

Psychopathy: Assessment and Forensic Implications

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Abstract

Psychopathy commonly is viewed as a personality disorder defined by a cluster of interpersonal, affective, lifestyle, and antisocial traits and behaviors, including grandiosity, egocentricity, deceptiveness, shallow emotions, lack of empathy or remorse, irresponsibility, impulsivity, and a tendency to violate social norms. In this chapter we outline standard methods for the assessment of psychopathy, its association with antisocial personality disorder, its implications for clinical and forensic issues, and its pivotal role in current debates about neuroimaging and legal responsibility.

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Psychopathy: Assessment and Forensic Implications

“Psychopathy was the first personality disorder to be recognized in psychiatry. The concept has a long historical and clinical tradition, and in the last decade a growing body of research has supported its validity” (Millon, Simonsen & Birket-Smith, 1998). In the decade following this 1998 statement the theoretical and empirical literature on psychopathy has expanded virtually at an exponential rate, with the addition of well over 500 scientific publications and many books and edited volumes. Much of this literature examines and evaluates the application of psychopathy to the mental health and criminal justice systems (Felthous & Sass, 2007; Gacono, 2000; Hervé & Yuille, 2007), where it has been described as “the most important and useful psychological construct yet discovered for criminal justice policies” (Harris, Skilling, & Rice, 2001), “what may be the most important *forensic* concept of the early 21st century” (Monahan, 2006), and even as “the unified theory of crime” (DeLisi, 2009). The past few years also have seen a dramatic increase in basic research based on the theories and methodologies from basic science including, but certainly not limited to, behavioral genetics, developmental psychopathology, cognitive/affective neuroscience, biochemistry, general personality theory (Patrick, 2006), and organizational psychology (Babiak & Hare, 2006). In 2004 the Society for the Scientific Study of Psychopathy (SSSP) was established as a vehicle for the exchange of ideas and research findings among international investigators. Because psychopathy is associated with so much social and personal damage and distress, the basic and applied research endeavors now are being supplemented by the provision of forums for victims to discuss their problems. Its implications for legal responsibility are discussed in detail elsewhere in Malatesti & McMillan (in press).

In some respects attempts to understand and deal with psychopathy, and to communicate research findings to professionals and the public, are impeded by confusion and disagreements about what is meant by the term. For this reason, we begin with a brief discussion of the traditional construct of psychopathy and its measurement, followed by a few comments about the conceptually-related antisocial personality disorder (ASPD), described in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychological Association, 1994). We then summarize recent aspects of the empirical literature on the association of psychopathy with crime and violence, and its implications for the assessment of risk, management, treatability, and current debates about neuroimaging and legal responsibility.

Psychopathy

Detailed outlines of the historical evolution of the construct are available elsewhere (Berrios, 1996; Cleckley, 1976; Hare, 1991; Hervé, 2007; Millon et al., 1998). Briefly, psychopathy commonly is

considered to be a personality disorder that includes a cluster of interpersonal, affective, lifestyle, and antisocial traits and behaviors. On the interpersonal level, psychopaths are grandiose, deceptive, dominant, superficial, and manipulative. Affectively, they are shallow, unable to form strong emotional bonds with others, and lack empathy, guilt or remorse. The interpersonal and affective features are fundamentally tied to a socially deviant (not necessarily criminal) lifestyle that includes irresponsible and impulsive behavior, and a tendency to ignore or violate social conventions and mores. A common genetic factor appears to account for substantial variance in these psychopathy domains (Larsson, Viding, & Plomin, 2008; Viding, Frick, & Plomin, 2007), evidence that they are part of the superordinate construct of psychopathy (Neumann, Hare, & Newman, 2007; Neumann, Vitacco, Hare, & Wupperman, 2005).

PCL-R Assessment of Psychopathy

Because of space limitations we focus on the most widely accepted measure of psychopathy, the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991, 2003), described in the *Buros Mental Measurements Yearbook* as “state of the art” (Fulero, 1995) and as “the gold standard for the assessment of psychopathy” (Acheson, 2005). Only brief reference is made to its direct derivatives, the Psychopathy Checklist: Screening Version (PCL: SV; Hart, Cox, & Hare, 1995), and the Psychopathy Checklist: Youth Version (PCL: YV; Forth, Kosson, & Hare, 2003), each supported by extensive evidence for their reliability and validity. We note that these scales were designed to measure the clinical construct of psychopathy, but, because of their demonstrated ability to predict recidivism, violence, and treatment outcome, they routinely are used in forensic assessments, either on their own or, more appropriately, as part of a battery of variables and factors relevant to forensic psychology and psychiatry (see below). An extensive discussion of the issues associated with the use and potential misuse of the PCL-R and PCL: YV has been provided by Book, Clark, Forth, and Hare (2006).

Recent reviews of the development and psychometric and structural properties of the PCL-R and its derivatives are available elsewhere, and provide the basis for much of the discussion in this chapter (Book et al. 2006; Hare, 2003; Hare & Neumann, 2006, 2008a, 2008b). Briefly, the PCL-R is a 20-item clinical construct rating scale that uses a semi-structured interview, case-history information, and specific scoring criteria to rate each item on a three-point scale (0, 1, 2) according to the extent to which it applies to a given person. In some cases, this “standard” procedure (interview plus file information) is replaced by a “nonstandard” procedure, in which only file information is used to score the items. The items and the factors they comprise (see below) are listed in Table 1. Total scores can range from zero to 40 and reflect the degree to which the person matches the prototypical psychopathic person, in line with recent evidence that, at the measurement level, the construct underlying the PCL-R (and its derivatives) is dimensional in nature rather than taxonic (Edens, Marcus, Lilienfeld, & Poythress, 2006; Guay, Ruscio, Knight, & Hare,

2007; Walters, et al., 2007). This dimensionality poses a problem for diagnosing or categorizing a person as a “psychopath,” a problem shared by other clinical disorders (e.g., ASPD, Marcus, Lilienfeld, Edens, & Poythress, 2006; Widiger & Mullin-Sweatt, 2009) that are described and treated as categorical but in fact may be dimensional. Nonetheless, public and scientific discourse is replete with, and facilitated by, terms that refer to extremes of human physical and psychological dimensions (e.g., obese, genius, hypertensive, introvert). Further, the dimensionality of a personality disorder does not preclude the use of “diagnostic” thresholds for making clinical decisions (Widiger & Mullins-Sweatt, 2009). With respect to psychopathy, a PCL-R cut score of 30 has proven useful for “classifying” persons for research and applied purposes as *psychopathic*, although some investigators and commentators have used other cut scores for psychopathy (e.g., 25 in some European studies). IRT analyses indicate that PCL-R scores in the upper range (around 30) appear to reflect much the same level of psychopathy in North American male offenders as they do in female offenders, male forensic psychiatric patients, male offenders assessed from file reviews, and European male offenders and forensic psychiatric patients (Bolt, Hare, & Neumann, 2007; Bolt, Hare, Vitale, & Newman, 2004; Cooke, Michie, Hart, & Clark, 2005). Similarly, IRT analyses (Cooke, Kosson, & Michie, 2001) and a meta-analytic review (Skeem, Edens, Camp, & Colwell, 2004) indicate that the PCL-R total scores function similarly in African-American and Caucasian offenders and patients. For these reasons the term psychopathic in this article refers to persons with a PCL-R score of at least 30, an extreme score obtained by approximately 15% of the male offenders, and 10% of the female offenders, described by Hare (2003). Nonetheless, we note that there are ethnic and sex differences in the functioning of individual PCL-R items (Bolt et al., 2007; Bolt et al., 2004; Cooke et al., 2001, Cooke, Michie, Hart et al., 2005) and in the *external correlates* of the PCL-R and other measures of psychopathy (Hervé & Yuille, 2007; Patrick, 2006; Hare, 2003; Sullivan, Abramowitz, Lopez, & Kosson, 2006). The patterning and significance of these differences is the subject of much of the current empirical research on psychopathy.

Internal consistency and interrater reliability of the PCL-R and its derivatives generally are high in basic applied research contexts. This does not ensure that an individual clinical or forensic assessment will be reliable or valid. In a research context misuse of these instruments will have few negative consequences for the person. However, when the scores are used in clinical and criminal justice contexts the implications of misuse are potentially very serious, especially if the scores are used to guide treatment or adjudication decisions (Edens, 2001; Hare, 1998, 2003). Moreover, there is a possibility of rater bias in assessments completed by clinicians involved in adversarial proceedings (Murrie, Boccaccini, Johnson, & Janke, 2008). It is important when conducting an assessment to use all information available to provide a complete picture of the person. In each case the PCL-R must be used properly and in accordance with the

highest ethical and professional standards. The items must be scored in accordance with the criteria listed in the manual or not scored at all. Clinicians who use the PCL-R or its derivatives must be prepared to outline the information used to score the items and to explain and justify the manner in which they scored the items. They must take into account measurement error (Hare, 2003) and the probabilistic nature of risk assessments. They also should be aware of the fact that many prosecutors and defense attorneys are familiar with the PCL-R, its uses and its limitations (Book et al., 2006).

There are no exclusion criteria for use of the PCL-R or its derivatives, which can be administered to offenders and patients with a variety of psychiatric disorders. It therefore is possible to have symptom covariation between psychopathy, as measured by the PCL scales, and other psychiatric disorders (e.g., delusions of grandeur in psychotic disorders, inflated self-importance in narcissistic personality disorder, and grandiose self-worth in psychopathy).

Table 1 about here

Factor Structure

There is an extensive empirical literature indicating that in a variety of forensic populations the items in the PCL-R measure a unitary construct (Bolt et al., 2007; Cooke & Michie, 1997; Hare, 2003; Neumann & Hare, 2008; Neumann, Hare et al., 2007). Early exploratory factor analyses indicated that the items could be organized into two broad correlated clusters or factors. Factor 1 (referred to as F1; see Table 1) reflected the interpersonal and affective components of the disorder, whereas Factor 2 (F2; see Table 1) was more closely allied with a socially deviant lifestyle (the Lifestyle and Antisocial factors in Table 1). Recent confirmatory factor analyses of very large data sets (Hare, 2003; Neumann, 2007; Neumann, Hare et al., 2007) clearly indicate that a four-factor model consisting of 18 items fits the data well (Table 1). Two items (Promiscuous sexual behavior, Many short-term relationships) do not load on any factor but contribute to the total PCL-R score. The four psychopathy factors are significantly inter-related, and thus can be comprehensively explained by a single superordinate (psychopathy) factor (Neumann, Hare et al., 2007; Neumann, Kosson, Forth, & Hare, 2006). The pattern of correlations among the four factors, as well as confirmatory factor analyses (Hare, 2003; Hare & Neumann, 2008b) also confirm the presence of two broad factors, one identical with the original F1 and the other the same as the original F2, but with the addition of one item (Criminal versatility). A three-factor model based on a selective set of 13 PCL-R items also fits the data well (Cooke, Michie, Hare, et al., 2005). The rationale for this model (which consists of the Interpersonal, Affective, and Lifestyle factors in Table 1) is the dubious argument that items reflecting antisociality should not be part of the psychopathy construct, and that the retained items (e.g., pathological lying, irresponsibility) are less “antisocial” than some excluded items (e.g., early behavior problems, poor behavioral controls). These and related issues, including our view that the three-

factor model is untenable on conceptual, statistical, and empirical grounds, are discussed in detail elsewhere (Neumann, Hare, et al., 2007; Hare & Neumann, 2006; 2008b).

The identification of separate factors in the PCL-R has resulted in a considerable amount of research on the differential correlates of the factors, primarily the original F1 and F2. In some cases, partial correlations have been used to isolate the association between one factor and an outcome variable (e.g., violence) by statistically removing the effects of the other factor. Some investigators then treat the factors as if they identify two separate constructs, for example, inappropriately referring to F1 as psychopathy and F2 as akin to antisocial personality disorder (see discussion of this issue by Hare & Neumann, in press). However, F1 and F2 (as well as the factors in the four-factor model) are highly correlated (even more so at the *latent* than at the *manifest* variable level (Neumann, Kosson, & Salekin, 2007)), and statistically removing the effects of one psychopathy factor (e.g., F2) to study the residual effects of another factor (e.g., F1) makes it difficult to know what is being studied, the original construct or the residual effects of a psychopathy factor (e.g., F1 in this case), an issue discussed in detail by Lynam, Hoyle, and Newman, 2006.

Because the PCL-R factors are substantially correlated, it is important to examine the combined effects of elevations on both of these factors. Put in more clinical terms, a syndrome of psychopathy is likely typified by an person who chronically presents with elevated scores on both factors, not just one of these factors. Consistent with this idea, initial research by Harpur and Hare (1991) found that the interaction of F1 and F2 was critical for predicting offenders' violent behavior, weapons use, and violent and aggressive behavior in prison. Similarly, research with the PCL: SV has also found that the interaction among psychopathy factors predicted presence or absence of violent behavior during a 1-year follow-up in civil psychiatric patients (Skeem, Mulvey, & Grisso, 2003). More recently, Walsh and Kosson (2008) replicated the importance of factor interactions in the prediction of violence, using both cross-sectional and prospective data. A key finding in this study was that the predictive effects of F2 were attenuated at lower levels of F1, in-line with our proposal that high scores on both psychopathy factors are what represents a case of psychopathy and that it is the combination of these two factors that puts people at heightened risk for violence.

Direct Derivatives of the PCL-R

PCL: SV

The PCL: SV consists of 12 items (Table 1) derived from the PCL-R, each scored on a 3-point scale (0, 1, 2) on the basis of interview and collateral information that is less extensive than that required for scoring the PCL-R. Total scores can vary from 0 to 24. It is conceptually and empirically related to the PCL-R

(Cooke, Michie, Hart, & Hare, 1999; Guy & Douglas, 2006), and can be used as an effective screen for psychopathy in forensic populations (Guy & Douglas, 2006) or as a stand-alone instrument for research with noncriminals, including civil psychiatric patients (de Oliveira-Souza, Ignácio, Moll, & Hare, 2008a; Steadman et al., 2000) and community samples (Coid, Yang, Ullrich, Roberts, & Hare, 2009; Neumann & Hare, 2008). Its psychometric and structural properties are much the same as those of the PCL-R (Hill, Neumann, & Rogers, 2004; Neumann & Hare, 2008; Vitacco, Neumann, & Jackson, 2005). Like the PCL-R, a two-factor solution originally was described (as Part 1 and Part 2; listed as P1 and P2 in Table 1). More recent confirmatory factor analyses reveal a four-factor structure similar to that of the PCL-R (Table 1). There is rapidly accumulating evidence for the construct validity of the PCL: SV, including its ability to predict aggression and violence in offenders and in both forensic and civil psychiatric patients (see below). In this respect, the correlates of the PCL: SV are much the same as those of the PCL-R. A PCL: SV score of 18 is approximately equivalent to a PCL-R score of 30. Less than 1% of the people in the MacArthur community sample analyzed by Neumann and Hare (2008) had a PCL: SV score this high.

PCL: YV

The PCL: YV is an age-appropriate modification of the PCL-R intended for use with adolescents. Like the PCL-R, it consists of 20 items underpinned by three or four factors (Jones, Cauffman, Miller, & Mulvey, 2006; Neumann et al., 2006). The items and factors are presented in Table 1. It has much the same psychometric properties and correlates as its adult counterpart (Book et al., 2006; Salekin, Neumann, Leistico, DiCiccio, & Duros, 2004; Vitacco, Neumann, Caldwell, Leistico, & Van Rybroek, 2006) and appears to generalize well across ethnic groups and countries (Book et al., 2006; Dolan & Rennie, 2006; McCoy & Edens, 2006; Schrum & Salekin, 2006). Although there is little doubt about the reliability and validity of the PCL: YV, concerns arise with respect to its use in the criminal justice system. The main issues have to do with: (1) the dangers of labeling an adolescent as a psychopath; (2) the implications of the PCL: YV for classification, sentencing, and treatment; (3) the possibility that some features measured by the PCL: YV are found in normally developing youth; and (4) the degree of stability of psychopathy-related traits from late childhood to early adulthood. Extensive discussions of these issues are available elsewhere (Book et al., 2006; Forth & Book, 2007; Frick, 2007, in press; Frick & Marsee, 2006; Lynam & Gudonis, 2005; Salekin, 2006; Vitacco & Vincent, 2006). Briefly, although psychopathy and its features do not suddenly emerge in early adulthood, the PCL: YV nonetheless should not be used to diagnose adolescents as psychopathic. Although some adolescents may exhibit some features of psychopathy in certain contexts or for a limited time, a high score on the PCL: YV requires evidence that the traits and behaviors are extreme and that they are manifested across social contexts and over substantial time periods.

Lynam and Gudonis (2005; pp. 401-402), following their review of the literature, commented that “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, [juveniles with psychopathic traits] are serious and stable offenders. They are prone to externalizing disorders...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.”

Related Instruments

There are several well-validated “downward extensions” of the PCL-R constructed for use with children and adolescents, including the APSD (Frick, in press; Frick & Hare, 2001) and the CPS (Lynam & Gudonis, 2005), each of which uses teacher/parent ratings but also can be used as a self-report scale. They play an important role in delineating early precursors of psychopathy and evaluating their stability into adulthood (Frick, in press; Lynam, Derefinko, Caspi, Loeber, & Stouthamer-Loeber, 2007).

Self-report psychopathy scales are beginning to broaden the repertoire of available assessment tools, and show promise of helping us to understand better the construct they purport to measure. These include the Psychopathy Personality Inventory (PPI; Lilienfeld & Andrews, 1996); the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002); the Levenson Self-Report Psychopathy scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995); and the four-factor version of the Hare Self-Report Psychopathy (SRP) Scale (Williams, Paulhus, & Hare, 2007). Limitations of self-report scales are that they are subject to impression management, are not particularly good at assessing the interpersonal and affective features of psychopathy, and are only moderately correlated with the PCL instruments (Lilienfeld & Fowler, 2006; Malterer, Lilienfeld, Neumann, & Newman, in press; Neumann, Malterer & Newman, 2008). Nonetheless, these scales have low-to-moderate predictive validity with respect to a variety of antisocial and criminal behaviors (Boccaccini et al., 2007; Malterer et al., in press; Nathanson, Paulhus, & Williams, 2006; Neumann & Declercq, 2009; Neumann et al., 2008; Paulhus, 2009; Schmitt, 2009; Williams, Cooper, Howell, Yuille, & Paulhus, 2009).

ASPD

The DSM-IV states that ASPD “has also been referred to as psychopathy, sociopathy, or dissocial personality disorder” (p. 645), a statement repeated in the DSM-IV-TR (APA, 2000). This apparent equating of ASPD with the traditional construct of psychopathy has generated a considerable amount of discussion among clinicians and researchers (Hare, 2003; Hare & Hart, 1995; Hare & Neumann, 2006;

2008a; Lykken, 2006; Ogloff, 2007; Rogers, Salekin, Sewell, & Cruise, 2000; Widiger, 2006; Widiger et al., 1996).

While it is true that psychopathy, as measured by the PCL-R, and ASPD have several (mostly antisocial) features in common, they are not synonymous terms or constructs, at least not at the measurement level. When introduced by DSM-III (APA, 1980) in 1980 the intention was to provide a reliable means of measuring the traditional construct of psychopathy by focusing on easily measured antisocial behaviors (Robins, 1966, p. 79; Widiger, 2006, p. 157-159), albeit at the expense of inferred personality traits fundamental to psychopathy, which were considered too difficult to measure reliably (Robins, 1978). This intention is reflected in later editions of the DSM. For example, the Associated Features and Disorders section for ASPD in DSM-IV (APA, 1994, p. 647) clearly describes ASPD in terms of personality features that are an essential part of the psychopathy construct. However, use of the formal diagnostic criteria does not require that these personality features be present for making a diagnosis of ASPD, resulting in a curious disconnect between the *conceptualization* of ASPD and its *diagnosis*, with the latter being based on rather low thresholds (before and after age 15) for the presence of ASPD. The result is a prevalence of ASPD in civil and forensic populations that is at least three times the prevalence of psychopathy (based on the PCL-R and PCL: SV cut scores described above). The association between ASPD and psychopathy generally is asymmetric: most people with ASPD are not psychopathic, whereas most of those who are psychopathic meet the diagnostic criteria for ASPD (Felthous & Sass, 2007; Hare, 1996a; Ogloff, 2007; Warren & South, 2006). The reason for this asymmetry is hardly surprising: ASPD is much more strongly associated with the Lifestyle/Antisocial than with the Interpersonal/Affective features measured by the PCL-R, a differential association that holds both when ASPD and psychopathy are treated as categorical variables and when they are treated as continuous variables (Hare, 2003).

These issues were well-known before the publication of DSM-IV, and the supposition that personality traits could not be measured reliably was invalidated by the results of the ASPD Field Trial for DSM-IV (Widiger et al., 1996). At the International Conference on Personality Disorders held at Harvard University in 1993 Hare gave an address on the nature and measurement of psychopathy. As described elsewhere (Hare, 2007) (pp. 8-9), at the end of the presentation the Chair for DSM-III and DSM-III-R (APA, 1987), asked why psychopathy was not to be more influential in the forthcoming DSM-IV. Hare said that he did not know the answer, whereupon the Director of the DSM-IV Field Trial for ASPD opined that, had they started from scratch, the ASPD criteria in large part would be based on the 10-item psychopathy set derived from the PCL-R and PCL: SV for use in the Field Trial (Hare, Hart, & Harpur, 1991; Widiger et al., 1996). The next day Hare discussed the matter with John Gunderson,

Chair of the DSM-IV Personality Disorders Work Group. In a recent article in the *New Yorker* (Seabrook, 2008, p. 71) Gunderson recalled the conversation, and was reported as having said that Hare had intellectually “won the battle” but that the use of psychopathy in DSM-IV as a synonym for ASPD was a “function of institutional inertia.”

We mention these exchanges because even after an additional 15 years of theory, research, and discussion, confusion between ASPD and the traditional construct of psychopathy remains. Rogers et al., (2000) had this to say about the situation: “DSM-IV does considerable disservice to diagnostic clarity in its equating of [ASPD] to psychopathy” (pp. 236-237). Or, as Lykken (2006) (p. 4) put it, “Identifying someone as ‘having’ [ASPD] is about as nonspecific and scientifically unhelpful as diagnosing a sick patient as having a fever or an infectious or a neurological disorder.”

At this writing work is underway on the development of DSM-V, although little is known about the direction it will take with respect to ASPD (Widiger & Mullins-Sweatt, 2009). Perhaps personality will be brought back into the picture, and ASPD will in fact become synonymous with psychopathy, conceptually and diagnostically. As expressed by Westen and Weinberger (2004, p. 599), “The psychopathy construct is currently experiencing a renaissance (and a likely return in some form to a future *DSM*) because it tends to be more predictive of outcomes than the antisocial diagnosis, which focuses more on antisocial behaviors and less on underlying personality dispositions.” Similarly, Livesley and Jang (2008, p. 254) have stated that, “The occurrence of a general genetic factor underlying both psychopathy and antisocial behavior justifies further integration of these constructs with an emphasis on the interpersonal components as opposed to the DSM-III emphasis on social deviance.”

Psychopathy and Crime

In the past few years there has been a dramatic change in the perceived and actual role played by psychopathy in the criminal justice system. Formerly, a prevailing view was that clinical diagnoses such as psychopathy were of little value in understanding and predicting criminal behaviors. More recently, the importance of psychopathy, particularly as measured by the PCL-R and its derivatives, is widely recognized, both by forensic clinicians (Archer, Buffington-Vollum, Stredney, & Handel, 2006; Lally, 2003) and by the courts (de Boer, Whyte, & Maden, 2008; Walsh & Walsh, 2006; Zinger & Forth, 1998). This is not surprising, given that many of the characteristics important for inhibiting antisocial and violent behavior – empathy, close emotional bonds, fear of punishment, guilt – are lacking or seriously deficient in psychopathic people. Moreover, their egocentricity, grandiosity, sense of entitlement, impulsivity, general lack of behavioral inhibitions and need for power and control constitute what might be described as a prescription for the commission of antisocial and criminal acts (Hare, 2003; Porter & Porter, 2007). This would help to explain why psychopathic offenders are disproportionately represented in the criminal

justice system. It also would explain why they find it so easy to victimize the vulnerable and to use intimidation and violence as tools to achieve power and control over others. Their impulsivity and poor behavioral controls may result in 'reactive' forms of aggression or violence, but other features (e.g., lack of empathy, shallow emotions) also make it relatively easy for them to engage in aggression and violence that is more predatory, premeditated, instrumental or 'cold-blooded' in nature (Cornell et al., 1996; Hare, 2003; Meloy, 2002; Porter & Woodworth, 2006; Williamson, Hare, & Wong, 1987; Woodworth & Porter, 2002).

Assessment of Risk

Extensive discussions of the theories and methodologies of risk assessment are provided elsewhere (Monahan & Steadman, 1994; Monahan et al., 2001; Quinsey, Harris, Rice, & Cormier, 2006). The latest generation of risk assessment instruments largely has dispelled the belief that useful predictions cannot be made about criminal behavior (Harris & Rice, 2007; Monahan et al., 2001). There is debate about the relative effectiveness of actuarial risk instruments and structured clinical assessments, but the empirical evidence indicates that they perform about equally well. The former are empirically derived sets of static (primarily criminal history, demographic) risk factors, and include the Violence Risk Appraisal Guide (VRAG; Quinsey, Harris et al., 2006), the Sex Offender Risk Appraisal Guide (SORAG (Quinsey, Rice, & Harris, 1995), and the Domestic Violence Risk Appraisal Guide (DVRAG; Hilton, Harris, Rice, Houghton, & Eke, 2008), instruments that improve considerably on unstructured clinical judgments or impressions. Procedures that include *structured* clinical decisions based on specific criteria also are proving to be useful. For example, the Historical-Clinical-Risk 20(HCR-20; Webster, Douglas, Eaves, & Hare, 1997) assesses 10 historical (H) variables, five clinical (C) variables and five risk management (R) variables. Because of its importance in the assessment of risk, psychopathy, as measured by the PCL-R or the PCL: SV is included in the VRAG, SORAG, DVRAG, and HCR-20, as well as in the Sexual Violence Risk 20 (SVR-20; Boer, Hart, Kropp, & Webster, 1997). We note that the PCL-R and its derivatives reflect static risk factors and are properly used as supplements to more general risk evaluations. In addition to the instruments described above, there is increasing interest in the role of dynamic (changeable) risk factors in risk assessment (Quinsey, Jones, Book, & Barr, 2006).

A detailed account of psychopathy as a risk for recidivism and violence is beyond the scope of this article. However, its significance as a robust risk factor for institutional problems, for recidivism in general, and for violence in particular, is now well established (see the large-scale meta-analysis by Leistico, Salekin, DeCoster, & Rogers, 2008; also see Campbell, French, & Gendreau, 2009). The predictive value of psychopathy applies not only to adult male offenders but also to adult female offenders (Jackson & Richards, 2007; Verona & Vitale, 2006); adolescent offenders (Forth et al., 2003;

Gretton, Hare, & Catchpole, 2004; Stafford & Cornell, 2003); forensic psychiatric patients, including those with schizophrenia (Dolan & Davies, 2006; Doyle, Dolan, & McGovern, 2002, Heilbrun et al., 1998; Hill, Rogers & Bickford, 1996; Lincoln & Hodgins, 2008; Rice & Harris, 1992; Tengström, Grann, Långström, & Kullgren, 2000; Tengström, Hodgins, Grann, Långström & Kullgren, 2004; Tengström et al., 2006); offenders with intellectual difficulties (Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007); and civil psychiatric patients (Steadman et al., 2000). Psychopathy also is increasingly being seen as an important factor in explaining domestic violence (Swogger, Walsh, & Kosson, 2007; Spidel et al., 2007), with the PCL-R being an integral component in the DVRAG (Hilton et al., 2008). In some cases, the predictive utility of the PCL-R and PCL: SV is at least as good as the purpose-built instruments, including those of which they are a part (Cooke, Michie & Ryan, 2005; Dahle, 2006; Dolan & Davies, 2006; Doyle et al., 2002; Hare, 2003; Kroner, Mills, & Reddon, 2005; Pham, Ducro, Maghem, & Réveillère, 2005; Sjöstedt & Långström, 2002; Edens, Skeem, & Douglas, 2006; Tengström, 2001). For example, in the MacArthur Risk Study (Monahan et al., 2001) the VRAG predicted violence in civil psychiatric patients, but the effect was due entirely to the inclusion in the VRAG of the PCL: SV (Edens, Skeem et al., 2006).

The last few years have seen a sharp increase in public and professional attention paid to sex offenders, particularly those who commit a new offense following release from a treatment program or prison. It has long been recognized that psychopathic sex offenders present special problems for therapists and the criminal justice system. In general, the prevalence of psychopathy, as measured by the PCL-R, is lower in child molesters than in rapists or 'mixed' offenders (Hare, 2003; Porter et al., 2000; Porter, ten Brinke, & Wilson, 2009). However, child molesters with high PCL-R scores are at increased risk for sexual reoffending (Porter et al., 2009). Quinsey et al., (1995) concluded from their extensive research that psychopathy functions as a general predictor of sexual and violent recidivism. Although psychopathy appears to be more predictive of general violence than sexual violence (Hare, 2003; Porter et al., 2009), its relationship with the latter may be underestimated because many sexually motivated violent offences are officially recorded as non-sexual violent offences (Rice, Harris, Lang & Cormier, 2006). Not only are the offenses of psychopathic sex offenders likely to be more violent than those of other sex offenders, they tend to be more sadistic (Hare, 2003; Harris et al., 2003; Porter, Woodworth, Earle, Drugge & Bower, 2003). In extreme cases – for example, among serial killers – co-morbidity of psychopathy and sadistic personality is very high (Hare, Cooke, & Hart, 1999; Ochberg et al., 2003; Stone, 1998; Stone, Butler & Young, 2009). In their PCL-R study of murderers, Porter et al. (2003) concluded that 'not only are psychopathic offenders disproportionately more likely to engage in sexual homicide (than are other murderers), but, when they do, they use significantly more gratuitous and sadistic violence' (p. 467).

Psychopathy, as measured by the PCL-R, is commonly used in preventative detention proceedings for sex offenders (Jackson & Hess, 2007; Mercado & Ogloff, 2007) and for other dangerous offenders (de Boer et al., 2008; Zinger & Forth, 1998). At the same time, there is evidence that psychopathic sex offenders are more likely to obtain early release from prison than are other sex offenders, presumably because they are adept at impression management (Porter et al., 2009).

One of the most potent combinations to emerge from the recent research on sex offenders is psychopathy coupled with evidence of deviant sexual arousal. Rice and Harris (1997) reported that sexual recidivism was strongly predicted by a combination of a high PCL-R score and deviant sexual arousal, defined by phallometric evidence of a preference for deviant stimuli, such as children, rape cues or nonsexual violence cues. Several studies indicate that psychopathy and behavioral or structured clinical evidence of deviant sexual arousal also is a strong predictor of sexual violence (Harris & Hanson, 1998; Hildebrand, de Ruiter & de Vogel, 2004; Serin, Mailloux, & Malcolm, 2001). Gretton, McBride, Hare, O'Shaughnessy, & Kumka (2001) found that this combination was highly predictive of general and violent re-offending in adolescent sex offenders. Recently, Harris and colleagues (2003) reported that in a large-sample study involving four sites the psychopathy–sexual deviance combination was predictive of violent recidivism in general, both sexual and nonsexual. The authors commented, 'Because of the robustness of this (psychopathy \times sexual deviance) interaction and its prognostic significance, its inclusion in the next generation of actuarial instruments for sex offenders should increase predictive accuracy' (p. 421) of general violent recidivism. Deviant *fantasies* no doubt play an important role in facilitating this psychopathy-deviance pattern (Logan & Hare, 2008; Williams et al., 2009).

Structural Equation Modeling (SEM) and Violence Risk

The literature on psychopathy and violence is compelling, but the emphasis has been on classical psychometric approaches (i.e., not formally accounting for measurement error), likely underestimating the role of psychopathy in violence. Modern model-based approaches, including SEM, are beginning to prove fruitful in elucidating the associations between the PCL scales and violence. For instance, based on a sample of 149 male psychiatric patients within a maximum security forensic state hospital, Hill et al., (2004) found that the 4-factor model accounted for 31% of the variance in patients' aggression across a 6-month follow-up. The Interpersonal (.56) and Antisocial (.35) factors were the strongest predictors. Similarly, using a very large sample (N = 840) of civil psychiatric outpatients, Vitacco et al. (2005) found that the 4-factor model accounted for 21% of violent and aggressive behavior within the community at 20-week follow-up. In this study, both the Affective (.41) and Antisocial (.40) factors were the strongest predictors. Noteworthy is that these and other studies (see discussions by Hare & Neumann, 2008a; Hare

& Neumann, in press) indicate that each of the PCL dimensions play an important role in the prediction of aggression and violence.

Based on these previous studies, as well as information about the distribution of psychopathic features within the general community (Coid et al., 2009; Neumann & Hare, 2008), we recently examined whether the four-factor (PCL: SV based) model of psychopathy could be used to adequately describe a large sample (N=514) of people from the general community, as well as predict future violent behavior (Neumann & Hare, 2008). The results provided excellent support for the model and indicate that the superordinate psychopathy factor was able to account for 17% of the variance in future violent behavior in a community sample. Community studies of this sort are particularly advantageous for examining the biological and psychosocial factors linked with the development and expression of psychopathic traits, uncontaminated by the effects of institutionalization and psychiatric morbidity.

As discussed previously, taking into account the type of violence involved—i.e., reactive versus instrumental—facilitates understanding the link between psychopathy and violent behavior. A more general issue concerns the severity and temporal aspects of the violence. We have begun to use modern statistical methods of growth modeling to provide a better sense of how psychopathy might be associated with violent behavior over time. This approach has the advantage of separating the level of some phenomenon (violence) at any given time from the rate of change or growth of the phenomenon over time (Muthen & Muthen, 2001). Neumann and Vitacco (2004), using a latent growth model, found that the absolute level of violence was primarily explained by the Antisocial psychopathy factor and a psychotic symptom factor in a sample of civil psychiatric outpatients. In contrast, the Interpersonal psychopathy factor predicted the growth in violent acts over a 30-week follow-up. This latent growth modeling research is notably different from previous prediction research, which has been primarily concerned with predicting a single event (e.g., the first violent act after release from custody). A more dynamic picture can be provided by modeling the growth of a phenomenon over time, rather than simply trying to predict a single event.

Treatment

Unlike most other offenders, psychopaths appear to suffer little personal distress, see little wrong with their attitudes and behavior, and seek treatment only when it is in their best interests to do so, such as when seeking probation or parole. They appear to derive little benefit from prison treatment programs that are emotion-based, involve “talk therapy,” are psychodynamic or insight-oriented, or are aimed at the development of empathy, conscience and interpersonal skills (Blair, 2008; Harris & Rice, 2006, 2007; Thornton & Blud, 2007; Wong & Burt, 2007). This is hardly surprising, given recent findings from

behavioral genetics, developmental psychopathology, and neurobiology (Harris et al., 2001; Frick, in press; Gao et al., in press; Harenski, Hare, & Kiehl, in press; Harris & Rice, 2006; Kiehl, 2006; Larsson et al., 2008; Viding et al., 2007) that psychopathy is characterized by personality and behavioral propensities that are strongly entrenched and presumably difficult to change. Some authors recently have argued for programs primarily geared toward a reduction in risk for recidivism and violence. Wong and colleagues (Wong & Burt, 2007; Wong, Gordon & Gu, 2007; Wong & Hare, 2005) have proposed that such risk management and “harm reduction” programs should involve an integration of relapse-prevention techniques and risk/needs/responsively principles (Andrews & Bonta, 2003) with elements of the best available cognitive-behavioral correctional programs. The programs should be less concerned with developing empathy and conscience or effecting changes in personality than with convincing participants that they alone are responsible for their behavior, and that there are more prosocial ways of using their strengths and abilities to satisfy their needs and wants. Early indications are that such programs may help to reduce the seriousness of post-release offending (Wong et al., 2007). There also is some recent evidence that therapeutic progress in cognitive-behavioral programs (Doren & Yates, 2008; Langton, Barbaree, Harkins & Peacock, 2006; Olver & Wong, 2009), as well as successful completion of such programs (Caldwell, Skeem, Salekin, & Van Rybroek, 2006; Catchpole & Gretton, 2003; Forth & Book, 2007; Olver & Wong, 2009), may be predictive of reduced recidivism rates among adolescent and adult offenders, including some with many psychopathic features. Yet to be determined are the long-term efficacy of such programs and the extent to which their outcomes can be replicated and generalized to other jurisdictions and populations.

Neuroscience and Legal Responsibility

For more than half a century investigators have attempted to interpret and explain the clinical and behavioral features of criminality and psychopathy in terms of biological mechanisms and processes. Much of the earlier research used paradigms from the emerging discipline of psychophysiology, and was based on the premise that our understanding of the nature of individual differences in personality and behavior is facilitated by the concomitant measurement of, and associations among, behavioral, cognitive, and biological domains. The latter consisted primarily of somatic, autonomic, electrocortical, and biochemical variables (see Hare, 1968, 1998; Lykken, 1957, 1985; Patrick, 2006). Until recently, the research findings have had little direct impact on the common view that psychopathic people are legally and psychiatrically sane, and responsible for their actions. Nonetheless, some investigators and commentators have suggested that the available evidence of impaired cognitive/affective processing among psychopathic offenders might be offered as a mitigating factor in determining legal culpability. For example, one defence psychiatrist raised the possibility that in first-degree murder cases such

evidence might result in psychopathy becoming “the kiss of life rather than the kiss of death” for his clients (Hare, 1996b, p. 47). At the time this seemed like a remote possibility, but the odds of this happening may have been shortened somewhat by recent findings that some clinical and behavioral features of psychopathy, such as impulsivity, poor response inhibition, and difficulty in processing emotional material, appear to be related to “anomalies” in certain brain functions and structures, including those related to moral-decision-making (e.g., de Oliveira-Souza et al., 2008b; Gao et al., in press; Glenn, Raine, & Schug, 2009; Herenski, et al., in press; Kiehl, 2006; Wahlund & Kristiansson, in press). The extent to which these and related findings will influence the manner in which the courts evaluate psychopathic offenders remains uncertain. This and related issues are the subject of considerable research and debate by scientists, jurists, ethicists, and philosophers (Malatesti & McMillan, in press) and by the MacArthur Foundation’s Law and Neuroscience Project (www.lawandneuroscienceproject.org).

Discussion of the issues involved in applying the neuroscience of psychopathy to the law is beyond the scope of this chapter, but several cautionary comments seem appropriate. First, because investigators often view psychopathy as a disorder they tend to refer to neuroimaging patterns in psychopathic persons as evidence of “deficits” or “dysfunctions.” But statistically significant differences do not necessarily imply a deficit or a function that falls outside of the “normal” range. In this respect, it is important to note that at present we know little about the variability in brain structure and function in the general population, and even less about how such variability relates to differences in personality and behavior. Further, from an evolutionary psychology perspective, psychopathy is not a disorder but an adaptive life-strategy (Book & Quinsey, 2003; Harris, Rice, Hilton, Lalumière, & Quinsey, 2007; also see Buss, 2009, for a discussion of personality traits as forms of strategic individual differences in adaptation). Second, functional differences observed during performance of a task might reflect the use of different strategies in performance of the task, while structural differences might be a case of “use it or lose it.” Third, the number of studies and participants is relatively small, though increasing rapidly. In addition, the selection of participants typically is not random, and the tasks used for functional imaging studies generally have uncertain ecological validity. Fourth, measurement error in the assessment of psychopathy, methodological, measurement, and statistical problems in acquiring and interpreting neuroimaging data, and uncertainty about what such data tell us about underlying cognitive and affective processes, make it difficult to establish causal connections between brain function/structure and psychopathic behavior . Similar considerations have been raised about the implications of neuroscience for criminal culpability in general (e.g., Gazzaniga, 2008; Mobbs, Lau, Jones, & Frith, 2007; Pietrini & Bambini, 2009). Discussions of the clinical, philosophical, ethical, and legal issues related to the determination of legal responsibility are available in Malatesti & McMillan (in press) .

Conclusions

There is a substantial amount of empirical evidence that psychopathy, as measured by the PCL-R and its derivatives, is a predictor of recidivism and violence in prison, forensic psychiatric and civil psychiatric populations. Indeed, psychopathy as assessed via the PCL scales is one of the most generalizable of the risk factors identified thus far, and for this reason PCL scales are included in a variety of actuarial and structured-clinical risk assessment procedures. Although psychopathy is not the only risk factor for recidivism and violence, it is unusually pervasive (“by all odds the prime criminogenic personality trait;” Wilson & Herrnstein, 1985) and too important to ignore, particularly with respect to violence. Treatment and management are difficult, time-consuming and expensive, but new initiatives based on current theory and research on psychopathy and the most effective correctional philosophies may help to reduce the harm done by psychopaths. Although neuroscience is casting new light on the nature of psychopathy, its implications for legal responsibility remain the subject of considerable debate and controversy.

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Table 1. Items and Factors in the Hare PCL Scales

PCL-R	PCL: YV	PCL: SV
F1		P1
Interpersonal	Interpersonal	Interpersonal
1. Glibness/superficial charm	1. Impression management	1. Superficial
2. Grandiose sense of self-worth	2. Grandiose sense of self-worth	2. Grandiose
4. Pathological lying	4. Pathological lying	3. Deceitful
5. Conning/manipulative	5. Manipulation for personal gain	
Affective	Affective	Affective
6. Lack of remorse or guilt	6. Lack of remorse	4. Lacks remorse
7. Shallow affect	7. Shallow affect	5. Lacks empathy
8. Callous/Lack of empathy	8. Callous/Lack of empathy	6. Doesn't accept responsibility
16. Failure to accept responsibility	16. Failure to accept responsibility	
F2		P2
Lifestyle	Behavioral	Lifestyle
3. Need for stimulation	3. Stimulation seeking	7. Impulsive
9. Parasitic lifestyle	9. Parasitic orientation	9. Lacks goals
13. Lack of realistic, long-term goals	13. Lack of goals	10. Irresponsibility
14. Impulsivity	14. Impulsivity	
15. Irresponsibility	15. Irresponsibility	
Antisocial	Antisocial	Antisocial
10. Poor behavioral controls	10. Poor anger control	8. Poor behavioral controls
12. Early behavioral problems	12. Early behavior problems	11. Adolescent antisocial behavior
18. Juvenile delinquency	18. Serious criminal behavior	12. Adult antisocial behavior
19. Revocation of conditional release	19. Serious violations of release	
20. Criminal versatility	20. Criminal versatility	

Note: The PCL-R, PCL: YV, and PCL: SV items are from Hare (1991; 2003), Forth, Kosson, & Hare (2003), and Hart, Cox, & Hare (1995), respectively. Reprinted by permission of the copyright holders, R.D. Hare and Multi-Health Systems. Note that the item titles cannot be scored without reference to the formal criteria contained in the published manuals. PCL-R items 11, Promiscuous sexual behavior, and 17, Many short-term marital relationships, contribute to the Total score but do not load on any factors. PCL: YV items 11, Impersonal sexual behavior, and 17, Unstable interpersonal relationships, contribute to the Total score but do not load on any factor. F1 and F2 are the original PCL-R factors, but with the addition of item 20. P1 and P2 are Parts 1 and 2 described in the PCL: SV Manual.