26	−.51	11.38*
CD Subtypes						
Destruction of property	.41	.63	.14	.40	−.38	10.44*
Deceit/theft	.27					
Serious infractions	−.07					
Aggressive	−.30					

[a] Demographic variables were entered first to determine the full degree to which they were related to psychopathy scores.
*$p < .01$.

ance than the number of symptoms (i.e., 62%). Second, they appear to be confounded by ethnicity which comprises more than 50% of the explained variance in each regression model. Third, although not formally tested, age of onset is less verifiable and thereby vulnerable to response bias. Despite these considerations, further study is warranted on the early onset of aggressive and destruction-of-property CD symptoms in relation to psychopathy.

Predictions of Institutional Infractions As an exploratory analysis, ODD, CD constellations, and PCL-R scores were correlated with three categories of institutional infractions: noncompliance with treatment, verbal aggression, and physical aggression. For these correlations, records were reviewed from the time of admission to the time of record review (range from two to six months; mode was four months). Surprisingly, the number of ODD, aggressive CD, and destruction-of-property CD symptoms were uncorrelated with verbal and physical aggression and treatment noncompliance (all $rs \leq .16$). A modest but significant correlation was found between deceit/theft CD symptoms and noncompliance ($r = .26$, $p < .05$). Inexplicably, serious infraction CD symptoms were correlated negatively with verbal aggression ($r = -.25$, $p < .05$). PCL-R total scores were correlated modestly with treatment noncompliance ($r = .25$, $p < .05$) and physical aggression ($r = .28$, $p < .05$). With respect to PCL-R factor scores, correlations with physical aggression were comparable: F_1 ($r = .30$, $p < .05$), and F_2 ($r =$

.30, $p < .01$). As an important caveat, all correlations were modest with none explaining even ten percent of the variance.

Summary

Clinical and Forensic Implications of Past Studies Some forensic practitioners inaccurately assume a "slippery slope," with ODD and CD signaling an almost inevitable chronicity as observed in maladjustment and severe antisocial behavior directed against others. However, data from previous research suggest that CD is often temporary, particularly when characterized by a late onset and the absence of advanced CD symptoms. On the other hand, forensic experts must be alert to the increased risk assessment for certain adolescent offenders. More specifically, either a pattern of covert and destructive behavior, or the formal classification of psychopathy, suggest an increased risk for aggressive behavior. Key findings from past research are summarized below:

1. Adolescent onset of CD is a positive predictor of a good prognosis and is frequently associated with a time-limited disorder.

2. Absence of advanced CD symptoms (e.g., physical cruelty, stealing, truancy, forced sex, and breaking and entering) is a positive predictor of a good prognosis associated with time-limited disorder.

3. ODD and CD can be conceptualized on bipolar dimensions (overt/covert and nondestructive/destructive) that compose four quadrants. Of most concern for evaluations of aggressive behavior are symptoms in the covert and destructive quandrants.

4. Formal classification of psychopathy on the PCL-R is associated with increased aggression.

Current Findings on Adolescent Psychopathy Pending cross-validation, findings from the current study should be viewed as tentative. Due to their archival nature, the DICA-R and PCL-R were administered sequentially as part of the admissions evaluation. It is unknown whether diagnostic data from the DICA-R influenced PCL-R ratings, although standard administration of the PCL-R re-

Table 4
Hierarchical Multiple Regression with the Combined Symptoms (Number × Average Age of Onset) for Predicting Psychopathy

Predictor Variable	r	R	ΔR^2	R^2	Standardized β	F
Demographics[a]						
Male	.35	.35	.12	.12	.35	8.36*
CD Subtypes						
Aggressive	.69	.73	.41	.54	.65	34.00*
Deceit/theft	.52	.77	.06	.59	.27	27.98*
Destruction of property	.42					
Serious infractions	.11					

[a]Demographic variables were entered first to determine the full degree to which they were related to psychopathy scores.
*$p < .01$.

quires the incorporation of clinical and forensic data.

What is the relevance of the current findings for forensic psychiatrists and psychologists? First, they suggest that CD diagnoses be examined at the constellation level. In predicting psychopathy in adolescent offenders, the presence of ODD symptoms, serious infractions of rules, and destruction of property should not be viewed by themselves as robust indicators of psychopathy. Second, greater clinical concern regarding psychopathy is raised by the number of aggressive CD symptoms and the total rate (number × frequency) of deceit/theft. Third, although age of onset appears related to psychopathy, its interpretation appears to be confounded by gender and ethnicity.

The presence of psychopathy in male delinquents does increase slightly the level of risk for physical aggression during residential treatment. Even when clinical staff were aware of psychopathic characteristics, higher PCL-R ratings were correlated with physical aggression. However, this finding is open to several interpretations: despite treatment efforts to reduce acting-out behavior, psychopathic characteristics are still correlated with aggression in this closely-monitored clinical setting. Alternatively, staff members were sensitized to the psychopathic characteristics and may have been less tolerant of marginally aggressive behavior. In any event, the correlations are minimally significant (i.e., account for less than 10% of the variance). Interestingly, this finding differs substantially from Forth and her colleagues[34] ($r = .46$). One salient difference between the studies is the type of setting: adolescents in the current study volunteered for the treatment program, while the study of Forth *et al.* comprised serious and persistent offenders held in a maximum security youth detention center. Based on these two studies, we offer the following conclusions. First, forensic staff will likely benefit from knowledge of PCL-R ratings for individual treatment planning. Second, the magnitude of the correlations argue against any reliance on PCL-R ratings in determining the institutional placement (i.e., level of security and availability of treatment) for adolescent offenders.

References

1. Kazdin AE: Treatment of antisocial behavior in children: current status and future directions. Psychol Bull 102:187–203, 1987
2. Loeber R, Dishion T: Early predictors of male delinquency: a review. Psychol Bull 94:68–99, 1983
3. Stouthamer-Loeber M, Loeber R: The use of prediction data in understanding delinquency. Behav Sci Law 6:333–54, 1988
4. Hamparian D: How well can we predict for juveniles?: juvenile delinquency and adult crime, in The Prediction of Criminal Violence. Edited by Dutile FN, Foust CH. Springfield, IL: CC Thomas, 1987
5. Tolan PH: Implications of age of onset for delinquency risk. J Abnorm Child Psychol 15:47–65, 1987
6. Tolan PH, Lorion RP: Multivariate approaches to the identification of delinquency proneness in adolescent males. Am J Community Psychol 16:547–61, 1988
7. Huesmann LR, Eron LD, Lefkowitz MM, Walder LO: Stability of aggression over time and generations. Dev Psychol 20:1120–34, 1984
8. Aseltine RH, Gore S: Mental health and social adaptation following the transition from high school. J Res Adolesc 3:247–70, 1993
9. Scholte EM: Identification of children at risk

at the police station and the prevention of delinquency. Psychiatry 55:354–69, 1992
10. Robins LN: Deviant Children Grown Up: A Sociological and Psychiatric Study of Sociopathic Personality. Baltimore: Williams & Wilkins, 1966
11. Robins LN, West PA, Herjanic BL: Arrests and delinquency in two generations: a study of black urban families and their children. J Child Psychol Psychiatry 16:125–40, 1975
12. Frick PJ, Jackson YK: Family functioning and childhood antisocial behavior: yet another reinterpretation. J Clin Child Psychol 22:410–19, 1993
13. Moffitt TE: Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. Psychol Rev 100:674–701, 1993
14. Silverthorn P, Frick PJ: Developmental pathways to antisocial behavior: the delayed-onset pattern in girls. Colloquium presentation, University of North Texas, Denton, TX, 1997
15. Eme RF, Kavanaugh L: Sex differences in conduct disorder. J Clin Child Psychol 24: 406–26, 1995
16. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (ed 4). Washington, DC: APA, 1994
17. Rogers R, Dion KL: Rethinking the DSM III-R diagnosis of antisocial personality disorder. Bull Am Acad Psychiatry Law 19:21–31, 1991
18. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (ed 3). Washington, DC: APA, 1980
19. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (ed 3 rev). Washington, DC: APA, 1987
20. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders (ed 4). Washington, DC: APA, 1994
21. Loeber R, Lahey BB, Thomas C: Diagnostic conundrum of oppositional defiant disorder and conduct disorder. J Abnorm Psychol 100: 379–90, 1991
22. Frick PJ, Lahey BB, Loeber R, *et al*: Oppositional defiant disorder and conduct disorder in boys: patterns of behavioral covariation. J Clin Child Psychol 20:202–8, 1991
23. Lahey BB, Loeber R: Framework for a developmental model of oppositional defiant and conduct disorder, in Disruptive Behavior Disorders in Childhood. Edited by Routh DK. New York: Plenum, 1994
24. Lahey BB, Loeber R, Quay HC, Frick PJ, Grimm J: Oppositional defiant and conduct disorders: issues to be resolved for DSM-IV. J Am Acad Child Adolesc Psychiatry 31:539–46, 1992
25. Loeber R: The stability of antisocial and delinquent child behavior: a review. Child Dev 53:1431–46, 1982
26. Loeber R, Schmaling KB: Empirical evidence for overt and covert patterns of antisocial conduct problems: a meta-analysis. J Abnorm Child Psychol 13:337–52, 1985
27. Loeber R, Green SM, Keenan K, Lahey BB: Which boys will fare worse?: early predictors of the onset of conduct disorder in a six-year longitudinal study. J Am Acad Child Adolesc Psychiatry 34:499–509, 1995
28. Frick PJ, Lahey BB, Applegate B, *et al*: DSM-IV field trials for the disruptive behavior disorders: symptom utility estimates. J Am Acad Child Adolesc Psychiatry 33:529–39, 1994
29. Lahey BB, Loeber R, Hart EL, *et al*: Four-year longitudinal study of conduct disorder in boys: patterns and predictors of persistence. J Abnorm Psychol 104:83–93, 1995
30. Russo MF, Loeber R, Lahey BB, Keenan K: Oppositional defiant and conduct disorders: validation of the DSM-III-R and alternative diagnostic option. J Clin Child Psychol 23: 56–68, 1994
31. Hare RD: Manual for the revised psychopathy checklist. Toronto: Multi-Health Systems, 1991
32. Rogers R, Bagby RM: Dimensions of psychopathy: a factor analytic study of the MMPI antisocial personality disorder scale. Int J Offender Ther Comp Criminal 38:297–308, 1994
33. Frick PJ, O'Brien BS, Wootton JM, McBurnett K: Psychopathy and conduct problems in children. J Abnorm Psychol 103:700–7, 1994
34. Forth AE, Hart SD, Hare RD: Assessment of psychopathy in male young offenders. Psychol Assess J Consult Clin Psychol 2:342–4, 1990
35. Harpur TJ, Hare RD: Assessment of psychopathy as a function of age. J Abnorm Psychol 103:604–9, 1994
36. Klinteberg BA, Humble K, Schalling D: Personality and psychopathy of males with a history of early criminal behavior. Eur J Pers 6:245–66, 1992
37. Lynam DR: Early identification of chronic offenders: who is the fledgling psychopath? Psychol Bull 120:209–34, 1996
38. Dembo R, Williams L, Schmeidler J, Getreu A, Berry E: Recidivism among high risk youths: A 2-½ year follow-up of a cohort of

juvenile detainees. Int J Addict 26:1197–21, 1991
39. Martin TW, Grubb HJ: Race bias in diagnosis and treatment of juvenile offenders: findings and suggestions. J Contemp Psychol 20:259–72, 1990
40. Reich W, Shayka JJ, Taibleson C: Diagnostic Interview for Children and Adolescents: Adolescent Version. St. Louis: Washington University, 1991
41. Rogers R: Diagnostic and Structured Interviewing: A Handbook for Psychologists. Odessa, FL: Psychological Assessment Resources, 1995