2003

The antisocial process screening device - An examination of its construct and criterion-related validity

MJ Vitacco

R Rogers

CS Neumann

Recommended Citation

The Antisocial Process Screening Device

An Examination of Its Construct and Criterion-Related Validity

Michael J. Vitacco
University of North Texas
University of Massachusetts Medical School

Richard Rogers
Craig S. Neumann
University of North Texas

*The clinical assessment of psychopathy in adulthood is well established via programmatic research. More recently, psychopathy has been extended to children and adolescents with correlates to maladaptive personality traits, violent behavior, and noncompliance with institutional rules. To screen for adolescent psychopathy, the Antisocial Process Screening Device (APSD) was developed as a 20-item self-report measure of psychopathy. The original validation of the APSD was limited to samples of clinic-referred and community-based children. In extending this research to delinquent populations, the current article uses two separate samples of adolescent offenders incarcerated in a maximum security facility (*n = 78) and a local juvenile detention facility (*n = 77). As evidence of criterion-related validity, the APSD was compared with two versions of the Psychopathy Checklist that yielded mixed results. Construct validity was examined via a confirmatory factor analysis that provided support for a three-factor model of the APSD.*

Keywords: psychopathy; antisocial behavior; screening; adolescent offenders

Psychopathy is a crucial construct when conducting risk assessments with criminal and delinquent populations. Specifically, adults classified as psychopaths manifest substantial rates of both general and violent recidivism (Hare & McPherson, 1984; Hemphill, Hare, & Wong, 1998; Salekin, Rogers, & Sewell, 1996; Serin, Peters, & Barbaree, 1990). Beyond risk assessment, adult psychopaths are likely to pose significant management problems (Hare & McPherson, 1984) and represent special challenges to treatment programs (Ogloff, Wong, & Greenwood, 1990; Seto & Barbaree, 1999).

Cleckley (1976) provided the classic conceptualization of psychopathy, composed of both behavioral and personality characteristics. Relying chiefly on Cleckley, Hare and his colleagues operationalized psychopathy in the form of two closely related interview-based measures: the Psychopathy Checklist–Revised (Hare, 1991) and the Psychopathy Checklist: Screening Version (PCL:SV) (Hart, Cox, & Hare, 1995). Each measure was designed to assess two distinct yet related dimensions: Factor 1 (F_1) consists of core criminal personality traits, whereas Factor 2 (F_2) measures antisocial behavior. Recently, a three-factor model of adult psychopathy was proposed that divided F_1 into two dimensions consisting of Arrogant and Deceitful Interpersonal Style and Deficient Affective Experience. The third factor, Impulsive and Irresponsible Behavioral Style, corresponds closely to traditional F_2 (Cooke & Michie, 2001).

A controversial aspect of psychopathy is the assumption of an early childhood onset and unremitting course

through adulthood (Forth & Burke, 1998). According to Harris, Rice, and Quinsey (1994), its early onset is the distinguishing feature of psychopathy, differentiating this syndrome from formal Axis II disorders. In particular, children with a combination of hyperactivity, impulsivity, attentional difficulties, and conduct problems resembled adult psychopaths and have been categorized as "fledgling psychopaths" (Gresham, Lane, & Lambros, 2000; Lynam, 1996, 1998). Along similar lines, adolescents with high levels of psychopathy are more impulsive (Vitacco & Rogers, 2001), at greater risk for perpetrating violent crimes (Brandt, Kennedy, Patrick, & Curtin, 1997), and committing institutional infractions (Murdock-Hicks, Rogers, & Cashel, 2000). Despite these positive findings, the developmental perspective of psychopathy faces several challenges. First, severe conduct problems represent a spectrum of disorders, which may not be specific to psychopathy (Lambert, Wahler, Andrade, & Bickman, 2001). Second, the temporal stability of psychopathy from childhood to adolescence and early adulthood has not been rigorously tested and cannot simply be assumed (Edens, Skeem, Cruise, & Caufmann, 2001).

Assessment of psychopathy in children and adolescents requires specialized methods. The Psychopathy Checklist–Youth Version (PCL-YV) (Forth, Kosson, & Hare, 1994) parallels the PCL-R with minor modifications to make its content more applicable to adolescent populations. As a self-report measure, the Antisocial Process Screening Device (APSD) (Frick & Hare, 2001) was developed to assess psychopathy in both children and adolescents. The APSD is a 20-item self-report administered to youths with optional versions available for parents and teachers. Like the traditional PCL factor structure, the APSD was originally conceptualized as two separate but related dimensions: Impulsive/Conduct Problems (I/CP, 11 items) and Callous/Unemotional traits (C/U, 6 items; see Frick, O'Brien, Wootton, & McBurnett, 1994). Frick and his colleagues found high scores on C/U predicted a preference for thrill-seeking behavior and a lack of guilt concerning their antisocial behavior (Barry et al., 2000; Frick, 1998; Frick et al., 1994). Youths high on C/U exhibited conduct problems, regardless of the type of parenting received. This result did not hold for adolescents lacking C/U (Wootton, Frick, Shelton, & Silverthorn, 1997).

Frick, Bodin, and Barry (2000) recently investigated the APSD's factor structure in a nonclinical sample of 1,136 children (*M* age = 10.65) and a smaller clinical sample of 160 children (*M* age = 8.46). They proposed a new three-factor model with the addition of narcissism; however, the three-factor model did not account for significantly more variance or lead to a better fit than the original two-factor model. Clearly, further research is needed to investigate the underlying dimensions of the APSD.

In summary, research has established the importance of assessing psychopathy in adolescents when making predictions of risk-taking and antisocial behavior. However, the use of community-based clinical samples limits the range of psychopathy likely to be manifested, and the use of the APSD in offender populations remains to be established.

The primary objective of the current study is to assess the construct validity of the APSD via confirmatory factor analysis (CFA) to increase our understanding of psychopathy and its underlying dimensions among adolescent offender populations. To achieve this goal, this study investigates the factor structure of the APSD with two samples of incarcerated adolescents from (a) a county-based juvenile detention facility and (b) a state maximum-security facility. A second objective is to establish criterion-related validity for the APSD with versions of the Psychopathy Checklist representing quasi-gold standards of psychopathy. A third objective is the development of preliminary cut scores for the APSD as a time-efficient screen for psychopathy. In examining these objectives, three research questions are formulated. First, can the APSD factor structure be replicated with incarcerated adolescents? Second, what is the relationship of the APSD to interview-based measures of psychopathy? Third, can effective cut scores be developed that accurately screen for psychopathy in juvenile offender populations?

An important strength of the current study is its use of latent-variable CFA to validate the factor structure of the APSD. LV-CFA provides two major advantages over exploratory factor analysis; it allows investigators to test statistically (a) the fit of a specified model and (b) the comparative fit of competing theoretical models.

When conducting CFA, the chi-square statistic was traditionally used to assess model fit (Bentler, 1980). A nonsignificant chi-square indicates that a model's reproduced variances and covariances do not differ substantially from the observed data. However, chi-square is affected by sample size and could result in a rejection of adequate models (Bentler, 1995). Therefore, the current study used the Nonnormed Fit Index (NNFI) (Bentler & Bonett, 1980) and the Comparative Fit Index (CFI) (Bentler, 1995), both provided by the EQS program (Bentler, 1995). In particular, the CFI avoids underestimation of fit and sampling variability associated with other fit indexes. Fit index values close to .95 and higher are indicative of good fit (Hu & Bentler, 1998, 1999). The root mean square error of approximation (RMSEA) (Steiger, 1990) and a standardized version of the root mean squared residual (SRMR) (Jøreskog & Sørbom, 1981) were also relied on to assess model fit. RMSEA values at approximately .06 or less and SRMR values near .08 or less are also indicative of good fit (Hu & Bentler, 1998, 1999). With these fit

indexes, the study investigates the two- and three-factor solutions of the APSD (Frick et al., 2000).

The two samples used in this article are the product of programmatic research on adolescent psychopathy. Previous investigations have examined the ability of adolescents to dissimulate antisocial traits (Rogers et al., 2002) and causal pathways of adolescent psychopathy (Vitacco & Rogers, 2001). More important, the current investigation of the APSD relies entirely on unpublished and original data.

METHOD

Participants

Participants were recruited from two separate facilities: a local juvenile detention center and a maximum-security facility. The Denton County Juvenile Probation sample consisted of 77 adolescents (50 men, 27 women); the average age of the sample was 15.21 (SD = 1.38). Regarding ethnicity, the sample was composed of 42 (54.5%) European Americans, 12 (15.6%) African Americans, 12 (15.6%) Hispanic Americans, and 11 (14.3%) classified as other. Thirty adolescents (39.0%) were incarcerated for a violent offense. The Gainesville State School sample was composed of 78 male adolescents housed in a maximum-security facility under the administration of the Texas Youth Commission. The average age of the sample was 16.40 (SD = 1.35) with 24 (30.7%) European Americans, 35 (44.8%) African Americans, and 19 (24.3%) Hispanic Americans. The majority of the sample (62.8%) was convicted of a violent offense.

Measures

PCL:SV. The PCL:SV (Hart, Cox, & Hare, 1995) was administered to the adolescents at Gainesville State School. The PCL:SV is a 12-item semistructured interview that addresses two dimensions of psychopathy: core personality traits and antisocial behavior. The PCL:SV integrates interview data with file information. Each PCL:SV item is scored on a 3-point score, with 2 for a reasonably good match, 1 for a match in some aspects, and 0 for no match at all. Similar to other psychopathy measures, the two dimensions measured are (a) selfish, callous, and unremorseful use of others and (b) chronically unstable and antisocial lifestyle. The PCL:SV has demonstrated excellent validity and reliability with adolescent offenders (Rogers, 2001). In accordance with past research (Rogers et al., 2000), one item was deleted (i.e., adult antisocial behavior), and the cut score for psychopathy was prorated to 17. A PCL:SV score of greater than or equal to 17 indi-

cated psychopathy, with 35.9% of the Gainesville sample classified as psychopaths.

PCL-YV. The PCL-YV (Forth et al., 1994) was administered to the Denton County Juvenile Probation sample. The PCL-YV is 20-item, semistructured interview designed to assess traditional F_1 and F_2 dimensions of psychopathy. The PCL-YV was validated on 407 adolescents incarcerated in various levels of security (i.e., maximum-security, juvenile detention centers, and community supervision). Initial factor analyses found a two-factor solution comparable to the PCL-R. In addition, the PCL-YV has shown to be moderately correlated with conduct-disordered symptoms (r = .52) and aggression (r =.47) in a sample of youthful offenders (Forth & Burke, 1998). Recently, a three-factor solution of the PCL-YV yielded promising results (Kosson, Cyterski, Steuerwald, Neumann, & Walker-Matthews, 2002). A PCL-YV score of greater than or equal to 30 indicated psychopathy, with 5.2% of the probation sample classified as psychopaths. Scoring is similar to the PCL:SV; each item is scored on a 3-point scale.

APSD. The APSD (Frick & Hare, 2001) was administered to both samples. The APSD is a 20-item, self-report scale that addresses various aspects of psychopathic behavior. The APSD has been normed with children and adolescents (N = 1, 296) and has a Flesch-Kincaid grade level of 5.99 (Cruise, 2001). Initially, Frick et al. (1994) proposed two factors: I/CP and C/U. More recently, a three-factor model was proposed (Frick et al., 2000) consisting of Impulsiveness (IMP), Callous/Unemotional (C/U), and Narcissism (NAR). Similar to the PCL:SV, each item is scored on a 3-point scale.

Procedure

Denton County Juvenile Detention Center acts as a short-term placement for (a) those adjudicated of offenses in Denton county and (b) those awaiting transfer to the Texas Youth Commission after being adjudicated on very serious or repetitive offenses.

As part of their initial screen, adolescents were administered the reading subtest of the Wide Range Achievement Test (Wilkinson, 1993) to ensure adequate reading level. The PCL-YV was then administered followed by the APSD. Five graduate students trained in advanced diagnostic interviewing conducted the interviews as part of an overall study on adolescents' ability to exaggerate or minimize psychopathy. Only APSD scores obtained under standard instructions were used in the current study. To avoid any contamination, these data were collected before the simulation conditions were implemented.

Gainesville State School is a maximum-security residential facility for adolescents convicted of serious crimes

TABLE 1
Two-Factor Confirmatory Factor Analysis of the Antisocial Process Screening Device (APSD)

APSD Item	Loading	Error
Callous-Unemotional		
3. Cares about schoolwork[a]	.68	.74
5. Emotions are fake	.66	.75
12. Feel bad when do something wrong[a]	.81	.59
14. Acts charming to get things	.31	.95
18. Concerned about others' feelings[a]	.69	.73
19. Hides feelings from others	.17	.99
Impulsivity/Conduct Problems		
1. Blames others for mistakes	.53	.85
2. Engages in illegal activities	.50	.87
4. Acts without thinking	.42	.91
8. Brags about abilities	.45	.90
9. Gets bored easily	.24	.97
11. Teases/makes fun of others	.60	.80
13. Does risky things	.56	.83
15. Gets angry when corrected	.55	.84
16. More important than others	.47	.88
20. Keeps same friends[a]	.12	.99
No loading on confirmatory factor analysis		
6. Lies easily		
7. Good at keeping promises[a]		
10. Cons others to get what you want		
17. Does not plan ahead		

a. Reverse scored.

in the state of Texas. As part of their standard assessment upon intake, the participants were administered both the PCL:SV and the APSD. Two graduate student clinicians, trained in advanced diagnostic interviewing, completed all assessments. As part of the assessment process, one of the clinicians met individually with each adolescent to screen for reading ability by having them read items from a multiscale inventory (i.e., Behavioral Assessment System for Children) (Kamphaus & Reynolds, 1992). The PCL:SV was then administered followed by the APSD. The PCL instruments were administered first in both samples to keep APSD results from influencing the interview-based measures.

RESULTS

Prior to combining the two different samples, the comparability of samples was analyzed via covariances at the APSD scale level. The covariances produced nonsignificant p values: IMP ($p = .18$), C/U ($p = .06$), and NAR ($p = .57$). On the basis of these results, we combined participants from the county detention center and maximum-security facility to create a total sample of 155 adolescents.

Factor Structure of the APSD

Previous APSD validation studies found empirical support for both two- and three-factor models. The current study tested, via CFA, the relative fit of both solutions. Prior to conducting the CFA, the normality of the data were tested for kurtosis and skewness. For both models, univariate and multivariate kurtosis were minimal. Univariate skewedness for the majority of APSD items was less than 1, except for two items with modest skew, Item 5 (skew = 1.5) and Item 16 (skew = 1.1). In summary, the data were sufficiently normal to proceed with the CFA.

The CFA results for the two-factor APSD model indicated poor fit, $\chi^2(103) = 172.83$, $p < .001$, NNFI = .791, CFI = .820, RMSEA = .07, SRMR = .10. The latent variable correlation between Factors 1 and 2 was moderate ($r = .41$, $p < .01$). All item loadings were significant ($ps < .05$-.001), except for Item 20. Table 1 summarizes the standardized parameter loadings for the CFA two-factor model.

In contrast, the CFA for the three-factor APSD model indicated very good fit, $\chi^2(132) = 162.22$, $p = .04$, NNFI = .930, CFI = .940, RMSEA = .04, SRMR = .06. The latent variable correlations were as follows: Factors 1 and 2, $r = .27$ ($p < .05$); Factors 1 and 3, $r = .48$ ($p < .01$); and Factors 2 and 3, $r = .85$ ($p < .001$). All item loadings were significant ($ps < .05$-.001), except for Item 19 ($p > .05$). Table 2 summarizes the standardized parameter loadings for the CFA three-factor model. Based on CFA results indicating excellent fit, all subsequent analyses were conducted using the three-factor model of the APSD.

Reliability and Demographic Analyses

The internal consistency of the APSD factors was in the low to moderate range, with the following Cronbach's standardized alphas: C/U = .59, NAR = .74, IMP = .53, and total APSD = .62. These coefficients are generally consistent with those reported by Frick et al. (2000), who found a range of alpha coefficients between .64 (IMP) and .85 (NAR) for the three scales. The interview methods demonstrated much stronger internal consistency: (a) PCL:SV $F_1 = .90$, PCL:SV $F_2 = .81$, and PCL:SV total = .91; and (b) PCL-YV $F_1 = .90$, PCL-YV $F_2 = .86$, and PCL-YV total = .90.

Demographic differences were investigated on the APSD, focusing on gender, ethnicity, and placement. Gender differences were explored comparing 26 female adolescents from the detention center with their male counterparts from the same setting. No differences were found for gender on the APSD for IMP, $F(1, 74) = 1.79$, $p = .45$; C/U, $F(1, 74) = .68$, $p = .70$; or NAR, $F(1, 74) = .85$, $p = .36$.

TABLE 2
Three-Factor Confirmatory Factor Analysis of the Antisocial Process Screening Device (APSD)

APSD Item	Loading	Error
Callous-Unemotional		
3. Cares about schoolwork[a]	.68	.74
7. Good at keeping promises[a]	.56	.81
12. Feel bad when do something wrong[a]	.78	.62
18. Concerned about others' feelings[a]	.71	.71
19. Hides feelings from others	.14	.99
20. Keeps same friends[a]	.28	.96
Impulsivity		
1. Blames others for mistakes	.56	.83
4. Acts without thinking	.40	.92
9. Gets bored easily	.29	.96
13. Does risky things	.59	.81
17. Does not plan ahead	.29	.96
Narcissism		
5. Emotions are fake	.45	.89
8. Brags about abilities	.47	.88
10. Cons others to get what you want	.72	.69
11. Teases/makes fun of others	.57	.82
14. Acts charming to get things	.56	.83
15. Gets angry when corrected	.49	.87
16. More important than others	.51	.86
No loading on confirmatory factor analysis		
2. Engages in illegal activities		
6. Lies easily		

a. Reverse scored.

Previous research has suggested differences in ethnicity may affect the assessment of psychopathy (Kosson, Smith, & Newman, 1990; Murdock-Hicks et al., 2000). Therefore, we tested the APSD for differences in ethnicity but found no differences and very small effect sizes (M d = .13) between European Americans, African Americans, and Hispanic Americans (see Table 3).

Differences in APSD scores were expected between the maximum-security and juvenile probation settings. Consistent with previous research, adolescents in the maximum-security facility endorsed higher levels of APSD C/U, $F(1, 153) = 26.11$, $p < .001$, and NAR, $F(1, 153) =$ 4.92, $p < .03$. Contrary to our expectation, no differences were exhibited between the two samples on the Impulsiveness scale, $F(1, 153) = 2.63$, $p > .05$. This finding is unexpected, given higher levels of violent infractions for adolescents in the maximum-security facility versus juvenile detention.

Criterion-Related Validity and Clinical Screens

Low to moderate correlations were found between several facets of the APSD and interview-based PCL measures. Our efforts to establish the APSD's criterion-related validity with the PCL-YV and PCL:SV produced mixed results. An examination of total scores (see Table 4) indicated a moderate correlation (.62) with the PCL-YV and a low correlation (.39) with the PCL:SV. As reported in Table 4, attempts to establish criterion-related validity for the APSD subscales proved unsuccessful. Specifically, the expected relationship of I/CP to F_2 was not observed.

The purpose of the APSD is to screen for adolescent psychopathy. To test its effectiveness, we examined various cut scores via utility estimates (i.e., sensitivity, specificity, positive predictive power [PPP], negative predictive power [NPP], and hit rate). Sensitivity is the proportion of adolescents on the APSD who meet criteria for psychopathy based in the PCL. Specificity is the proportion of adolescents who do not meet criteria for psychopathy on the APSD based on the PCL. PPP is the likelihood that an adolescent who scores above the APSD cut score has psychopathy, whereas NPP is the likelihood that an adolescent below cut score on the APSD does not have psychopathy. Finally, hit rate is the overall accurate classification of the APSD.

We examined several cut scores for the APSD that might be useful in screening out nonpsychopaths from further consideration. Our objective was to achieve a high sensitivity and NPP so that few potential psychopaths would be missed. As reported in Table 5, an APSD greater than or equal to 15 produced high sensitivities ($\geq .96$) and

TABLE 3
Means and Standard Deviations by Ethnicity for Total and Factor Scores on Psychopathy Measures

	African Americans		European Americans		Hispanic Americans		Effect Size				
	M	SD	M	SD	M	SD	F	p	d1	d2	d3
APSD total	16.87	5.59	17.89	6.76	17.58	6.70	0.32	.81	0.16	0.12	0.05
APSD Impulsivity	4.57	2.01	5.14	1.74	4.94	2.02	1.78	.15	0.31	0.18	0.11
APSD Callous/Unemotional	5.74	2.92	5.17	2.89	5.55	2.59	1.24	.30	0.20	0.07	0.14
APSD Narcissism	4.83	2.55	5.20	2.91	4.87	3.00	0.41	.75	0.13	0.01	0.11

NOTE: For effect sizes, the following Cohen's d-scores were calculated: d1 = African Americans versus European Americans; d2 = African Americans versus Hispanic Americans; d3 = European Americans versus Hispanic Americans. APSD = Antisocial Process Screening Device.

TABLE 4
Criterion-Related Validity of the Antisocial Process Screening Device (APSD)
With the PCL-YV and PCL:SV With Adolescent Offenders

	PCL:YV			PCL:SV		
	F_1	F_2	Total	F_1	F_2	Total
APSD total	0.55**	0.60**	*0.62**	0.34**	0.39**	*0.39**
APSD Impulsiveness	0.44**	*0.51**	0.50**	–0.02	*–0.02*	–0.03
APSD Callous/Unemotional	*0.43**	0.45**	0.47**	*0.29*	0.42**	0.36**
APSD Narcissism	*0.49**	0.50**	0.54**	*0.40**	0.45**	0.49**

NOTE: Correlations for criterion-related validity are italicized. PCL:YV = Psychopathy Checklist: Youth Version; PCL:SV = Psychopathy Checklist: Screening Version.
*p < .05. **p < .001.

TABLE 5
Utility Estimates for Antisocial Process Screening Device (APSD) Cut Scores
in the Prediction of Psychopathy Among Adolescent Offenders

Sample	Sensitivity	Specificity	Positive Predictive Power	Negative Predictive Power	Hit Rate	Phi
Gainesville						
APSD ≥ 15	0.96	0.30	0.44	0.94	0.54	.006
APSD ≥ 20	0.71	0.74	0.61	0.82	0.73	.001
APSD ≥ 25	0.36	0.88	0.63	0.71	0.69	.013
Probation						
APSD ≥ 15	1.00	0.51	0.10	1.00	0.53	.001
APSD ≥ 20	1.00	0.81	0.22	1.00	0.82	.001
APSD ≥ 25	0.75	0.92	0.33	0.99	0.91	.001
Total						
APSD ≥ 15	0.97	0.42	0.30	0.98	0.54	.001
APSD ≥ 20	0.75	0.78	0.47	0.92	0.77	.001
APSD ≥ 25	0.41	0.90	0.52	0.85	0.80	.001

NOTE: Gainesville = Gainesville State School; probation = Denton County Juvenile Probation; total = Gainesville State School and Denton County Juvenile Probation. Scores reaching or exceeding cuts are indicative of potential psychopathy.

NPPs (≥ .94). This cut score has modest PPPs, especially in the probation sample where a higher cut score of APSD greater than or equal to 20 appeared more effective with sensitivity and NPP remaining at 1.00 and PPP increasing to .22. As demonstrated in Table 5, all cut scores effectively differentiated psychopaths from nonpsychopaths.

DISCUSSION

The current study continues established research (Edens et al., 2001; Frick et al., 2000; Lynam, 1998; Rogers et al., 2002; Vitacco & Rogers, 2001) underscoring the importance of specialized measures for the assessment of psychopathy in children and adolescents. Adding to previous research, this investigation evaluates the APSD's construct and criterion validities and its effectiveness as a screen for psychopathy. Earlier studies focused on community applications; the current research extends the application of the APSD to adolescent offenders.

Dimensions of Psychopathy

A critical component of the APSD's construct validity is the establishment of theoretically relevant dimensions. Previous research (Frick et al., 1994, 2000) has yielded inconsistent results, providing empirical support for both two- and three-factor APSD models. In extending the factor-analytic work from community youth to detained adolescent offenders, the current study strongly questions the applicability of the two-factor model. Results were discouraging with all fit indexes denoting a poor fit. In stark contrast, we found support for the three-factor model (NNFI = .93, CFI = .94) and its applicability to adolescent offenders. The current research combined with Frick et al. (2000) are consistent with the PCL-R CFA (Cooke & Michie, 2001) in its greater concentration on personality factors and de-emphasis of antisocial practices. Although the three-factor model demonstrated strong construct validity, the current data raise questions about the APSD Impulsiveness scale. The scale has low internal consistency

and fails to include theoretically relevant items (e.g., engaging in illegal activity). Future research will continue to investigate its psychometric properties, including criterion-related validity.

Consistent with our expectations, adolescent offenders in a maximum-security setting endorsed higher APSD scores on Callousness and Narcissism than those in county detention. However, the Impulsiveness scale of the APSD did not differentiate between the security classifications. This result was inconsistent with our expectations given impulsivity is considered the cornerstone of several theories explaining juvenile delinquency (Ellis & Walsh, 1999). Moreover, impulsivity is frequently observed in delinquent populations and is a common substrate for delinquent behavior (Vitacco, Neumann, Robertson, & Durrant, 2002; Vitacco & Rogers, 2001). The strong correlation between Impulsiveness and Narcissism in the CFA suggests the possibility of a second-order factor, reflecting behavioral and interpersonal dyscontrol. As such, narcissistic traits may contribute to impulsivity with self-importance overriding consideration of others and failure to evaluate the consequences of one's actions. Independent of narcissism and impulsiveness, the C/U factor likely reflects disturbances in affective experiences and appears to be the critical factor differentiating between psychopathic and nonpsychopathic youths (Frick, 1998).

Potential Applications and Clinical Correlates of the APSD

The APSD shows promise as an initial screen in the assessment of psychopathy with incarcerated adolescents. We found an APSD cut score of greater than or equal to 15 missed very few psychopaths, although its PPP was modest. Further investigations are needed to optimize classification rates based on the type of setting. The APSD was intended as a screen rather than a diagnostic measure. Our results underscore its potential usefulness as a screen and argue against its use as a stand-alone measure for psychopathy.

Defensiveness and social desirability are correlates of antisocial behavior that have not been sufficiently researched with antisocial youth. Rogers and Cruise (2000) found psychopaths may (a) lack insight and thus tend to minimize the effects of their behavior on others and (b) deny maladaptive personality traits during clinical evaluations in an attempt to appear less deviant. Specific to the APSD, Rogers et al. (2002) found adolescents were able to lower their scores on the APSD by an average of 4.5 points with little instruction or guidance. The APSD items are face valid and thus susceptible to distortions regarding overt criminal behavior and manifest antisocial attitudes (i.e., callousness). Issues of social desirability must be

considered when interpreting the results of the APSD. Therefore, obtaining previous criminal and school records will provide clinicians with partial verification of an adolescent's self-report. PCL measures of psychopathy are recommended in cases with extensive criminal histories. A clinician may also consider use of the APSD parent and teacher reports; however, they have not been validated with offender populations.

In summary, the APSD is a relatively recent screen for psychopathy validated on community youth. The current study extends its applicability to adolescent offenders in custody ranging from maximum security to county detention. More important, strong support was found for Frick et al.'s (2000) three-factor model. In addition, several APSD cut scores are proposed for the efficient screening of juvenile offenders. Clearly, more research is needed for understanding underlying dimensions in adolescent psychopathy and further testing the proposed APSD cut scores with various delinquent populations.

REFERENCES

Barry, C. T., Frick, P. J., DeShazo, T. M., McCoy, M. G., Ellis, M., & Loney, B. R. (2000). The importance of callous-unemotional traits for extending the concept of psychopathy to children. *Journal of Abnormal Psychology*, *109*, 335-340.

Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling. *Annual Review of Psychology*, *31*, 419-56.

Bentler, P. M. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software, Inc.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and the goodness-of-fit in the analysis of covariance structures. *Psychological Bulletin*, *88*, 588-606.

Brandt, J. R., Kennedy, W. A., Patrick, C. J., & Curtin, J. J. (1997). Assessment of psychopathy in a population of incarcerated adolescent offenders. *Psychological Assessment*, *9*, 429-435.

Cleckley, H. (1976). *The mask of sanity*. St. Louis, MO: C. V. Mosby.

Cooke, D. J., & Michie, C. (2001). Refining the concept of psychopathy: Towards a hierarchical model. *Psychological Assessment*, *13*, 171-188.

Cruise, K. R. (2001). Measurement of adolescent psychopathy: Construct and predictive validity in two samples of juvenile offenders. *Dissertation Abstracts International*, *61*, 10.

Edens, J. F., Skeem, J. L., Cruise, K. R., & Caufmann, E. (2001). Assessment of "juvenile psychopathy" and its association with violence: A critical review. *Behavioral Sciences and the Law*, *19*, 53-80.

Ellis, L., & Walsh, A. (1999). Criminologists' opinions about causes and theories of crime and delinquency. *The Criminologist*, *24*, 1-4.

Forth, A. E., & Burke, H. C. (1998). Psychopathy in adolescence: Assessment, violence, and developmental precursors. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy, theory, research, and implications for society* (pp. 205-229). Dordrecht, the Netherlands: Kluwer.

Forth, A. E., Kosson, D. S., & Hare, R. D. (1994). *The Psychopathy Checklist: Youth Version (PCL:YV)*. Toronto, Canada: Multi-Health Systems.

Frick, P. J. (1998). *Conduct disorders and severe antisocial behavior*. New York: Plenum.

Frick, P. J., Bodin, S. D., & Barry, C. T. (2000). Psychopathic traits and conduct problems in community and clinic-referred samples of chil-

dren: Further development of the Psychopathy Screening Device. *Psychological Assessment*, *12*, 382-393.

Frick, P. J., & Hare, R. (2001). *Antisocial process screening device*. Toronto, Canada: Multi-Health Systems.

Frick, P. J., O'Brien, B. S., Wootton, J., & McBurnett, K. (1994). Psychopathy and conduct problems in children. *Journal of Abnormal Psychology*, *103*, 700-707.

Gresham, F. M., Lane, K. L., & Lambros, K. M. (2000, Summer). Comorbidity of conduct problems, ADHD: Identification of "fledgling psychopaths." *Journal of Emotional and Behavioral Disorders*, *8*, 15-33.

Hare, R. D. (1991). *The Hare Psychopathy Checklist–Revised*. Toronto, Canada: Multi-Health Systems.

Hare, R. D., & McPherson, L. M. (1984). Violent and aggressive behavior by criminal psychopaths. *International Journal of Law and Psychiatry*, *7*, 35-50.

Harris, G. T., Rice, M. E., & Quinsey, V. L. (1994). Psychopathy as a taxon: Evidence that psychopaths are a discrete class. *Journal of Consulting and Clinical Psychology*, *62*, 387-397.

Hart, S. D., Cox, D. N., & Hare, R. D. (1995). *Manual for the Hare Psychopathy Checklist: Screening Version (PCL:SV)*. Toronto, Canada: Multi-Health Systems.

Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology*, *3*, 139-170.

Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*, 424-453.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*, 1-55.

Jøreskog, K. G., & Sørbom, D. (1981). LISREL V: *Analysis of linear structural relationships by the method of maximum likelihood*. Chicago: National Education Resources.

Kamphaus, R. W., & Reynolds, J. (1992). *Clinical assessment of child and adolescent personality and behavior*. Needham Heights, MA: Allyn & Bacon.

Kosson, D. S., Cyterski, T. D., Steuerwald, B. L., Neumann, C. S., & Walker-Matthews, S. (2002). The reliability and validity of the Psychopathy Checklist: Youth Version in non-incarcerated adolescent males. *Psychological Assessment*, *14*, 97-109.

Kosson, D. S., Smith, S. S., & Newman, J. P. (1990). Evaluating the construct validity of psychopathy in black and white male inmates: Three preliminary studies. *Journal of Abnormal Psychology*, *3*, 250-259.

Lambert, E. W., Wahler, R. G., Andrade, A. R., & Bickman, L. (2001). Looking for the disorder in conduct disorder. *Journal of Abnormal Psychology*, *110*, 110-123.

Lynam, D. R. (1996). Early identification of chronic offenders: Who is the fledgling psychopath? *Psychological Bulletin*, *120*, 209-234.

Lynam, D. R. (1998). Early identification of the fledgling psychopath: Locating the psychopathic child in the current nomenclature. *Journal of Abnormal Psychology*, *107*, 566-575.

Murdock-Hicks, M., Rogers, R., & Cashel, M. L. (2000). Predictions of violent and total infractions among institutionalized male juvenile offenders. *Journal of the American Academy of Psychiatry and the Law*, *28*, 183-190.

Ogloff, J., Wong, S., & Greenwood, A. (1990). Treating criminal psychopaths in a therapeutic community. *Behavioral Sciences and the Law*, *8*, 181-190.

Rogers, R. (2001). *Handbook of diagnostic and structured interviewing*. New York: Guilford.

Rogers, R., & Cruise, K. R. (2000). Malingering and deception among psychopaths. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy: A practitioner's guide* (pp. 269-284). New York: LEA.

Rogers, R., Salekin, R. T., Hill, C., Sewell, K. W., Murdock, M. E., & Neumann, C. S. (2000). The Psychopathy Checklist: Screening Version: An examination of criteria and subcriteria in three forensic samples. *Assessment*, *7*, 1-15.

Rogers, R., Vitacco, M. J., Jackson, R. L., Martin, M., Collins, M., & Sewell, K. W. (2002). Faking psychopathy? An examination of response styles with antisocial youth. *Journal of Personality Assessment*, *78*, 31-46.

Salekin, R., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist–Revised. Predictive validity of dangerousness. *Clinical Psychology: Science and Practice*, *3*, 203-215.

Serin, R. C., Peters, R., & Barbaree, H. E. (1990). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment*, *2*, 419-422.

Seto, M. C., & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender recidivism. *Journal of International Violence*, *14*, 1235-1248.

Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, *25*, 173-180.

Vitacco, M. J., Neumann, C. S., Robertson, A. A., & Durrant, S. L. (2002). Contributions of impulsivity and callousness in the assessment of adjudicated adolescent males: A prospective study. *Journal of Personality Assessment*, *78*, 87-103.

Vitacco, M. J., & Rogers, R. (2001). Predictors of adolescent psychopathy: The role of impulsivity, hyperactivity, and sensation seeking. *Journal of the American Academy of Psychiatry and the Law*, *29*, 374-382.

Wilkinson, G. S. (1993). *The Wide Range Achievement Test–3 administration manual*. Wilmington, DE: Wide Range.

Wootton, J. M., Frick, P. J., Shelton, K. K., & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology*, *65*, 301-308.

Michael J. Vitacco, Ph.D., is a postdoctoral fellow in law and psychiatry at the University of Massachusetts Medical School in Worcester. His research interests focus on clinical forensic issues including the etiology and assessment of antisocial behavior in youth and adults, malingering, and competency to stand trial.

Richard Rogers, Ph.D., ABPP, is a professor of psychology at the University of North Texas in Denton. His primary research interests are (a) malingering and other response styles; (b) clinical forensic issues, such as competency to stand trial; (c) validation of structured interviews; or (d) validation of multiscale inventories. He has been awarded the Manfred S. Guttmacher Award from the American Psychiatric Association for the book *Clinical Assessment of Malingering and Deception* as well as the Amicus Award from the American Academy of Psychiatry and Law for distinguished contributions to forensic psychiatry.

Craig S. Neumann, Ph.D., is an associate professor of psychology at the University of North Texas in Denton. His primary research interests are in the areas of neuropsychological aspects of schizophrenia; the application of advanced statistical analyses, including structural equation modeling to psychological constructs; and assessing antisocial behavior in youth. He has been awarded several grants to investigate cognitive aspects of schizophrenia.