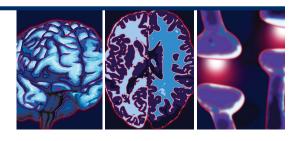
MANAGEMENT PERSPECTIVE



Current issues in the assessment

and diagnosis of psychopathy (psychopathic personality disorder)

Stephen D Hart*1 & Alana N Cook1

Practice points

- Concepts and operations must be distinguished, recognizing that psychopathic personality disorder (PPD) comprises a broad range of symptoms, but that any given measurement procedure necessarily focuses on a limited set of symptoms.
- Symptoms of PPD should be broadly assessed using multiple measurement procedures and straying beyond the limits of standardized diagnostic criteria as necessary and appropriate.
- Symptoms of PPD should be assessed along a continuum, either in addition to or instead of making categorical diagnoses.
- The course of PPD symptoms should be assessed, that is, fluctuations over time in trait extremity and associated functional impairment.
- The potential influence of gender, age and culture on the expression of (apparent) symptoms of PPD should be considered.
- The potential influence of acute physical and mental health problems on the expression of (apparent) symptoms of PPD should be considered.
- PPD should be assessed using standardized measurement procedures that integrate information from diverse sources such as expert rating scales or certain diagnostic interviews.

SUMMARY Few mental disorders are the source of as much fascination on one hand and confusion on the other hand as psychopathy, also known as psychopathic, antisocial or dissocial personality disorder. This review focuses first on conceptual issues, clarifying the nature of psychopathic personality disorder. It then focuses on operational issues, reviewing some of the most commonly used procedures for measuring features of the disorder in adult clinical-forensic settings. It concludes by discussing a 'hot topic' in the field: the nature of the association between antisocial behavior and psychopathic personality disorder.

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Mental health professionals are often fascinated by the concept of psychopathy or psychopathic personality disorder (PPD), yet many are also confused by it. The fascination stems primarily from the disorder's association with crime; the confusion is caused by its name.

The association between PPD and crime has been recognized for almost 200 years. Indeed, it was alienists working for the courts who first identified and described symptoms of what is now called PPD [1]. There is now a large body of research, including recent meta-analyses [2,3], which confirms that features of PPD are major risk factors for serious criminality and violence. For this reason, PPD is an important construct in forensic mental health practice.

The confusion regarding the disorder's name is longstanding [4] and persists to the present time. Should we refer to it as PPD [5-7], or just plain psychopathy? What about terms such as 'antisocial', 'dissocial' and 'sociopathic personality disorder': can they be used synonymously? The current authors have often heard it argued that PPD 'does not exist'; that is, it is not included in the DSM-IV-TR [8] or the 10th edition of the International Classification of Diseases and Related Health Problems (ICD-10) [9]. But the argument is simply incorrect, the result of confusing what is being measured (i.e., a concept with central, core or defining features) with how it is being measured (i.e., an operation or method based on specific identification criteria). Put simply, a set of diagnostic criteria for a mental disorder is not the same thing as a definition of that mental disorder any more than a map is the same thing as the terrain it represents [10]. As a concept, PPD is indeed synonymous with antisocial, dissocial and sociopathic personality disorder. They are simply different terms for the same disorder. This is explicitly recognized in the DSM-IV-TR [8]. PPD is included in the DSM-IV-TR, where it is referred to as 'antisocial personality disorder', and in the ICD-10, where it is referred to as 'dissocial personality disorder'. At an operational level, however, the various procedures for assessing and diagnosing PPD are definitely not equivalent. Of course, even diagnostic criteria with the same name may differ markedly in content. For example, the criteria for antisocial personality disorder in earlier editions of the DSM differ from those in the DSM-IV; similarly, the criteria for PPD in the Psychopathy Checklist (PCL) [11], the revised PCL (PCL-R) [12,13] and the Screening Version of the PCL-R

(PCL:SV) [14] all differ. Even when measures of PPD are broadly similar in content or highly correlated at the group level, there may be important differences between them that lead to modest diagnostic agreement in individual cases [13,14].

This review focuses first on conceptual issues, clarifying the nature of PPD. It then focuses on operational issues, reviewing some of the most commonly used procedures for measuring features of PPD in adult clinical-forensic settings. The overarching goals of this review are to demystify the disorder and promote best practice.

Conceptual issues The nature of psychopathic personality disorder

As histories of the concept reveal [1,4,15], our understanding of the nature of PPD has evolved over the past 200 years. In the last 100 years, and particularly in the last 50 years, there has emerged a broad consensus that PPD is characterized by a syndromal structure, comprising symptoms in several major areas of personality functioning.

It is surprisingly uncommon for researchers to systematically explicate the psychopathological constructs that they study. To fill the void with respect to PPD, Cooke and colleagues developed a concept map of PPD based on a systematic review of the literature [16]. They broke down major clinical descriptions of the disorder into lexical units - trait-descriptive adjectives or adjectival phrases in the English language - and then grouped them rationally into domains related to more global aspects of personality functioning. The result was a concept map they referred to as the Comprehensive Assessment of Psychopathic Personality (CAPP), which is illustrated in Figure 1. The purpose of the CAPP is to capture the diversity of views regarding key features of PPD in a way that facilitates research on PPD as a construct, as well as providing a basis for understanding the associations among various measurement procedures, or even the development of new measurement procedures.

According to the CAPP, PPD comprises six domains of symptoms. First, the attachment domain, which reflects affiliation in interpersonal relations and includes symptoms such as detachment, lack of commitment and lack of empathy or concern for others. Second, the behavioral domain, which reflects organization of goal-oriented activities and includes

Current issues in the assessment & diagnosis of psychopathy MANAGEMENT PERSPECTIVE

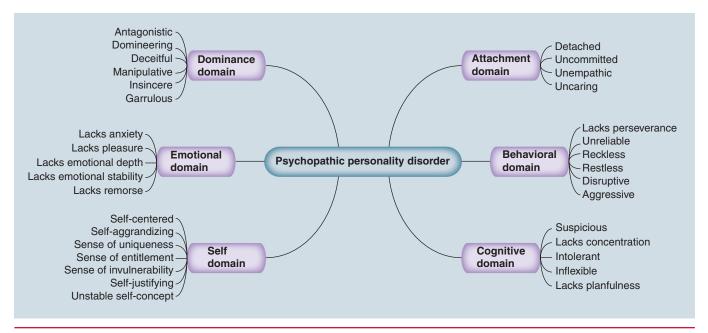


Figure 1. Concept map of psychopathic personality disorder: the Comprehensive Assessment of Psychopathic Personality [16].

symptoms such as lack of perseverance, unreliability, recklessness, restlessness, disruptiveness and aggressiveness. Third, the cognitive domain, which reflects organization of mental activities and includes symptoms such as suspiciousness, inflexibility, intolerance, lack of planfulness and lack of concentration. Fourth, the dominance domain, which reflects status in interpersonal relations and includes symptoms such as antagonism, arrogance, deceitfulness, manipulativeness, insincerity, and glibness or garrulousness. Fifth, the emotional domain, which reflects the experience and expression of affect and includes symptoms such as lack of anxiety, lack of remorse, lack of emotional depth and lack of emotional stability. Finally, the self domain, which reflects organization of self-concept and self-other relation and includes symptoms such as self-centeredness, self-aggrandizement, self-justification and a sense of entitlement, uniqueness, and invulnerability.

The CAPP as a concept map has been evaluated in several ways. First, it has been translated into diverse languages [17]. Second, surveys of forensic mental health professionals and others have asked respondents to rate the prototypicality of CAPP symptoms [17,18]. Third, some surveys have examined the extent to which prototypicality ratings or symptoms ratings differ as a function of the gender of subjects (i.e., men vs women with PPD) or the language in which symptoms were presented [19]. The findings of this research suggest that the CAPP provides a comprehensive concept map of PPD that is relatively stable across genders and cultures.

The major implication for practice of this section is that evaluators should distinguish concepts and operations, recognizing that PPD comprises a broad range of symptoms, but that any given measurement procedure necessarily focuses on a limited set of symptoms.

Assessment & diagnosis

There are two primary approaches to the assessment and diagnosis of PPD. The first approach focuses more narrowly on symptoms related to impulsivity, irresponsibility and antisociality (i.e., those from the behavioral domain of the CAPP). It underlies the DSM-IV-TR criteria for antisocial personality disorder, summarized in Box 1, which serve as a good example: they require symptoms of conduct disorder with age of onset below the age of 15 years and persistence of antisocial behavior past the age of 18 years. Diagnostic criteria based on that approach may lack specificity, especially in forensic settings. This point is discussed explicitly in DSM-IV-TR [8]. The second approach includes a broader range of symptoms (i.e., those from other domains in the CAPP). It underlies the ICD-10 criteria for dissocial personality disorder, summarized in Box 2, as well as the PCL-R and PCL:SV criteria for PPD, summarized in Boxes 3 & 4, respectively. As a consequence of including more, and more

MANAGEMENT PERSPECTIVE Hart & Cook

Box 1. DSM-IV-TR criteria for antisocial personality disorder.

- There is a pervasive pattern of disregard for and violation of the rights of others occurring since 15 years of age, as indicated by three (or more) of the following:
 - Failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest
 - Deceitfulness, as indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure
 - Impulsivity or failure to plan ahead
 - Irritability and aggressiveness, as indicated by repeated physical fights or assaults
 - Reckless disregard for safety of self or others
 - Consistent irresponsibility, as indicated by repeated failure to sustain consistent work behavior or honor financial obligations
- Lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated or stolen from another
- The individual is at least 18 years of age
- There is evidence of conduct disorder (see diagnostic criteria for conduct disorder) with onset before 15 years of age
- The occurrence of antisocial behavior is not exclusively during the course of a schizophrenic or a manic episode

Information taken from [8].

diverse, symptoms, the second approach tends to yield diagnoses with lower prevalence rates and greater specificity than the first approach.

The distinction between these two approaches is not just semantic; it may also have some important implications for understanding the etiology of psychopathy. Research indicates that using narrower diagnostic criteria for PPD yields findings that are stronger and more consistent than those based on broader diagnostic criteria. For example, compared with offenders who meet DSM-IV diagnostic criteria for PPD, those who meet the narrower PCL-R diagnostic criteria showed evidence of reduced gray matter volume in areas of the brain associated with empathy, moral reasoning, and processing of prosocial emotions such as guilt and embarrassment, in a structural MRI study [20]; blunted processing of negative emotional words on an emotional-linguistic go/no go task, in a study of event-related brain potentials [21]; and better overall performance on measures of executive functions in a study of performance on a neuropsychological test battery [22].

Regardless of their underlying approach, contemporary diagnostic criteria for PPD have some important limitations. First, they have limited coverage of symptoms. Second, they conceptualize symptom severity in global terms. Third, they permit only relatively crude, categorical diagnoses.

The major implications of this section are that evaluators should assess symptoms of PPD broadly, straying beyond the limits of standardized diagnostic criteria as necessary and appropriate, and evaluate symptoms of PPD along a continuum, either in addition to or instead of making categorical diagnoses.

Prevalence

Prevalence estimates vary according to the nature of the diagnostic criteria used in epidemiological research. Focusing on research conducted in the USA and Canada, and using broad (DSM-IV-TR or similar) criteria, the lifetime prevalence of PPD in the general population is approximately 1.5–3.5%; in correctional offenders, the rate is 50–75% [23–25]. By contrast, using

Box 2. International Classification of Diseases (10th Edition) criteria for dissocial personality disorder.

- Callous unconcern for the feelings of others and lack of capacity for empathy
- Gross and persistent attitude of irresponsibility and disregard for social norms, rules and obligations
- Incapacity to maintain enduring relationships
- Very low tolerance to frustration and a low threshold for discharge of aggression, including violence
- Incapacity to experience guilt and to profit from experience, particularly punishment
- Marked proneness to blame others or to offer plausible rationalizations for the behavior bringing the subject into conflict with society
- Persistent irritability

Information taken from [9].

narrow (PCL-R, PCL:SV or similar) criteria, the lifetime prevalence rate in correctional offenders and forensic psychiatric patients is approximately 15–25%, or a third of the rate observed using broader criteria [5,6,12–14].

Course

Symptoms of PPD typically have an insidious and spontaneous onset sometime between childhood, as young as 6-10 years of age, and late adolescence or early adulthood, as old as 16-20 years of age. Perhaps the most easily and frequently observed symptoms in childhood and adolescence are conduct problems; indeed, the DSM-IV-TR diagnostic criteria for antisocial personality disorder require symptoms of conduct disorder with age of onset before 15 years of age [8]. In middle-to-late adulthood, the course of PPD is characterized by relative stability, although symptoms fluctuate with respect to extremity or dysfunction. For example, there is evidence of moderate diagnostic stability across periods from several months to several years [26-28], persistence of symptoms across adulthood [29], and long-term risk for negative health outcomes such as morbidity and mortality [30].

The major implication for practice of this section is that evaluators should assess the course of PPD symptoms, that is, fluctuations over time in trait extremity and associated functional impairment.

Gender, age & culture

The expression and prevalence of PPD varies as a function of demographic characteristics such as gender, age and culture or ethnicity. With respect to gender, males are more likely than females to demonstrate all symptoms of PPD, which according to epideimiological research, results in a male:female sex ratio for lifetime prevalence of approximately 3:1 [24,25]. With respect to age, and focusing on adults (aged 18 years and older), some epidemiological research has reported a cohort effect, with higher lifetime prevalence rates in younger generations than in older generations [25]. With respect to culture, although PPD is found across cultures, there is some evidence of cross-cultural differences in prevalence [31].

One explanation for these group differences is a lack of conceptual equivalence. Sometimes, a disorder is more apparent, recognized or relevant in one group than in another. This does not seem to be the case with PPD. According to

Box 3. Items in the Hare Psychopathy Checklist-Revised.

- Glibness/superficial charm
- Grandiose sense of self-worth
- Need for stimulation/proneness to boredom
- Pathological lying
- Conning/manipulative
- Lack of remorse or guilt
- Shallow affect
- Callous/lack of empathy
- Parasitic lifestyle
- Poor behavioral controls
- Promiscuous sexual behavior
- Early behavioral problems
- Lack of realistic, long-term goals
- Impulsivity
- Irresponsibility
- Failure to accept responsibility for own actions
- Many short-term marital relationships
- Juvenile delinquency
- Revocation of conditional release
- Criminal versatility
- Information taken from [12,13]

literature reviews and anthropological research, PPD appears to have conceptual equivalence across genders and cultures. Little attention has been paid to age.

A second explanation is a lack of structural equivalence. A disorder's syndromal structure – the pattern of associations among its symptoms – may vary. Put simply, the disorder 'looks different' across groups, making it difficult or even impossible to develop adequate assessment procedures and diagnostic criteria. This also does not seem to be the case with PPD. A

Box 4. Items in the Screening Version of the Hare Psychopathy Checklist-Revised.

- Superficial
- Grandiose
- Deceitful
- Lacks remorse
- Lacks empathy
- Does not accept responsibility
- Impulsive
- Poor behavioral controls
- Lacks goals
- Irresponsible
- Adolescent antisocial behavior
- Adult antisocial behavior

Information taken from [14].

large and growing body of research supports the structural equivalence (i.e., stability, if not strict invariance) of PPD across gender and culture. Once again, little attention has been paid to age.

A third explanation is a lack of metric equivalence. Even if a disorder has good conceptual and structural equivalence across groups, procedures for assessing or measuring symptoms of the disorder may be biased and not directly comparable across groups. There is some evidence of bias in existing procedures for assessing or measuring PPD. Specifically, the findings of item response theory analyses indicate that these procedures may underestimate the prevalence of PPD in European countries compared with Canada and the USA, and possibly in women compared with men. Yet again, little attention has been paid to age. But the underestimation is small in magnitude and not sufficient on its own to account for the observed group differences, raising the possibility that they are due, at least in part, to cultural facilitation [32,33].

The major implication for practice of this section is that evaluators should consider the potential influence of gender, age and culture, which may influence the expression of symptoms of PPD.

Comorbidity

Three major patterns of comorbidity are observed. First, PPD has a high rate of comorbidity with substance use disorders [24,34-36]. This comorbidity may reflect a common etiological mechanism, or it may be that in some cases substance use disorders are a consequence or complication of PPD. It is not plausible that PPD is a consequence or complication of substance use disorders, as symptoms of the former generally have onset many years before those of the latter. Second, PPD also has a high rate of comorbidity with other personality disorders. Comorbidity is highest with borderline (emotionally unstable), narcissistic and histrionic personality disorders [24,37-39]. This may be due in part to a lack of specificity in the diagnostic criteria for personality disorders - that is, a failure to carve nature at its joints - but may also reflect common etiological factors. Third, low rates of comorbidity are observed between PPD and certain other personality disorders. Comorbidity is lowest with avoidant (anxious/avoidant), dependent and obsessive-compulsive (anankastic) personality disorders [37,38,40]. This may reflect divergent etiological factors.

The major implication for practice of this section is that evaluators should consider the potential influence of acute physical and mental health problems, which may mimic symptoms of PPD.

Operational issues

A comprehensive review of measurement procedures is beyond the scope of this paper. Below, the discussion is limited to the most commonly used procedures specifically developed to assess PPD in clinical–forensic evaluations of adults; excluded from this review are measures derived from those developed to assess normal personality, measures designed for use in research or general clinical settings, measures designed for use with children or adolescents, or measures not commonly used. The procedures included in this review may be divided into three basic categories: diagnostic interviews; self-report questionnaires and inventories; and expert rating scales.

Diagnostic interviews use (semi-)structured interview schedules to gather information from the person being evaluated to make a diagnosis according to fixed and explicit criteria. Two of the most commonly used structured diagnostic interviews in clinical–forensic settings are the Structured Clinical Interview for DSM-IV, Axis II [41] and the International Personality Disorder Examination [42].

Self-report inventories require the person being evaluated to respond to a series of specific questions using a fixed response format. They are usually administered in written form, although it is possible in many cases to administer them orally or by means of audio cassettes. Multiscale inventories commonly used to assess psychopathy include the second edition of the Minnesota Multiphasic Personality Inventory [43] and its Restructured Form [44], the third edition of the Millon Clinical Multiaxial Inventory [45] and the Personality Assessment Inventory [46]. A number of self-report questionnaires focused specifically on assessment of psychopathy have been developed, with perhaps the most popular one being the revised Psychopathic Personality Inventory [47].

Expert rating scales are multi-item rating scales. Trained observers rate the severity of symptoms based on all available clinical data (e.g., interview with the respondent, review of case history information and interviews with collateral informants). The PCL-R [12,13] falls into this category, as does the PCL:SV [14].

Box 5 summarizes some of the key features of these assessment procedures.

Evaluation

Diagnostic interviews

The Structured Clinical Interview for DSM-IV, Axis II [41] and the International Personality Disorder Examination [42] have manuals that assist administration, scoring and interpretation, although the manuals have been criticized for lack of detail and a complete lack of normative data [48].

The diagnostic interviews have some major limitations in terms of content and format. With respect to content, they are limited by the diagnostic criteria on which they were based, and thus over-focus on antisocial behavior. With respect to format, their heavy reliance on oral self-report by respondents means that they are susceptible to distortion and sensitive to state factors such as acute psychopathology, although these problems can be minimized by integrating collateral information in the assessment process. Also with respect to format, because these interviews are designed to assess lifetime presence of PPD, they tend to be insensitive to changes over time in symptomatology.

Notwithstanding these problems, there is an evidence base that supports at least some aspects of the reliability and validity of diagnostic interviews for PPD – in particular, inter-rater and test–retest reliability, as well as concurrent validity with respect to other diagnostic interviews and clinical diagnoses.

Self-report inventories

The self-report inventories described here all have detailed manuals that assist administration, scoring and interpretation. They all contain extensive normative data for community residents but have no, or only limited, normative data for correctional and forensic mental health settings.

With respect to content, most of the selfreport inventories are designed to assess a broad range of problems, so their coverage of PPD symptoms is limited. The exception here is the revised Psychopathic Personality Inventory, which focuses solely on PPD [47]. With respect to format, reliance on written self-report with no ability to integrate collateral information means that these inventories require respondents to have basic literacy and language skills, and are susceptible to response distortion. They also tend to be sensitive to state factors such as acute psychopathology and mood state. It is unclear whether they are sensitive to change over time in PPD symptomatology.

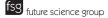
There is an evidence base that supports some aspects of the reliability and validity of self-report inventories – in particular, their structural reliability. However, the evidence base also suggests that self-report inventories have low-to-moderate temporal stability and low-to-moderate concurrent validity with other procedures for assessing PPD, including other self-report inventories. There is relatively little evidence that self-report inventories of PPD have good predictive validity with respect to serious antisocial behavior.

Expert rating scales

The PCL-R [12,13] and PCL:SV [14] have detailed manuals that assist administration, scoring and interpretation. Extensive normative data for correctional and forensic mental health settings are contained in the test manuals and the PCL:SV manual also contains normative data for civil psychiatric patients and community residents.

With respect to content, expert rating scales have good coverage of PPD symptoms, although the PCL-R and PCL:SV have both been criticized as being too heavily saturated with items that reflect antisocial or socially deviant behavior. With respect to format, expert rating scales are specifically designed to integrate collateral and interview information, which means that they require only limited language skills and are not susceptible to response distortion. Also, they have moderate-to-high temporal stability and are relatively insensitive to state factors such as acute psychopathology and mood state. One major problem is that, because the PCL-R and PCL:SV were designed to assess lifetime presence of PPD, they are insensitive to changes over time in symptomatology.

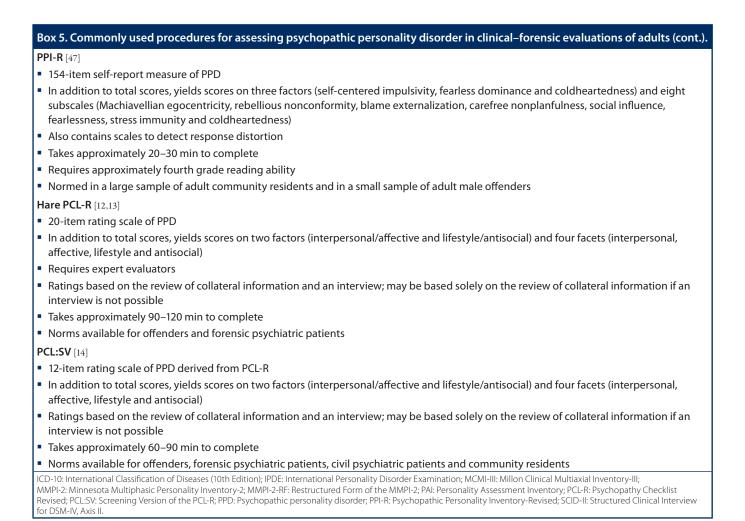
There is a very large evidence base that supports every major aspect of the reliability and validity of expert rating scales. The psychometric properties of the PCL-R and PCL:SV have been evaluated extensively within the framework of classical test theory. The findings indicate that the structural, inter-rater and test-retest reliabilities of the tests are good to excellent. The tests have also been evaluated within the framework of modern test theory, with similar positive findings. The concurrent validity of the tests is good. They show moderate-to-large correlations with



MANAGEMENT PERSPECTIVE Hart & Cook

Box 5. Commonly used procedures for assessing psychopathic personality disorder in clinical-forensic evaluations of adults. **SCID-II** [41] Semi-structured diagnostic interview for DSM-IV personality disorders Relevant to PPD, severity ratings for individual symptoms are used to make diagnoses of DSM-IV antisocial personality disorder Requires expert evaluators Requires evaluators to be familiar with the respondent's psychiatric history; evaluators may also consider other collateral information Evaluators have the option of administering a self-report questionnaire prior to the interview and then asking questions about those areas in which respondents admitted problems Takes approximately 2–3 h to complete No norms available **IPDE** [42] Semi-structured diagnostic interview for DSM-IV and ICD-10 personality disorders Relevant to PPD, severity ratings for individual symptoms are used to make diagnoses, symptom counts and dimensional ratings of DSM-IV antisocial personality disorder and ICD-10 dissocial personality disorder Requires expert evaluators Requires evaluators to be familiar with the respondent's psychiatric history; evaluators are also encouraged to consider other collateral information Takes approximately 2–3 h to complete No norms available MMPI-2 [43] 567-item self-report inventory of personality and psychopathology Contains several scales related to PPD, including Psychopathic Deviate and Hypomania Also has scales designed to detect response distortion Takes approximately 1–1.5 h to complete Requires eighth grade reading level Normed in a nationally representative sample of community residents MMPI-2-RF [44] 338-item self-report inventory of personality and psychopathology, derived from MMPI-2 Contains several scales related to PPD, including antisocial behavior (RC4 asb) and hypomanic activation (RC9 hpm) Also contains scales designed to detect response distortion Takes approximately 45–60 min to complete Requires fifth grade reading ability Normed in a nationally representative sample of community residents MCMI-III [45] 175-item self-report inventory of personality and psychopathology Contains one scale (6A) designed to assess PPD Also contains scales to detect response distortion Takes approximately 30 min to complete Requires eighth grade reading ability Normed in clinical settings and in correctional offenders **PAI** [46] 344-item self-report inventory of personality and psychopathology Contains one scale of PPD, antisocial features, with three subscales: antisocial behaviors, egocentricity and stimulus seeking Also contains scales to detect response distortion Takes approximately 45–60 min to complete Requires fourth grade reading ability Normed in a large, representative sample of community residents and in clinical settings ICD-10: International Classification of Diseases (10th Edition); IPDE: International Personality Disorder Examination; MCMI-III: Millon Clinical Multiaxial Inventory-III; MMPI-2: Minnesota Multiphasic Personality Inventory-2; MMPI-2-RF: Restructured Form of the MMPI-2; PAI: Personality Assessment Inventory; PCL-R: Psychopathy Checklist Revised; PCL:SV: Screening Version of the PCL-R; PPD: Psychopathic personality disorder; PPI-R: Psychopathic Personality Inventory-Revised; SCID-II: Structured Clinical Interview for DSM-IV, Axis II.

Current issues in the assessment & diagnosis of psychopathy MANAGEMENT PERSPECTIVE



clinical diagnoses made using other criteria and low-to-moderate correlations with self-report measures of PPD. Their predictive validity is also good. They are moderately correlated with serious antisocial behavior, including violence, in both institutional and community settings. Finally, their construct validity is good. They have been used to study the course, comorbidity, etiology and treatment of PPD.

Summary

At this time, expert rating scales appear to be best suited for assessing PPD as part of clinical– forensic evaluations of adults. The primary use of diagnostic interviews and self-report inventories would appear to be in general clinical evaluations of adults, as an adjunct to expert rating scales in clinical–forensic evaluations of adults and for research purposes.

The major implication of this section is that evaluators should assess PPD using standardized assessment procedures that integrate information from diverse sources, such as expert rating scales or certain diagnostic interviews, especially in clinical–forensic evaluations.

Conclusion & future perspective

Research on PPD has burgeoned over the past 30 years and there is no indication that interest in the disorder will wane in the near future. That said, one 'hot topic' has attracted considerable attention in recent years, and it raises fundamental questions about the theoretical and clinical utility of PPD. The debate is over the association between antisocial behavior and PPD. Is antisocial behavior a primary symptom of PPD, a cardinal or defining feature of the disorder? Or is it a secondary symptom, an associated feature that has low sensitivity (i.e., is not found in all people diagnosed with the disorder) or low specificity (i.e., is found in people diagnosed with many other disorders)? Or perhaps it is not even a symptom at all, but rather a common sequelae, complication or adverse outcome associated with

PPD – in much the same way that hospitalization or involuntary commitment is a common sequelae of schizophrenia?

This topic has been debated intensely in recent years. Cooke and colleagues have argued on logical and statistical grounds that antisocial behavior is not central to the concept of psychopathy, and should be considered a secondary symptom or consequence [49,50]. Current diagnostic criteria and measures of PPD, in their view, include too many symptoms or items reflecting antisocial behavior, and in particular official criminality. This 'contamination' makes it virtually impossible to clarify the association between PPD and antisocial behavior. This view has been hotly contested by Hare and colleagues [51,52]. Based on their review of clinical descriptions and empirical research, they argue that antisocial behavior is central to the concept of PPD. The debate became so heated that Hare issued a threat of litigation against the authors of an article and the editor of the journal that had accepted that article for publication following peer-review, based on his belief that the article was defamatory and misrepresented his views on the issue [53].

to ignore. If Cooke and colleagues are correct, then it should be possible to develop new diagnostic criteria for and measures of PPD that include far fewer symptoms or items reflecting antisocial behavior without suffering any substantial decrease in reliability or validity. There is already preliminary evidence that 'decontaminated' measures of PPD may predict violent recidivism as well as well-established expert rating scales such as the PCL:SV [54]. These new measures have considerable potential theoretical and practical promise. They may help us to better understand the association between PPD and antisocial behavior, and may also assist clinical-forensic assessments of risk for serious criminality and violence.

Financial & competing interests disclosure

SD Hart receives royalties from sales of the Screening Version of the Hare Psychopathy Checklist-Revised. The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.

It is critical to refocus the debate on substantive matters. The issue is simply too important *No writing assistance was utilized in the production of this manuscript.*

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Current issues in the assessment & diagnosis of psychopathy MANAGEMENT PERSPECTIVE

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MANAGEMENT PERSPECTIVE Hart & Cook

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