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The reliability, stability, and predictive utility of the self-report version of the Antisocial Process Screening Device

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The psychometric properties of the self-report version of the Antisocial Processes Screening Device (APSD; Frick & Hare, 2001), a rating scale developed to assess traits associated with the construct of psychopathy in youth, was tested in a sample of 91 non-referred young adolescents with an average age of 13.38 (*SD* = 1.75) at the initial assessment. The sample was recruited from a large community-wide screening, where youth with conduct problems and youth high on psychopathic traits were over-sampled. The sample was reassessed three times at yearly intervals. The self-report scores on the APSD showed moderate correlations with parent ratings of psychopathic traits, were moderately stable across 1–2 years, and showed significant correlations with measures of antisocial behavior both concurrently and predictively. One major weakness of the self-report ratings was the low internal consistency of the subscales, which were much lower than the internal consistency found on the parent report version of the scale.

Key words: Psychopathy, reliability, multiple informants, longitudinal study, antisocial behavior.

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INTRODUCTION

The constellation of affective (e.g., poverty of emotions, lack of empathy and guilt), interpersonal (e.g., callous use of others for one's own gain), self-referential (e.g., inflated sense of one's own importance), and behavioral (e.g., impulsivity, irresponsibility) traits associated with the construct of psychopathy have proven to be quite important for designating a distinct group of antisocial adults. Research has consistently shown that incarcerated adults who also show psychopathic traits show a more severe and violent pattern of antisocial behavior after release, and engage in more misconduct and aggressive behaviors within the institution (Gendreau, Goggin & Smith, 2002; Hemphill, Hare & Wong, 1998; Walters, 2003). In addition, incarcerated adults with psychopathic features show a number of distinct cognitive (Newman & Lorenz, 2003), affective (Hare, 1998; Patrick, 2001), and neurological (Kiehl *et al.*, 2001) correlates that could implicate different causal processes involved in the development of antisocial behavior for this group of individuals.

One reason that this body of research has grown dramatically over the past two decades has been the emergence of a method for reliably assessing these traits in adult forensic samples, the Psychopathy Checklist (PCL; Hare, 1980) and its revision, the Psychopathy Checklist-Revised (PCL-R; Hare, 1991; Hare, 2003). The PCL-R is considered the "gold standard" in the assessment of psychopathy for a number of

reasons. First, in contrast to most other measures of psychopathy that focus primarily on the impulsive and antisocial behavior dimensions of psychopathy (Hare, 1985), the PCL-R includes a broad coverage of the affective and interpersonal traits that have traditionally been integral to definitions of psychopathy (Cleckley, 1976). Second, the PCL-R has a standardized and systematic method of collecting information, based on a combination of a semi-structured interview and a review of information from institutional files, and for using this information to score the 20 items that constitute the checklist. Such a system of assessment has proven to lead to reliable ratings across many different prison samples (Cooke, Kosson & Michie, 2001).

Given the importance of the construct of psychopathy in both forensic research and practice, there have been a number of attempts to extend this construct to other populations to better understand its nature and causes. For example, several studies have attempted to study psychopathic traits in non-referred samples of adults to determine if similar correlates are found in samples with less severe levels of antisocial behavior (Levenson, Kiehl & Fitzpatrick, 1995; Lilienfeld & Andrews, 1996; Lynam, Whiteside & Jones, 1999; Wilson, Frick & Clements, 1999). In addition, a number of studies have attempted to extend the construct of psychopathy to youth, in an effort to identify early manifestations of this serious personality disturbance at a time in development when they may be more amenable to treatment (Frick & Marsee, 2006). However, the method of obtaining information to

score the PCL-R that includes institutional file review does not lend itself to effective use in non-institutionalized samples. Further, the items on the PCL-R and the scoring criteria were developed for institutionalized adults and, as a result, they may not be as appropriate for non-institutional samples (Lilienfeld & Andrews, 1996) or for samples of youth (Edens, Skeem, Cruise & Cauffman, 2001; Seagrave & Grisso, 2002).

Based on these limitations, there have been several attempts to develop self-report measures of psychopathy that can be used in non-institutionalized samples of adults (Levenson *et al.*, 1995; Lilienfeld & Andrews, 1996; Zagon & Jackson, 1994). Self-report inventories have a long history of use in personality assessment and offer a number of advantages. They are easy to administer, making collection of data from large samples of individuals possible and which facilitates the development of normative data. Further, they often provide one of the best methods for assessing attitudes and internal emotional states that may not be evident to observers. Finally, more specific to the assessment of psychopathy, one difficulty in studying psychopathy's association with violence and antisocial behavior has been the use of institutional files that include evidence of the person's history of violence and criminal behavior that can inflate correlations between violence history and psychopathy scores (Gendreau *et al.*, 2002). Including reviews of criminal records in an assessment of psychopathy can aid in identifying attempts at deception and manipulation (see Edens, Poythress & Watkins, 2001) and a person's criminal history is an important facet of the construct of psychopathy (Hare, 1998). However, an important advantage of self-report measures is that it minimizes the contamination between psychopathic traits and the person's history of antisocial behavior that results from utilizing information on criminal history to rate personality traits. Supporting these conceptual reasons for using self-report measures of psychopathy, there has been growing empirical support for the validity of self-report measures in various adult samples (Benning, Patrick, Hicks, Blonigen & Krueger, 2003; Chapman, Gremore & Farmer, 2003; Levenson *et al.*, 1995; Poythress, Edens & Lilienfeld, 1998; Wilson *et al.*, 1999).

As mentioned previously, another trend has been to extend the construct of psychopathy to youth. The results have been quite promising for this extension as well (see Frick, 2006; Frick & Marsee, 2006 for reviews). Specifically, the constellation of characteristics that are conceptually similar to psychopathic traits identified in adult samples appears to designate a subgroup of antisocial youth with more severe and aggressive behavior in forensic (Kruh, Frick & Clements, 2005), mental health (Christian, Frick, Hill, Tyler & Frazer, 1997), and community (Andershed, Kerr, Stattin & Levander, 2002; Frick, Cornell, Barry, Bodin & Dane, 2003) samples. Further, children with conduct problems who also show psychopathic traits show a number of distinct characteristics, such as a preference for novel, exciting, and dangerous activities (Frick, Cornell, Bodin *et al.*, 2003; Frick, Lilienfeld, Ellis, Loney & Silverthorn, 1999), decreased sensitivity to cues of punishment when a reward-oriented response set is primed (Barry *et al.*, 2000; Fisher & Blair, 1998; Frick, Cornell, Bodin *et al.*, 2003) and less reactivity to threatening and emotionally distressing stimuli (Blair, 1999; Kimonis, Frick, Fazekas & Loney, 2006; Loney, Frick, Clements, Ellis & Kerlin, 2003), all of which are consistent with research on adults with psychopathy (Hare, 1998; Patrick, 2001).

Based on this promising research in juvenile samples, a number of self-report scales have been developed to assess the dimensions of psychopathy in ways that are conceptually similar to those covered by the PCL-R but using items that are more developmentally appropriate for children and adolescents (see Vaughn & Howard, 2005 for a review). The scale that has been the focus of the most research to date is the Antisocial Process Screening Device (APSD; Frick & Hare, 2001). The published version of this scale includes 20 items that are rated by parents and teachers (Frick & Hare, 2001). However, a self-report version of the scale was developed for use with older children and adolescents for several reasons. First, there is evidence that the reliability and validity of child report for assessing most types of child psychopathology increases in adolescence, as the validity of parent and teacher report decreases (Kamphaus & Frick, 2002). Child report seems especially important when assessing antisocial attitudes and behaviors (Jolliffe *et al.*, 2003) and covert behavior or affective styles that may not be evident to observers (Kamphaus & Frick, 2002). Second, a self-report measure is needed in the assessment of samples in which the participants come from very dysfunctional families with significant histories of previous out-of-home placements, whereby parents may not be available to provide information or may not have enough recent contact with their child to provide ratings of current characteristics (Loney *et al.*, 2003).

There has been some promising support for the validity of the self-report version of the APSD. First, the three-factor structure (i.e., narcissism, impulsivity, and callous-unemotional traits), which is consistent with the factor structure of the PCL-R in adults (Cooke & Michie, 2001) and that emerged in the parent and teacher versions of the APSD (Frick & Hare, 2001), has been supported for the self-report version of the APSD in institutionalized adolescents (Vitacco, Rogers & Neumann, 2003). Second, scores from the self-report version of the APSD have designated more severe and violent groups of juvenile offenders (Caputo, Frick & Brodsky, 1999; Kruh *et al.*, 2005), have been associated with early onset of offending (Silverthorn, Frick & Reynolds, 2001), and have predicted institutional antisocial behavior (e.g., aggression, administrative infractions) and poor treatment progress in adjudicated adolescents (Spain, Douglas, Poythress & Epstein, 2004). In fact, in one of the only studies to compare the association between the self-report of the

APSD and PCL-R with external criteria, scores on the APSD showed comparable correlations with number of arrests (0.33) and number of violent arrests (0.25) to the youth version of the PCL-R (0.36 and 0.28, all $p < 0.05$) in an adolescent offender sample (Salekin, Leistico, Neumann, DiCicco & Duros, 2004). Third, scores on the self-report APSD have been associated with deficits in emotional functioning (Kimonis *et al.*, 2006; Loney *et al.*, 2003) and with a lack of sensitivity to punishment in social situations (Pardini, Lochman & Frick, 2003).

Based on this research, there is some support for the validity of the self-report version of the APSD for assessing psychopathic traits in youth. However, there are significant limitations in this research. First, most of this research (except Kimonis *et al.*, 2006) has been conducted with institutionalized adolescents and, as a result, there is limited information on the psychometric properties of the self-report version of APSD in non-referred samples. Second, when the convergent correlations between the self-report version of the APSD and the PCL-R have been tested, they typically range from 0.30 to 0.40 (Lee, Vincent, Hart & Corrado, 2003). It is not clear whether these modest correlations are due to the differences in method or differences in content between these two measures. Therefore, it would be important to correlate the self-report version of the APSD with the report of another informant using the same items, thereby equating the content but varying the method of assessment. Third, the stability of the self-report of the APSD over time or its predictive validity has not been tested to date. Testing such stability is critical given concerns that psychopathic traits may not be as stable in youth as they are in adults (Seagrave & Grisso, 2002) or as predictive of later antisocial behavior (Edens, Skeem *et al.*, 2001). It is important to note that the stability of psychopathic traits in adult samples has not been extensively tested and, given the many developmental changes that occur prior to adulthood, it is quite likely that measures of personality may not be as stable in juvenile samples as in adults (see Frick, Kimonis, Dandreaux & Farrell, 2003, for a discussion). Indeed, one of the primary motivations for extending the construct of psychopathy to youth is to hopefully identify these traits when they are more malleable (i.e. less stable) and amenable to treatment (Frick, 2006). However, establishing the predictive utility and level of stability of psychopathic traits, especially relative to other personality and psychopathological constructs in youth, is still important for determining the usefulness that scores from measures of psychopathy may have for predicting future adjustment. Further, comparing the predictive utility of self-report with other methods of assessing these traits provides an important piece of information for evaluating the usefulness of self-report.

Based on these issues, the aim of the present study was to examine the psychometric properties of the self-report version of the APSD in a non-referred sample by testing its reliability, stability, and ability to predict later antisocial and delinquent behavior. The psychometric properties of the self-report version were compared with those from the parent version of the scale to contrast ratings of psychopathy that are analogous in content but differ only in the source of information. Therefore, the stability of the self-report version was tested and compared with the stability of the parent report version of the scale that has been reported in a previous publication (Frick, Kimonis *et al.*, 2003). Importantly, the reliability, stability, and predictive utility of the self-report version of the APSD were not tested in the previous publication and the current study only includes the last three waves of data collection during which time the sample was judged old enough to provide valid self-reports.

There are many reasons for studying the predictive utility of psychopathic traits in non-referred samples. Most importantly, this method avoids potential referral biases or differential arrest and prosecution practices that can operate in clinic-referred and forensic samples. However, there are a number of limitations in studying the predictive utility of psychopathic traits in a non-referred sample, given that high rates of these traits may be rare in a community sample and only a minority of children with severe conduct problems are likely to show these traits (see Christian *et al.*, 1997; Frick, Bodin & Barry, 2000). The optimal test would be to follow a large enough community sample over time to have enough children with high rates of these traits with and without conduct problems to ensure that extreme groups are adequately represented. Following such a large community sample over time is quite costly. As a result, the present study recruited a community sample of children using a procedure that oversampled children with conduct problems and children with psychopathic traits, consistent with past research using high risk non-referred samples (Loeber, Farrington, Stouthamer-Loeber, Moffitt & Caspi, 1998).

METHOD

Participants

A two-step stratified random sampling procedure was employed to recruit participants. In the first step, approximately 4,000 parents of children in the third, fourth, sixth, and seventh grades of two school systems in a moderate sized city in the southeastern United States received announcements about the study. The two school systems were chosen because one served the immediate urban area and the second served the surrounding region that was predominantly suburban and rural. Those parents who agreed to have their child participate in the study completed consent forms and screening questionnaires used to assess the presence of DSM-IV symptoms (American Psychiatric Association, 2000) and CU traits (Frick & Hare, 2001). This first phase yielded a sample of 1,136 children with a mean age of 10.7 ($SD = 1.6$) that was 53% female, 77% Caucasian, 19% African-American, and 21% receiving special education services, all of which closely matched the overall demographics of the two school systems. The range of Duncan's Socioeconomic Index (SEI; Hauser & Featherman, 1977) was 0 to 92.3, with a mean of 47.20. Scores of 24 and 64 were at the 1st and 3rd quartiles of the

sample, respectively, showing a normative range of socioeconomic statuses.

In the second phase of recruitment, the sample of 1,136 children was divided into four groups based on combined parent and teacher ratings of conduct problem symptoms and the callous-unemotional (CU) dimension of psychopathy (Frick, Bodin *et al*., 2000). The CU dimension, that assesses a lack of empathy, lack of guilt, and inadequate emotional responding, was chosen for sample recruitment because it is the dimension of psychopathy that is most independent from antisocial behavior (Frick, Bodin *et al*., 2000; Frick, O'Brien, Wootton & McBurnett, 1994). This allowed for the recruitment of a group of children high on psychopathic traits but low on conduct problems. Elevated rates of CU traits and conduct problems was defined as being above the upper quartile for the community sample, whereas normative levels was defined as being at or below the mean of the sample. This ensured divergence between groups defined as being high and low on these dimensions.

Using these sample dependent cut-offs, four groups were identified based on parent and teacher reports. The first group was below the mean on both dimensions ($n = 225$), a second group was at or above the upper quartile on the conduct problem measure but below the mean on the measure of CU traits ($n = 66$), a third group was at or above the upper quartile on the measure of CU traits but below the mean on the measure of conduct problems ($n = 77$), and the last group was above the upper quartile on both dimensions ($n = 128$). Next, 25 children in each of the four groups were recruited to participate in the longitudinal portion of the study, ensuring that about half of each group came from the younger and older cohorts. These four groups were first blocked according to gender, ethnicity, and socioeconomic status and participants were selected through a stratified random sampling procedure to ensure that the four groups matched the group from which they were sampled on the three stratification variables.

This sample of 100 children was reassessed at approximately yearly intervals for the next four years as part of a larger study of children at risk for antisocial and aggressive behavior (Frick, Cornell, Bodin *et al*., 2003; Frick, Stickle, Dandreaux, Farrell & Kimonis, 2005). The mean length of time between completion of the screening measures to form the study groups and the last follow-up assessment was 50.91 months ($SD = 4.4$). No self-report ratings of psychopathy were obtained at either the screening or the first follow-up assessment. However, both parent and self-report ratings were obtained at each successive follow-up assessment, providing three waves of data collection for the current study. The average length of time between the first and second waves was 12.63 ($SD = 1.82$) months and between the second and third waves was 13.38 ($SD = 2.82$) for an average interval of 26.13 ($SD = 2.98$) months between the first and third waves used in the current study. Of the 100 children chosen from the screening, 91 children (47 boys and 44 girls) participated in at least one of the three waves of data collection reported in this paper, with 76 providing data at all three waves. The mean age of the sample at the first wave reported in the current manuscript (when the children were in the 5th, 6th, 8th, and 9th grades) was 13.4 ($SD = 1.8$) years. Importantly, at the final follow-up period, the four groups ranged in size from 16 in the group high on conduct problems only to 21 in the group high on CU traits only (X^2 (df = 3) = 1.61, p = n.s.) indicating that there was no selective attrition across the four study groups. Also, failure to complete the final wave of data collection was not significantly associated with parent report of psychopathic traits (-0.06 to 0.07), child report of psychopathic traits (-0.02 to -0.13), or any of the measures of antisocial behavior (-0.07 to 0.01) (all p = n.s.) collected at the first wave of data collection. The only demographic variable that was significantly associated with failure to complete the final wave of data collection was socioeconomic status ($r = 0.22$, $p < 0.05$), with families from higher socioeconomic status being more likely to withdraw from the study.

Measures

Antisocial Process Screening Device (APSD; Frick & Hare, 2001). The APSD is a 20-item behavior rating scale with each item scored either 0 (Not at all true), 1 (Sometimes true), or 2 (Definitely true). As noted previously, the published version of the APSD was designed to be completed by parents and teachers and a factor analysis revealed three dimensions: a 7-item Narcissism dimension, a 5-item Impulsivity dimension, and a 6-item Callous-Unemotional dimension that could fit in both community and clinic-referred samples of children (Frick, Barry & Bodin, 2000). Items that form each of these dimensions are reported in Appendix A. There is substantial support for the validity of the APSD for designating a distinct subgroup of antisocial youth with more severe and aggressive behavior and who show characteristics similar to adults with psychopathy (Frick *et al.*, 1999; Frick, Cornell, Bodin *et al*., 2003). Although few studies exist investigating the self-report version of the APSD, there is support for the same three-factor structure using confirmatory factor analysis (Vitacco *et al.*, 2003), for its ability to designate a more severe, chronic, and violent juvenile offender (Caputo *et al.*, 1999; Kruh *et al.*, 2005), and for its ability to designate a group of antisocial youth with deficits in emotional functioning (Kimonis *et al.*, 2006; Loney *et al.*, 2003) and who are insensitive to punishment in social situations (Pardini *et al.*, 2003).

Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992). The BASC-PRS Aggression and the Conduct Problem scales were used as measures of antisocial behavior. The BASC-PRS is a standardized measure of child adjustment based on parent report that has normative data for children ages 4 to 18. Behaviors are rated on a four-point scale of frequency from Never to Always. Despite its name, the Aggression scale items cover a range of overt conduct problems, not just physical aggression (e.g., argues when denied own way; disrupts the play of other children). The Conduct Problems scale focuses on more covert conduct problems (e.g., cheats in school, gets into trouble). In a nationwide normative sample, coefficient alpha reliabilities for the Aggression scale of the BASC ranged from 0.77 to 0.84 and the coefficients for the Conduct Problems scale ranged from 0.64 to 0.75 (Reynolds & Kamphaus, 1992).

The NIMH Diagnostic Interview Schedule for Children-Version 4 (DISC-IV; Shaffer & Fisher, 1996). The DISC-IV was developed to correspond to the 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000). The parent and child report on the DISC-IV was used to assess all symptoms of ODD and CD. The DISC-IV is a highly structured interview designed to be administered by lay interviewers with appropriate training. It has proven to be highly reliable on both the symptom and diagnostic level (Lahey *et al.*, 1994). Interviewers were a licensed psychologist or advanced graduate students in psychology who were trained in standardized administration procedures for the DISC. The correlations between parent and child report on the DISC were $r = 0.41$, $r = 0.29$, and $r = 0.36$ (all $p < 0.01$) across the three waves of data collection.

Self-Report of Delinquency Scale (SRD; Elliott & Ageton, 1980). The SRD assesses the child's self-report of 36 illegal juvenile acts. It was developed from a list of all offenses reported in the Uniform Crime Report with a juvenile base rate of greater than 1% (Elliott & Huizinga, 1984). Due to the relatively young age of the sample at the start of the study, the three items related to sexual behavior were omitted from this scale. Consistent with past uses of the scale (Krueger *et al.*, 1994), a composite measure was created by summing the number of delinquent acts committed (with a possible range of 0 to

33). This composite had coefficient alpha's of 0.82, 0.83, and 0.85 across the three waves of data collection. Also, consistent with past uses of the scale, a separate violent composite was created by summing the eight violent delinquent acts (e.g. "have you ever been involved in a gang fight"). The alpha for this composite was low, especially at the later follow-ups, due to the low base rate of these acts in this community sample (alpha of 0.63, 0.33, and 0.27, respectively).

Number of police contacts. Each child's parent was asked whether the child "ever had contact with the police" (first follow-up assessment) or "had contact with the police within the past year" (follow-up assessments). This variable was scored dichotomously, taking into account all information up to that assessment point. Specifically, the Time 2 measure included all lifetime police contacts assessed at Time 1, in addition to any contacts between Time 1 and Time 2 assessments. At Time 3, those youth who had contact between Time 2 and 3 assessments were added to the cumulative rate of police contact. At Time 1, 9% of the sample had a lifetime history of police contact, with rates of 10% and 16% at the Time 2 and Time 3 assessments.

Procedure

All procedures were approved by the University of Alabama's Institutional Review Board. The three waves of data collection took place as close to the one-year anniversary of the initial assessment as possible. To reduce attrition, all information was completed by phone and mail. The DISC-IV and the assessment of police contact were conducted in a phone interview conducted with each child's parent and the youth version of the DISC-IV and the SRD were administered in phone interviews with each child participant. The APSD and BASC questionnaires were mailed to participants. Parents and youth were provided with separate self-addressed stamped envelopes to return completed forms. Parents received $65.00 for their participation in each follow-up assessment and the youth received a $15.00 gift certificate to either a local music store or bookstore.

RESULTS

Means and standard deviations on the APSD for parent and child reports are provided in Table 1. Repeated-measures ANOVAs were performed using informant as the repeated measure condition for the APSD scores at each wave of data collection. There were very few significant effects for informant across these analyses. The only analyses to reach significance was for the Callous-Unemotional scale at Time 2 ($F(1, 82)$ = 9.60 , $p < 0.01$) and the Total APSD score at Time 3 ($F(1, 70) = 4.06$, $p < 0.05$). In both cases, the child report on the APSD was significantly higher than the parent report.

Coefficient alphas for parent and child self-report ratings on the APSD are also reported in Table 1. The internal consistency of the Total APSD was adequate for both parent (0.85–0.89) and child (0.78–0.81) reports. Also, the internal consistency of parent report for the subscales of the APSD was generally in an acceptable range: Callous – Unemotional = 0.72–0.76; Narcissism = 0.79–0.82; and Impulsivity = 0.65–0.75. However, the coefficient alpha's for the self-report on the APSD subscales were much more modest and ranged from 0.50 to 0.68. Based on these findings, item statistics

Table 1. *Distribution and internal consistency of child- and parent-reports on the Antisocial Process Device (APSD)*

Scales	Child-report				Parent-report			
	M	SD	N	Alpha	M	SD	N	Alpha
Total								
Time 1	10.71	5.14	86	0.81	10.37	6.32	92	0.88
Time 2	11.55	5.24	83	0.80	10.68	6.49	86	0.89
Time 3	11.67	4.86	74	0.78	10.36	5.68	71	0.85
CU								
Time 1	2.72	1.66	86	0.50	2.41	2.05	92	0.74
Time 2	3.05	1.87	83	0.61	2.43	2.04	86	0.76
Time 3	3.07	1.83	74	0.53	2.70	1.94	71	0.72
NARC								
Time 1	3.15	2.04	86	0.63	3.22	2.87	92	0.82
Time 2	3.53	2.10	83	0.63	3.43	2.69	86	0.81
Time 3	3.60	1.95	74	0.56	3.19	2.50	71	0.79
IMP								
Time 1	4.04	1.94	86	0.68	4.08	2.10	92	0.73
Time 2	4.13	2.01	83	0.68	4.10	2.15	86	0.75
Time 3	4.11	1.85	74	0.64	3.90	1.94	71	0.65

Note: Total = Total Score; CU = Callous-Unemotional Scale; NARC = Narcissism Scale; IMP = Impulsivity Scale.

were examined to determine if certain items consistently reduced the overall internal consistency of the scale. Generally, most item-total correlations across scales and across time periods exceeded 0.20 and in only one case did it drop below 0.10. This was for item 19, "Does not show feelings or emotions" on the self-report CU scale of the APSD at Time 1 ($r = 0.01$, $p = $ n.s.). Further, there were no items that, if eliminated, would have substantially increased the alpha for the subscales at all three time points. Such modest internal consistency estimates makes tests of the temporal stability of the scales even more important to establish that there is reliable variance over time in these scales.

As noted previously, the sampling procedure used for the current study oversampled youth high on psychopathic traits and conduct problems. Such a sampling procedure likely led to changes in the distribution of scores in the sample compared to what would have been found if an unselected community sample was obtained. Importantly, this high risk sampling could lead to a bimodal distribution of the scores on the measures of interest that could affect the correlations among these measures. To test for this possibility, the correlations between the selection variables at the initial community wide screening (parent and teacher report of CU traits and conduct problems) were correlated with the self-report measures of psychopathic traits at the three waves of data collection included in the current report. These correlations ranged from $r = 0.03$ ($p = $ n.s.) between parent-teacher ratings of CU traits and child self-report of narcissism 2 years later and $r = 0.43$ ($p < 0.001$) between parent-teacher ratings of CU traits at the initial screening and child-report of these traits 3 years later. Only 6 of the possible 24

Table 2. *Cross-informant associations and the stability of the Antisocial Process Screening Device (APSD)*

	Parent			APSD		
	T1	T2	T3	T1–T2	T2–T3	T1–T3
Time 1 Child APSD				*Stability of Child-report*		
Total	0.57**	0.48**	0.50**	0.72**	0.70**	0.64**
NARC	0.35**	0.38**	0.34**	0.51**	0.49**	0.43**
IMP	0.58**	0.42**	0.47**	0.63**	0.61**	0.58**
CU	0.51**	0.51**	0.56**	0.50**	0.58**	0.48**
Time 2 Child APSD				*Stability of Parent-report*		
Total	0.53**	0.56**	0.46**	0.83**	0.77**	0.77**
NARC	0.30**	0.30**	0.24*	0.84**	0.78**	0.74**
IMP	0.52**	0.57**	0.55**	0.74**	0.63**	0.65**
CU	0.45**	0.54**	0.28*	0.73**	0.67**	0.71**
Time 3 Child APSD						
Total	0.54**	0.47**	0.47**			
NARC	0.42**	0.37**	0.30*			
IMP	0.38**	0.28*	0.39**			
CU	0.39**	0.42**	0.32**			

Note: Total = Total Score; CU = Callous-Unemotional Scale; NARC = Narcissism Scale; IMP = Impulsivity Scale.
* $p < 0.05$; ** $p < 0.01$.

correlations tested exceeded $r = 0.30$. Given these modest correlations between selection criteria and the self-report indices of psychopathic traits, these traits were studied continuously in subsequent analyses.

As shown in Table 2, the contemporaneous correlations between parent and child reports ranged from 0.47 to 0.57 (all ps < 0.01) for the total APSD scale across the three assessment points. The cross-informant correlations for the three subscales of the APSD were somewhat lower and ranged from 0.32 to 0.54 for the Callous-Unemotional sub-scale, from 0.30 to 0.35 for the Narcissism subscale, and from 0.39 to 0.58 for the Impulsivity subscale (all ps < 0.05). Also reported in Table 2 are the predictive associations between the two informants. Interestingly, the predictive cross informant correlations are very similar in magnitude to the contemporaneous correlations. That is, the two-year correlations for the Total scores were 0.50 for Time 1 child report predicting Time 3 parent report and 0.54 for Time 1 parent report predicting Time 3 child report (both ps < 0.01). Similar correlations were found for the two-year predictive correlations for the Callous-Unemotional (0.56 and 0.39), the Narcissism (0.34 and 0.42) and Impulsivity (0.47 and 0.38) subscales (all ps < 0.05).

Also reported in Table 2 are the stability estimates of the parent and child report ratings on the APSD. The stability of self-reported APSD total score was 0.70 and 0.72 for the two one-year intervals and 0.64 across two years (all ps < 0.01). Somewhat lower stability estimates were found for the various subscales of the APSD, with the one-year estimates ranging from 0.49 for the Narcissism dimension to 0.63 for the Impulsivity subscale and the two-year estimates ranging from 0.43 for Narcissism to 0.58 for Impulsivity (all ps < 0.01). As evident from Table 2, the stability of parent-reports on

the APSD was generally higher than for self-reports, with two-year stability estimates of 0.77 for the Total score and estimates ranging from 0.65 to 0.74 (all ps < 0.01) for the subscales.

The concurrent associations among parent and child self-reports on the APSD and measures of antisocial behavior are reported in Table 3. Several patterns are evident across these correlations. First, both parent and child Total APSD scores were significantly associated with concurrent conduct problems, while only child Total scores were significantly associated with concurrent police contacts. Further, the subscales of the APSD also generally showed significant correlations with measures of conduct problems, with the strongest associations found for the Narcissism and Impulsive scales and the weakest associations found for the Callous-Unemotional scale. Third, the correlations demonstrated a high degree of method variance, with self-report ratings on the APSD generally being more strongly associated with self-reported antisocial behavior and parent report ratings on the APSD being more strongly associated with parent-reported antisocial outcomes. This was most apparent for the parent report, however. The APSD self-report showed somewhat greater associations across source with 32 of the 42 correlation coefficients between the self-report APSD and parent reported antisocial behavior being significant.

As a source of comparison for the correlations with the APSD scales, the intercorrelations among the antisocial measures are reported in Table 4. As was the case for the APSD scales, there was evidence for substantial method variance in the correlations among the antisocial measures. That is, child self-report measures were more highly associated with other child report measures of antisocial behavior than with parent report measures and vice versa. Interestingly,

Table 3. *Concurrent correlations between the Antisocial Process Screening Device (APSD) and antisocial behavior*

	APSD Child-report					APSD Parent-report				
	N	Total	NARC	IMP	CU	N	Total	NARC	IMP	CU
Time 1										
Child-reports										
DISC CP	85	0.54**	0.43**	0.42**	0.43**	90	0.39**	0.36**	0.32**	0.28*
SRD total	85	0.58**	0.49**	0.50**	0.32**	90	0.36**	0.22	0.34**	0.30**
SRD violent	85	0.40**	0.40**	0.36**	0.24*	90	0.41**	0.30**	0.40**	0.30**
Parent-reports										
DISC CP	85	0.29*	0.24*	0.31**	0.13	90	0.67**	0.66**	0.63**	0.40**
BASC AGG	86	0.46**	0.42**	0.46**	0.24*	91	0.73**	0.75**	0.65**	0.45**
BASC CP	86	0.41**	0.33**	0.36**	0.28*	91	0.74**	0.67**	0.64**	0.46**
Police contacts	86	0.25*	0.25*	0.23*	0.15	91	0.11	–0.00	0.22	0.07
Time 2										
Child-reports										
DISC CP	82	0.41**	0.27*	0.39**	0.28**	82	0.23*	0.25*	0.15	0.17
SRD total	82	0.42**	0.25*	0.43**	0.22*	82	0.27*	0.17	0.27*	0.14
SRD violent	82	0.34**	0.23*	0.34**	0.27*	82	0.27*	0.24*	0.21	0.22*
Parent-reports										
DISC CP	82	0.34**	0.12	0.44**	0.23*	81	0.64**	0.67**	0.61**	0.36**
BASC AGG	82	0.36**	0.20	0.40**	0.24*	82	0.74**	0.77**	0.72**	0.43**
BASC CP	82	0.43**	0.21	0.42**	0.32**	82	0.80**	0.69**	0.74**	0.53**
Police contacts	80	0.34**	0.31**	0.29*	0.22*	80	0.08	0.03	0.11	0.12
Time 3										
Child-reports										
DISC CP	73	0.47**	0.31**	0.38**	0.36**	70	0.39**	0.25*	0.36**	0.28*
SRD total	74	0.38**	0.26*	0.35**	0.23*	71	0.25*	0.09	0.21	0.21
SRD violent	74	0.19	0.05	0.21	0.21	71	0.38**	0.38**	0.32**	0.21
Parent-reports										
DISC CP	73	0.27*	0.21	0.18	0.25*	70	0.62**	0.68**	0.56**	0.34**
BASC AGG	71	0.29*	0.27*	0.24*	0.10	68	0.55**	0.64**	0.46**	0.25*
BASC CP	71	0.55**	0.36**	0.43**	0.38**	68	0.66**	0.55**	0.59**	0.43**
Police contacts	74	0.29*	0.21	0.26*	0.13	71	0.16	–0.01	0.23	0.11

Note: Total = Total Score; CU = Callous-Unemotional Scale; NARC = Narcissism Scale; IMP = Impulsivity Scale; DISC CP = Oppositional Defiant and Conduct Disorder symptoms from the Diagnostic Interview Schedule for Children-Version 4 (DISC-IV; Shaffer & Fisher, 1996); SRD = Self-Report of Delinquency Scale (SRD; Elliott & Ageton, 1980); BASC AGG – Aggression Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992); BASC CP = Conduct Problems Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992).
* $p < 0.05$; ** $p < 0.01$.

the correlations among the antisocial measures were comparable to those reported for the APSD scale. For example, the correlations between the self-report APSD Total score and parent reported police contacts was 0.25, 0.34, and 0.29 (all $p < 0.05$), whereas the correlations between self-reported conduct problems and parent-reported police contacts was 0.18, 0.22, and 0.34 (last two $p < 0.05$). Also, the self-report APSD Total score showed correlations with self-report of delinquency of 0.58, 0.42, and 0.38 (all $p < 0.01$) at times 1, 2, and 3 respectively (see Table 3), whereas self-report of conduct problems show correlations with self-report of delinquency of 0.55, 0.60, and 0.62 (all $p < 0.01$) across the three time points (see Table 4).

The final set of analyses tested the predictive utility of Time 1 parent and child reports on the APSD and Time 3 measures of antisocial behavior. Correlations between Time 1 APSD measures and Time 3 measures of antisocial behavior are reported in Table 5 both in terms of zero-order correlations and using partial correlations to control for Time 1 levels of antisocial behavior. These tests of the predictive utility of the two informants revealed that both parent and child APSD scales predicted antisocial behavior two years later. Also, as was the case for the concurrent correlations, the least predictive scale for both informants was the Callous-Unemotional scale of the APSD. Importantly, these predictive relations were largely eliminated controlling for initial levels of antisocial behavior, suggesting that much of the predictive relations with later antisocial behavior were accounted for by their association with higher initial levels of antisocial behavior. There were two exceptions to this pattern. First, both parent and child report on the APSD scales, with the exception of the Callous-Unemotional scale, was associated with higher levels of conduct problem symptoms, even after controlling for initial levels of these symptoms.

Table 4. *Concurrent associations among self-reported and parent-reported antisocial behavior*

		Time 1								Time 2							
	N	1	2	3	4	5	6	7	N	1	2	3	4	5	6	7
Child-report																
1. DISC CP	93	–	0.55**	0.51**	0.40**	0.38**	0.43**	0.18	87	–	0.60**	0.72**	0.29**	0.17	0.30**	0.22*
2. SRD total	92		–	0.76**	0.27**	0.28**	0.46**	0.58**	87		–	0.51**	0.22*	0.13	0.44**	0.21
3. SRD violent	92			–	0.45**	0.33**	0.52**	0.64**	87			–	0.30**	0.14	0.39**	0.56**
Parent-report																
4. DISC CP	91				–	0.75**	0.69**	0.15	89				–	0.74**	0.62**	0.10
5. BASC AGG	92					–	0.66**	0.11	85					–	0.67**	0.00
6. BASC CP	92						–	0.30**	85						–	0.10
7. Police contacts	94							–	88							–

		Time 3						
Child-report								
1. DISC CP	84	–	0.62**	0.21	0.36**	0.27*	0.52**	0.34**
2. SRD total	85		–	0.54**	0.17	0.08	0.50**	0.52**
3. SRD violent	85			–	0.42**	0.17	0.41**	0.24*
Parent-report								
4. DISC CP	85				–	0.64**	0.49**	0.05
5. BASC AGG	77					–	0.56**	–0.07
6. BASC CP	77						–	0.25*
7. Police contacts	74							–

Note: DISC CP = Oppositional Defiant and Conduct Disorder symptoms from the Diagnostic Interview Schedule for Children-Version 4 (DISC-IV; Shaffer & Fisher, 1996); SRD = Self-Report of Delinquency Scale (SRD; Elliott & Ageton, 1980); BASC AGG – Aggression Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992); BASC CP = Conduct Problems Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992).
* $p < 0.05$; ** $p < 0.01$.

Table 5. *Predictive utility of the Antisocial Processing Screening Device (APSD)*

		Time 1								
		APSD Child-report					APSD Parent-report			
	N	APSD	NARC	IMP	CU	N	APSD	NARC	IMP	CU
Zero-order correlations										
Time 3 Child-report										
DISC CP	71	0.50**	0.42**	0.48**	0.28*	75	0.42**	0.38**	0.41**	0.28*
SRD total	72	0.43**	0.38**	0.39**	0.21	76	0.31**	0.23*	0.30**	0.23*
SRD violent	72	0.24*	0.24*	0.29**	0.10	76	0.43**	0.39**	0.40**	0.26*
Parent-report										
DISC CP	71	0.30*	0.28*	0.29*	0.10	75	0.63**	0.61**	0.63**	0.33**
BASC AGG	67	0.31*	0.32**	0.28*	0.13	70	0.47**	0.57**	0.39**	0.12
BASC CP	67	0.53**	0.51**	0.47**	0.28*	70	0.62**	0.52**	0.57**	0.38**
Police contacts	78	0.19	0.18	0.16	0.07	81	0.03	–0.02	0.06	–0.00
Partial correlations (controlling for Time 1)										
Time 3 Child-report										
DISC CP	71	0.32**	0.28*	0.35**	0.10	71	0.30**	0.24*	0.33**	0.18
SRD total	72	0.12	0.11	0.14	0.03	72	0.14	0.13	0.14	0.06
SRD violent	72	0.08	0.08	0.15	0.01	72	0.30**	0.31**	0.28*	0.15
Parent-report										
DISC CP	70	0.07	0.13	0.04	–0.03	70	0.09	0.10	0.17	–0.03
BASC AGG	67	–0.06	–0.00	–0.08	–0.09	67	0.01	0.17	–0.05	–0.20
BASC CP	67	0.32**	0.41**	0.32**	0.02	67	0.15	0.08	0.16	0.12
Police contacts	77	0.06	0.05	0.04	–0.02	77	–0.04	–0.02	–0.08	–0.05

Note: Total = Total Score; CU = Callous-Unemotional Scale; NARC = Narcissism Scale; IMP = Impulsivity Scale; DISC CP = Oppositional Defiant and Conduct Disorder symptoms from the Diagnostic Interview Schedule for Children-Version 4 (DISC-IV; Shaffer & Fisher, 1996); SRD = Self-Report of Delinquency Scale (SRD; Elliott & Ageton, 1980); BASC AGG – Aggression Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992); BASC CP = Conduct Problems Scale from the Behavioral Assessment System for Children-Parent Rating Scale (BASC-PRS; Reynolds & Kamphaus, 1992).
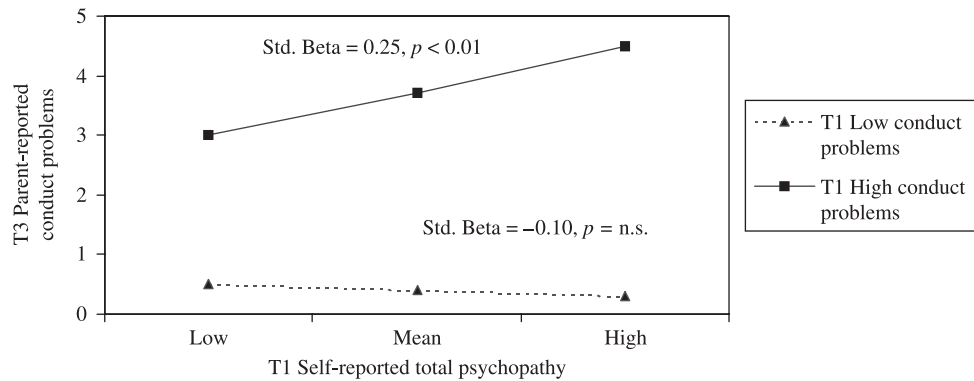* $p < 0.05$; ** $p < 0.01$.

Fig. 1. The interaction between self-reported total psychopathy and parent-reported conduct problems predicting later parent-reported conduct problems.

Second, the child report on the APSD, again with the exception of the Callous-Unemotional scale, predicted higher scores on the parent completed BASC-PRS Conduct Problems scale two years later, even after controlling for initial scores on this scale.

These predictive analyses controlled for the main effects of initial scores on the antisocial measures in predicting later antisocial behavior. However, it is still possible that measures of psychopathic traits interact with initial levels of antisocial behavior to predict later antisocial behavior. Such interactive effects were tested in a series of hierarchical multiple regression analyses in which main effects of Time 1 measures of self-reported psychopathic traits and Time 1 measures of antisocial behavior were entered in the first step. In the second step, the interaction between these two measures was entered and the increase in variance in the overall regression model (ΔR^2) accounted for by this interaction was tested for significance (Aiken & West, 1991). Several interactions emerged from these analyses. There were significant interactions between self-report of psychopathy and initial levels of parent-reported conduct problems for predicting later parent-reported conduct problems. These interactions emerged for the Total APSD scale ($\Delta R^2 = 0.03$; $F(1, 73) = 6.43$, $p < 0.01$), the Impulsivity scale ($\Delta R^2 = 0.02$, $F(1, 73) = 5.69$, $p < 0.05$), and the Narcissism scale ($\Delta R^2 = 0.03$, $F(1, 73) = 6.31$, $p < 0.01$). An interaction also emerged between self-report of impulsivity and initial level of self-report of conduct problems predicting later self-reported conduct problems ($\Delta R^2 = 0.06$; $F(1, 74) = 7.51$, $p < 0.01$). The form of these interactions was determined by graphing and testing for significance the separate regression lines for psychopathic traits predicting later conduct problems at both high (1 SD above the mean) and low (no conduct problems) levels of initial conduct problems, as recommended by Holmbeck (2002). The form of these interactions were all similar and are illustrated in Fig. 1 using the self-report of total psychopathy. For children high on conduct problems, total psychopathy scores were related to increases in conduct problems over time (Std. Beta = 0.25, $p < 0.05$) but

they were unrelated to later conduct problems for children initially low on conduct problems (Std. Beta = –0.10, $p = $ n.s.).

An important issue in studying the association between psychopathic traits and disruptive behavior disorders, such as ODD and CD, is the item overlap between measures of these two constructs (Burns, 2000). Therefore, the concurrent correlations reported in Table 3 were repeated, after eliminating items judged to be similar across the measure of APSD scales and the outcome variables. This led to the elimination of two ODD symptoms ("blames others for mistakes", "becomes angry when corrected") that are similar to items (1 & 15) on the APSD Narcissism and Total scales and one CD symptom ("lies easily and skillfully") that is similar to APSD item 6 that is included only on the Total score. After eliminating these potentially overlapping items, the correlations remained essentially unchanged. That is, prior to eliminating overlapping items, the correlations between APSD scales and measures of conduct problems ranged from 0.14 to 0.66. The range after eliminating these items was 0.12 to 0.67 with the same pattern of significance. Similarly, predictive associations reported in Table 5 were also repeated using the revised variables. The predictive correlations range from 0.10 to 0.63 prior to eliminating items and from 0.11 to 0.63 using the revised scales. Similarly, the partial correlation coefficients controlling for initial levels of conduct problems ranged from –0.03 to 0.35 with the full item content and from –0.00 to 0.37 with the revised item content.

DISCUSSION

The purpose of the current study was to examine the psychometric properties of the self-report version of the Antisocial Process Screening Device (Frick & Hare, 2001), a measure that has been used in a number of past studies to assess traits associated with psychopathy (Caputo *et al.*, 1999; Silverthorn *et al.*, 2001; Kruh *et al.*, 2005; Vitacco *et al.*, 2003). Importantly, the psychometric properties of this scale were compared to the parent report version that

has analogous item content. Thus, this study allowed for a comparison of the self-report of psychopathic traits in youth with the report of another informant, without confounding informant source with the content of the measure.

The results for the self-report scale were mixed. The most negative finding concerns the internal consistency of the subscales for the self-report version. That is, the internal consistency for the self-report Total APSD scale was generally adequate across the three waves of data collection (alpha's ranging from 0.78 to 0.81). However, the internal consistency for the subscales were generally below a level considered acceptable (0.50 to 0.68) and this is consistent with a review of internal consistency estimates across a number of published and unpublished studies (0.22 to 0.75) using the self-report APSD (Poythress, Douglas *et al.*, 2006). These internal consistency estimates were also lower than what was found for the parent report version (0.65 to 0.82). Importantly, inspection of item statistics did not suggest that eliminating any individual items would have appreciably enhanced the consistency estimates for any scale. It is possible that these low internal consistency estimates reflect a lack of factorial support for the three-subscale structure of the APSD, which was based on factor analyses using parent and teacher ratings (Frick, Bodin *et al.*, 2000). Although a prior study with the self-report version of the scale provided support for the three-factor structure in institutionalized youth (Vitacco *et al.*, 2003), this factor structure may not fit the distributions found in non-institutionalized samples where there are lower base rates of items. In fact, Poythress, Dembo *et al.* (2006) recently found support for the three-factor structure in an at-risk sample but the fit was only adequate after two items with the lowest inter-item correlations were eliminated (i.e., items 19 and 20). Alternatively, low internal consistency estimates could also be due to the low number of items on the three subscales (i.e., 5–7 items), although the Youth Psychopathic Traits Inventory showed higher internal consistency estimates with similar numbers of items (Poythress, Dembo *et al.*, 2006).

Despite this modest internal consistency, the self-report APSD showed some positive evidence for the reliability and validity of its scores. First, despite some legitimate concerns that youth may under-report the traits associated with psychopathy that are clearly not socially acceptable (Andershed *et al.*, 2002), children did not report lower levels of these traits than parents. In fact, the few significant effects for informant that emerged were for children reporting higher levels of psychopathic traits than parents. It is still possible that social desirability was operating for both parent and child ratings and, perhaps, to a great degree for parents. No index of a socially desirable response set was included and thus, this possibility could not be tested. Also, even if children were willing to report on these traits in the current research context, it is not clear that they would be equally willing to report on them in other contexts in which the anonymity of their responses may not be assured (Edens, Skeem *et al.*, 2001).

A second finding supporting the use of the self-report ratings was the association between parent and child ratings. That is, contemporaneous assessments showed cross-informant correlations across APSD scales ranging from 0.30 to 0.58 with a mean of 0.46 (all $p < 0.05$). Predictive cross-informant correlations (one informant ratings predicting the other) ranged from 0.24 to 0.55 with a mean of 0.42 (all $p < 0.05$) across one year and from 0.34 to 0.56 with a mean of 0.45 (all $p < 0.05$) across two years. While these correlations indicate that parent and child ratings only share between 18% and 21% of their variance, these cross-informant correlations are much higher than is typically found in the assessment of childhood psychopathology (Kamphaus & Frick, 2002). For example, in their meta-analysis of 119 studies (269 samples) the average correlation between parent and child report of emotional and behavioral problems was 0.25 (Achenbach, McConaughy & Howell, 1987). It is also comparable to the correlations found for multiple informant ratings of adult personality, which average between 0.30 and 0.39 across personality traits (Funder, Kolar & Blackman, 1995; McCrae, Stone & Fagan, 1998).

A third finding supporting the use of the self-report of the APSD is the relatively high stability estimates of the ratings. For the Total score in particular, the one-year stability estimates were 0.70 and 0.72, whereas the two-year stability estimates were 0.64. These estimates are much higher than is often found for self-report ratings of personality in children (Roberts & DelVecchio, 2000). There are a couple of important caveats to this relatively high stability. First, the subscales on the APSD showed somewhat less stability, ranging from 0.49 to 0.63 across one year and from 0.43 to 0.48 across two years, although this is comparable to past stability estimates for measures of children's personality (Roberts & DelVecchio, 2000). Also, the self-report ratings showed less stability than the parent ratings which, as reported in a previous publication, are generally quite high even over more extended periods (Frick, Kimonis *et al.*, 2003).

The final source of support for the self-report version of the APSD was its association with measures of antisocial behavior. That is, the APSD was associated with measures of antisocial behavior, both concurrently and predictively. Importantly, self-report was associated with parent reports of antisocial behavior suggesting that such associations could not be solely accounted for by shared method variance. In fact, only the child self-report on the APSD, and not the parent report on this scale, was significantly associated with parent-reported police contact in this sample. As in past studies (Christian *et al.*, 1997; Frick, Barry *et al.*, 2000), this association with antisocial behavior was weakest for the CU scale of the APSD, suggesting that this dimension of psychopathy shows the least overlap with criteria for antisocial disorders in both adults (Hare, 1995) and children (Frick, Barry *et al.*, 2000). On the other hand, the impulsivity dimension showed the strongest correlations with antisocial behavior, particularly for parent-report. This is consistent with

Poythress, Dembo *et al.* (2006) who found the strongest unique associations between impulsivity subscales and externalizing symptoms. However, for child-report, the narcissism dimension showed the strongest correlations with antisocial behavior. Further, this association could not be accounted for by overlapping item content between the narcissism scale of the APSD and measures of antisocial behavior (Burns, 2000). This finding supports the potential importance of narcissistic traits in predicting antisocial and aggressive behavior (Bushman & Baumeister, 2002). Specifically, Bushman and Baumeister (2002) have shown that when individuals with narcissistic traits are rejected by others, they are more aggressive toward the offending party. Unfortunately, the importance of narcissistic traits for predicting antisocial behavior has not often been studied in juvenile samples (e.g., Barry, Frick & Killian, 2003).

Also, it is important to note that, in terms of predictive relations, much of the association across time could be accounted for by the association between APSD scores and initial levels of antisocial behavior. This finding could be due to the strong associations between APSD scores and initial levels of antisocial behavior. As a result, much of the utility of APSD scores for designating a more severe pattern of antisocial behavior is likely to be captured in this initial index of severity. However, there were a few notable exceptions in which APSD scores predicted later antisocial behavior, even after controlling for initial levels of severity. Specifically, self-report on the APSD predicted variance in a measure of ODD and CD symptoms and in a measure of parent-reported covert conduct problems, even after controlling for initial levels of these problems. Further, as illustrated in Fig. 1, within those youth high on initial levels of parent-reported conduct problems, scores on the APSD predicted increases in levels of conduct problems over the two-year study period.

All of these findings need to be interpreted in the context of a number of limitations in the study. First, the study involved a relatively small sample that was recruited to over-sample children high on psychopathic traits with and without conduct problems. Analyses indicated that the primary variables of interest, the self-report measures of psychopathic traits, were only modestly correlated with the selection criteria making it unlikely that a bimodal distribution of these variables inflated stability estimates substantially. However, the stability estimates for parent report may have been somewhat inflated due to this sampling method. Further, the distributions of scores found in the current sample were artificial in a number of respects. For example, by recruiting equal numbers of children with conduct problems who were high and low on psychopathic traits, we artificially reduced the correlation between conduct problems and psychopathic traits in our sample. Second, the small and non-representative nature of the sample make it important that the distributions reported in Table 1 not be considered normative data on which to base cut-scores for the APSD. Further, the sample was too small to conduct a factor analysis of the self-report

of the APSD which, to date, has only been tested with adolescents who have had some level of involvement with the juvenile justice system (Vitacco *et al.*, 2003; Poythress, Dembo *et al.*, 2006). As noted previously, the low internal consistency of the self-report may reflect an inadequate fit of the three-factor model that was used to form subscales in this study, at least when including all items. Third, it deserves repeating that the validity indices obtained in this research context, in which participants were assured of the confidentiality of their responses, may not be obtained in settings in which such assurances cannot be made. Thus, the reliability and validity of self-report indices in applied settings that cannot promise such confidentiality needs to be tested further.

Clearly, based on these limitations, much more research is needed on the self-report version of the APSD to determine the most appropriate uses for its scores. However, the current findings, combined with a rather substantial body of research on its validity from other independent samples of youth (Caputo *et al.*, 1999; Kimonis *et al.*, 2006; Loney *et al.*, 2003; Kruh *et al.*, 2005; Pardini *et al.,* 2003; Silverthorn *et al.*, 2001; Spain *et al.*, 2004; Vitacco *et al.*, 2003) suggest that such research could be quite important for developing a measure that can designate a distinct group of antisocial youth who may have different causal processes leading to their antisocial behavior (Frick & Marsee, 2006) and who may require a unique approach to treatment (Frick, 2001; 2006). The findings from the current study add to this literature by showing that self-report ratings on the APSD in a young adolescent community sample are moderately correlated with parent reports, are relatively stable over 1–2 years, and are significantly associated with indices of antisocial behavior, both concurrently and predictively. Thus, the construct measured by the relatively brief 20-item APSD could provide a cost-effective screening measure or could be included as part of a more comprehensive assessment battery to assess traits associated with psychopathy in future research studies with youth.

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APPENDIX: ITEMS FROM THE APSD SELF-REPORT SCALE

Narcissism (NAR)

16. You think you are better or more important than other people.
 8. You brag a lot about your abilities, accomplishments, or possessions.
10. You use or "con" other people to get what you want.
14. You can act charming and nice to get what you want.
11. You tease or make fun of other people.
15. You get angry when corrected or punished.
 5. Your emotions are shallow and fake.

Impulsivity (IMP)

 4. You act without thinking of the consequences.
17. You do not plan ahead or leave things until the "last minute".

13. You do risky or dangerous things.
 1. You blame others for your mistakes.
 9. You get bored easily.

Callous-Unemotional (CU)

18. You are concerned about the feelings of others. (I)*
12. You feel bad or guilty when you do something wrong. (I)
 3. You care about how well you do at school or work. (I)
 7. You are good at keeping promises. (I)
19. You hide your feelings or emotions from others.
20. You keep the same friends. (I)

Items not included on subscales

 2. You engage in illegal activities.
 6. You lie easily and skillfully.

* (I) refers to items that are inversely scored.