Psychopathy as a Clinical and Empirical Construct

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Abstract

In this review, we focus on two major influences on current conceptualizations of psychopathy: one clinical, with its origins largely in the early case studies of Cleckley, and the other empirical, the result of widespread use of the Hare Psychopathy Checklist-Revised (PCL-R) for assessment purposes. Some investigators assert that the PCL-R, ostensibly based on Cleckley's work, has "drifted" from the construct described in his Clinical Profile. We evaluate this profile, note its basis in an unrepresentative sample of patients, and suggest that its literal and uncritical acceptance by the research community has become problematical. We also argue that the idea of construct "drift" is irrelevant to current conceptualizations of psychopathy, which are better informed by the extensive empirical research on the integration of structural, genetic, developmental, personality, and neurobiological research findings than by rigid adherence to early clinical formulations. We offer some suggestions for future research on psychopathy.

Contents

INTRODUCTION

Hervey Cleckley's clinical descriptions, insights, and speculations, detailed in *The Mask of Sanity* (1941/1976), have had a strong influence on empirical investigations of psychopathy, particularly in North America. An important outgrowth of Cleckley's work, as well as that of other early twentieth-century clinicians, was the search for reliable and valid instruments to assess the disorder. The most widely used of these instruments is the Hare Psychopathy Checklist-Revised (PCL-R; Hare 1991, 2003). The enormous increase in theory and research on psychopathy over the past two decades owes much to the development and adoption of the PCL-R as a common metric for assessing the disorder. Its impact has been felt by researchers who conduct basic research on the etiology and nature of psychopathy (e.g., Blair et al. 2005, Newman et al. 2007, Patrick 2006a), and by those more concerned with the implications of psychopathy for the mental health and criminal justice systems (e.g., Felthous & Saß 2007, Gacono 2000, Hervé & Yuille 2007). The Buros Mental Measurements Yearbooks described the PCL-R as the standard tool for the assessment of psychopathy (Acheson 2005, Fulero 1995). It is a basis for the development and validation of most other instruments currently in use for the assessment of the disorder.

In this review, we examine the associations between selected clinical and empirical conceptualizations of psychopathy, the former as reflected in Cleckley's writings, and the latter as obtained from the use of the PCL-R and related instruments. The main themes for the analyses are (*a*) an examination of Cleckley's Clinical Profile and the uncritical acceptance of it as the definitive word on psychopathy; (*b*) the argument that the PCL-R has "drifted" from its roots in the writings of Cleckley and other clinicians; (*c*) the role of antisocial behavior in the conceptualization and measurement of psychopathy; (*d*) the structural properties of the psychopathy construct, with emphasis on its measurement with the PCL-R; and (*e*) concerns that the PCL-R has become the construct. The latter theme is discussed briefly below; the other themes are addressed in separate sections throughout this review. We begin with a synopsis of the PCL-R.

THE PSYCHOPATHY CHECKLIST-REVISED

The popularity and importance of the PCL-R and its derivatives for basic and applied research have led to many reviews, discussions, and meta-analyses, as well as unusually intensive scrutiny, both theoretical and empirical. This literature is too extensive to summarize here, but many recent accounts are readily available elsewhere (e.g., Blair et al. 2005, Book et al. 2006, Felthous & Saß 2007, Hare 2007, Hare & Neumann 2006, Hervé & Yuille 2007, Leistico et al. 2007, Patrick 2006a).

Briefly, the PCL-R and its predecessor, the PCL (Hare 1980), arose because of the senior author's concern in the 1970s about the lack of reliable, valid, and generally accepted tools for the assessment of psychopathy. This concern was fuelled in large part by events that occurred at a 1975 NATO conference (see Hare & Neumann 2006 for details) and that played a role in the subsequent development of the PCL and the criteria for antisocial personality disorder (APD) in the *Diagnos-*

tic and Statistical Manual of Mental Disorders, Third Edition (DSM-III; American Psychiatric Association 1980). The PCL and PCL-R combined personality traits and antisocial behaviors, whereas the emphasis in APD was, and continues to be, antisocial behavior (see Widiger et al. 1996).

The PCL-R is a clinical construct rating scale that uses a semistructured interview, case history information, and specific scoring criteria to rate each of 20 items on a 3-point scale (0, 1, 2) according to the extent to which it applies to a given individual. As described below (Searching for the Structure of Psychopathy section; **Figure 1**), 18 of the items form four factors or dimensions: Interpersonal (glibness/superficial charm, grandiose sense of self worth, pathological deception, conning/manipulative); Affective (lack of remorse or guilt, shallow affect, callous/lack of empathy, failure to accept responsibility for actions); Lifestyle (need for stimulation/proneness to boredom, parasitic lifestyle, lack of realistic long-term goals, impulsivity, irresponsibility); and Antisocial
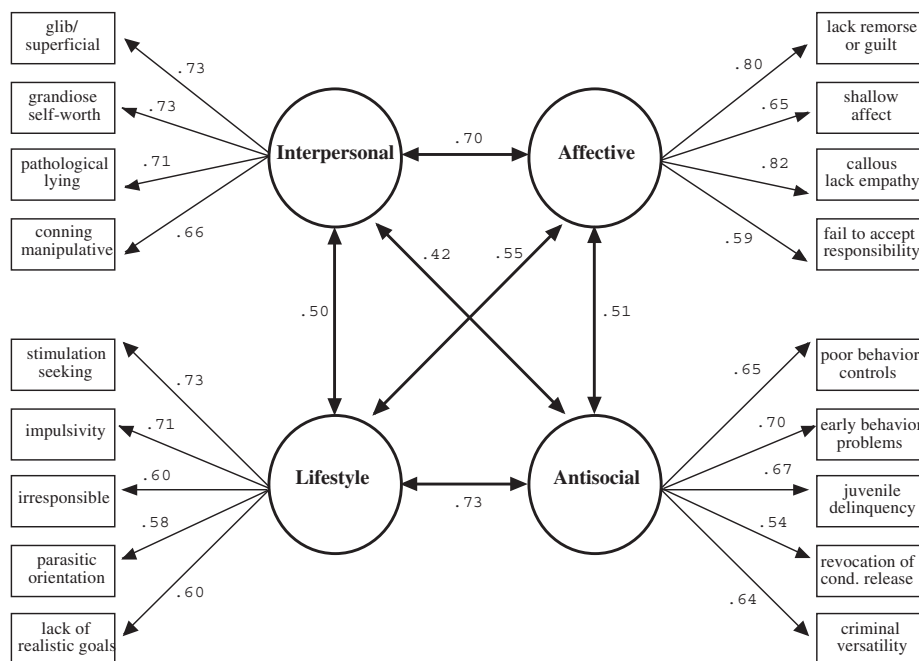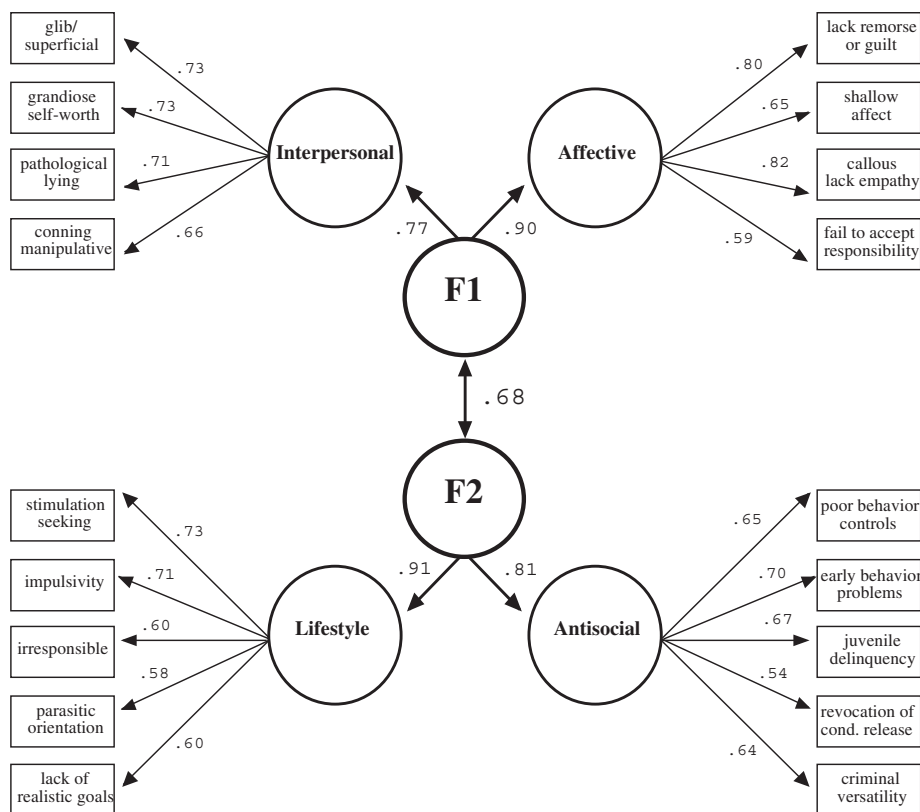

Figure 1

Four-factor PCL-R item-based model of psychopathy (N = 6929). Reprinted with permission of Guilford Press.

Figure 2

Two-factor PCL-R higher-order representation of the four correlated factors model (N = 6929).

(poor behavioral controls, early behavior problems, juvenile delinquency, revocation of conditional release, criminal versatility). Two other items (promiscuous sexual behavior, many short-term relationships) do not load on any factor but contribute to the total PCL-R score. The Interpersonal/Affective dimensions and the Lifestyle/Antisocial dimensions comprise, respectively, the PCL-R Factors 1 and 2 (see **Figure 2**) described by Hare (2003). Total PCL-R scores can vary from 0 to 40 and reflect the degree to which the individual matches the prototypical psychopath. For research and "diagnostic" purposes, a cut score of 30 typically is used for psychopathy, perhaps implying to some that the construct measured by the PCL-R is taxonic. However, there now is good evidence that the structure of psychopathy is dimensional in nature, whether measured by the PCL-R (Edens et al. 2006, Guay et al. 2007,

Walters et al. 2007a), the Psychopathy Checklist: Screening Version (PCL: SV; Hart et al. 1995, Walters et al. 2007b), the Psychopathy Checklist: Youth Version (PCL: YV; Forth et al. 2003, Murrie et al. 2007), the Antisocial Process Screening Device (APSD; Frick & Hare 2001, Murrie et al. 2007), or by self-report (Marcus et al. 2004). Because there are no exclusion criteria for its use, it is possible to investigate PCL-R comorbidity with other disorders, but its dimensional nature suggests that a likely scenario is overlap of symptoms. There is an extensive literature attesting to the reliability and validity of the PCL-R, as well as increasing evidence that it generalizes well across a variety of populations and contexts (e.g., Bolt et al. 2007, Cooke et al. 2005, Hare 2003). Debates about its structural properties are examined in the section on Searching for the Structure of Psychopathy.

The PCL-R was designed as a research scale to measure the clinical construct of psychopathy, and it is widely used for this purpose. However, because of its demonstrated ability to predict recidivism, violence, and treatment (e.g., Leistico et al. 2007), the PCL-R routinely is used in forensic assessments, either on its own or, more appropriately, as part of a battery of variables and factors relevant to forensic psychology and psychiatry (see Hare 2007b, Hilton et al. 2007, Quinsey et al. 2006, Webster et al. 1997).

A derivative of the PCL-R, the PCL: SV, was constructed for use in nonforensic contexts. It is used as a screen for psychopathy or as a stand-alone instrument for assessing psychopathy in civil psychiatric and community populations (Guy & Douglas 2006, Hare 2007b). It is strongly related to the PCL-R, both conceptually and empirically (Cooke et al. 1999, Guy & Edens 2006). The Psychopathy Checklist: Youth Version (PCL: YV; Forth et al. 2003) is an age-appropriate, downward extension of the PCL-R. Both the PCL: SV and the PCL: YV have much the same conceptual, psychometric, structural, and predictive properties as the PCL-R (e.g., Book et al. 2006, Neumann et al. 2006, Vitacco et al. 2005).

Measure as Construct?

There is little doubt that the PCL-R and its derivatives have become the dominant instruments for the assessment of psychopathy and that their use has resulted in the accumulation of a large body of replicable findings, both basic and applied. Although some might view such a situation as felicitous, others (e.g., Cooke et al. 2005) have expressed concerns that the PCL-R has become the construct. The first two meetings (2005, 2007) of the new Society for the Scientific Study of Psychopathy made it clear that although the PCL-R may be the dominant measure of psychopathy, it clearly has not impeded attempts by researchers to devise and validate other measurement tools, a healthy

development for the field. Indeed, efforts over the past decade have expanded the assessment repertoire to include a variety of behavioral rating scales, specialized self-report scales, and omnibus personality inventories (see Frick & Hare 2001, Lilienfeld & Fowler 2006, Livesley 2007, Lynam & Gudonis 2005, Lynam & Widiger 2007, Williams et al. 2007). Many of these measures are conceptually related to the PCL-R; others have their origins in empirical research on psychopathology and general personality. All benefit from the large body of theory and research that resulted from widespread adoption of the PCL-R family of instruments. Rather than being concerned about its popularity, clinicians might better view the PCL-R as an "anchor for the burgeoning nomological network of psychopathy" (Benning et al. 2005b, p. 271). This network not only includes diverse measurement tools but also input from behavioral genetics, developmental psychopathology, personality theory, cognitive neuroscience, and community studies.

CLECKLEY REVISITED

In a recent article, Westen & Weinberger (2004) commented, "An emerging body of research suggests that clinical observations, just like lay observations, can be quantified using standard psychometric procedures, so that clinical description becomes statistical prediction" (p. 595). They went on to say, "Virtually all current research on psychopathy... presupposes the observations of a brilliant clinical observer [Cleckley 1941] whose clinical immersion among psychopaths over 60 years ago still provides the foundation for the measure considered the gold standard in psychopathy research..." (p. 599). The measure to which they refer is the PCL-R. Similarly, Minzenberg and Siever (2006, p. 251) noted, "DSM-IV criteria for APD consist almost exclusively of behavioral indicators, neglecting the affective-interpersonal features that appear to reflect much of the notion of a distinct personality type as described

by Cleckley [1941/1976]. To address these issues, Hare and colleagues revived the construct of psychopathy, operationally defined by the Psychopathy Checklist, presently available in a revised version."

Their comments illustrate the conceptual connection that exists between the work of Cleckley and the development and nature of the PCL-R and its derivatives. It is important to note, however, that Cleckley was not the only inspiration for the PCL-R and its predecessor, the PCL (Hare 1980). Many other clinicians and investigators, including Arieti, Karpman, Gough, Quay, and William and Joan McCord, to name but a few, also made major contributions to a "traditional concept of psychopathy" (Hare 1991). The PCL, and later the PCL-R, were designed to tap this clinical tradition, as exemplified in, but not restricted to, the writings of Cleckley. In particular, derivation of the PCL and the PCL-R was not based on uncritical acceptance and mechanical application of the 16 characteristics (the so-called Cleckley criteria) listed in his Clinical Profile, but rather on (*a*) an appreciation of the rich clinical material contained in the body of the text, much original and some an interpretation and integration of other clinical writings; and (*b*) fifteen years of experience and empirical research by the senior author and his colleagues, as well as the many scores of theoretical and empirical articles on psychopathy published in the years before the PCL was first described (Hare 1980) and before a draft version of the PCL-R was first circulated in 1985. We mention this because some commentators have asserted that the PCL-R actually is characterized by "construct drift" from the entity that Cleckley had in mind when he wrote the various editions of *The Mask of Sanity*. We address this and related issues in the sections that follow.

Construct Drift?

Cleckley (1976) listed the following features in his Clinical Profile: 1) superficial charm and good "intelligence"; 2) absence of delu-

sions and other signs of irrational thinking; 3) absence of "nervousness" or psychoneurotic manifestations; 4) unreliability; 5) untruthfulness and insincerity; 6) lack of remorse or shame; 7) inadequately motivated antisocial behavior; 8) poor judgment and failure to learn by experience; 9) pathologic egocentricity and incapacity for love; 10) general poverty in major affective reactions; 11) specific loss of insight; 12) unresponsiveness in general interpersonal relations; 13) fantastic behavior with drink and sometimes without; 14) suicide rarely carried out; 15) sex life impersonal, trivial, and poorly integrated; 16) failure to follow any life plan.

Based on earlier comments about the PCL-R made by Rogers (1995), Salekin (2002) had this to say: "[W]hile psychopathy has received increasing attention from both clinicians and scientists over the last two decades, it is important to note that the definitions of the disorder have drifted from earlier conceptualizations provided by Cleckley and theorists before him" (p. 81). More recently, Patrick (2006b) suggested that PCL-R scores "index a construct somewhat different from Cleckley," for several reasons. First, Cleckley's description of the psychopath as not particularly hostile or aggressive is at odds with empirical data that the PCL-R is strongly related to "the personality traits of aggression and antagonism" and is "reliably predictive of aggressive behavior and violent recidivism in criminal offenders" (p. 608). We see this as less of a problem with the PCL-R than as indication of scientific progress. Patrick also noted that Cleckley's Clinical Profile included several items (1, 2, 3, and 14) indicative of "positive adjustment," whereas these items are not part of the PCL-R. We address this issue below. Cooke et al. (2005) also have argued that the PCL-R deviates from its roots in Cleckley because it includes antisocial behavior in the conceptualization and measurement of psychopathy. The impression given by these commentators is that the PCL-R has strayed from the "truth," that this represents a problem for the PCL-R and the field, and

that subsequent research should go "back to the future" (Patrick 2006b, p. 605).

Evidence for Construct Drift?

The term "construct drift" is catchy, but what is the theoretical or empirical evidence that the idea has any validity at all? We note that Cleckley did not compile (nor rank-order) the list of characteristics in the Clinical Profile for purposes of formal assessment, but rather as a clinical synopsis of what he considered to be typical of his psychopathic patients.

Prior to the PCL, Hare and his colleagues used Cleckley's writings as a general framework for making global clinical (prototypicality) ratings of psychopathy. However, in some cases each of the 16 characteristics in the Clinical Profile was scored on a 3-point scale, with 0 indicating that the characteristic definitely was not present or did not apply, 1 indicating some uncertainty about whether or not it applied, and 2 indicating that it definitely was present or applied. Hare (1980) reported that the resulting scale had good internal consistency but that some items were difficult to score or were only weakly related to the other items.

In developing the PCL, care was taken to make it conceptually consistent with much of what Cleckley had to say about psychopathy. However, we also took into account the work of other influential clinicians, as well as the many years of experience and empirical research by the senior author and other investigators, with the result that several items not in the Clinical Profile were added. Nonetheless, the PCL was strongly correlated ($r = 0.83$) with the 16-item scale described above, and a series of factor analyses and canonical correlations led to the conclusion that "All of the clinically important information contained in the Cleckley criteria appears to be covered by the checklist" (Hare 1980, p. 118). Moreover, the global ratings of the "Cleckley psychopath" were highly correlated (independent raters) with the 16-item scale ($r = 0.84$). In several studies by Hare and other researchers, these global ratings

were highly correlated (r's $= 0.80–0.90$) with the PCL and the PCL-R (see Hare 2003). The correlations among these three measures (global ratings, 16-item scale, PCL scales) approach their reliabilities and suggest that they measure much the same construct. Virtually the same pattern of correlations among the PCL-R, Cleckley global ratings, and total scores derived from the Cleckley items, was obtained in a recent study of female offenders (Kennealy et al. 2007). To put these correlations into context, they are in the same range as the correlations between the PCL-R and its derivative, the PCL: SV. Item response theory (IRT) analysis indicated that the latter is "so strongly and linearly related to PCL-R total scores that the scales can be considered metrically equivalent measures of the same psychological construct" (Cooke et al. 1999, p. 11). Although IRT has not been used to compare the three measures described above, it is not a big stretch to conclude from these early studies that they tap much the same construct and that the PCL scales are conceptually consistent with Cleckley's views on psychopathy. As Lynam & Gudonis (2005, p. 382) put it, "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."

After the introduction of the PCL, there have been few studies in which individuals are identified as psychopathic through use of the 16-item clinical profile described by Cleckley. In sharp contrast, numerous empirical studies have used the PCL and the PCL-R to generate a large body of findings that generally is in line with the traditional conception of psychopathy, as exemplified by Cleckley and other clinicians. Ironically, if there has been construct drift, it is the construct measured by the PCL-R—not the one some argue was described by Cleckley—that has received the vast majority of empirical support. Cleckley's views were based on intensive study of several hundred patients (see below), whereas support for the validity of the PCL-R and the

construct it measures is provided by hundreds of studies involving many thousands of individuals from a variety of populations. In any case, we contend that arguments in favor of the drift hypothesis are not based on empirical evidence but rather on side-by-side armchair comparisons of two lists of characteristics, one based on clinical/empirical and psychometric considerations and the other on literal applications of a clinical synopsis provided more than half a century ago.

Does It Matter?

Before attempting to answer the question of whether it matters, we should note that if the term "construct drift" is meant to describe differences between the Cleckley and the PCL-R conceptions of psychopathy, it clearly is misapplied. A more appropriate term would be "construct shift." If substantive differences exist, they did not develop gradually but rather were present at the inception of the PCL, the result of item selection procedures that were based on experience and empirical research. In any case, we suggest that both terms may be irrelevant to current discussions about the nature and measurement of psychopathy, unless we uncritically view *The Mask of Sanity* as a bible and those who deviate from its teachings as apostates. We believe that Cleckley's work should be put into perspective and subjected to some of the intensive analyses and critiques directed at the PCL-R. Given that virtually no empirical data exist on which to base such analyses and critiques, we are forced to fall back on the same sort of appraisals, interpretations, and use of quotations that have led some to the belief that any deviation from Cleckley is problematic. Because of space limitations, we confine our comments to several of the more salient examples used by commentators to argue their position.

When discussing Cleckley, many contemporary researchers make simultaneous reference to the 1941 and 1976 editions of *The Mask of Sanity*, apparently on the assumption that the material and arguments in each edi-

tion are much the same. Although the editions are very similar, there also are some substantive differences. For example, the 1941 chapter titled "A Clinical Profile" listed 21 characteristics of psychopathy, paraphrased as follows: 1) usually very attractive person superficially, more clever than average, superior general objective intelligence; 2) free from demonstrable symptoms of psychosis, free from any marked nervousness of other symptoms of a psychoneurosis; 3) no sense of responsibility, not concerned about irresponsible behavior; 4) total disregard for the truth; 5) does not accept blame for actions; 6) no sense of shame; 7) undependable, cheats and lies without compunction, commits antisocial acts without adequate motivation; 8) execrable judgment; 9) inability to learn or profit from experience; 10) egocentricity, incapacity for object-love; 11) general poverty of affect, readiness of expression rather than depth of feeling; 12) lacks insight, cannot see self as others see him; 13) no appreciation for kindness or consideration shown by others; 14) alcoholic indulgences; 15) when drinking readily places self in disgraceful or ignominious position, bizarre behavior when drinking, seeking a state of stupefaction; 16) does not choose to attain permanent unconsciousness by taking own life; 17) sex life shows peculiarities, casual sex; 18) no evidence of adverse heredity, familial inferiority; 19) often no evidence of early maladjustment; 20) inability to follow any life plan consistently; 21) goes out of way to make a failure of life.

Some of these items were curious (e.g., 18, 19, 21), perhaps a reflection of the lack of information in the 1930s about behavioral genetics and developmental psychopathology, as well as a psychodynamic orientation to understanding abnormal behavior. In any case, they were short-lived. Most of the other items were included and expanded upon in later editions of *The Mask of Sanity*, as illustrated in the 1976 (fifth) edition. One item from 1941 (item 2) was split into two characteristics, several (items 8 and 9; items 14 and 15) were pooled into single items, and three (items 18,

19, and 21) were deleted. There were nine case studies (all males) in 1941, seven of which were included in the 1976 edition, which contained 15 case studies (two females). Because these case studies and references to other patients seen by Cleckley form the basis for his Clinical Profile, it is important to understand something about them.

First, though, we suggest that *The Mask of Sanity* is so detailed and complex in its descriptions and speculations that a suitable quote can be found to support a variety of divergent opinions. Unfortunately, this makes it easy for various commentators (including the present authors) to "cherry pick" quotes to suit their particular position. Quotes should be accompanied by additional supporting arguments and evidence, a practice we try to adopt here.

Cleckley's Patients

Unfortunately, it is difficult to obtain a clear picture of the extent to which Cleckley's patients were representative of the general population or even of the other patients he had observed over the years. It is apparent that his "psychopathic" patients had psychological and behavioral problems severe enough to warrant psychiatric attention, but no information is provided about the procedure used to select those described in *The Mask of Sanity*. In each edition, he estimated that from 12% to 27% of the psychiatric patients in the various facilities in which he worked were psychopathic, depending on the degree of maladjustment needed for such a diagnosis and on Cleckley's uncertainty about whether or not those with serious alcohol abuse should be included. These estimates are much higher than typically found in modern day psychiatric samples (e.g., Jackson et al. 2007), suggesting that Cleckley was somewhat overinclusive in his diagnoses.

Cleckley's Clinical Profile: Empirical Analyses

Although some researchers appear to treat the 16 items in the Clinical Profile as if they reflect a unitary construct, supporting evidence is sparse. An early empirical analysis of these items is of interest here (see Hare 1980, 2003). Coefficient alpha for the total 16-item scale was 0.80. However, the item-total correlation for "absence of 'nervousness' or other psychoneurotic manifestations" was only 0.05, suggesting that it was unrelated to the construct measured by the total scale. Two other features also had a small item-total correlation: "absence of delusions and other signs of irrational thinking" (–0.02) and "suicide rarely carried out" (0.21). For this and conceptual reasons, these items were not included in the PCL (see below). Interestingly, a recent attempt to develop a self-report version of the Cleckley items also resulted in exclusion of the same three items. The Minnesota Temperament Inventory (MTI) includes "16 psychopathy items that were designed to tap the hallmark features of psychopathy originally outlined by Cleckley [1976]. These items were adapted into a self-report format and consist of brief behavioral... and personality referents" (Loney et al. 2007, p. 244). A "rationale-empirical" approach led to the removal of the anxiety item, "I am an anxious, nervous, and fearful person," whereas factor analyses resulted in deletion from the scale of two items derived from Cleckley's "superficial charm and good intelligence." These were "I am very charming, and tend to make a good impression on others," and "I give the impression of being intelligent; show sound reasoning and common sense in conversation." The Cleckley item, "Absence of delusions and other signs of irrational thinking," was not included in the analyses. The MTI subscales used for research purposes thus are based on only 13 items, seven in the Antisocial scale and six in the Detachment scale. As with the PCL and the PCL-R, the Cleckley items having to do with "absence of nervousness," "absence of delusions," and "good intelligence" were omitted from the scale. The remaining items in the Antisocial and Detachment scales look very much like items in the PCL-R (see Loney et al. 2007, Table 1).

Cleckley's Clinical Profile: Rational Analyses

The literal use of the items in Cleckley's Clinical Profile presents the clinician and researcher with several unresolved problems. The items could be used as a framework for global impressions, but difficulties with this procedure prompted development of the PCL. If the features in the Clinical Profile are to be used for assessment, how does one go about scoring them? In the early research described above, Hare and colleagues attempted to score each item on a three-point scale based on a careful reading of *The Mask of Sanity*. The process proved to be cumbersome and unsatisfactory. Cleckley did not offer useful advice on how much maladjustment or pathology must be exhibited to warrant a conclusion that a given feature is present, beyond saying, "Standard textbooks did not and still do not make clear to what precise degree the person must be affected to be justifiably placed in this category" (Cleckley 1976, p. 452). This raises the question of how many of the features in the Clinical Profile are required to warrant a diagnosis of psychopathy. Cleckley apparently believed that psychopathy is a taxon, a "very definite clinical entity" (p. 188), but that there also are incomplete manifestations, a "milder or more limited" (p. 189) form of the disorder. What is the threshold for number and severity of features required for inclusion in the putative taxon? Are all of the 16 listed features necessary for a diagnosis of psychopathy, and if not, which ones are essential, important, or useful? These issues take on added importance in light of the dimensional nature of psychopathy, at least as measured by the PCL-R and related instruments.

Some commentators suggest that the PCL-R is incomplete because it does not "capture important Cleckley criteria" (Salekin 2002, p. 81). But how important are the "criteria" (a term not used by Cleckley with respect to his Clinical Profile) that the PCL-R fails to capture? Are there important features of psychopathy that Cleckley might have left out of his Clinical Profile, features that other clinicians had described or that have emerged from the extensive empirical research over the past half century? Large-sample IRT analyses have provided us with information about the contribution of each PCL-R item to the construct of psychopathy (Bolt et al. 2004), but similar information has not been provided for the items in Cleckley's Clinical Profile. In any case, the consequences of this omission of "important criteria" for diagnosis may be relatively minor, given that the PCL-R and the Clinical Profile (scored globally or from items) are strongly associated with one another, and result in much the same individuals being assessed as psychopathic (Hare 2003). More generally, there is virtually no empirical evidence that systematic use of the Clinical Profile over the past few decades would have generated different or more informative results or conclusions about psychopathy than those obtained through use of the PCL-R and its derivatives.

Cleckley (1976, p. 371) considered the fundamental factor in psychopathy to be an inability to participate in, or understand, the emotional aspects of humanity. "Let us say that, despite his otherwise perfect functioning, the major emotional accompaniments are absent or so attenuated as to count for little . . . . If we grant the existence of a far-reaching and persistent blocking, absence, deficit, or dissociation of this sort, we have all that is needed, at the present level of our inquiry, to account for the psychopath." We know of no theoretical or empirical attempts to "account" for all, or even most, of the features in the Clinical Profile in terms of such an emotional defect. Indeed, it is difficult to imagine how this defect might be associated with at least two features contained in the Clinical Profile (good intelligence and absence of delusions) but omitted from the PCL-R. At the same time, even most of those who believe that the PCL-R deviates from Cleckley agree that it does a good job in capturing the emotional features he considered fundamental to psychopathy

(e.g., Patrick 2006b). Indeed, perhaps the first empirical support for some of Cleckley's speculations about emotion was provided by a PCL study of psychopathy (Williamson et al. 1991). Almost all of the subsequent studies of affective processing in psychopaths have been based on the PCL-R, with findings that are, in the main, consistent with Cleckley. However, since his time there have been enormous advances in modeling and measuring brain function; these studies go well beyond what Cleckley might have imagined during his writings about psychopathy.

Comparisons between lists of items form the basis for most arguments that the PCL-R has drifted from its roots. Four items in the 1976 Clinical Profile that did not make it into the PCL-R are superficial charm and good "intelligence, Absence of delusions and other signs of irrational thinking, Suicide rarely carried out, and Absence of "nervousness" or psychoneurotic manifestations. Patrick (2006b, p. 612) described these items as comprising a "positive adjustment" category. Apparently, their omission from the PCL-R is problematical, for Patrick (2006b, p. 613) states, "the effort to operationalize Cleckley's criteria as a unitary construct in the PCL resulted in an item set that was generally more reflective of deviance and maladjustment." But why is this considered a problem? Psychiatric disorders, including personality disorders, typically are defined in terms of maladjustment, not in terms of positive adjustment (Livesley 2007). Perhaps what is in need of explanation and justification is not the exclusion of positive adjustment items from the PCL-R but rather their inclusion in the Clinical Profile.

None of these positive adjustment items played a role in the empirical analyses of the Clinical Profile described above. Further, we know of no clinicians or researchers who actually make explicit use of three of these items in their work, for good reason in our view. We briefly consider these items, followed by a somewhat longer discussion of an item (related to anxiety) that is more controversial.

Absence of delusions and other signs of irrational thinking. In 1941, Cleckley considered psychopaths to be "frankly and unquestionably psychotic" (p. 257). He seemed to modify this view somewhat in later editions, but nonetheless still considered psychopathy as a "masked psychosis" (p. 253) and an individual with the disorder as a "downright madman" (p. 370). He also explicitly acknowledged that psychotic symptoms did not preclude a diagnosis of psychopathy: "If the psychopath develops a major or minor disorder of a type classed among 'the psychoses,' it can be signified by addition of the usual term, just as if he had developed a brain tumor or peptic ulcer" Cleckley (1976, pp. 248). Because the PCL-R does not have an exclusion criterion for psychosis, and because of its dimensional nature, there now is a substantial literature on the nature and implications of comorbidity between psychopathy and other disorders (e.g., Harris & Rice 2007, Quinsey et al. 2006, Tengström et al. 2004, Vitacco et al. 2005).

Good Intelligence. This item is listed as an indication of positive adjustment that is not captured by the PCL-R. We contend that Cleckley included "good intelligence" in his Clinical Profile because of the selective nature of his patients, many of whom were well educated and from middle- or upper-class backgrounds. However, a substantial literature indicates that the association between the PCL-R total score and standard measures of intelligence is weak at best (Hare 2003). Moreover, there is no obvious theoretical reason why the disorder described by Cleckley or other clinicians should be related to intelligence; some psychopaths are bright, others less so.

Suicide rarely carried out. This is a curious item, for several reasons. Beside the fact that it hardly is specific to psychopathy, what does "rarely" mean, and compared with what? Cleckley (1976, p. 359) noted, "It was only after a good many years of experience with actual psychopaths that I encountered

my first authentic instance of suicide in a patient who could be called typical." For the sake of argument, let's assume that this single suicide occurred in 1000 psychopathic patients. This would have been an event 10 times more frequent than would have been expected in the general population in the 1930s (Monk 1987). And of course, we do not know how many of Cleckley's patients later committed suicide without his knowledge. The senior author knows of several well-defined psychopaths who took their own lives when it was clear to them that there was "no other way out" of what seemed like an intolerable situation: surrounded by the police, facing a heavy prison term, incurable illness, and so forth. We suspect that at least some cases of "suicide by cop" involved psychopaths who were trapped and wished to go out in a "blaze of glory" (Mohandie 2007). Finally, the results of an extensive study on psychopathy and suicidality (Douglas et al. 2006) concluded that "clinicians should not consider psychopathy a buffer against suicidal behavior" (p. 97).

Absence of nervousness and other psychoneurotic manifestations. Evaluation of this item in Patrick's positive adjustment category is not straightforward, for several reasons. First, the item typically is treated as if it were equivalent to "anxiety." Second, Cleckley was somewhat unclear and inconsistent concerning the definition and role of this item, and of anxiety, in his conceptualization of psychopathy. In the first edition of *The Mask of Sanity*, the Clinical Profile devoted only half a sentence to the topic: "He is . . . usually free from any marked *nervousness* or other symptoms of psychoneurosis" (Cleckley 1941, p. 239; emphasis in original). But so are most normal people. Coverage in later editions increased to about half a page, although there are references throughout the text to anxiety of one form or another. Cleckley said, "Within himself he appears almost as incapable of anxiety as of profound remorse" (p. 340), a statement oft quoted by those who believe that lack of anxiety should have been included in the

PCL-R. However, in the previous sentence, Cleckley commented that psychopaths experience tension or uneasiness but that it "seems provoked entirely by external circumstances, never by feelings of guilt, remorse, or intrapersonal insecurity." This psychodynamic perspective suggests that it is not so much a lack of anxiety that differentiates psychopaths from others as it is the source of the anxiety (intra- or extrapsychic). Similarly, some early influential clinicians (e.g., Arieti 1967, Karpman 1961) believed that psychopaths were capable of experiencing anxiety, but as a "proto-emotion," a superficial, short-lived reaction to immediate needs, frustrations, threats, concerns, and discomforts. Even the level of manifest anxiety in psychopaths, however it is defined, is unclear in Cleckley's writings. For example, he says, "The true psychopaths personally observed have usually been free, or as free as the general run of humanity, from real symptoms of psychoneurosis" (Cleckley 1976, p. 259).

Presumably, most of the psychiatric patients Cleckley saw were beset by a myriad of serious psychological problems, including personal distress and anxiety-related symptoms. Psychopaths, by contrast, must have seemed relatively free of anxiety and related symptomatology. Some of his psychopathic patients may indeed have experienced subjective distress, but it is unlikely that they would have disclosed their symptoms unless it was to their advantage to do so, given their penchant for impression management. It also can be difficult to make valid inferences about anxiety when a psychopathic patient is able to mimic emotions so well that he "appears to react with normal emotions" (Cleckley 1976, p. 239).

If Cleckley considered lack of anxiety to be a defining feature of psychopathy, as some commentators argue, then the disorder should be incompatible with disorders characterized by anxiety and other psychoneurotic symptoms. Although he noted that differences typically exist between the psychopath and the psychoneurotic, he also referred to a study in which Caldwell (1944) "reports neurotic

manifestations in patients whose chief features were plainly those of the psychopath. I believe that the two types of reaction are not characteristically seen together but perhaps there are no two pathologic syndromes in psychiatry, however distinct, that may not sometimes overlap" (Cleckley 1976, p. 259). And, of course, the possibility of overlap is greatly increased when at least one of the disorders is dimensional in nature, as psychopathy appears to be.

Several final points can be made. First, in a previous section, we described research indicating that the "anxiety" item did not "belong" with the other items in the Clinical Profile, a finding that held when the item was rated or when it was a self-report. Second, a great deal of empirical literature indicates that psychopathy, measured with the PCL-R or self-report, is at best only weakly related to various measures of anxiety (Hare 2003). In a recent study, Hale et al. (2004, p. 705) concluded that the PCL-R was unrelated to contemporary measures of anxiety and that the "finding raises questions about traditional conceptualizations of psychopathy that posit an attenuated capacity for anxiety [e.g., Cleckley 1976]." Admittedly, there is an extensive research literature (to which the senior author has contributed) indicating that the concepts of "low fear arousal" or "fearlessness" (e.g., Lykken 1995) may help to explain the psychopath's apparent social poise, sensation seeking, and difficulty in staying out of trouble. We suggest that these concepts are subsumed under PCL-R items associated with more general emotional experiences and processes, including lack of remorse or guilt, shallow affect, and callous/lack of empathy. Although Cleckley (1976, p. 319) believed that "fearlessness stand(s) out in contrast" to psychopathy, we agree that its role and that of anxiety are in need of further empirical investigation, not only as potential defining features but also as variables whose interactions with psychopathy may have explanatory value in a variety of learning and motivational contexts (e.g., Newman et al. 2007).

Cleckley and Antisocial Behavior

A misconception promulgated by some observers is that the PCL-R's inclusion of items related to antisociality is inconsistent with the conception of psychopathy provided by Cleckley and other early clinicians. Cooke et al. (2005) have reformulated this misconception by wrongly stating that Hare and colleagues consider criminality to be an essential component of psychopathy. Cooke and colleagues contend that factor analytic models of the PCL-R that include items related to antisocial behavior are not viable, whereas a model that excludes these items yields a three-factor, personality-based model. But their bases for inclusion and exclusion of items are convoluted and difficult to defend, as is the contention that only personality traits have been retained in the model (e.g., "parasitic lifestyle" is considered to be a personality trait, whereas "poor behavior controls" is not). This and other issues having to do with the structural properties of the PCL-R and related instruments are discussed at length in the section Searching for the Structure of Psychopathy. Here we comment only on the claims that Cleckley did not include antisociality in his conception and diagnosis of psychopathy. We leave aside the problems inherent in inferring psychopathy-related dispositions from only prosocial behavior, without reference to the asocial, antisocial, and problematic behaviors that distinguish between psychopathic and other individuals, and that bring the former to our attention (see discussions by Hare 2003, Hare & Neumann 2006, Neumann et al. 2005).

Inspection of the items that comprise the 1941 and 1976 Clinical Profiles in *The Mask of Sanity* clearly conveys the important role played by antisocial behavior in Cleckley's description of psychopathy. Certainly, his patients could not be considered prosocial, or even simply asocial, without stretching the meanings of these terms. In 1941, alcohol abuse and the problems it caused for the individual and those around him were

emphasized. Later editions also described at length the socially disruptive behaviors exhibited by psychopaths under the effects of alcohol. More directly, Cleckley (1976) stated that he was "in complete accord" with the description of the psychopath as "simply a basically asocial or antisocial individual" (p. 370). "Not only is the psychopath undependable, but also in more active ways he cheats, deserts, annoys, brawls, fails, and lies without any apparent compunction. He will commit theft, forgery, adultery, fraud, and other deeds for astonishingly small stakes, and under much greater risks of being discovered than will the ordinary scoundrel" (p. 343). Some commentators (e.g., Cooke & Michie 2001) have argued that such behaviors (reflected in the item "inadequately motivated antisocial behavior") are not specific to psychopathy and therefore should not play a role in assessment of the disorder. Of course, none of the other 15 features in the Clinical Profile is specific to psychopathy but, nonetheless, they do not recommend that these features be excluded from either the description or the assessment of the disorder.

Finally, we note that other researchers do not accept the argument that Cleckley excluded antisocial behavior from his descriptions and diagnosis of psychopathy. As Patrick (2006b, p. 608) wrote, "There is no question that Cleckley considered persistent antisocial deviance to be characteristic of psychopaths. Without exception, all the individuals represented in his case histories engage in repeated violations of the law—including truancy, vandalism, theft, fraud, forgery, firesetting, drunkenness and disorderly conduct, assault, reckless driving, drug offenses, prostitution, and escape."

Clinician as Construct?

Unlike the case with other influential figures, including Freud, critical examination of Cleckley's work is virtually nonexistent. To a large extent, the clinician has become the construct for many investigators and commentators. In our view, this presents the field with a problem that is more serious than heavy reliance on a single measure of psychopathy. The senior author admits to having contributed to the problem by "promoting" Cleckley's work over the past four decades, and that he now might be considered a "backslider." However, in his defense he might argue that the construct drift for which he is charged is presumptive evidence that his original intention to rely more-or-less entirely on Cleckley soon was compromised by research experience, as reflected in the content of the PCL. In any case, we contend that it makes little sense to base theory and research primarily on conceptions of psychopathy that are frozen in time, a time (the 1930s) when psychodynamic models were prevalent, experimental psychopathology and psychometric theory were in their infancy, and behavioral genetics, developmental psychopathology, and cognitive neuroscience had yet to arrive on the scene. This is not meant to diminish in any way the brilliant writings of a renaissance man whose clinical insights and dramatic case studies have had a profound influence on generations of clinicians and researchers. We can continue to benefit from the testable insights and speculations contained in *The Mask of Sanity*. But Cleckley cannot be the first and last word on psychopathy and its measurement, a point he himself made in extensive correspondence over the years with Hare. "Going back to the future" in this case would really be going back to the past.

As put by Livesley (2007, p. 216), "[The PCL-R] is based on a 'top-down' definition of psychopathy based on Cleckley's [1976] observations of relatively few individuals. The important question is whether PCL-R psychopathy converges with 'bottom-up' models identified from empirical analyses of the structure of personality characteristics in different samples." The following sections indicate that convergence does occur, not only with research in psychopathology and personality theory but also with findings from such relevant fields as behavioral

genetics, developmental psychopathology, and neurobiology.

EMPIRICAL ASPECTS OF THE PSYCHOPATHY CONSTRUCT

The concept of psychopathic personality has a long history that began well before Cleckley and is closely tied to early conceptions of personality (e.g., Hervé 2007). As discussed in detail by Berrios (1996), "Impulsion and impulsive insanity provided the kernel around which the notion of psychopathic personality was eventually to become organized" (p. 428). Even Cleckley (1941) noted the essential fact that the "psychopath shows a striking inability to follow any sort of life plan consistently" (p. 255). As it turns out, many of the findings presented below are consistent with the early conceptual beginning of psychopathic personality. On the other hand, some investigators do not consider psychopathy to be fundamentally linked to undercontrolled pathology and instead view an affective deficit as the core of the disorder. Nevertheless, a growing body of literature indicates that the affective features of psychopathy are intimately tied—i.e., psychometrically, genetically, and longitudinally—to the undercontrolled and fundamentally antisocial features of psychopathy. Thus, there appears to be no basis for holding one component of psychopathy as more essential than other components (Neumann et al. 2005).

Finding Structure in Psychological Phenomena

A very old Aristotelian idea is that "form follows function" (e.g., knifes were designed to cut, eyes designed to see). If something is known about a phenomenon's structural form, then it is possible to glean an understanding of how it functions. In modern science, explication of a phenomenon in terms of its structure remains a critical area of investigation, whether it involves identification of the structure of atoms, DNA, or human personality.

Moreover, identification of the basic structure of physical, biological, and psychological phenomena frequently precedes theory development (Stelmack 1997). Paradoxically, adherence to Cleckley's (1941/1976) theoretical perspective often determines whether investigators value the findings of structural research on psychopathy, despite the fact that Cleckley relied solely upon case study methodology.

One of the major challenges in trying to elucidate the structure of psychopathy is that, as a latent construct, it is not directly observable. Indeed, most everything in psychological science refers to latent constructs (Bollen 2002), as do most concepts in science (Cartwright 1983; Devitt 1991, as cited in Borsboom et al. 2003). Fortunately, the groundbreaking work of Spearman in 1904 on factor analytic models opened a new paradigm that provided investigators a means for mathematically representing latent variables (Borsboom et al. 2003). With the development of confirmatory factor analysis (e.g., Bentler 1980, Joreskog 1971, Sorbom 1974) and other latent variable approaches (e.g., Thissen & Steinberg 1984), it became possible to move beyond exploratory analyses and instead to precisely hypothesize model specifications (e.g., variable-to-factor and factor-to-factor relations) that could then be tested statistically. It is important to emphasize that good statistical fit of a latent variable model does not prove the existence of causal latent variables (Bentler 1980). However, such models do involve testable hypotheses (e.g., five factors account for the natural language terms referencing normal personality) and, therefore, good model fit can be "adduced" as evidence in support of such hypotheses (Borsboom et al. 2003). In addition, a key aspect of latent variable models is that "latent variables provide a degree of abstraction that permits us to describe relations among a class of events or variables that share something in common, rather than making highly concrete statements restricted to the relation between more specific, seemingly idiosyncratic variables. In other words, latent variables permit

us to generalize relationships" (Bollen 2002, p. 606). Thus, if a latent variable model receives additional support from independent replications based on diverse samples of individuals assessed via different methods, the model's verisimilitude increases as a viable representation of a theoretical construct.

Searching for the Structure of Psychopathy

A number of recent studies, based on latent variable analyses of the PCL instruments, provide considerable support for a four-factor model of psychopathy across diverse and primarily very large samples of male and female offenders (Hare & Neumann 2006, Neumann et al. 2007), forensic and civil psychiatric patients (Hill et al. 2004, Jackson et al. 2007, Neumann et al. 2007, Vitacco et al. 2005), and youth offenders (Jones et al. 2006, Neumann et al. 2006, Salekin et al. 2006, Vitacco et al. 2006), as well as individuals from the general community (Hare & Neumann 2006; Neumann & Hare 2007). **Figure 1** illustrates the form and content of the model, as well as standardized item-discrimination parameters, based on a mega-sample of 6929 male and female adult offenders and male forensic psychiatric patients.

In this model, the four strongly correlated psychopathy dimensions represent interpersonal (e.g., pathological lying, conning), affective (e.g., shallow affect, remorseless), impulsive lifestyle (e.g., irresponsible, stimulus seeking, impulsivity), and diverse externalizing, antisocial tendencies (e.g., poor behavioral controls, versatile antisociality). The model has also shown structural invariance across North American and United Kingdom samples of adolescent offenders (Neumann et al. 2006) and adult male African American and Caucasian civil psychiatric patients (Jackson et al. 2007; see also Bolt et al. 2004, 2007). Although the PCL-R and its derivatives cannot be equated with the construct of psychopathy (Neumann et al. 2005), the robustness of the four-factor model across

such a diverse set of samples suggests that the measure is highly compatible with both traditional-clinical and modern-empirical conceptualizations of psychopathy. The results show that the PCL-based psychopathic personality dimensions reflect a broadly antisocial and undercontrolled personality disposition, involving deceptiveness, pathological lying, and absence of remorse and guilt, as well as irresponsible, impulsive, and versatile antisocial tendencies.

Based on other recent research, several self-report measures also appear to have latent dimensions that resemble the four PCL dimensions. Using large samples of young adults to conduct a two-stage study for extraction and then cross-validation of a new structural model for the Self-Report Psychopathy Scale III (SRP-III), Williams et al. (2007) identified four factors that closely approximated the four PCL dimensions. Each SRP-III factor displayed substantive links to critical external correlates, in line with previous PCL validation studies. Similarly, the self-report Youth Psychopathic Traits Inventory (YPI; Andershed et al. 2002) was designed to reflect the interpersonal, affective, and impulsive lifestyle dimensions of psychopathy in youth. However, based on a large population-based sample of twins, the three YPI factors were modeled in conjunction with a fourth facet reflecting antisocial tendencies (Larsson et al. 2007). Although not designed specifically for assessment of psychopathy, the Multidimensional Personality Questionnaire (MPQ; Tellegen 2003) is a normal-range personality measure that has been suggested to contain underlying dimensions that reflect interpersonal-affective (called Fearless-Dominance) and impulsive-antisocial (called Impulsive-Antisociality) features (Blonigen et al. 2005). Thus, rather than reflecting four dimensions, the MPQ model combines the interpersonal and affective dimensions into a single factor and the lifestyle and antisocial factor into its own factor, reminiscent of the traditional PCL-R Factor 1 and 2 dimensions. The MTI (Loney et al.

2007, Taylor et al. 2003) does not contain four dimensions, but it has two factors (Detachment and Antisocial) that are strongly correlated, similar to the antisocial and affective PCL factors. Similarly, the APSD, a 20-item teacher/parent rating scale, measures three dimensions of behavior thought to be precursors to psychopathic traits: Callous/ Unemotional, Narcissism, and Impulsivity. Each of these latent dimensions is significantly linked to PCL: YV/PCL: SV dimensions reflecting interpersonal-affective and impulsive-antisocial tendencies (Vitacco et al. 2003). Finally, psychopathic personality has also been understood with respect to the five-factor model (FFM) of personality and has been described by Lynam & Widiger (2007, p. 171) in terms that reflect the interpersonal (e.g., "cunning and manipulative"), affective (e.g., "callous and ruthless"), impulsive lifestyle (e.g., "pan-impulsive"), and antisocial (e.g., "greedy and exploitive, oppositional and combative") PCL-R dimensions. In sum, there is currently good evidence for at least four psychopathy dimensions across a diverse set of measures and wide array of samples.

We do not discuss here the structure of the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews 1996) beyond noting that its factor structure is complex and inconsistent with the two-factor model originally proposed (Lynam & Widiger 2007; C.S. Neumann, M. Malterer, & J.P. Newman, manuscript submitted) and that the PPI total score is significantly correlated with both Factor 1 ($r = 0.54$) and Factor 2 ($r = 0.42$) of the PCL-R (Poythress et al. 1998). We also do not discuss the Cooke & Michie (2001) hierarchical "three"-factor model, given that this model has severe statistical problems—i.e., it actually contains ten factors and results in impossible parameters (negative variances)— as well as conceptual problems. For detailed critiques of this model, see Neumann et al. (2005), Vitacco et al. (2005), Neumann (2007) and Neumann & Hare (2007).

Although the majority of studies cited above provide evidence of four possible di-

mensions of the psychopathy construct, some investigators continue to find the traditional two-factor model (Hare et al. 1990, Harpur et al. 1989) useful in helping them to organize and understand the correlates of psychopathy. Interestingly, inspection of the pattern of factor correlations in **Figure 1** indicates that the four-factor model can easily be converted to two-factor form (see **Figure 2**). While this model shows the same degree of good fit as that of the four-factor model, it may not be advantageous to use the traditional two-factor model in some instances. For example, several studies have found that the four psychopathy dimensions have diverse associations with various external correlates (e.g., Dolan & Anderson 2003, Salekin et al. 2004, Vitacco et al. 2005). Also, Bishopp & Hare (2007), using a multidimensional scaling approach, have provided some evidence that at least four domains may be necessary to comprehensively map the psychopathy construct.

The Superordinate Nature of Psychopathy

In addition to viewing the psychopathy construct in terms of lower-order domains, it is also possible to view it in more abstract and general terms. For instance, using large samples of male (N = 4865) and female (N = 1099) offenders and forensic psychiatric patients (N = 965), all assessed with the PCL-R, Neumann et al. (2007) found that all four psychopathy factors were explained by a single superordinate factor. In each sample separately, and when the samples were combined, the superordinate factor accounted for the majority of variance in each of the four first-order factors with but one exception: The superordinate factor accounted for 43% of the variance in the interpersonal factor for the psychiatric sample. Similarly, in a large (N = 738) cross-national study of adolescent offenders, Neumann et al. (2006) found that a superordinate PCL: YV factor accounted for the majority of the variance in

the interpersonal (60%), affective (82%), impulsive lifestyle (81%), and antisocial (60%) factors. These results provide support for using total scores from the PCL instruments to study groups of individuals and indicate that the superordinate factor captures something essential that runs across the separate lower-order factors—i.e., the broad dissocial nature of psychopathic traits. Although there may be heuristic value in considering the constituent dimensions in isolation of one another (e.g., for investigating their external correlates), we believe that psychopathy can best be understood in terms of the interrelations of these dimensions, akin to a general factor in personality theory. Similarly, the practice of partialling independent variables from one another, though informative, runs the danger of losing sight of the original construct under investigation or of changing the nomological network (see Lynam et al. 2007). As put by Livesley et al. (1998, p. 944), "Since the components of personality are parts of an integrated system, disturbance in one system is likely to affect the whole system." In this sense, antisocial tendencies are fundamentally tied to other psychopathy dimensions since all four PCL-R factors stem from a cohesive higher-order factor. An early illustration of this point, based on the original PCL two-factor model, was provided by Harpur & Hare (1991), who found that inclusion of the interaction of the two factors (F1 × F2) significantly improved the prediction of violence. Zeier & Newman (2007) similarly found that it was the interaction of PCL: SV Factors 1 and 2, rather than their unique variances, that predicted anomalies in the performance of a selective attention task. Finally, a recent child twin study (Baker et al. 2007) found that a single unidimensional factor explained the majority of the variance in the covariation of childhood psychopathy traits, aggression, and delinquency.

As indicated above, Cleckley (1941/1976) too believed that antisocial tendencies, broadly conceived, were essential to understanding the psychopath as a whole. Below we discuss a wealth of studies employing different methodologies and samples that support the contention that general antisocial tendencies represent an empirically demonstrable feature of the psychopathy construct, in conjunction with features reflecting disturbances in interpersonal, affective, and impulsive behavioral functioning.

The superordinate PCL-R/YV findings are consistent with more general research on personality disorder (PD). Specifically, two large-scale empirical studies (Livesley et al. 1998, Ullrich & Marneros 2007) and a comprehensive review of personality disorder research (Trull & Durrett 2005) all suggest that a unidimensional factor reflecting dissociality/psychopathy emerges when symptoms of all PDs are factor analyzed. The Livesley et al. (1998) study is noteworthy in that use of a dimensional PD symptom measure resulted in the same factor solution across large twin, clinical, and general population samples. The dissocial or psychopathy factor was composed of the following PD items: callousness, conduct problems, narcissism, rejection, and stimulus seeking. In the Ullrich & Marneros (2007) study, dimensionalized **International Classification of Diseases-Tenth Edition (**ICD-10) PD symptoms resulted in a factor made up of the dissocial, paranoid, histrionic, and impulsive PD traits and was the only ICD-10 PD factor (out of three) that was strongly correlated ($r = 0.77$) with the PCL: SV.

The Dimensional Nature of Psychopathy

The psychopath is often portrayed in the media as vile, inhuman, and qualitatively different from other individuals. However, research described above suggests that psychopathic personality traits in adults and adolescents are best viewed as existing on a continuum. The results of these studies are consistent with a very large literature indicating that personality disorders in general are dimensional in nature (Clark 2007).

In line with the taxometric studies mentioned above, there is evidence for a concordant latent structure of psychopathic traits across adults and adolescents (Hare & Neumann 2006, Neumann et al. 2006). Similarly, antisocial and other externalizing behaviors also appear to be dimensional in nature (Markon & Krueger 2005). Thus, it may be more efficient to study individuals in terms of level of psychopathic traits rather than parsing individuals into psychopath and nonpsychopath groups.

Community studies on psychopathy are increasing (Lilienfeld & Fowler, 2006), given the strength of the dimensional perspective. However, few studies have been conducted with large, randomly ascertained samples that allow investigators to more confidently generalize their findings as well as to understand the distribution and function of psychopathic traits in the general population. In one community study (Hare & Neumann 2006), we found strong support for the four-factor latent variable model of psychopathy, despite relatively low levels of these traits in the sample. We also found that the psychopathy traits were significantly linked to a range of external correlates, particularly violent behavior (Neumann & Hare, manuscr. submitted). De Oliveira-Souza et al. (2007) found relatively high PCL: SV scores in a sample of patients referred or brought to a Brazilian psychiatric facility for evaluation and consultation because of a chronic pattern of social and behavioral problems. The correlates of the PCL: SV were consistent with the research literature on psychopathy in criminal and forensic psychiatric populations.

Taken together, the vast array of factor analytic and other statistical findings previously discussed all help to flesh out the dimensions of the psychopathy construct. Thus, we disagree with Lynam & Widiger's (2007) suggestion that factor analysis of particular scales might not be optimal for uncovering core components of the psychopathy construct. Indeed, the FFM of personality (McCrae & Costa 1990), which Lynam & Widiger (2007)

advocate, owes much of its existence to previous factor analyses of the NEO Personality Inventory-Revised (NEO PI-R; Costa & McCrae 1992). In his review of the personality structure of the FFM, Digman (1990, p. 418) stated, "views regarding the structure of the concepts of personality . . . were based on the . . . hope that the method of factor analysis would bring a clarity to the domain of personality, a hope voiced years ago by Eriksen [1957] and Jensen [1958]." Digman proposed that the FFM of personality has given us a "useful set of very broad dimensions that characterize individual differences . . ." and that these dimensions provide a "good answer to the question of personality *structure*" (p. 436). Digman's (1997) FFM meta-analytic study suggests that the five-factor domains may not represent the most basic structure of normal-range personality, given that the covariance among the FFM domains can be accounted for in terms of two higher-order personality domains referred to as Alpha (agreeableness, conscientiousness, low neuroticism) and Beta (extraversion, openness). Interestingly, the factor analytic work on normal-range personality seems remarkably similar to the findings discussed above with respect to the dimensions of psychopathy (i.e., they can be modeled in terms of four lower-order domains or two higher-order domains).

Associations of Normal-Range Personality with Psychopathy

Research on normal-range personality traits is also informative for understanding psychopathy. Lynam (2002) and Widiger & Lynam (1998) have mapped out in detail the association between each of the PCL-R items and the domains and facets of the FFM (Costa & McCrae 1992); they view psychopathic personality as a maladaptive variant of common personality traits (many of which are antisocial in nature). Widiger (1998) noted that PCL-R and FFM conceptualizations of psychopathy are complementary and that while the FFM enriches "the understanding of the

syndrome of prototypic psychopathy by placing it within the broader context of normal personality . . . the PCL-R in turn provides a vivid description of an especially problematic and even volatile constellation of personality traits" (Widiger 1998, pp. 64–65). Similarly, Widiger et al. (2002, pp. 448–449) described psychopathy as a particularly "virulent constellation of (FFM) traits." This latter quote suggests that it is the combination and profile of various personality traits that creates the psychopathic personality, consistent with the superordinate modeling results discussed above.

Are normal range (i.e., nonpathological) personality traits more basic than pathological dispositions of psychopathic individuals? Lynam & Widiger (2007) have outlined how the FFM can be used to study the elements of psychopathy. Their proposal is based on the assumption that the 30 facets of the FFM are "relatively more distinct" than the PCL-R items (p. 165). For instance, based on their previous translational research (e.g., Widiger & Lynam 1998), Lynam & Widiger (2007) suggested that the PCL-R items might be seen as blends of several FFM facet domains, and therefore the former may be less elemental than the latter. However, large sample factor analysis of the lower-order NEO facets that make up the five higher-order FFM domains reveals that a number of facets show substantial factor cross-loadings among different FFM domains (cf. Aluja et al. 2005). That certain PCL-R items can be translated to fit under several FFM facets may stem from the fact that the FFM facets themselves demonstrate empirical overlap across FFM domains. Thus, one might question whether the FFM facet domains are indeed more distinct, or elemental, than the PCL-R items (and by extension, PCL factors). In addition, Digman's (1997) meta-analytic factor analytic results clearly demonstrate higher-order alpha and beta factors that explain the significant covariation among the lower-order FFM domains. Similar results have been reported in other large-sample factor analytic research

(DeYoung et al. 2001, Musek 2007). Thus, whether the FFM domains represent distinct elements of personality that can explain psychopathic personality remains an open area of investigation. Nevertheless, despite such questions and considerations, we support the line of FFM-psychopathy research being pursued by a number of investigators and believe such endeavors not only complement research on the PCL instruments, but also represent important avenues of investigation. Moreover, using self-report instruments such as the FFM in conjunction with the interview-based PCL instruments might provide excellent opportunities to conduct hetero-method studies, which may provide additional coverage of the psychopathy construct as well as the opportunity to model method effects (e.g., multitrait, multimethod confirmatory factor analysis).

Assuming that normal-range personality traits are not synonymous with, or more elemental than, psychopathy traits, an important avenue for future research concerns the nature of the association between nonpathological and pathological personality trait domains. There is no doubt that normal-range personality traits are correlated with psychopathy traits. For instance, aggregate data can be obtained using the results reported in Table 1 in Lynam & Widiger (2007, p. 168), which displays the correlations between the FFM facets and the PPI and Hare Self-Report Psychopathy Scale (HSRP; Hare 1991) based on a combined sample of 560 young adults. The average (absolute) correlation is approximately $r = 0.22$ between the FFM facets and the two self-report psychopathy scales. If one uses only the highly prototypic FFM facets, then the aggregate correlation (derived from Table 1 in Lynam & Widiger 2007) between the FFM facets and the PPI or HSRP scales is $r = 0.27$. Interestingly, similar results are obtained with offender populations, based on a hetero-method approach. For example, modest MPQ/PCL-R correlations have been reported for a sample of 218 male offenders (Benning et al. 2005a). Similar modest

associations were found between the MPQ and the PCL-R facets in a sample of 157 male offenders (P. Wupperman, C.S. Neumann, & J.P. Newman, unpublished data).

Generally similar findings of modest correlations have been reported in a meta-analysis by Lynam & Derefinko (2006). They used both mono-method and hetero-method studies of either adult or youth samples to gauge the strength of the association between normal-range personality and psychopathy. They reported that the majority of normal-range personality dimensions was modestly, at best, related to psychopathy traits. Interestingly, neuroticism was found to be positively associated with psychopathy, contrary to theory. Most importantly, the normal range dimension of agreeableness tended to display a moderately strong (negative) association with psychopathy. Lynam & Derefinko (2006) suggested that low agreeableness reflects individuals who are suspicious, deceptive, exploitive, aggressive, arrogant, and tough-minded. Perhaps the relation between low agreeableness and psychopathy reflects overlap in antisocial tendencies. Taken together, the results of these studies suggest that the empirical link between normal-range personality traits and psychopathic personality traits is modest at the measurement level, though the association may be stronger at the latent level.

We agree with Livesley's (2007) suggestion that a strength of dimensional models of personality disorder is that they are based on clinical descriptions of personality disorders, and also that it is difficult to explain how "extreme positions on dimensions such as agreeableness, sociability, or conscientiousness are necessarily pathological" (p. 203). At the same time, there appears to be a fair degree of convergence between models of normal-range traits and PD traits (Widiger & Simonsen 2005). Thus, continued research on the integration of pathological and non-pathological trait domains is necessary. For instance, do the same genetic factors pertain to both normal-range and pathological person-ality traits (Livesley et al. 1998)? If so, perhaps pathological traits are simply maladaptive expressions of normal-range personality traits. However, an alternative empirical relation might be that normal-range traits are reciprocally related to pathological personality traits. If this assumption is correct, then normal range traits may contribute to the development of personality disorder traits, but additional factors, such as pathological interactions with parents or peers (e.g., Frick et al. 2003, Pardini et al. 2007), may be necessary for the development of personality disorder traits, including those that define psychopathy.

The discussions so far of lower-order and higher-order normal-range personality and psychopathy domains suggest that there may not be an optimal level of analysis for mathematically representing psychopathy-related traits. For instance, higher-order levels may be linked to broad general genetic factors, and lower-order levels linked to more specific, residual genetic factors (Livesley 2005, Livesley et al. 1998). However, as Little et al. (2002) have discussed, it is often necessary to represent mathematically broad constructs like personality in terms of many indicators. As mentioned above, Baker et al. (2007) reported that a broad set of items reflecting antisocial behavior, aggression, delinquency, and psychopathic traits all formed a single cohesive factor, which had significant genetic effects across child, caregiver, and teacher ratings. The strength of measures such as the PCL instruments (Hare & Neumann 2006), the YPI (Andershed et al. 2002), the APSD (Vitacco et al. 2003), and the SRP-III (Williams et al. 2007) is that the item-to-factor relations have been clearly worked out and each of these measures can be precisely represented in terms of lower-order as well as cohesive higher-order latent variable models. Once the latent structure of a measure is known, it is then possible to determine if the same structure can be revealed with biometric data (e.g., Livesley et al. 1998).

Behavior Genetics of Psychopathic Traits

There is increasing evidence that broad genetic factors may account for a substantial portion of the variance and covariance of diverse sets of psychopathy traits. For instance, investigators have reported bivariate analyses that suggest that there are genetic influences on the covariance of psychopathy scales reflecting emotional detachment and antisocial tendencies (Taylor et al. 2003, Viding et al. 2005). Relatedly, both MPQ dimensions (fearless-dominance and impulsive-antisociality) show genetic covariation with externalizing psychopathology in men (Blonigen et al. 2005). In a large sample of 9- to 10-year-old twins, Baker et al. (2007) found that a common antisocial behavior factor (composed of child psychopathy traits, aggression, and delinquency) across informants was strongly heritable. Recently, Viding et al. (2007) found a common genetic component to the covariation between callous-unemotional traits and antisocial tendencies in children. Finally, based on a large adolescent twin sample, Larsson et al. (2007) reported that the same general four factors present in the four-factor model of psychopathy (e.g., Hare & Neumann 2006, Neumann et al. 2006, Vitacco et al. 2005) all loaded onto a single genetic factor. The variance in the male psychopathic traits in each factor accounted for by the common genetic factor was 25% for grandiose/manipulative, 20% for callous/unemotional, 42% for impulsive/irresponsible, 19% for antisocial behavior (ages 13 to 14), and 30% for antisocial behavior (ages 16 to 17). For females, the variance accounted for by the common genetic factor was 37% for grandiose/manipulative, 22% for callous/unemotional, 45% for impulsive/irresponsible, 21% for antisocial behavior (ages 13 to 14), and 41% for antisocial behavior (ages 16 to 17). Notably, in both sexes the impulsive/irresponsible and antisocial facets showed some of the strongest genetic components, consistent with the very early conceptions of psychopathy.

Taken together, the behavior genetic research on psychopathy fits with the structural research discussed previously. The results reported by Livesley et al. (1998) may be the most informative, given that the same latent psychopathy factor resulted when using either phenotypic or genotypic PD symptom data. Thus, consistent with the observations of Eley (1997), the behavioral genetic evidence suggests, "genetic factors might be acting as general influences" (i.e., general genes) in the manifestation of covarying psychopathic traits, with environmental factors influencing the form of specific psychopathic traits (pp. 90–91). At the same time, as discussed by Livesley (2005), lower-order specific residual genetic effects may also be important for understanding personality disorders such as psychopathy. For example, Larsson et al. (2007) found this type of residual genetic effect for the grandiose/manipulative scale of the YPI in girls.

Longitudinal Nature of Psychopathic Traits

Several recent longitudinal studies have provided good evidence that psychopathic traits are at least moderately stable across development. For instance, Frick et al. (2003) found that the APSD trait dimensions were stable over a four-year period in a sample of non-referred children in the third, fourth, sixth, and seventh grades at first assessment. In this study, baseline antisocial behavior, socioeconomic status (SES), and quality of parenting were significant predictors of stability. Using a large sample of inner-city boys assessed annually from ages 8 to 16 and items from a child behavior checklist to model interpersonal-callousness, Obradovic et al. (2007) found evidence of significant stability across a nine-year period, as well as longitudinal invariance. The latter finding is important because it suggests that the same construct was being modeled across time. In related research, Burke et al. (2007) reported that the same behavior checklist-based interpersonal-callousness

measure significantly predicted PCL-R scores at age 19 in a clinic-referred sample of boys assessed at ages 7 to 12.

Loney et al. (2007) used a large sample of twins and found that the MTI detachment and antisocial tendencies showed good stability. Lynam et al. (2007) also found moderate stability from ages 13 to 24, respectively, using the Child Psychopathy Scale (Lynam 1997) and the PCL: SV. This latter study is notable for its use of a hetero-method approach. Also, Lynam et al. (2007) found that in addition to Child Psychopathy Scale scores, family structure and SES also predicted PCL: SV scores, consistent with the Frick et al. (2003) findings. Blonigen et al. (2005) reported greater genetic than environmental contributions to the stability of the MPQ factors from late adolescence to young adulthood, but that nonshared environmental factors contributed more to their change over time. Importantly, across many of these studies there appear to be fundamental longitudinal relations between the antisocial-tendencies component of psychopathy and other psychopathic traits, in line with the behavior genetic and structural research findings discussed above. Similarly, Larsson et al. (2007) found that prior (ages 13 to 14) antisocial tendencies were significantly positively associated with later (ages 16 to 17) interpersonal, affective, and impulsive lifestyle psychopathic traits via cross-twin cross-trait biometric data. In sum, across a diverse set of psychopathy or psychopathy-related instruments and samples, there is good evidence for the stability of psychopathic traits from childhood and adolescence into adulthood. At the same time, family factors, SES, and unique environmental factors also play important roles in the stability and change of psychopathic traits over time.

Biological and Cognitive Features of Psychopathy

Much of the research literature on psychopathy has to do with its clinical and forensic implications and applications. However, an equally robust literature aims at understanding the basic nature of the disorder. We discussed some of this literature in preceding sections on behavioral genetics, developmental psychopathology, and general personality theory. Here we refer to empirical research into the biological and cognitive mechanisms of psychopathy, beginning more than half a century ago with theories and methodologies derived from the then new field of psychophysiology (e.g., Hare 1968, Lykken 1957) and continuing today with the active collaboration of scientists in a variety of disciplines, including biochemistry, neuroanatomy, and cognitive/affective neuroscience (e.g., see Blair et al. 2005, Hare 2003, Kiehl 2006, Newman et al. 2007, Patrick 2006a, Raine & Yang 2006). Space limitations do not allow for a review of this literature, but a few notable trends can be mentioned. Particularly exciting is the recent surge in neuroimaging research on the structural and functional correlates of psychopathy. Most of this research uses the PCL-R or one of its derivatives, with results that generally are consistent with the view that psychopathy is characterized by anomalies in cognitive and affective processes. Perhaps the most interesting findings are that some clinical and behavioral features of psychopathy, such as impulsivity, poor response inhibition, and difficulty in processing emotional material, are mirrored in brain function and perhaps in brain structure. In most studies, it is the total PCL-R or PCL: SV score that is important, but in some tasks the psychopathy dimensions are differentially—and meaningfully—related to brain function (e.g., Blair et al. 2005, Kiehl 2006). Although early investigations implicated relatively localized brain regions (e.g., amygdala, hippocampus, frontal cortex) in psychopathy, more recent theory and research takes the view that psychopathy can better be understood in terms of complex interactions among various regions and functions (e.g., Kiehl 2006), perhaps as part of more general models related to, for example, externalizing psychopathology

(e.g., Markon & Krueger 2005), affective processing (Kiehl 2006), and moral behavior (e.g., Moll et al. 2005, Raine & Yang 2006). A notable trend is the interest shown by neuroscientists in using psychopathy as a vehicle for evaluating their own models of behavior, personality, and brain function. The result may ultimately be an integration of psychopathy theory and research with more general psychobiological, behavioral genetic, developmental, and personality models.

CONCLUSIONS

Prior to the development of the PCL-R, research on psychopathy was quite chaotic, with different investigators using definitions and measures of the disorder that often were unrelated to one another and of uncertain reliability and validity. We now have an impressive body of replicable and meaningful empirical findings, due in large part to the widespread adoption of the PCL-R and its derivatives as a common working model of psychopathy. Nonetheless, some commentators are concerned that the PCL-R has become so popular that many researchers and clinicians ostensibly confuse the measure with the construct. Others are concerned that the PCL-R has deviated from its "roots" in a particular clinical case method; they seem less concerned that they might be confusing the clinician with the construct. We find it incongruous that empirical research findings should be judged by how well they fit with clinical observations described more than half a century ago. We have addressed these issues, as well as arguments about the role of antisociality in the conceptualization and measurement of psychopathy. We also noted that the research on psychopathy is beginning to benefit from the use of multitrait, multimethod approaches to research, and from its integration with other disciplines.

DISCLOSURE STATEMENT

R.D. Hare receives royalties from the sale of the PCL-R and its family of instruments.

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Errata

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