

# THE DEVELOPMENT OF PSYCHOPATHY

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■ **Abstract** In this review, we explore two aspects of the development of psychopathy. First, we examine what psychopathy looks like across time. Second, we ask where psychopathy comes from. Much recent empirical work supports the idea that psychopathy in childhood and adolescence looks much like psychopathy in adulthood. Research utilizing recently created juvenile psychopathy indices demonstrates that juvenile psychopathy can be assessed reliably and that the nomological network surrounding the construct is quite similar to the one around adult psychopathy. Juvenile psychopathy is robustly related to offending, other externalizing problems, low levels of Agreeableness and Conscientiousness, and deficits in emotional processing and inhibition. Juvenile psychopathy is also relatively stable across adolescence. Much less research has examined from whence psychopathy comes, although several theories are reviewed. We close with a discussion of recent objections to the downward developmental extension of psychopathy to juveniles and some suggestions for additional research.

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## PSYCHOPATHY

The term “psychopathy” has been around for well over 100 years. Although it was originally used to denote “all mental irregularities,” in the past 50 years it has come to be used much more narrowly. If not the first description of psychopathic individuals, Cleckley’s was certainly the richest (1941). He described 15 males and females that he thought were psychopaths, by which he meant individuals who seemed sane, intelligent, and competent, but who were clearly disturbed. Because they seemed sane, but were clearly disordered, Cleckley said these individuals wore “masks of sanity.” Since Cleckley’s original writings, other clinicians and researchers (Buss 1966, Hare 2003, Karpman 1941, McCord & McCord 1964) have been remarkably consistent in their descriptions of the psychopath. At this point, we can describe psychopathy as a form of personality disorder. Behaviorally, the psychopath is an impulsive risk-taker involved in a variety of criminal activities. Interpersonally, the psychopath has been described as grandiose, egocentric, manipulative, forceful, and cold-hearted. Affectively, the psychopath displays shallow emotions, is unable to maintain close relationships, and lacks empathy, anxiety, and remorse. Given this description, it is not surprising that the psychopath poses great harm and exacts great costs from the society in which he or she lives.

The psychopathic offender is among the most prolific, versatile, and violent of offenders (e.g., Hare 2003). For example, Kosson et al. (1990) investigated the relation between psychopathy and offending in a large sample of 485 offenders. These authors found that psychopathic offenders committed significantly more violent and nonviolent offenses as well as a greater variety of offenses; the correlation between total psychopathy scores and the number of different types of charges was .46 for white offenders and .35 for African American offenders.

Psychopathic individuals are also involved in other forms of high-risk behaviors. Several studies have found elevated rates of alcohol and drug use, abuse, and dependence among psychopathic offenders. For example, in one of the more striking demonstrations, in a sample of 251 males in a methadone maintenance program, Rutherford et al. (1997) found that psychopathy was correlated at .35 with number of substance use disorders (see also Smith & Newman 1990). Relatedly, psychopathy is correlated with high-risk sexual practices. Tourian et al. (1997) found that psychopathy was positively related to total scores on a risk-assessment battery and with the use of shared needles.

The psychopathic individual, although not untreatable (see Salekin 2002), appears relatively resistant to efforts at treatment and rehabilitation. Salekin et al. (1996) conducted a meta-analysis of 18 studies that examined the relation between psychopathy and recidivism. They reported average effect sizes of .55 for general recidivism and .79 for violent recidivism (see also Hemphill et al. 1998). Relatedly, there is some evidence that psychopathic offenders benefit less from psychiatric treatment than do nonpsychopathic offenders. For example, Ogloff et al. (1990) reported that psychopathic offenders in a therapeutic community program, compared with nonpsychopathic offenders, remained in treatment for a shorter period

of time, expended less effort, and benefited less from the treatment they did receive (see also Rice et al. 1992).

Thus, the construct of psychopathy denotes an important type of antisocial individual whose cost to society far outweighs his/her representation in the population. It is little wonder then that the construct has received intensive investigation. According to PsycInfo, more than 700 articles that include reference to psychopathy have been published since 1997 alone. Most of these articles have been concerned with documenting the reliability and predictive utility of the construct of psychopathy, or identifying underlying mechanisms that make the psychopath who he or she is. Although there has been much less focus on the development of psychopathy, this is beginning to change. For example, *Behavioral Sciences and the Law* recently devoted two full issues to juvenile psychopathy (see Petrila & Skeem 2003, Skeem & Petrila 2004). We review below what is known about the development of psychopathy, particularly as it pertains to juveniles.

## THE DEVELOPMENT OF PSYCHOPATHY

There are two aspects to the development of psychopathy. The first aspect of development is concerned with how psychopathy looks across time. Researchers concerned with this understanding of development seek to determine the early manifestations of psychopathy and to document how its form and level change across development. The second aspect of development is more concerned with the etiology of psychopathy. Researchers concerned with this aspect of development seek to identify the root causes of the syndrome. There is much more research available for review concerning the first sense of development—how psychopathy looks across time. A number of researchers have begun to examine the early manifestations of psychopathy; we discuss this research in the section below.

### THE FIRST ASPECT OF DEVELOPMENT: HOW PSYCHOPATHY LOOKS ACROSS TIME

Several researchers, recognizing the need to parse the heterogeneity in the group of children with conduct problems, have borrowed the construct of psychopathy from the adult literature in an attempt to discriminate those children with conduct problems who will become chronic offenders from those whose antisocial behavior will subside over time (Frick et al. 2000; Lynam 1996, 1997). It is from this research that we have obtained information on what psychopathy looks like earlier in the developmental course. Several instruments have been constructed to assess psychopathic traits in adolescence and childhood (Forth et al. 1990; Frick et al. 1994; Lynam 1997, 1998). All of these instruments involve attempts to assess the traits comprising psychopathy in adults using more developmentally appropriate assessments. Each attempt has begun with what is arguably the “gold standard”

for the assessment of psychopathy in adulthood—the Hare Psychopathy Checklist-Revised (PCL-R; Hare 2003). The PCL-R is a symptom construct rating scale in which an examiner scores 20 items based on a semistructured interview and review of institutional records. The PCL-R shows an arguably stable factor structure, good interrater and test-retest reliability, and predictive relations with important outcomes (e.g., recidivism and violence).

## The Downward Translations

The “downward translations” have typically involved three modifications. First, traits or behaviors that are developmentally inappropriate have been omitted; for example, Forth et al. (1990) dropped the item assessing many short-term marital relationships from their downward translation of the PCL-R. Second, some scales have included additional behaviors or traits that are more developmentally appropriate; for example, Frick et al. (1994) include concern about schoolwork in their assessment. Third, several scales have used multiple, broader, more general items that are typical in the assessment of personality across the life course; for example, Lynam (1997) assesses behavioral dyscontrol using three items: “Is he easily frustrated? Does he get irritated or mad over little things? Does he have a quick temper?”

**ANTISOCIAL PROCESS SCREENING DEVICE** The Antisocial Process Screening Device (APSD; Frick & Hare 2001) is a 20-item rating scale that was designed to be a childhood extension of the adult PCL-R. The APSD was designed to assess each of the PCL-R dimensions deemed relevant to children. Each relevant PCL-R construct was made into a single item that could be scored 0 (not at all true), 1 (sometimes true), or 2 (definitely true). Thus, several PCL-R items were not assessed, including leading a parasitic lifestyle, promiscuous sexual behavior, many short-term marital relationships, and revocation of conditional release. In place of these omitted items, the APSD substitutes items assessing more developmentally appropriate behaviors (e.g., keeps the same friends, is concerned about schoolwork, or teases others) or additional items (e.g., bragging and thinking oneself more important than others as indicators of grandiosity). The APSD was originally developed to assess these traits based on ratings by parents and teachers in preadolescent children, but it recently has been used to collect self-reports from adolescents.

**CHILDHOOD PSYCHOPATHY SCALE** The Childhood Psychopathy Scale (CPS; Lynam 1997) was developed to operationalize, in childhood and adolescence, the personality traits found in the PCL-R. Using descriptions of the PCL-R constructs and items previously collected from caregivers as part of an assessment of boys enrolled in the middle sample of the Pittsburgh Youth Study, 13 of the 20 PCL-R constructs were operationalized as two- to four-item scales. Three PCL-R items, criminal versatility, juvenile delinquency, and early behavior problems, were operationalized in a single CPS scale. Six PCL-R constructs were not included in

the original version of the CPS because they could not be adequately operationalized (prone to boredom), did not correlate with other items (grandiose sense of self-worth), or had no childhood counterparts (promiscuous sexual behavior, many short-term marital relationships, and revocation of conditional release). Recently, a revised version of the CPS was developed (see Lynam et al. 2004). This version assesses 13 of the PCL-R constructs: glibness, untruthfulness, boredom susceptibility, manipulation, lack of guilt, poverty of affect, callousness, parasitic lifestyle, behavioral dyscontrol, lack of planning, impulsiveness, unreliability, and failure to accept responsibility. The newest version does not contain a scale assessing explicit antisocial behavior, but rather contains a scale assessing boredom susceptibility. The revision was undertaken in order to focus more strictly on personality traits, to simplify complex items, and to increase the reliability and validity of several constructs that were not optimally operationalized in the original version (i.e., shallow affect and glibness). Although originally developed for use with parents and teachers, the CPS has also been used in self-report form.

**HARE PSYCHOPATHY CHECKLIST-YOUTH VERSION** The Hare Psychopathy Checklist: Youth Version (PCL-YV; Forth et al. 2003) is a 20-item rating scale for the assessment of psychopathy in youth. The items are scored based on information from a semistructured interview and file review. The PCL-YV has modified item descriptions but has retained essentially the same 20 items that appear on the adult measure (PCL-R; Hare 2003). These modifications were designed to take into account adolescent life experiences through an increased emphasis on peer, family, and school adjustment. Each item is scored on a three-point scale, with 0 indicating the characteristic is absent, 1 indicating the characteristic is sometimes present, and 2 indicating the characteristic is consistently present. Scoring is completed following a semistructured interview and, if available, a file review.

## Scale Psychometrics

All of this work is predicated on the assumption that early manifestations of psychopathy will resemble later manifestations. As a result, most of the work with these scales has involved examining the ability of the nomological network surrounding psychopathy in adulthood to fit around juvenile psychopathy. That is, most research has involved asking if juvenile psychopathy behaves like adult psychopathy in terms of the factor structure of the scales, their relations to antisocial outcomes, the patterns of comorbidity, the relation to extra offending elements of the network, and the relation to underlying processes. With few exceptions, the research has supported the idea that juvenile psychopathy looks like adult psychopathy.

**RELIABILITY** Multiple studies have reported on the reliabilities of the three assessments of juvenile psychopathy. At the total score level, all show adequate reliability. For example, coefficient alphas for the total score on the CPS have been

reported to range from a low of .80 for self-reports to a high of .92 for mother reports (Lynam et al. 2004), with the majority of reports greater than .85 (Lynam 1997, Spain et al. 2004). Adequate reliability also has been reported for the APSD, with alphas ranging from a low of .62 for the self-report version (Vitacco et al. 2003) to a high of .92 for teacher reports (Frick et al. 2003a), with most of the coefficients, at least for parent and teacher reports, greater than .80. Finally, Forth & Burke (1998) reported adequate levels of reliability for total scores on the PCL-YV with average alphas of .83 and average interrater intraclass correlations of .93.

**CONVERGENT VALIDITY** There is also evidence for adequate convergence among these juvenile psychopathy assessments, particularly between the CPS and APSD. Across two studies, the correlation between the total scores on the CPS and APSD ranged from .80 in Falkenbach et al. (2003) to .86 in Salekin et al. (2004b). Across five studies, the correlation between total scores on the APSD and PCL-YV ranged from .30 in Murrie & Cornell (2002) to .62 in Vitacco et al. (2003), with an average across studies of .42 (Lee et al. 2003; Salekin et al. 2004a,b). A correlation of .42 has been reported between total scores on the CPS and PCL-YV (Salekin et al. 2004b). The correlations of the APSD and CPS with the PCL-YV are actually slightly higher than what is typically found in other research examining agreement across sources.

**FACTOR STRUCTURE** Much assessment research at the adult level has been aimed at identifying and clarifying the factor structure of the PCL-R. For a number of years, Hare and colleagues argued that the PCL-R was underlaid by two-factors. Factor 1 was frequently referred to as the “selfish, callous, and remorseless use of others,” whereas Factor 2 was called an index of “chronically unstable and antisocial lifestyle” (Harpur et al. 1988). More recently, Cooke & Michie (2001) have suggested that a three-factor model, excluding explicitly antisocial items, is more parsimonious. These factors reference an “arrogant and deceitful interpersonal style,” a “deficient affective experience,” and an “impulsive and irresponsible behavioral style.” The most recent version of the manual for the PCL-R (Hare 2003) retains the original two-factor solution but offers an alternative four-factor conceptualization that breaks each of the original two factors into two subfactors. Interestingly, three of these four subfactors correspond to the three factors proposed by Cooke & Michie, whereas the fourth subfactor retains the explicitly antisocial items dropped by Cooke & Michie.

Two-, three-, and four-factor structures have also been identified within the juvenile psychopathy measures. In the original empirical work, the APSD was shown to have a two-factor structure (Frick et al. 1994), consisting of items assessing a callous-unemotional style and items assessing impulsive conduct problems. More recent work, however, has attempted to fit a three-factor structure to the data with mixed results; Frick et al. (2000) found that the three-factor structure did not fit the data significantly better than the original two-factor structure, whereas Vitacco et al. (2003) found evidence for the three-factor structure. Work by Frick and his

colleagues has demonstrated differential relations between the original two factors and several validation measures consistent with work at the adult level (e.g., O'Brien & Frick 1996), although it should be noted that several of these differential relations depend on cooperative suppressor effects and are therefore difficult to interpret. Although empirical results have been mixed (e.g., Brandt et al. 1997, Kosson et al. 2002), Forth et al. (2003) suggest that the PCL-YV can be scored using two-, three-, or four-factor models. Lynam has reported results from confirmatory factor analyses on two samples using the CPS that supported a two-factor model (Lynam 1997, Lynam et al. 2004) in addition to evidence documenting differential relations between these two factors (Lynam et al. 2004). The CPS has also been scored conceptually into two- and three-factor models corresponding to the factor structure of the PCL-R (Falkenbach et al. 2003, Spain et al. 2004).

Thus, the three juvenile psychopathy assessments show factor structures that are relatively consistent with those reported for the PCL-R. Several caveats are in order, however. First, controversy exists at the adult level as to which is the optimal factor structure. It is therefore difficult to know how the juvenile psychopathy measures should behave. Second, among juvenile psychopathy measures, reliabilities for the subscales are frequently poor, particularly for the APSD and the PCL-YV. The utility of these scales, then, is limited. Third, in contrast to the adequate convergence found across assessments for the total scores of these psychopathy measures, the convergence of the subscales is rather weak. For example, Vitacco et al. (2003) found little evidence for differential relations between the three factors of the APSD and the two factors of the PCL-YV. Lee et al. (2003) found poor convergence between the three factors of the APSD and the PCL-YV. Salekin et al. (2004b) found less convergence for the subscales of the CPS, APSD, and PCL-YV than for the total scores. We should note, however, that this same lack of congruence is apparent in the adult literature.

In general, the newly created scales for assessing juvenile psychopathy function relatively well psychometrically. They have adequate reliabilities, especially at the total score level. They converge with one another generally, although—in line with other research—convergence is greatest for those assessed using the same informants. Finally, the factor structures most widely identified in the adult literature using the PCL-R can also be recovered from the juvenile assessments, although similar subscales from different instruments do not correlate particularly well with one another. The question still remains, are these scales assessing psychopathy? To answer this, we turn to an examination of the relations that these scales bear to other measures, or to their construct validity.

## Construct Validity

**RELATIONS TO ANTISOCIAL BEHAVIOR** More than 20 studies have examined the relation between juvenile psychopathy and offending. Almost without exception, these studies have found relations between psychopathy and antisocial behavior in juveniles similar to those found in adults. Juvenile psychopathy is moderately

strongly related to age at onset (e.g., Campbell et al. 2004, Corrado et al. 2004), number and variety of violent and nonviolent offenses (e.g., Forth et al. 1990, Kosson et al. 2002, Lynam 1997, Salekin et al. 2004b), stability of offending across time (Lynam 1997), and quantity and quality of aggression (Brandt et al. 1997, Frick et al. 1994, Murrie et al. 2004). For example, using the CPS, in a sample of 430 12- to 13-year-old boys from a high-risk study, Lynam (1997) reported that juvenile psychopathy was moderately correlated ( $r$ 's range from .19 to .39) with past and current delinquency, and is related to serious delinquency that is stable across time. Kosson et al. (2002) examined correlations between offending history and scores on the PCL-YV in a sample of 115 adolescent males on probation. They report that scores on the PCL-YV correlated with the number of nonviolent charges ( $r = .35$ ), number of violent charges ( $r = .27$ ), total number of charges ( $r = .42$ ), and the number of different charges ( $r = .45$ ). Christian et al. (1997), using the APSD in a sample of 120 clinic-referred children, found that psychopathic children evidenced a greater number and variety of conduct problems and a great number of police contacts. These results hold across different measurement instruments, reporting sources, samples, and ages.

Moreover, several of these studies have examined the predictive relations between juvenile psychopathy and antisocial behavior. A few of these have examined the relation between juvenile psychopathy and institutional infractions (e.g., Brandt et al. 1997, Forth et al. 1990, Murrie et al. 2004, Stafford & Cornell 2003). For example, Spain et al. (2004) administered three psychopathy instruments (PCL-YV, APSD, and CPS) to 85 male adolescent offenders aged 11 to 18 in a residential treatment facility. They found significant relations between the total number of infractions (physical, verbal, and administrative) and each of the psychopathy indices, with  $r$ 's of .27, .38, and .43 for the PCL-YV, APSD, and CPS, respectively. Additional studies have examined the predictive relations between juvenile psychopathy measures and recidivism (Catchpole & Gretton 2003, Gretton et al. 2001, Toupin et al. 1995). Corrado et al. (2004) followed 182 male adolescent offenders for, on average, 14.5 months. They found that high scorers on the PCL-YV reoffended earlier than did low scorers; this was true for both nonviolent offenses (6.87 months versus 12.33 months) and violent offenses (13.55 versus 18.17). Similarly, Falkenbach et al. (2003) examined the predictive utility of both self- and parent reports of the APSD and CPS in predicting recidivism among a group of 69 juveniles who were part of a juvenile diversion program. These authors found that re-arrest during the one-year follow-up was predicted by both the APSD ( $r$ 's = .33 and .40 for total scores on the self-reports and mother reports, respectively) and CPS ( $r$ 's = .36 and .56 for total scores on the self-reports and mother reports respectively). Most recently, Gretton et al. (2004) followed across ten years a sample of 157 boys who were originally assessed for psychopathy in adolescence using a precursor to the PCL-YV. These authors found that juvenile psychopathy was significantly correlated with violent recidivism and ( $r = .32$ ) and time to first violent ( $r = -.40$ ) and first nonviolent ( $r = -.22$ ) offense. Again, these results mirror those found among adults.

Two of these studies have also examined the relation between juvenile psychopathy and treatment outcomes. Using the PCL-YV in a sample of 64 adjudicated youths in a substance treatment program, O'Neill et al. (2003) reported on the relation of psychopathy to treatment process and outcome. These authors found that high scorers on the PCL-YV attended the program for fewer days ( $r = -.42$ ), participated more poorly when they did attend ( $r = -.50$ ), and showed less clinical improvement ( $r = -.58$ ) across the course of treatment. Spain et al. (2004), in a sample of 85 male adolescent offenders currently in residential treatment, examined the relation between scores on the CPS, APSD, and PCL-YV and two treatment indicators: loss of treatment level due to misbehavior and number of days to promotion to the next treatment level. Only the affective subscale on the CPS was significantly related to loss of treatment level, whereas scores on the both the CPS and APSD were related to the number of days to promotion ( $r$ 's = .31 and .21 for the CPS and APSD, respectively). Scores on the PCL-YV were unrelated to both treatment indicators.

Finally, and importantly, several of these studies have attempted to demonstrate the incremental validity provided by the construct of juvenile psychopathy in predicting antisocial behavior. For example, Lynam (1997) demonstrated that scores on the CPS were related to concurrent serious delinquency beyond social class, IQ, impulsivity, and delinquency. Salekin et al. (2004b), in a sample of 130 adolescent offenders, found that scores on the PCL-YV predicted concurrent delinquency beyond the disruptive behavior disorders. In the strongest demonstrations, three studies showed that psychopathy predicted future antisocial behavior beyond current antisocial behavior. Murrie et al. (2004), in a sample of 113 incarcerated adolescents, reported that scores on the PCL-YV predicted institutional violence beyond previous violence. Frick et al. (2003a), in a community sample of 98 children, found that scores on the callous-unemotional scale of the APSD predicted later delinquency beyond contemporary conduct problems, although the relations did not hold for conduct problems or aggression. Most recently, Gretton et al. (2004) found that scores on the PCL-YV predicted violent recidivism across a ten-year follow-up beyond a number of criminal history and conduct disorder variables.

One issue that plagues the adult literature on psychopathy and that must be considered in examining the relation between juvenile psychopathy and antisocial behavior is the problem of predictor-criterion overlap. The PCL-R is suffused with antisocial behavior. Four of its items explicitly reference antisocial behavior: early behavioral problems, juvenile delinquency, revocation of conditional release, and criminal versatility. For at least seven other items, the interviewer/rater is encouraged to use criminal history in the rating; for example, in rating poor behavioral controls, the rater is told that the "criminal record may include charges and convictions for offenses involving spontaneous and unprovoked violence" (Hare 2003, p. 41). This raises the concern that the predictive power of the psychopathy construct lies in its assessment of antisocial behavior, not in its assessment of core personality traits. Evidence exists to support such a concern; for example, Skeem & Mulvey (2001), in a large sample of civil psychiatric patients, showed that the

predictive power of the PCL-YV is found primarily in the Factor 2 items that more explicitly assess antisocial behavior. For the most part, juvenile psychopathy researchers have been sensitive to this concern. For both the APSD and the CPS, few items explicitly assess frankly antisocial behavior. The APSD includes only one item that explicitly references antisocial behavior: engages in illegal activities. Several studies have shown that the callous-unemotional factor, which does not contain the illegal activities item, is predictive of antisocial behavior (e.g., Frick et al. 1994, 2000). These results suggest that the relation between APSD scores and antisocial behavior is not due to predictor-criterion overlap. Similarly, the revised version of Lynam's CPS contains no subscales or items that assess frankly antisocial behavior. The original CPS did contain a scale assessing criminal versatility, but this item was dropped in analyses predicting antisocial behavior (Lynam 1997). Thus, predictor-criterion overlap does not seem to be an issue for the CPS studies. Predictor-overlap is more at issue in studies using the PCL-YV, which, like the PCL-R, contains multiple items that both directly assess and implicitly reference antisocial behavior. Although most studies have paid little attention to this issue (e.g., Gretton et al. 2001, 2004), several studies have deleted the items that explicitly assess antisocial behavior and have found that the scores on the PCL-YV continue to predict antisocial behavior (e.g., Kosson et al. 2002, Murrie et al. 2004). However, it is important to note that there are no studies using the PCL-YV that have taken into account the items that direct the rater to attend to information regarding antisocial behavior.

**RELATIONS TO PSYCHOPATHOLOGY** The relations between psychopathy and psychopathology have been well charted in adulthood (e.g., Blackburn & Coid 1998, Edens et al. 2001, Hart et al. 1991). Psychopathy has been shown to be positively related to externalizing disorders, which include antisocial personality disorder, conduct disorder, and substance abuse and dependence disorders, but unrelated or negatively related to internalizing disorders, which include unipolar mood and anxiety disorders (see Krueger et al. 1998 for a discussion of the distinction between externalizing and internalizing psychopathology).

Several studies have explored the relation between juvenile psychopathy and general psychopathology. Lynam (1997) examined the relations between scores on the mother-reported CPS and self-reported and teacher-reported psychopathology on the Youth Self Report (YSR) and the Teacher Report Form (TRF) in a large sample of 12- to 13-year-old boys. He found moderate, positive correlations between the CPS and the externalizing scales ( $r$ 's = .23 and .32 for YSR and TRF), and smaller, but still positive, correlations with the internalizing scales ( $r$ 's = .11 and .20 for YSR and TRF). After removing the effect of general psychopathology on these scales, Lynam found the predicted positive relations with externalizing problems ( $r$ 's = .18 and .14 for YSR and TRF) and negative relations to internalizing problems ( $r$ 's = -.11 and -.10 for YSR and TRF).

Brandt et al. (1997) examined the relations between scores on the PCL-R and psychopathology in a sample of 130 incarcerated adolescent offenders. Similar

to Lynam (1997), they found that the correlation between juvenile psychopathy and externalizing problems was higher ( $r = .23$ ) than the correlation with internalizing problems ( $r = .16$ ), although both were positive. Similarly, Myers et al. (1995) investigated the relations between psychopathy measured by the PCL-R and several forms of psychopathology in 30 psychiatrically hospitalized male and female adolescents. These authors found positive correlations between psychopathy and conduct disorder, delinquent behavior, substance abuse, and narcissistic personality disorder.

Frick et al. (2000b) reported on the relations between the scores on the APSD and disruptive behavior disorder symptoms from DSM-IV in both a large community sample and a smaller clinic-referred sample. Across both samples, large, positive correlations (all greater than  $.5$ ) between psychopathy and symptoms of oppositional defiant disorder, conduct disorder, and attention deficit hyperactivity disorder were reported. Most recently, Salekin et al. (2004) examined the relation between psychopathology and juvenile psychopathy using two measures of juvenile psychopathy, the PCL:YV and the APSD. These authors found that juvenile psychopathy was strongly related to externalizing psychopathology, defined in terms of the disruptive behavior disorders ( $r$ 's =  $.36$  and  $.49$  for the PCL:YV and APSD). Similar to other studies that have examined internalizing as well as externalizing problems, these authors also found that juvenile psychopathy was less strongly, but still significantly, related to internalizing psychopathology ( $r$ 's =  $.21$  and  $.37$  for the PCL:YV and APSD).

**RELATIONS TO PERSONALITY** The relations between psychopathy and personality are also fairly well charted. Lynam and Widiger (e.g., Lynam 2002a, Widiger & Lynam 1998) have written extensively on the relation between psychopathy and the Five Factor Model (FFM) of personality, which emphasizes five broad domains, identified as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. These authors have used expert ratings, "translations" of psychopathy instruments, and empirical relations to generate FFM profiles of psychopathy. More recently, Lynam & Derefinko (2004) have conducted a meta-analysis of 20 studies that have examined the relation between psychopathy and one or more structural models of personality. Based on these analyses, they provided a personality description of the psychopath as interpersonally antagonistic or extremely low in Agreeableness (i.e., suspicious, deceptive, exploitive, aggressive, arrogant, and tough-minded); extremely low in Conscientiousness or Constraint (i.e., having trouble controlling his impulses and endorsing nontraditional values and standards); and tending to experience negative emotions, particularly anger and cravings-related distress.

Several studies have also examined the relations between juvenile psychopathy and general personality. Lynam (2002a) reported the results of an expert consensus approach in which experts in psychopathy rated the "prototypical fledgling psychopath" using the 100 items of the Common Language Version (Caspi et al. 1992) of the California Child Q-set, a general-language, atheoretical personality

assessment for children. Lynam provided the 10 items most characteristic and the 10 items most uncharacteristic of the fledgling psychopath, along with how each item maps onto the FFM. Ten of the defining items were relatively clear indicators of a single dimension; of these, five were indicators of low Agreeableness, three were indicators of low Conscientiousness, and two were indicators of low Neuroticism. The remaining items were interstitial, assessing both low Agreeableness and low Conscientiousness. In sum, the psychopath, described using the atheoretical Q-sort, is extremely low in Agreeableness, extremely low in Conscientiousness, and somewhat low in Neuroticism.

In a second study, Lynam et al. (2004) examined the relations between psychopathy assessed using the CPS and the FFM in two separate cohorts of the Pittsburgh Youth Study. Cohort 1 consisted of 405 boys ages 12 to 13, and cohort 2 consisted of 435 17-year-old boys. Psychopathy and personality were assessed using mother reports in both cohorts; additionally, boys reported on their own personalities in cohort 2. Across both cohorts and across raters in cohort 2, juvenile psychopathy was strongly negatively related to Agreeableness and Conscientiousness, and moderately positively related to Neuroticism. Additionally, Lynam et al. tested more specific hypotheses drawn from work in adult psychopathy regarding differential relations between personality and subfactors of psychopathy. For example, Lynam et al. demonstrated that shared Agreeableness could account for 50% to almost 70% of the overlap between Factors 1 and 2.

Salekin et al. (2004b) have examined the relations between three measures of juvenile psychopathy (i.e., PCL:YV, APSD, and CPS) and two measures of general personality (i.e., interpersonal circumplex and the FFM) in a sample of 114 male and female young offenders at a detention center. These authors found, in line with work at the adult level, that total scores for all three psychopathy measures fell within a relatively narrow band of interpersonal circumplex space characterized by coldness and dominance in the arrogant-calculating octant. For the FFM measures, these authors replicated previous research finding that all psychopathy measures were strongly, negatively correlated with Agreeableness ( $r$ 's =  $-.34$ ,  $-.77$ , and  $-.79$  for the PCL:YV, APSD, and CPS, respectively) and Conscientiousness ( $r$ 's =  $-.25$ ,  $-.69$ , and  $-.73$  for the PCL:YV, APSD, and CPS, respectively). Additionally, scores on the APSD and CPS were also moderately positively correlated with Neuroticism ( $r$ 's =  $.41$  and  $.33$  for the APSD and CPS).

Thus, there is excellent consistency across studies for the domains of Agreeableness and Conscientiousness. Juvenile psychopathy, across measurements, is strongly negatively related to Agreeableness and Conscientiousness. There is less agreement across studies for the domain of Neuroticism. Lynam (2002a) found that juvenile psychopathy was negatively related to Neuroticism, whereas other studies found that it was positively related. These differences are likely due to the complex relation that psychopathy has with Neuroticism and the differential weighting that the various components of Neuroticism receive across studies. Aspects of Neuroticism associated with self-consciousness, anxiety, and vulnerability should be negatively related to psychopathy, whereas aspects of Neuroticism associated with angry hostility and impulsiveness/urgency should be positively related.

RELATIONS TO UNDERLYING PROCESSES Within the adult literature, multiple attempts have been made to link psychopathy to various hypothetical biological or cognitive deficits. In recent years, these models have filtered down to child and adolescent populations. Although the empirical data to support childhood deficit models are in their infancy, a review of the existing literature has uncovered primary deficits in three areas: (a) verbal dichotic listening, (b) behavioral inhibition or impulsivity, and (c) nonverbal emotional processing. Although these purported deficits are often linked with a specific neurological system or anatomical region (e.g., amygdala, orbitofrontal cortex), the genetic, biological, and/or imaging evidence to support such claims are currently nonexistent. The following summary is therefore focused primarily on the deficit and its operationalization, with little emphasis on the model or theories surrounding it.

One clinical feature of adult psychopaths is the discrepancy between their verbal descriptions of themselves and their actual behavior, representing an unusual use of language. Raine et al. (1990) tested this adult hypothesis within a group of male adolescent juvenile offenders using a cluster analysis technique for diagnosing psychopathy. Utilizing a verbal dichotic listening task composed of consonant-vowel pairs (ba, da, ga, pa, ta, and ka), the authors found adolescent psychopaths to have reduced ear asymmetries compared with nonpsychopaths. These results supported previous work by Hare & McPherson (1984) that suggests psychopaths have reduced lateralization for verbal material.

Loney et al. (2003) examined the performance of 65 adolescent males on an emotional lexical decision task originally used by Williamson et al. (1991) in adult psychopaths. This task requires participants to identify a string of letters as either a word or nonword; the words are equally divided among three emotional valences: positive, negative, and neutral. Differences between speed of recognition for emotional and neutral words provided indices of facilitation for emotional words. Loney et al. (2003) found few relations between juvenile psychopathy and facilitation to either positive or negative words. The only noteworthy finding was a significant, negative relation between scores on the callous/unemotional subscale of the APSD and facilitation for negative words only after partialling out the impulsive/conduct problems subscale of the APSD.<sup>1</sup> Frick et al. (2003b), in a sample of 85 nonreferred children, did find a negative relation between callous/unemotional traits and facilitation to negative words, but this relation held only among children in the third and fourth grades and not among children from the fifth and sixth grades. These results do not mirror results from the original study conducted in adults by Williamson et al. (1991), which found that psychopaths showed less

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<sup>1</sup>Several reports using the APSD have relied primarily on the partialling process to uncover significant relations. This is a questionable practice given that the two subscales share the majority of their reliable variance with one another. As Miller & Chapman (2001) note, in relation to analysis of covariance, the substantive is that one does not know what is left in a variable following the partialling process. They write that the essence of the variable "has been altered in some substantive way that is frequently not specifiable in a conceptually meaningful way" (p. 43).

facilitation to both positive and negative words than did nonpsychopaths. The results are, however, more consistent with subsequent studies, which have found the relation between psychopathy and facilitation to be less than robust. For example, Lorenz & Newman (2002a) found the predicted relation between psychopathy and facilitation only when participants gave responses with their right hand. These same authors (Lorenz & Newman 2002b) failed to find any effects among African American psychopaths.

A handful of studies have examined the relation between juvenile psychopathy and measures of behavioral inhibition or impulsivity—a deficit frequently identified among adult psychopaths. Two studies have used adaptations of a card-playing task developed originally to measure response modulation in adult psychopaths (Newman et al. 1987). This task consists of 100 cards whose rate of reward per 10 trials drops from 100% to 10%; participants must decide whether to play another card or quit the task. Previous research has shown that adult psychopaths play more cards than do adult nonpsychopaths. The same has been found among juveniles. Fisher & Blair (1998), in a sample of 39 children, found positive correlations between the number of cards played and total scores on the APSD and scores on the impulsive/conduct problems subscale. O'Brien & Frick (1996), in a mixed sample of 132 children, found that nonanxious, psychopathic children played the most cards. Lynam (1997) reported that scores on the CPS did not correlate with the number of cards played, but a reanalysis of those data shows a positive correlation among white participants.

Two other studies have examined in juveniles different behavioral tasks designed to assess a reward-dominant response style. Blair et al. (2001a) used the Iowa Gambling task, which consists of four decks of cards that differ from one another in terms of their associated rewards and punishments; participants choose decks from which to play. Two decks are associated with net rewards, whereas two are associated with net losses; individuals should learn to play from the decks associated with net rewards. In their sample of 51 juvenile boys, Blair et al. (2001a) found that boys with psychopathic tendencies assessed via the PSD made more selections from the disadvantageous decks across time; these findings parallel findings in adult psychopaths (Mitchell et al. 2002). Lynam (1997) reported on the relation between scores on the CPS and a behavioral delay-of-gratification task originally used in a study of adult psychopaths (Newman et al. 1992). Lynam reported that boys scoring high on the CPS were more likely to choose a smaller, but immediately available, monetary reward over a larger delayed reward.

A final group of deficits found within the child literature is deficits in nonverbal emotional processing. This follows directly from adult literature that suggests psychopathic deficits in this domain are due to dysfunction found within neurophysiological systems modulating fear behavior and systems mediating empathy (Blair 1995, 1999). Early studies that used slides to depict distress cues (e.g., a crying face), threatening images (e.g., an angry face, a shark, a gun), and neutral objects (e.g., a hairdryer, a book) suggested that children with high PSD scores are less responsive to distress cues and show a greater response to angry faces

(Blair 1999). Blair & Coles (2000) investigated expression recognition further using faces containing six different emotional facial expressions (happiness, surprise, fear, sadness, disgust, and anger). Results indicated a significant inverse correlation between PSD factor I and the ability to recognize sadness and fearfulness, and a significant inverse correlation between factor II and the ability to recognize fear. Similarly, children with psychopathic tendencies have demonstrated deficiencies in recognizing sad vocal tones (Stevens et al. 2001) and sensitivity to sad and fearful emotional expressions (Blair et al. 2001b). These findings parallel the selective expression recognition results found in adult psychopaths.

In short, juvenile psychopathy appears to behave like adult psychopathy in relation to other variables. It is consistently related to antisocial behavior both concurrently and predictively, often predicting beyond other standard predictors. Juvenile psychopathy is related to recidivism and poorer treatment outcomes. In terms of its relation to psychopathology, findings for juvenile psychopathy partially replicate findings on adult psychopathy. The strong relations to externalizing problems appear to exist across development. However, juvenile psychopathy appears to show a more positive relation to internalizing problems than that observed among adults. The juvenile psychopathy relation to personality is almost identical to that observed in adult psychopathy; it is characterized by extremely low levels of Agreeableness and Conscientiousness. Finally, many of the processes shown to be deficient in psychopathic adults also have been shown to be deficient in psychopathic juveniles.

## Stability Across Time

It has been demonstrated above that juvenile psychopathy “acts like” adult psychopathy. However, this is not the same as showing that psychopathic juveniles become psychopathic adults. To truly show this requires following the same people across time and showing that psychopathy measures in childhood and adolescence are strongly related to psychopathy scores in adulthood. Currently, no such studies exist, but several pieces of research suggest there should be stability in psychopathy. First, several studies have examined the stability of psychopathy in either its adult or juvenile form. Second, there is much research documenting the stability of antisocial personality disorder across time. Third, basic research on the stability of personality suggests the likely stability of psychopathy from childhood through adolescence and into adulthood.

**STABILITY ACROSS ADOLESCENCE AND ACROSS ADULTHOOD** There are two senses in which psychopathy might be stable. In absolute stability, the concern is with the stability of the absolute levels of scores. In relative stability, the concern is with stability in the rank ordering of scores. Several studies have examined the absolute and relative stability of psychopathy across adulthood. In the largest of these, with 889 participants, Harpur & Hare (1994) studied the relation between psychopathy and age in a cross-section of offenders ranging in age from 16 to 70. These authors

compared the prevalence and mean levels of psychopathy across six different age groups. They reported an overall decline in rates of psychopathy, particularly in the impulsive and antisocial lifestyle dimension of psychopathy. This cross-sectional study, however, speaks only to the issue of absolute rather than relative stability. To examine relative stability, we must turn to studies of the same individuals across time.

Two studies have examined the stability of psychopathy scores across time in adults. Schroeder et al. (1983) assessed the stability of psychopathy across a 10-month period in a sample of offenders. They reported a stability coefficient of .89 across this period. Rutherford et al. (1999) reported stability coefficients across a two-year period in a sample of 225 patients in methadone treatment. These coefficients were .60 for men and .65 for women.

One published study has examined the stability of psychopathy in youth. Frick et al. (2003c) examined the stability of scores on the APSD over a four-year period in a sample of 100 nonreferred children.<sup>2</sup> These authors reported intraclass correlations of .88, .87, and .80 across two-, three-, and four-year intervals, respectively. A second study, currently under review, also examines the stability of psychopathy across time. Lynam and colleagues (DR Lynam, R Charnigo, A Caspi, TE Moffitt, A Raine, & M Stouthamer-Loeber, manuscript under review) examined the stability of a short form of the CPS from age 7 to age 17 in the three cohorts of the Pittsburgh Youth Study (more than 1500 boys). These authors report very little change in mean levels of psychopathy from age 7 to age 17. Additionally, they report relatively high stability coefficients across relatively long intervals. Specifically, they report stability coefficients of .74, .72, .67, .56, and .46 across six-month, one-year, two-year, five-year, and nine-year intervals, respectively. Finally, they report no effect of age on stability; that is, psychopathy is as stable from ages 9 to 11 as it is from 15 to 17. In short, the stability of juvenile psychopathy is quite similar to the stability observed in adults.

**THE STABILITY OF ANTISOCIAL PERSONALITY DISORDER** Given the relatively strong association between antisocial personality disorder (APD) and psychopathy, research on the stability of APD across time is relevant. The best-known demonstration of the continuity of antisocial behavior is Robins's (1966) now classic study of the adult outcomes of 524 clinic-referred boys and their controls. In her follow-up of the boys 30 years after their admissions, Robins found that "not only were antisocial children more often arrested and imprisoned as adults, as expected, but they were more mobile geographically, had more marital difficulties, poorer occupational and economic histories, impoverished social and organizational relationships, poor Armed Services records, excessive use of alcohol, and to some extent poorer physical health" (p. 68). Most importantly, only boys who were antisocial in adolescence went on to receive a diagnosis of sociopathy in adulthood.

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<sup>2</sup>It should be noted that this study selected children based on their extreme scores on the dimensions of the APSD. Thus, stability coefficients may be slightly inflated.

These findings have been replicated in multiple samples (e.g., Ridenour et al. 2002, Robins 1978). This continuity has been made explicit in successive versions of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III, DSM-III-R, DSM-IV; American Psychiatric Association 1980, 1987, 1994, respectively). The criteria sets for diagnoses of APD require conduct problems to have been evident before the age of 18. Thus, the strong relation between early conduct problems and later APD provides additional reason to expect strong stabilities between juvenile and adult psychopathy.

**THE STABILITY OF PERSONALITY** To the extent that psychopathy is personality, basic research on personality is relevant to psychopathy. What this basic research suggests is that the personality traits that characterize psychopathy are relatively stable across adolescence into adulthood. For example, Block (1993) has provided evidence for the impressive 10-year stability of Ego Control (a specific constellation of Five Factor Model traits), reporting a retest correlation of .67 between age 14 and age 23. In a recent meta-analysis, Roberts & DelVecchio (2000) found moderate to large stability coefficients for each of the five major domains of personality across ages 12 to 17.9. Although they do not suggest that personality is immutable across adolescence, the coefficients from the meta-analysis are similar to those found for stabilities in early to mid adulthood. At the very least, these results suggest that the most psychopathic individuals in adolescence will be the most psychopathic in adulthood.

## THE SECOND ASPECT OF DEVELOPMENT: WHERE PSYCHOPATHY COMES FROM

We are now in a position to answer the first question of development—what does psychopathy look like across time? It looks a lot like psychopathy in adulthood. It seems to be characterized by the same traits. The juvenile psychopath is glib, deceitful, manipulative, callous, irresponsible, impulsive, affectively shallow, and lacking in guilt. It can be assessed reliably and validly. Adult and juvenile psychopathy bear similar relations to important external correlates. Juvenile psychopathy strongly and consistently is related to antisocial behavior concurrently and predictively. With the exception of small positive correlations with internalizing problems, it is related in predicted directions with psychopathology and personality. Psychopathic juveniles show processing deficits similar to those found in adult psychopaths. Finally, as far as has been observed, juvenile psychopathy appears quite stable across adolescence.

Unfortunately, much less evidence is available to address the second question of development—where does psychopathy come from? This should not be surprising given the relative neglect of research on development in general and the recent attention to the early assessment of the traits. However, despite the lack of empirical study, several theoretical accounts are available; we review these below. We would

also note that a number of strong, well-supported theories exist that deal with the development of serious antisocial behavior in general (e.g., Moffitt 1993, Patterson et al. 1991): These theories are likely relevant to understanding the development of psychopathy. However, because this chapter deals specifically with psychopathy, we will not discuss those theories here.

## Adevelopmental Models

Researchers have expended much effort in their search for the cause of psychopathy, or what makes the psychopath who he or she is. A number of underlying processes are deficient in adult psychopaths; any of these processes might be taken as explanations of psychopathy. For example, Lykken (1995) suggests that the primary deficit in psychopathy is low fearfulness. He writes, "The primary psychopath makes antisocial choices . . . because the fear of punishment and the coercive voice of conscience both are, for some reason weak or ineffectual" (p. 134). Newman and colleagues (e.g., Patterson & Newman 1993) have developed a theory of psychopathy that targets the processes underlying the regulation of immediate response inclinations. According to these authors, the psychopath has a deficit in response modulation that involves suspending a dominant response set in order to assimilate environmental feedback. In a related vein, Lynam and Widiger (e.g., Lynam 2002a, Widiger & Lynam 1998) have suggested that psychopathy is a specific constellation of personality traits that predispose individuals to serious antisocial behavior.

Each of the above theories is *adevelopmental* in nature. On all these accounts, the reason a 4-year-old boy hits his sister is the same reason an 18-year-old beats up his peer. The boy lacks fear, cannot modulate his responses, or is impulsive and antagonistic. In these views, psychopathy does not develop *per se*, but is simply the reflection of these underlying processes or traits. Other accounts posit more development.

## Developmental Models

At least four models discuss the development of psychopathy. Most of these accounts target inborn traits or deficiencies as the primary forces that interact with the environment to culminate in the traits that are psychopathy. Blair and colleagues (e.g., Blair 1999) suggest that the root cause of psychopathy is a deficit, in part, of what they term the "violence inhibition mechanism." According to these authors, humans are biologically prepared to respond to the appearance of distress in others. This response includes an increase in autonomic activity and an inhibition of ongoing behavior. Thus, when most people see they are hurting someone, they will feel bad about it and stop. This sets the stage for a process of conditioning by which this negative arousal is associated with the actions that lead to it, actions that are subsequently inhibited in efforts to avoid the negative arousal. Blair and colleagues suggest that an emotional impairment within psychopaths interferes with their ability to properly interpret the emotions of others, thus eliminating the

opportunity for children with psychopathic characteristics to learn avoidance of antisocial behavior.

Frick and colleagues (e.g., Frick et al. 2003a) have argued that juvenile psychopathy or callous/unemotional temperament is the result of a failure in conscience development. At the heart of this failure is a deficit in behavioral inhibition, a dimension of temperament, which is characterized physiologically by underactivity in the autonomic nervous system, and behaviorally by low fear in response to novelty or threat and poor responsiveness to punishment cues. Drawing on work by Kochanska (e.g., 1997), Frick and colleagues argue that low fearful inhibition impairs moral socialization and conscience development, resulting in the presence of callous/unemotional traits.

Lynam (1996) has also proposed a developmental theory of psychopathy, based on his idea that the precursor of the adult psychopath is the child with symptoms of both hyperactive-impulsive-attention problems (HIA) and conduct problems (CP). Lynam proposes that the psychopath-to-be begins with deficient psychopathic constraint (P-constraint), which means that he has difficulty incorporating feedback from the environment and using this information to modulate his responses while pursuing rewards. Lynam suggests that this deficit is manifest initially in signs of the HIA complex. As this child grows older, Lynam argues that his deficit in P-constraint will lead to mild symptoms of CP (i.e., oppositional defiant disorder)—difficulty controlling his temper, use of obscene language, and maladaptive active avoidance responses such as arguing with adults, lying, and blaming others for things he has done. Upon entering school, with its increased demands for restraint and increasing social contact, additional symptoms of CP will emerge, including aggression and stealing. Finally, as an adult, Lynam suggests that the individual will manifest many of the signs and symptoms of psychopathy. In this theory, then, the progression from symptoms of HIA to symptoms of CP to symptoms of psychopathy is simply the maturing/evolution over time of the same underlying pathology, a deficiency in P-constraint. That is, the expression of the pathology changes as opportunities for its expression change.

Recently, Saltaris (2002) has resurrected the idea of disrupted early attachment to caregivers as a precursor to juvenile psychopathy. According to Bowlby (1944), the early relationship between infant and caregiver represents the primary bonding experience from which children acquire, or fail to acquire, a basic trust in the availability of the caregiver and thereby the world. Saltaris notes, "From the very beginning, attachment theory was conceived to explain, among other things, the 'affectionless' personality of juvenile thieves" (p. 740). According to Bowlby, children whose attachment is disrupted develop inner working models of others as unworthy of trust, concern, and care.

## Evidence for the Models

The evidence that does exist supports each of these accounts. A number of studies document the psychopath's hyporeactivity in anticipation of an aversive stimulus, or low fear (see Fowles 1993). Many studies have found psychopaths to be deficient

in response modulation (see Lorenz & Newman 2002a). Blair and colleagues have shown that children with psychopathic tendencies tend to perform poorly on moral/convention distinction tasks (Blair 1995), have reduced arousal to distress cues (Blair 1999), and show deficits in expression recognition (Blair & Coles 2001). Frick and colleagues have shown, among other things, that callous/unemotional traits are associated with a reward-dominant response style (O'Brien & Frick 1996), higher levels of sensation seeking (Frick et al. 1994), and abnormalities in the processing of emotional information (Frick et al. 2000b). Lynam (1997) has shown that children with symptoms of both HIA and CP were the most severely antisocial, most disinhibited, and least able to delay gratification. None of these studies, however, truly examines the development of psychopathy across time. Each tests rather ancillary hypotheses in cross-sectional designs. Thus, it is much more difficult to answer with confidence the second question of the development of psychopathy—where does psychopathy come from?

## OBJECTIONS AND CONCERNS

Several commentators have raised concerns about the downward developmental extension of psychopathy to juveniles (Edens et al. 2001, Seagrave & Grisso 2002). This concern is raised particularly in response to the use of juvenile psychopathy indices in forensic settings. In Canada, for example, diagnoses of psychopathy have been used to decide whether juveniles should be tried in adult court and to determine the length of their sentences (Zinger & Forth 1998). These critics are rightly concerned about the increasing use of these assessments in the United States in the absence of more evidence of their stability across time and their long-term predictive utility. In the call for more research, we are in agreement with the critics. We disagree, however, with several of the more fundamental concerns that have been raised (see Lynam 2002b).

Both sets of critics have argued that the assessment of juvenile psychopathy is made difficult, perhaps prohibitively so, by normative developmental change. To bolster their argument, Seagrave & Grisso (2002) described how developmental changes across adolescence might be mistaken for some of the characteristics that define psychopathy in the PCL-R. Besides ignoring the fact that psychopathy consists of multiple traits, these authors offer no evidence that there is such normative change in specific psychopathic characteristics. There is, however, research that argues against such claims. First, two studies have examined the stability of psychopathy across adolescence and found little evidence for changes in either relative or absolute levels (Frick et al. 2003a, Lynam et al. 2005). Second, basic research on personality suggests these concerns are overstated. The evidence suggests that personality traits in general, and those associated with psychopathy in particular (see Lynam 2002a), are present in adolescents and children (e.g., McCrae et al. 2000), that these traits are relatively stable across adolescence into adulthood (Roberts & DelVecchio 2000), and that there is little change in the absolute levels of these traits (McCrae et al. 2000).

The critics have also expressed concern about the application of a pejorative label to adolescents, particularly given the belief that psychopathy is relatively untreatable. We believe that the relative recalcitrance to treatment among adult psychopaths is exactly the reason that the study of juvenile psychopathy is to be embraced: The assessment and study of fledgling psychopathy holds the key to its treatment. Many researchers, including Seagrave, Grisso, and Edens et al., simply assume the stability of psychopathy in adulthood. Basic research in personality suggests, however, that stability needs to be explained and not assumed. Caspi (1997), who has written most extensively on this topic, argues that personality promotes its own continuity through three types of person-environment transactions: reactive, evocative, and proactive.

Reactive transactions occur when individuals exposed to the same environment experience it, interpret it, and react to it according to their pre-existing tendencies. For example, aggressive children, compared with nonaggressive or depressed children, make more hostile attributions in ambiguous situations, generate more aggressive responses, and are more likely to believe that aggressive responses will work. Evocative transactions occur when individuals evoke distinctive reactions from their social environments based on their personalities. For example, difficult-to-manage children evoke typical reactions from parents that include harsh and erratic parental discipline, reduction of parental efforts at socialization, and increases in permissiveness for later aggression. Finally, proactive transactions occur when individuals select or create social environments that are in line with their existing personalities. For example, individuals tend to choose similar others as friends and mates. In all cases, these person-environment transactions tend to reinforce the existing personality. In the case of antisocial and psychopathic behavior, this reinforcement comes, in part, through an accumulation of negative consequences. From this view, psychopaths are recalcitrant to treatment due to their accretion of negative consequences (e.g., alienation from family, addiction to drugs or alcohol, being part of a criminal peer group, school dropout, injuries, patchy work histories, and multiple incarcerations) that have closed the doors of more legitimate opportunity. From this view, treatment will be most effective earlier in the life course, before negative consequences have accumulated and when the opportunity exists to intervene in multiple areas (e.g., school, family, peers, and individually). Psychopathy is stable across time, in part, because we currently fail to recognize its presence early and adequately and fail to intervene effectively.

## CONCLUSIONS

We sought to answer two questions on the development of psychopathy: What does psychopathy look like across time? Where does psychopathy come from? We reviewed a number of recent studies that suggest psychopathy in juveniles looks much like psychopathy in adults. The same traits characterize these individuals at different developmental time points. Additionally, juvenile psychopathy acts like adult psychopathy. Like their adult counterparts, psychopathic juveniles are

serious and stable offenders. They are prone to externalizing disorders. Juvenile psychopathy is characterized by extremely low levels of Agreeableness and Conscientiousness. Psychopathic juveniles show processing deficits similar to those found in adult psychopaths. Finally, as far as has been observed, juvenile psychopathy appears quite stable across adolescence. All of these findings replicate those observed in studies using psychopathic adults.

Our answer to the second question was less definitive. Theories exist that offer accounts of the origins of psychopathy, but the empirical base supporting these theories remains thin. No prospective studies have tested core developmental hypotheses derived from these theories. For example, although several theories predict maladaptive transactions with the environment, none have really examined such transactions. Although there is a lack of empirical work in this area, other areas are even more under-researched. For example, currently no published studies have prospectively followed juvenile psychopaths into adulthood to examine the stability and specificity of juvenile psychopathy. Similarly, the factors that might promote resilience among psychopathic youth have not been discussed or examined. Very few researchers have compared and contrasted the various approaches to assessing psychopathy. Virtually no attempts have been made to map juvenile psychopathy onto other taxonomic systems. Also, sex and/or race differences in juvenile psychopathy have been seldom discussed.

In short, the research on juvenile psychopathy is off to an excellent start. Juvenile psychopathy can be assessed reliably and validly. Investigators who began with the assumption that juvenile psychopathy would look like adult psychopathy seem to be vindicated. At the very least, this construct seems to identify a particularly virulent strain of antisocial individual and is therefore worth continuing to research. Obviously much work remains, but that is to be expected given that the field of juvenile psychopathy is in its infancy.

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