Pergamon

Clinical Psychology Review, Vol. 14, No. 1, pp. 17–38, 1994

0272-7358/94 $6.00 + .00

0272-7358(93)E0005-H

CONCEPTUAL PROBLEMS IN THE ASSESSMENT OF PSYCHOPATHY

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ABSTRACT. *Research on psychopathy has been hindered by a lack of consensus concerning which measures to employ, as well as low levels of agreement among these measures. These problems appear to stem largely from a fundamental disagreement regarding the conceptualization of the syndrome itself. Two approaches to the conceptualization of psychopathy, personality-based ("open") and behavior-based ("closed"), are compared. Although some evidence suggests that the behavior-based approach is both under- and overinclusive, this evidence is based upon relatively few studies, some of which suffer from methodological inadequacies. The two-factor model provides a potentially important vehicle for the conceptualization and assessment of psychopathy, although it leaves several important questions unanswered. Comparative construct validity studies of the two approaches will be essential for resolving the debate concerning the conceptualization of psychopathy. Other unresolved conceptual issues in the assessment of psychopathy include (a) the role of negative affectivity, (b) the distinction between fearfulness and anxiety, (c) the dimensional versus categorical nature of psychopathy, (d) the covariation between psychopathy and other personality disorders, and (e) the validity of psychopaths' self-reports. Researchers will need to develop measures of the personality-based approach that are uncontaminated by antisocial behaviors, and to make the nomological network surrounding the behavior-based approach explicit.*

Although psychopathic personality (psychopathy) is among the most investigated of all psychiatric conditions, research on this syndrome has been plagued by persistent questions concerning its assessment (Hare & Cox, 1978). Specifically, psychopathy research has been hindered by a lack of consensus regarding which measures to employ, rendering meaningful comparisons across studies difficult (Hare, 1985a). These differences in operationalization may be responsible for some of the replication failures in the literature, and thus may account for inconsistent reports of psychopaths' frontal lobe functioning (Gorenstein, 1982; Hare, 1984) and event-related potentials (Raine & Venables, 1988; Syndulko, 1978), among other findings.

In this article I focus upon problems in the conceptualization of psychopathy that have

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had a major influence upon its assessment. I will not review the psychometric properties of psychopathy measures, except where these properties are relevant to conceptual issues (see Lilienfeld, 1990 and Widiger & Frances, 1987 for reviews of psychopathy measures). Hare and Cox (1978) have reviewed the state of the assessment literature on psychopathy through the mid-1970s; thus, I will not attempt to duplicate their efforts here. Nevertheless, there have been a number of important developments in the assessment of psychopathy since the publication of Hare and Cox's review, including the appearance of the DSM-III (American Psychiatric Association, 1980) and DSM-III-R (American Psychiatric Association, 1987) criteria for antisocial personality disorder (ASPD),[1] the development of the Psychopathy Checklist (PCL; Hare, 1985b, 1990), and the postulation of the two-factor model of psychopathy (Harpur, Hare, & Hakstian, 1989). Consequently, in this review particular attention will be paid to these and other recent developments.

One of the first major facts confronting the consumer of the psychopathy literature is that most measures of this syndrome show relatively poor agreement. The results of several studies (e.g., Hare, 1985a; Hundleby & Ross, 1977; Widom & Newman, 1985) indicate that measures of psychopathy typically exhibit low or at best moderate intercorrelations. For example, Hare (1985a) found that the MMPI Psychopathic Deviate (*Pd*) scale (McKinley & Hathaway, 1944) and the California Psychological Inventory Socialization (*So*) scale (Gough, 1960), two commonly used self-report psychopathy indices, were correlated at only $r = .34$. Moreover, both Hare (1985a) and Widom and Newman (1985) found that the levels of agreement between self-report measures and interviews tended to be even lower than the levels of agreement within each domain.

How are we to account for these problematic findings? It seems likely that the low correlations among measures of psychopathy stem largely from a fundamental disagreement concerning the conceptualization of the syndrome itself (see Davies & Feldman, 1981 for evidence of disagreement among clinicians regarding some of the central features of psychopathy). Specifically, whereas some authors believe that psychopathy should be conceptualized principally in terms of personality traits, others believe that it should be conceptualized principally in terms of antisocial behaviors (cf. Gerstley, Alterman, McLellan, & Woody, 1990; Hare, Hart, & Harpur, 1991; Widiger & Frances, 1985). Indeed, psychopathy measures diverge markedly in their coverage of personality traits versus antisocial behaviors (Lilienfeld, 1990), reflecting differing emphases upon these two conceptualizations. These competing conceptualizations have, in turn, given rise to two different approaches to the assessment of psychopathy. The importance of this distinction cannot be overstated, because the authors of a number of articles (e.g., Blackburn, 1988; Ingram, 1990, pp. 164–165) and texts (e.g., Davison & Neale, 1990, p. 260; Sue, Sue, & Sue, 1990, p. 242) have discussed these conceptualizations as though they were essentially interchangeable (Lilienfeld, 1989).

DIAGNOSTIC ISSUES

The Personality-Based Approach

As noted above, one group of authors (e.g., Cleckley, 1941; Hare, 1970, 1985b; Karpman, 1941; Lykken, 1984; McCord & McCord, 1964) views psychopathy primarily as a constellation of personality traits. The most influential of these authors has been Cleckley,

[1]For the remainder of the article, I will use the terms *psychopathic personality* or *psychopathy* to refer to the personality-based conceptualization of the syndrome, and will reserve the term *antisocial personality disorder* (ASPD) for the behavior-based conceptualization (see Diagnostic Issues).

who delineated 16 criteria for the diagnosis of psychopathy. These criteria include superficial charm, lack of anxiety, lack of guilt, undependability, dishonesty, egocentricity, failure to form lasting intimate relationships, failure to learn from punishment, poverty of emotions, lack of insight into the impact of one's behavior upon others, and failure to plan ahead. Although other authors have proposed somewhat different defining features for psychopathy, such as guiltlessness and lovelessness (McCord & McCord, 1964) and affectionlessness and lack of foresight (Craft, 1965), these features generally overlap considerably with those of Cleckley.

The personality-based conceptualization of psychopathy was reflected in the second version of the American Psychiatric Association's DSM (DSM-II; 1968), which highlighted traits such as selfishness, callousness, guiltlessness, impulsivity, lack of loyalty, low frustration tolerance, and propensity to blame others. DSM-II further stated that "a mere history of repeated legal or social offenses is not sufficient to justify this diagnosis" (p. 43). Thus, according to DSM-II, individuals with a history of antisocial behavior are not necessarily psychopaths, and vice versa.

This distinction between psychopathy and chronic antisocial behavior was emphasized by Cleckley (1941) and most advocates of the personality-based approach (e.g., Lykken, 1984; Millon, 1981). Cleckley, for example, argued that many psychopaths have no history of antisocial behavior, and can even be found in socially valued professions, such as politics and entertainment. Conversely, most proponents of this approach (e.g., Lykken, 1984) have argued that individuals with chronic antisocial behavior are not necessarily psychopaths. Thus, according to these authors, psychopathy is narrower than chronic antisocial behavior in certain respects, yet broader in others.

The Behavior-Based Approach

A number of authors (e.g., Cloninger, 1978; Robins, 1978; Spitzer, Endicott, & Robins, 1975) have argued that the Cleckley criteria and related criteria sets require too much inference, and are thus likely to possess low interrater reliability. These authors contend that the syndrome should instead be operationalized in terms of a history of readily agreed-upon antisocial behaviors. This point of view was reflected in two research classifications in the 1970s, the St. Louis Criteria (Feighner et al., 1972) and the Research Diagnostic Criteria (RDC; Spitzer et al., 1975), both of which adopted chronic antisocial behavior as the cornerstone for the diagnosis of the syndrome.

The St. Louis Criteria and RDC served as the primary basis for both the DSM-III (American Psychiatric Association, 1980) and DSM-III-R (American Psychiatric Association, 1987) criteria for ASPD. In contrast to DSM-II, DSM-III stated that "the essential feature [of ASPD] is a personality disorder in which there are [*sic*] a history of continuous and chronic antisocial behavior" (pp. 317–318). Thus, unlike DSM-II, which regarded a chronic antisocial history as *neither* necessary *nor* sufficient for the diagnosis of the syndrome, DSM-III regards such a history as both necessary *and* sufficient (the latter with the exception of several exclusion criteria, discussed in the following paragraph). Both DSM-III and DSM-III-R define ASPD as a syndrome characterized by an early (prior to age 15) onset of delinquent, criminal, or irresponsible behaviors that persist into adulthood. Largely because of their heavy emphasis upon easily observable behaviors, the DSM-III criteria for ASPD demonstrate high interrater reliability when assessed via structured interview (Widiger & Frances, 1987).

The symptoms of ASPD in DSM-III and DSM-III-R include theft, vandalism, firesetting, school truancy, persistent lying, physical aggression, inconsistent work behavior, poor parenting, failure to maintain lasting intimate relationships, and financial irrespon-

sibility. In response to criticisms of DSM-III the authors of DSM-III-R added a criterion ("lacks remorse," p. 346) in an effort to assess the guiltlessness believed by many authors to be central to psychopathy. Nevertheless, the DSM-III-R criteria remain heavily weighted toward antisocial acts, and identify essentially the same individuals as do the DSM-III criteria (Hart & Hare, 1989). Finally, DSM-III dictates that ASPD should not be diagnosed if the individual's antisocial behavior is judged to be attributable to schizophrenia, mania, or severe mental retardation (the latter has been omitted as an exclusion criterion in DSM-III-R).

Because of the heavy emphasis placed upon antisocial behaviors by the St. Louis, RDC, and DSM-III/DSM-III-R criteria sets, a large percentage of criminals satisfy criteria for ASPD. Guze (1976) for example, reported that 79% of criminals satisfied St. Louis criteria for sociopathy.[2] Hare (1983), in contrast, reported that 39% of criminals met DSM-III criteria for ASPD. This lower figure is consistent with the impression that the DSM-III criteria are more restrictive than the St. Louis criteria (Hare, 1983). Nevertheless, both of the above percentages are higher than those generally reported for psychopathy. Hare (1983), for example, reported that (depending upon the assessment method) between 28% and 30% of inmates satisfied consensus diagnoses of psychopathy. Thus, perhaps not surprisingly, behavior-based criteria are more highly associated with criminality than are personality-based criteria. Indeed, some critics (e.g., Lykken, 1984) have argued that the behavior-based approach has rendered ASPD virtually synonymous with chronic criminality, a point to which I shall return.

COMPARISON OF THE TWO APPROACHES: CONCEPTUAL ISSUES

A number of critics (e.g., Hare, 1983; Lykken, 1984) have argued that the DSM-III and related criteria sets for ASPD have sacrificed construct validity for the sake of reliability. In this context, it is worth noting that changes in the content or format of a measure may simultaneously increase reliability and decrease construct validity; this can occur if such changes result in a narrow or otherwise inadequate representation of the construct (Meehl, 1986).

An alternative conceptualization of the difference between the personality- and behavior-based approaches is in terms of "open" versus "closed" concepts, respectively. It is generally accepted that the criteria for most psychiatric syndromes (as well as the syndromes themselves) are best viewed as open concepts (Pap, 1953; also see Meehl, 1986). Open concepts are characterized by indefinite extensibility of their indicators and probabilistic (i.e., fallible) relations between these indicators and the underlying construct. Thus, (a) the list of indicators for each diagnostic criterion is potentially infinite, and (b) no single indicator or set of indicators perfectly indexes each criterion. In contrast, closed concepts are characterized by a finite indicator list and essentially infallible relations between these indicators and the construct. Unlike closed concepts, which are defined operationally or explicitly, open concepts are defined implicitly or contextually. Nevertheless, an open concept can later become closed if research uncovers its "inner nature," thereby allowing researchers to adopt an explicit definition of the concept (Meehl, 1986).

In many respects, the distinction between closed and open concepts parallels that between classical and prototypal categories, respectively, in cognitive psychology (Cantor, Smith, French, & Mezzich, 1980). Classical categories possess indicators that are "defining" (i.e., that are singly necessary and jointly sufficient). Thus, these indicators

[2] *Sociopathy*, a now rarely used term coined by Partridge (1930) to emphasize the social transgressions characteristic of the syndrome, was the St. Louis group's term for would today be called ASPD.

are perfectly correlated with the category. In contrast, prototypal categories have "fuzzy" boundaries and do not possess defining features. Thus, indicators of the category are only fallibly related to the category. Research indicates that the prototypal approach provides a better fit to most diagnostic categories than does the classical approach (Cantor et al., 1980; Widiger & Frances, 1985). Specifically, most diagnostic categories are characterized by unclear boundaries and by indicators (i.e., diagnostic criteria) that are imperfectly correlated with the diagnosis.[3]

The personality-based approach treats the criteria for psychopathy as open concepts. Thus, in defining a construct such as guiltlessness, no attempt is made to imply that the list of indicators is finite or that such indicators relate infallibly to the construct. Instead, the clinician or researcher is provided with a detailed description (and typically, several exemplars) of each criterion (see Hare, 1990) and is asked to consider all available evidence in arriving at a judgment concerning its presence or absence. This judgment may be thought of as an "implicit aggregation" process (Epstein, 1979) in which raters mentally summate various pieces of data to arrive at a global rating. Ideally, such aggregation serves to increase both reliability (via the Spearman–Brown prophecy formula) and construct validity (via more adequate content coverage).

In contrast, the behavior-based approach treats most of the criteria for ASPD as closed concepts. In this approach, the criteria sets generally provide only a handful of indicators for each criterion and do not permit the diagnostician to consider other indicators. For example, for the criterion assessing failure to plan ahead/impulsivity, DSM-III-R (p. 345) lists two indicators: "traveling from place to place without a prearranged job or clear goal" and "lack of a fixed address for a month or more"; other behaviors potentially indicative of failure to plan ahead and impulsivity (e.g., repeatedly violating parole, moving to a new city without having sufficient funds to provide for oneself) cannot count toward the criterion. This approach seems likely to produce high interrater reliability; nevertheless, it may also produce diminished construct validity due to inadequate content coverage of the relevant constructs. Personality constructs cannot be adequately assessed by isolated behavioral indicators (Epstein, 1979), a lesson that is becoming increasingly appreciated among developers of measures for personality disorders (Widiger & Frances, 1985). Thus, whereas the "open" approach emphasizes adequate content coverage at the potential expense of interrater reliability, the "closed" approach emphasizes interrater reliability at the potential expense of adequate content coverage.

The implications of research on classical versus prototypal categories (e.g., Cantor et al., 1980) are also relevant here. By adopting a "closed" approach to many of the criteria for ASPD, the developers of DSM-III and DSM-III-R appear to have made the implicit assumption that these criteria are two-way pathognomic for the constructs (e.g., impulsivity, recklessness) they are intended to assess. Nevertheless, because most psychiatric syndromes, as well as their diagnostic features, are almost invariably prototypal concepts (Cantor et al., 1980; Widiger & Frances, 1985), the adoption of a closed approach to assess these features may result in decreased construct validity. As noted earlier, critics of DSM-III and related approaches have argued that the construct validity of the behavior-based approach is compromised by both over- and underinclusiveness.

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[3]By underscoring the parallels between the personality-based approach and the prototypal approach, I do not mean to endorse the view (Cantor et al., 1980) that the fuzziness of diagnostic concepts (e.g., psychopathy) is a result of individuals' categorization processes (Grove & Tellegen, 1991; Tellegen, 1991). Such fuzziness may arise from environmental influences, measurement error, and other factors that create imperfect correlations among diagnostic indicators.

Before discussing the over- and underinclusiveness problems in more detail, however, it should be emphasized that the use of the terms *overinclusiveness* and *underinclusiveness* with respect to the DSM-III/DSM-III-R criteria for ASPD implicitly presumes that the personality-based conception of psychopathy should be the "point of reference" for ascertaining the construct validity of the behavior-based approach. This assumption may not be warranted, however, and can be evaluated only by means of studies comparing the construct validity of the personality- and behavior-based approaches (see the Comparative Construct Validity of the Two Approaches section). Nevertheless, I have elected to use the terms *overinclusiveness* and *underinclusiveness* because the criteria for ASPD have frequently been accused of these two shortcomings (e.g., Lykken, 1984; Millon, 1981). Moreover, regardless of whether one adopts the personality- or the behavior-based conceptualization as a point of reference, it is essential to examine the extent to which these conceptualizations diverge in their diagnoses of psychopathy. Without such information, it becomes difficult to compare the findings of studies in the psychopathy literature, as many of these studies base their diagnoses upon competing conceptualizations.

The Overinclusiveness Problem

Several authors (e.g., Lykken, 1984) have contended that the behavior-based (i.e., closed) approach is overinclusive in that it identifies not only "true" (or, as they are sometimes called, "primary" or "idiopathic"; Karpman, 1941) psychopaths but also a mélange of other, etiologically unrelated syndromes (i.e., false-positives).[4] These false-positives, sometimes referred to as "secondary" or "symptomatic" psychopaths (Blackburn, 1988; Karpman, 1941), are characterized by a number of putative conditions, including "neurotic" psychopathy, "dyssocial" psychopathy, and perhaps antisocial behavior secondary to other psychiatric syndromes, such as those in the schizophrenia spectrum (i.e., "schizoid" psychopathy; Heston, 1966). Each of these conditions is briefly discussed below.

Neurotic psychopathy is a putative syndrome in which antisocial behavior is thought to result from the acting out of neurotic conflict. This syndrome may itself result from several etiological factors, such as chronic overcontrol of anger (Megargee, Cook, & Mendelsohn, 1967) and perhaps even a desire to unconsciously seek punishment (Menninger, 1938).

Dyssocial psychopathy is believed to result from allegiance to a culturally deviant subgroup that engages in antisocial behavior. Unlike primary psychopaths, most dyssocial psychopaths are believed to be capable of loyalty and attachments to group members (McNeil, 1970). Although there has been little empirical validation of either the neurotic or dyssocial subtypes, factor analyses of rating scales in both adolescents and adults with antisocial behavior (Hare & Cox, 1978) have frequently identified factors corresponding to these two syndromes.

There is also evidence that individuals with schizophrenic spectrum disorders (Heston, 1966; Paiken et al., 1974) and perhaps other forms of psychopathology, such as bipolar disorder (Zuckerman, 1978), are at heightened risk for chronic antisocial behavior. Nevertheless, as noted earlier, individuals in whom schizophrenia or mania is judged to be a cause of antisocial behavior are not diagnosed as having ASPD in DSM-III or DSM-III-

[4]Although I use the terms *false-positive* and *false-negative* for ease of explanation, it should be borne in mind that these terms presume that psychopathy is best regarded as a category or taxon, rather than a dimension or set of dimensions (see The Dimensional Versus Categorical Nature of Psychopathy section).

R. The extent to which individuals with subsyndromal manifestations of these two syndromes (e.g., cyclothymia, schizotypal personality disorder) meet criteria for ASPD has received little attention, although Hart and Hare (1989) reported that schizotypal personalities are at only slightly increased risk for ASPD.

Finally, some authors (e.g., Smith, 1978) have argued that the behavior-based approach is culturally biased, in that it ignores culturally different motivations for antisocial behavior. For example, ghetto guerrillas in war-torn countries may engage in chronic antisocial behavior because of loyalty to political causes (Lykken, 1984). Nevertheless, little or no research has been conducted to evaluate this possibility. One approach to this issue would be to examine the association between psychopathy and ASPD across different cultures to ascertain whether culture moderates the magnitude of this association. A moderating effect of culture might suggest that the criteria for ASPD are culturally biased, although this argument presumes that the criteria for psychopathy are themselves construct-valid.

The Underinclusiveness Problem

A number of authors have contended that the behavior-based (i.e., closed) approach is *under*inclusive because it excludes primary psychopaths who, for reasons such as high intelligence and extensive socialization, have avoided repeated contact with the legal system (i.e., false-negatives). It is important to note that this criticism is not inconsistent with the overinclusiveness criticism; the behavior-based approach may be overinclusive in certain respects, yet underinclusive in others.

According to these critics, behavior-based criteria focus too heavily upon unsuccessful psychopaths, and insufficiently upon high-functioning psychopaths. Such "successful" (Widom, 1977) or "adaptive" (Sutker & Allain, 1983) psychopaths have been discussed extensively in the clinical literature (e.g., Smith, 1978) but have been the subject of scant research. "Successful" psychopathy is a potentially important construct, as behavior-based criteria may only detect psychopaths who have had repeated legal and social difficulties. As a consequence, research utilizing such criteria may be limited in external validity (Widom, 1977). Moreover, a better understanding of successful psychopathy may assist in the identification of factors that buffer psychopaths from developing antisocial behavior, such as outlets for risk-taking behavior (Suedfeld & Landon, 1978), intelligence, and the presence of role models.

Indeed, some psychopaths may even be predisposed to perform heroic and altruistic acts. Lykken (1982), for example, argued that the psychopath and the hero are often "twigs from the same branch." This possibility is consistent with data collected by Lilienfeld (1990), who found that scores on self-report measures of psychopathy were moderately *positively* correlated with the frequency of altruistic acts (e.g., donating blood, helping strangers), as measured by Rushton, Chrisjohn, and Fekken's (1981) Self-Report Altruism Scale. The contentions of Lykken and others, if correct, have important implications for the assessment of psychopathy. Specifically, if a substantial subset of psychopaths perform frequent prosocial behaviors, overreliance upon socially undesirable behaviors and consequences (e.g., robbery, arrests) in the assessment of psychopathy could lead to a large number of false-negatives. Moreover, the assessment of psychopathy might need to incorporate behaviors that are heroic or altruistic (e.g., helping individuals in distress), as well as those that are antisocial and criminal.

This discussion raises the question of whether successful psychopaths should be considered "mentally ill," since they do not appear to fulfill the criteria for mental disorder outlined in DSM-III-R (APA, 1987): namely, distress, disability, or "a significantly

increased risk of suffering death, pain, disability, or an important loss of freedom" (p. xxii). The answer to this question seems to rest primarily upon a social, rather than a scientific, judgment. As a number of authors (e.g., Gorenstein, 1984; Wakefield, 1992) have pointed out, the definition of "disorder" appears to require a value judgment concerning the "harmfulness" of a dysfunction to the affected individual, a judgment that is inevitably somewhat arbitrary. Successful psychopathy would probably not be considered a mental disorder by DSM-III or DSM-III-R standards because it falls short of the threshold for the criterion of "harmfulness" to the individual. Nevertheless, it might be considered a mental disorder if this threshold were lowered; for example, an alteration of the criterion of "a significantly increased risk of suffering death" to "a somewhat increased risk of suffering death" might well result in the inclusion of some successful psychopaths. High-functioning individuals with psychopathic traits have been found to engage in an increased rate of sensation-seeking and risk-taking behaviors (Sutker & Allain, 1983).

Finally, behavior-based criteria may be underinclusive in another way. Specifically, some authors (e.g., Blacker & Tupin, 1977; Lilienfeld, 1992) have conjectured that, depending upon factors such as gender, age, and cultural background, psychopathy can be manifested in a variety of syndromes not typically characterized by criminal and antisocial behavior, such as histrionic, borderline, and narcissistic personality disorders, somatization disorder, and some forms of alcoholism. Although there are few data relevant to this possibility, psychopathy assessed by means of the PCL, a semi-structured interview typically scored in conjunction with file information (Hare, 1985b), has been found to be positively correlated with histrionic personality disorder and substance abuse disorders (Hart & Hare, 1989).

In summary, there are plausible theoretical reasons to believe that the behavior-based approach may be both over- and underinclusive, although it should be emphasized that the use of these terms presupposes the validity of the personality-based conception of psychopathy. Proponents of the behavior-based approach (e.g., Cloninger, 1978) have generally argued that both the overinclusiveness and underinclusiveness problems, if they exist, are relatively minor and offset by the high reliability of objective, clearly defined criteria. Thus, it will be necessary to examine research designed to ascertain the magnitude of the overinclusiveness and underinclusiveness problems.

COMPARISON OF THE TWO APPROACHES: RESEARCH

The Overinclusiveness Problem[5]

Two studies by Hare and his colleagues are relevant to the possibility that the DSM-III criteria for ASPD are overinclusive. Hare (1983) had two clinicians independently complete three assessments on 159 male inmates: a 7-point rating describing the extent to which each prisoner exemplified Cleckley's prototypical psychopath, the PCL, and rating scales for DSM-III ASPD. Hare found the three assessments to be substantially interrelated; the kappa coefficients between the ASPD ratings and the 7-point and PCL ratings were .70 and .83, respectively (the kappa coefficient between the latter two measures was not reported). More importantly, virtually all inmates with ASPD received high scores on the PCL, which assesses most of the core personality traits of psychopathy (Hare, 1985b). For example, of 64 inmates given a diagnosis of ASPD by both clinicians, 45 had

[5]Studies such as those of Hare (1985a) that examine the intercorrelations among various psychopathy measures (e.g., the *Pd* scale, the *So* scale) are not included here, as most of these measures represent admixtures of the personality- and behavior-based approaches.

high scores on the PCL, 18 had medium scores, and only 1 had a low score. This pattern was very similar for the 7-point rating. Thus, Hare's results do not provide strong evidence that a large proportion of individuals with ASPD lack the major personality traits of psychopathy.

In contrast, Hart and Hare (1989) reported different findings in a study comparing PCL ratings with diagnoses of several DSM-III disorders, including ASPD. They completed the PCL and psychiatric ratings of several disorders on 80 male forensic patients. Hart and Hare found that the positive predictive power (PPP) of a diagnosis of ASPD given a diagnosis of psychopathy (using the PCL) was .90, whereas the PPP of psychopathy given ASPD was only .23. In other words, virtually all individuals with psychopathy had ASPD, but most individuals with ASPD did not have psychopathy. This latter finding suggests that the ASPD category encompasses considerably more than psychopathy.

The reasons for the discrepancy between this finding and Hare's (1983) are unclear, but may lie at least partly in sample differences. Whereas Hare (1983) studied prisoners, Hart and Hare studied patients who were remanded by the courts for evaluation of competency to stand trial. These latter subjects might be expected to exhibit a higher rate of Axis I conditions associated with antisocial behavior, such as schizophrenia and bipolar disorder, compared with prisoners. Indeed, Hart and Hare reported high rates of both of these conditions in their sample (33.8% and 10%, respectively).[6] Because Hart and Hare apparently did not utilize the DSM-III exclusion criteria for ASPD (p. 213), these conditions may have increased the false-positive rate for ASPD. Further research on the extent to which sample differences affect the false-positive rate of the ASPD diagnosis is warranted.

Conversely, the high PPP of ASPD given psychopathy seems to argue against the possibility that the ASPD diagnosis is underinclusive. Nevertheless, the base rate of ASPD in this sample was high (.50), which would have decreased the possibility of finding psychopaths without concurrent ASPD. PPP, unlike sensitivity and specificity, is highly sensitive to base rate fluctuations (Baldessarini, Finkelstein, & Arana, 1983).

In addition, several studies of the convariation of ASPD with other syndromes are consistent with the possibility that the ASPD diagnosis is overinclusive. Boyd et al. (1984) found that patients with ASPD were at *increased* risk for several anxiety disorders, including obsessive compulsive disorder, phobia, and panic disorder (but see Nestadt, Romanoski, Samuels, Folstein, & McHugh, 1992). Moreover, several studies have revealed positive correlations between ASPD and personality disorders presumably characterized by elevated trait anxiety. Morey, Waugh, and Blashfield (1985), for example, reported that an MMPI-derived measure of DSM-III ASPD correlated positively with MMPI-derived measures of DSM-III compulsive, avoidant, dependent, and passive-aggressive personality disorders (*r*s ranged from .16 to .51), the four disorders constituting the "anxious, fearful" cluster in DSM-III (APA, 1980). Similarly, Moras, Sholomskas, and Miller (1991) found that the ASPD scale of the Wisconsin Personality Disorder Inventory (WISPI) was positively correlated with WISPI measures of these four disorders (*r*s ranged from .46 to .55).

These findings superficially appear to cast doubt upon the construct validity of the ASPD diagnosis, because low anxiety has traditionally been viewed as one of the hallmarks of psychopathy (Cleckley, 1941; Lykken, 1957). Nevertheless, DSM-III-R asserts

[6]As Hart and Hare did not assess Axis I disorders, the rates of these disorders in his sample are not available.

that individuals with ASPD "frequently [exhibit] signs of personal distress, including complaints of tension, inability to tolerate boredom, depression . . ." (p. 343). Thus, the extent to which these findings are problematic for the construct validity of the ASPD diagnosis appears to depend upon whether this diagnosis is considered to be (a) a behavioral operationalizataion of the Cleckley criteria and related personality traits (e.g., Gerstley et al., 1990) or (b) a behaviorally defined syndrome that bears no necessary relation to the Cleckley-type conception of psychopathy. If one accepts the former, findings such as those of Boyd et al. (1984), Morey et al. (1985), and Moras et al. (1991) call into question the construct validity of the ASPD diagnosis; if one accepts the latter, they do not. Nevertheless, the originators of the ASPD diagnosis appear not to have made the nomological network of this construct fully explicit and public, which is a prerequisite for construct validation (Cronbach & Meehl, 1955). In particular, there appear to be few clear-cut predictions concerning the relation of ASPD to either personality traits or other psychiatric syndromes. Consequently, the implications of these findings for the construct validity of ASPD are unclear.

Thus, there is some suggestion that the DSM-III and similar criteria sets for ASPD comprise conditions in addition to psychopathy. Nevertheless, this conclusion rests largely upon one study (Hart & Hare, 1989) that apparently ignored the exclusion criteria for ASPD. Moreover, because the PCL contains items assessing antisocial behaviors (Hare, 1985b), it is not an ideal measure for examining the possibility that behavior-based criteria are overinclusive: Some individuals with ASPD may receive high scores on the PCL without possessing the core personality traits of psychopathy. Finally, there is some evidence that individuals with ASPD are at heightened risk for syndromes characterized by elevated anxiety, although the implications of these findings require clarification.

The Underinclusiveness Problem

Relatively few investigators have addressed the possibility that behavior-based criteria are underinclusive. Widom (1977) and Widom and Newman (1985) attempted to recruit nonincarcerated psychopaths by means of newspaper advertisements containing several of the major personality features of psychopathy. The advertisement in Widom (1977), for instance, read "Wanted: charming, aggressive, carefree people who are impulsively irresponsible but are good at handling people and at looking after number one" (p. 675). In both studies, subjects were found to possess many of the same psychometric, clinical, and familial characteristics as incarcerated psychopaths. For example, Widom (1977) found that, relative to normative groups, subjects had elevated scores on the MMPI *Pd* and Hypomania (*Ma*) scales and low scores on Hogan's (1969) Empathy scale and the *So* scale, and appeared to have high rates of parental psychopathology, including alcoholism. Nevertheless, between 70% and 80% of subjects in both studies satisfied Robins' (1966) criteria for sociopathy (which are fairly similar to the DSM-III and DSM-III-R criteria for ASPD). Thus, these studies do not provide an adequate test of the possibility that a high proportion of psychopaths lack histories of antisocial behavior. In addition, because Widom and her colleagues did not recruit a comparison group in either study, the extent to which their methodology detects subclinical psychopathy, rather than general behavioral deviance or psychopathology, cannot be determined. Nevertheless, Widom and colleagues' method represents a promising technique that has not been adequately exploited by researchers.

Sutker and Allain (1983) compared "adaptive" sociopaths selected on the basis of MMPI criteria (high scores on the *Pd* and *Ma* scales) with subjects having normal MMPIs. All subjects were medical students and were thus assumed to be functioning

successfully. The authors found that adaptive sociopaths exhibited a number of characteristics previously reported among incarcerated sociopaths, although none of their subjects satisfied DSM-III criteria for ASPD. For example, compared with nonsociopaths, they received higher scores on Zuckerman, Kolin, Price, and Zoob's (1964) Sensation Seeking Scale (SSS), lower scores on the CPI *So* and Self-Control scales, and higher qualitative (*Q*) scores (i.e., more errors) on the Porteus Mazes Test. The *Q* score is associated with impulsivity (Porteus, 1965), and perhaps delinquency and psychopathy (Riddle & Roberts, 1977). Nevertheless, because the MMPI does not appear to adequately distinguish primary from secondary psychopaths (Lykken, 1957), Sutker and Allain's study may not be directly relevant to the question of whether psychopaths are not detected by DSM-III criteria. Moreover, Sutker and Allain's reliance upon self-report measures of psychopathy seems quasi-tautological, as many of these indices are intercorrelated in the general population (Lilienfeld, 1990).

Thus, it remains to be demonstrated that behavior-based criteria fail to detect a sizeable proportion of psychopaths defined by personality-based criteria. To more adequately evaluate this possibility, investigators need to concurrently assess a noncriminal (e.g., mixed psychiatric) sample on both personality- and behavior-based criteria. Ideally, such studies should include measures of external validating criteria (Robins & Guze, 1970) demonstrated to distinguish psychopaths from normals, such as passive avoidance learning (Lykken, 1957), familial psychiatric history (Cloninger, Reich, & Guze, 1975), and outcome (Hare, McPherson, & Forth, 1988).

The Two-Factor Model

An article by Harpur et al. (1989) highlights the importance of distinguishing between the personality- and behavior-based conceptualizations, and points to a potential problem shared by most or all self-report indices of psychopathy. In an earlier article, Harpur, Hakstian, and Hare (1988) showed that the covariation among the items on the PCL can best be described in terms of two moderately correlated factors, the first apparently representing the central personality traits of psychopathy (e.g., superficial charm, absence of remorse), and the second apparently representing a history of antisocial behaviors and an antisocial lifestyle. The first PCL factor is weakly to moderately correlated with ratings of DSM-III ASPD, whereas the second is highly correlated with these ratings (Harpur et al., 1989).

Harpur et al. (1989) examined the correlations of the two PCL factors with a number of self-report indices relevant to psychopathy, including the MMPI *Pd* and *Ma* scales, the *So* scale, Eysenck and Eysenck's (1975) Psychoticism Scale, the SSS, and Hare's (1985a) Self-Report Psychopathy (SRP) Scale, a questionnaire designed to assess the primary personality traits of psychopathy. Although the correlations of these measures with the second PCL factor were moderately high (most were in the .3 to .5 range), their correlations with the first PCL factor were negligible to low (most were in the .05 to .15 range). Surprisingly, the *Pd* and *So* scales were correlated at only $r = .05$ and $-.06$, respectively, with the first factor. Of all self-report indices, the two that fared the best were the SRP Scale and the combination of *Pd* and *Ma*, both of which correlated .18 with the first PCL factor.

Harpur and colleagues' (1989) results are both unexpected and important. They suggest that the primary self-report indices of psychopathy are moderately related to antisocial behaviors, but are largely unrelated to many of the central personality traits of psychopathy. In addition, Harpur et al. found that, whereas the first PCL factor tended to be weakly negatively correlated with indices of trait and state anxiety, the second PCL

factor tended to be uncorrelated and, in some cases, weakly positively correlated with these indices. I shall return to this point in a later section (The Distinction Between Fear and Anxiety). Other studies have provided further support for the utility of the two-factor model. Patrick, Bradley, and Lang (1993), for example, reported that abnormal startle responses (i.e., eye-blinks elicited by noise) were related to the first, but not the second, PCL factor (also see Smith & Newman, 1990).

Although Harpur and colleagues' two-factor model represents a significant advance in the conceptualization and assessment of psychopathy, it appears to leave some major questions unanswered. First, it is unclear whether their model should be referred to as the "two-factor conceptualization of psychopathy," as the title of their article suggests. Their results, important as they are, do not appear to resolve one crucial question: "What is psychopathy?" Specifically, do Harpur et al. view the first PCL factor as representing the "core" of psychopathy, with the second PCL factor representing concomitant behaviors of subsidiary diagnostic importance that only some psychopaths are prone to? Or, putting it somewhat differently, is an individual with very high scores on the first PCL factor (who, according to Harpur et al., possess the major personality traits of psychopathy), but with very low scores on the second PCL factor, a psychopath? An affirmative response to this question would seem consistent with the writings of Cleckley (1941), among others, who consider personality traits to be central to psychopathy. Or do Harpur et al. view both PCL factors as essential to psychopathy, and consider antisocial behaviors to be of comparable importance to personality traits in the diagnosis of this syndrome?

Second, the distinction that Harpur et al. draw between the two PCL factors—personality traits versus antisocial behaviors and lifestyle—may be less straightforward than it might initially appear. Their analyses (Harpur et al., 1989) indicate that several personality variables, including the Eysenck Personality Questionnaire (EPQ) Psychoticism scale and PCL items assessing impulsivity and lack of long-term planning, load primarily upon the second PCL factor, suggesting that this factor assesses more than antisocial behavior. Thus, an alternative explanation of Harpur and colleagues' findings is that both PCL factors represent personality traits, but the traits assessed by the second factor are more highly associated with antisocial behavior (Lilienfeld, 1990).

Summary

There appears to be qualified support for the contentions that the behavior-based approach is both over- and underinclusive. Nevertheless, the evidence for both of these possibilities is based upon relatively few studies, some of which suffer from methodological inadequacies. Moreover, as noted earlier, the extent to which the overinclusiveness and underinclusiveness problems reflect upon the construct validity of the ASPD diagnosis requires further investigation. Harpur and colleagues' two-factor model provides a potentially important vehicle for examining the differential correlates of the personality- and behavior-based approaches, and merits close attention from psychopathy researchers. Nevertheless, it leaves several questions concerning the conceptualization and assessment of psychopathy unanswered.

COMPARATIVE CONSTRUCT VALIDITY OF THE TWO APPROACHES

In order to resolve the debate concerning the conceptualization of psychopathy, it is imperative that researchers conduct comparisons of the construct validities of the personality- and behavior-based approaches. Thus far, however, there have been few direct comparisons of these approaches in terms of construct validity; these comparisons have been reviewed by Hare et al. (1991). As Hare et al. point out, the PCL (which appears to

assess most of the major personality characteristics of psychopathy) has generally been found to be a better predictor of outcome (recidivism, postrelease violent offending) compared with measures of DSM-III ASPD. Nevertheless, comparative studies in other domains, such as psychophysiological and laboratory tasks, family history, and course, will be necessary to better evaluate the relative construct validities of the two approaches.

There are, however, several obstacles to comparing the construct validities of the personality-based and behavior-based approaches. First, as noted earlier, the PCL contains items assessing *both* personality traits and antisocial behaviors; consequently, it is not an ideal operationalization of the personality-based approach. Indeed, the studies reported by Hare et al. (1991) might be viewed as more relevant to incremental validity (Meehl, 1959; Sechrest, 1963) than to comparative construct validity. That is, the higher correlation of the PCL with outcome variables compared with measures of ASPD may not indicate that the personality-based approach is superior to the behavior-based approach, but that the personality variables assessed by the first PCL factor *contribute information over and above antisocial behaviors* in the prediction of outcome. If so, the studies reported by Hare et al. (1991) would have no direct bearing upon the issue of comparative construct validity.

Second, as pointed out earlier, most or perhaps all of the major self-report measures of psychopathy (e.g., the *Pd* and *So* scales) correlate highly with overt antisocial behaviors and with ASPD, but negligibly with many of the core personality traits of the syndrome (Harpur et al., 1989). Although the revised version of the SRP scale (Hare, 1985a) and a recently developed measure (the Psychopathic Personality Inventory [PPI]; Lilienfeld, 1990) may eventually fill this void, both of these indices are in relatively preliminary stages of construct validation. Moreover, with the possible exception of one measure that has not been adequately validated (Craddick's Checklist; Craddick, 1962), there appear to be no interviews that exclusively assess the principal personality traits of psychopathy. Consequently, there are few or no adequate measures of the personality-based approach that are uncontaminated by antisocial behaviors. The development of such measures should be a major priority, as they are necessary for conducting proper comparisons of the construct validity of the two approaches.

In addition, there are two potential problems with interpreting the results of comparative construct validity studies. First, it is conceivable that each approach will prove to have superior validity for certain criteria (see Kendler, 1990). For example, the personality-based approach (because of its emphasis upon fearlessness, impulsivity, and related traits) might prove to be a better predictor of poor passive-avoidance learning, whereas the behavior-based approach (because of its emphasis upon overt antisocial acts) might prove to be a better predictor of criminal behavior. If this were the case, it might suggest that both personality characteristics and antisocial behaviors are essential to the psychopathy construct, and that the assessment of psychopathy should incorporate data from both domains (e.g., Harpur et al., 1989). Alternatively, certain criteria may be more relevant to the etiology of psychopathy than others, and may thus be better suited to evaluating construct validity.

Second, as noted earlier, proponents of the behavior-based approach have not made the nomological network (Cronbach & Meehl, 1955) surrounding the ASPD diagnosis fully explicit, particularly the strands of this network linking ASPD to constructs in the domains of personality and psychopathology. Consequently, the implications of a number of findings for the construct validity of ASPD are unclear. For example, if a measure of ASPD were found to be positively correlated with indices of fearfulness, whereas a measure of the personality-based approach were found to be negatively correlated with these indices, would it indicate that the behavior-based approach possesses poorer construct

validity than the personality-based approach? Given that there appear to be few explicit predictions concerning the relation of ASPD to personality constructs, the answer is not clear.

OTHER UNRESOLVED ISSUES IN THE CONCEPTUALIZATION OF PSYCHOPATHY

There are a number of other unresolved conceptual issues that have received little or no attention in the psychopathy literature. Although some of these issues bear little or no direct relation to one another, or to the controversy regarding the personality- and behavior-based conceptualizations, each represents a persisting problem in the conceptualization of psychopathy that has important implications for its assessment. In addition, all of these issues pose potential difficulties for the interpretation of research findings based upon measures of psychopathy. These unresolved issues are (a) the role of negative affectivity, (b) the distinction between fearfulness and anxiety, (c) the dimensional versus categorical nature of psychopathy, (d) the covariation between psychopathy and other personality disorders, and (e) the validity of psychopaths' self-reports.

The Role of Negative Affectivity

A number of self-report measures of psychopathy appear to be heavily saturated with negative affectivity (NA; Lilienfeld, 1991). This higher order personality dimension overlaps substantially with what has been referred to as general maladjustment or neuroticism (Watson & Clark, 1984). For example, the *Pd* scale is positively correlated with measures of trait anxiety (e.g., Butcher, Graham, Williams, & Ben-Porath, 1990, p. 61), which are markers of NA (Watson & Clark, 1984). Similarly, the ASP content scale of the MMPI-2, a newly developed psychopathy-related measure, has been found to be moderately positively correlated with the MMPI Wiggins Phobia Content scale and Psychasthenia scales (Butcher et al., 1990), both of which appear to be NA markers. Nevertheless, the difficulties that the NA dimension poses for the interpretation of findings on psychopathy have rarely been discussed explicitly.

The dimension of NA is so pervasive that it permeates virtually all major psychopathology inventories (Tellegen, 1985), leading Finney (1985) to comment that one of the principal goals of the developer of self-report psychopathology measures should be to discover ways of not assessing it. Although the extent to which NA relates to the psychopathy construct requires further investigation (Harpur et al., 1989), a heavy saturation with this dimension seems likely to diminish the specificity of psychopathy measures. This is particularly the case if the researcher or clinician intends to distinguish primary from "neurotic" psychopathy, as the latter is presumably characterized by high levels of NA. Moreover, because high levels of NA are found in a wide variety of psychiatric conditions, including anxiety, affective, and somatoform disorders (Watson, Clark, 1984; Watson & Pennebaker, 1989), a substantial saturation with this dimension may compromise the ability of psychopathy measures to discriminate between psychopathy and other syndromes.

An alternative approach to the problem of NA, which has been adopted by several researchers (e.g., Newman, Widom, & Nathan, 1985; Schmauk, 1970), is to utilize the *Pd* scale or a similar index in conjunction with a measure of NA, such as a trait anxiety scale. Using this approach, subjects with high scores on an index of psychopathy can be subdivided into those who are high, as opposed to low, on trait anxiety, with the assumption that the former are "primary" and the latter "secondary" (specifically, neurotic) psychopaths. This methodology appears to have some merit. For example, Newman et al.

(1985) reported that high *Pd* subjects with low scores on a trait anxiety measure (the Welsh Anxiety Scale; Welsh, 1956) exhibited poorer passive avoidance learning than high *Pd* subjects with high scores on this measure. Nevertheless, the assumption that this methodology yields a clear-cut separation between "primary" and "secondary" psychopaths is questionable, as discussed in the next section.

The Distinction Between Fearfulness and Anxiety

The relation between psychopathy and trait anxiety requires clarification. Although numerous authors (e.g., Cleckley, 1941; Lykken, 1957) regard low anxiety as a key feature of psychopathy, a number of descriptions of psychopathy (e.g., Hare, 1990; also see Davies & Feldman, 1981) contain little or no mention of low anxiety. Moreover, as noted earlier, several self-report measures of psychopathy correlate positively with trait anxiety indices. How might these apparently conflicting conceptualizations and findings be reconciled?

It seems likely that much of this confusion stems from a failure to distinguish between fearfulness and anxiety. Fearfulness appears to be a sensitivity to cues of impending danger (Gray, 1982; Tellegen, 1978). In contrast, anxiety appears to be distress produced by the perception that danger and related consequences are inevitable (Tellegen, 1978). Indeed, there is strong evidence that these constructs are separable. Measures of fearfulness generally load on the higher order factor of constraint, which seems to represent a behavioral inhibition dimension (Depue & Spoont, 1987), whereas measures of anxiety generally load on NA (Tellegen & Waller, in press).

Although psychopaths may be lower in fearfulness than other individuals (Lykken, 1957), they may experience *higher* state anxiety than other individuals in some cases because their risk-taking tendencies lead them to encounter more frequent and severe stressors (Fowles, 1987; Lilienfeld, 1992). In discussing the relation between anxiety and constraint, Tellegen (1978) similarly pointed out that "even if objectively similar experiences would tend to be [less] stressful for a [low] than for a [high] Constraint person, the cumulative consequences of the [former's] flirtations with disaster could compensate for this difference" (p. 4). Moreover, to the extent that psychopaths' propensities toward risk-taking are temporally stable, psychopaths may experience state anxiety on a recurrent basis, thereby leading to elevated "trait" anxiety. Note, however, that this "trait" anxiety is not a *predisposition* to react anxiously to potentially stressful events, but is instead a *consequence* of chronic exposure to such events. Although there is no conclusive evidence that chronic state anxiety can lead to "trait" anxiety, it is known that long-term exposure to stressors can produce irritability and physiological changes (e.g., elevated heart rate) that persist even after the cessation of these stressors (Frankenhaeuser, 1978).

If this reasoning is correct, measures of trait anxiety may be positively correlated with psychopathy in some cases, despite the fact that psychopaths tend to be low in anxiety-proneness (i.e., fearfulness). In particular, "unsuccessful" psychopaths (i.e., individuals with frequent legal and social difficulties) may tend to possess high levels of trait anxiety because of their repeated encounters with stressors. Indeed, as noted earlier, individuals with ASPD have been found to be at elevated risk for some psychiatric conditions characterized by trait anxiety (Boyd et al., 1984). Thus, psychopaths with elevated trait anxiety may not necessarily be secondary psychopaths; some may be primary psychopaths who have brought stressful events upon themselves. This calls into question a major assumption underlying the methodology of subdividing subjects with high scores on a psychopathy index into those with low versus high trait anxiety (see The Role of Negative Affectivity section).

Although trait anxiety measures may not consistently distinguish psychopaths from

other individuals, measures of fearfulness may be useful in this regard. Preliminary support for the utility of fearfulness measures in the assessment of psychopathy derives from the work of Lilienfeld (1990), who found that a personality-based measure of psychopathy, the PPI, was moderately negatively correlated with a measure of fearfulness, the Harmavoidance scale from a short version of Tellegen's (1978) Multidimensional Personality Questionnaire (MPQ). In contrast, the PPI was neglibly correlated with a measure of trait anxiety, the MPQ Stress Reaction scale. Thus, researchers should further examine the relations between measures assessing (low) fearfulness, such as the Activity Preference Questionnaire (APQ; Lykken, Tellegen, & Katzenmeyer, 1973), and psychopathy (but see Hare & Cox, 1978).

The Dimensional Versus Categorical Nature of Psychopathy

Researchers also need to direct their attention to the question of whether psychopathy is a dimensional or categorical entity. If psychopathy were found to be a dimensional construct, researchers should focus upon identifying and clarifying the underlying personality dimensions relevant to this syndrome. In contrast, if psychopathy were found to be a taxonic (i.e., categorical; Meehl & Golden, 1982) construct, researchers should focus their efforts upon identifying the dichotomous etiological variable (e.g., dominant gene, septal dysfunction; Gorenstein & Newman, 1980) responsible for producing this latent taxon.

Moreover, if psychopathy were dimensional at the latent level, psychopathy measures should be scored in a continuous fashion, thereby retaining all information. In contrast, if psychopathy were taxonic at the latent level, investigators should subdivide subjects at an appropriate cutting score (ideally obtained from a taxometric procedure; see below), and contrast subjects above and below this score. Most researchers have subdivided subjects into high and low psychopathy groups, or into high, intermediate, and low psychopathy groups (Lilienfeld, 1990). This practice seems difficult to justify given the lack of evidence that psychopathy is categorical, or that distributions of psychopathy scores are bimodal or bitangential. Moreover, dichotomization of distributions typically results in a loss of statistical power (Cohen, 1983), and may be responsible for a number of negative findings in the psychopathy literature.

Pending further evidence, it would seem incumbent upon researchers who dichotomize or trichotomize distributions on psychopathy measures to also report their findings using continuous scores on these measures. Ideally, the possibility that psychopathy is taxonic should be investigated using taxometric methods (Meehl & Golden, 1982). The results of these analyses might also have implications for whether psychopathy is qualitatively distinct from other personality disorders (see next section).

The Covariation Between Psychopathy and Other Personality Disorders

An additional problem in the assessment of psychopathy is the possibility of substantial covariation between psychopathy and other personality disorders, particularly those in the "dramatic, emotional, erratic" cluster (Cluster B [APA, 1987]): namely histrionic (e.g., Hart & Hare, 1989), narcissistic, and borderline personality disorders. Indeed, there is extensive evidence for "comorbidity" among numerous personality disorders (Grove & Tellegen, 1991). Although there has been little research on the relation between psychopathy and personality disorders, there is fairly strong evidence of an association between ASPD and several of the Cluster B disorders (Lilienfeld, VanValkenburg, Larntz, & Akiskal, 1986; Pope, Jonas, Hudson, Cohen, & Gunderson, 1983). Inspection of the criteria for several DSM-III-R personality disorders reveals a number of features

similar to those of psychopathy. For example, "is self-centered" (p. 349) is a criterion for histrionic personality, while "lack of empathy" (p. 351) is a criterion for narcissistic personality. Indeed, several authors have suggested that histrionic personality and perhaps the other disorders in Cluster B are manifestations of psychopathy (see Lilienfeld, 1992).

If extensive covariation between psychopathy and these disorders exists, it would pose a complex interpretational problem. Specifically, it is unclear whether such covariation would reflect (a) poor discriminant validity of the psychopathy construct (or measures of this construct), (b) poor discriminant validity of the other personality disorders (or measures of these syndromes), or (c) genuine overlap among etiologically different syndromes (resulting, e.g., from shared risk factors). Investigators should examine the covariation between psychopathy and other personality disorders and, if such covariation is extensive, explore the possibility that at least some of these syndromes are *formes frustes* of psychopathy. This possibility should be investigated with a variety of validating criteria, including putative laboratory and biological markers of psychopathy.

The Validity of Psychopaths' Self-Reports

Although many researchers have relied upon single self-report indices, such as the *Pd* or *So* scales, to establish diagnoses of psychopathy (see Hare & Cox, 1978), this practice may be questionable for at least two reasons. First, because one of the cardinal features of psychopathy is dishonesty (Cleckley, 1941), a potential shortcoming with the use of self-report measures in the assessment of psychopathy is their susceptibility to dissimulation. It should be pointed out, however, that self-report psychopathy measures typically have been found to be slightly *negatively* correlated with self-report validity indices of lying (Hare, 1982; Lilienfeld, 1990), perhaps because the latter indices partly reflect a tendency to deny socially undesirable traits and behaviors. If so, this might suggest that psychopaths are willing to admit to at least some negative characteristics. Nevertheless, it is clear that the relation between psychopathy and self-report measures of lying requires more investigation. With the exception of the PPI (Lilienfeld, 1990), however, none of the self-report psychopathy measures contains validity indices to assess lying or impression management. Self-report measures have an advantage over several other forms of assessment (e.g., direct interview) in that they can assess response sets such as dishonest responding in a systematic fashion (Widiger & Frances, 1987). Thus, researchers who utilize self-report measures of psychopathy should routinely administer indices of these and other response sets.

Second, most psychopaths seem to possess little insight into the nature and extent of their psychopathology (Cleckley, 1941). In this context, Cleckley conjectured that psychopaths possess a brain defect that he termed "semantic dementia." According to Cleckley, this abnormality makes psychopaths unable to accurately verbalize their emotional states. One need not accept Cleckley's neurological speculations to entertain the possibility that a number of factors might limit the extent to which psychopaths' self-reports can be trusted, especially in domains requiring a modicum of introspection. Consequently, future research should be directed toward delineating the psychopath's "blind spots" (Grove & Tellegen, 1991) and developing methods for assessing them. It is conceivable, for instance, that psychopaths's lack of insight in certain domains could be exploited to the researcher's advantage. To take an example from the author's research (Lilienfeld, 1990), psychopaths may be more likely than nonpsychopaths to endorse items assessing alienation (Tellegen, 1978), such as "I often get blamed for things that aren't my fault," because psychopaths possess little insight into the malignant impact of their

behavior upon others. Responses to this and similar items are almost surely inaccurate reflections of reality, but nevertheless appear to be valid indicators of psychopaths' tendency to externalize blame (Cleckley, 1941; Hare, 1990). In this context, it is worth noting that an item response need not be factually correct to provide valid information (Meehl, 1945).

The potential limitations of psychopaths' self-reports underscore the importance of utilizing multiple sources of information in the assessment of psychopathy. Multiple operationalizations of constructs typically result in increases in construct validity (Cole, Howard, & Maxwell, 1981), and there seems no reason to expect this principle not to apply to psychopathy (see Hare, 1978 for an illustration of how combining self-report and rating measures of psychopathy can produce greater interpretability of psychophysiological findings). Nevertheless, multiple operationalizations will only be useful to the extent that they provide incremental (Meehl, 1959; Sechrest, 1963) information relative to other measures. In other words, there may be a point of diminishing returns at which additional indices of psychopathy fail to contribute surplus information. To determine this, researchers should examine the extent to which measures provide incremental validity for a variety of criteria relevant to psychopathy.

CONCLUDING COMMENTS

The assessment of psychopathy has been plagued by a variety of problems in the conceptualization of the syndrome. Several major conclusions have emerged from this review: (a) The personality- ("open") and behavior-based ("closed") approaches, although often discussed as essentially interchangeable, hold very different implications for the assessment of psychopathy; (b) although there are plausible theoretical reasons to claim that the behavior-based approach is both overinclusive and underinclusive, more convincing evidence is needed to support these assertions; (c) the two-factor model provides a potentially important vehicle for the conceptualization and assessment of psychopathy, although it leaves several important questions unanswered; and (d) comparative studies of construct validity are essential for resolving the impasse concerning the conceptualization of psychopathy. Moreover, there are a number of other unresolved conceptual issues that have important implications for the assessment of psychopathy. Adequate progress toward resolving the conceptual problems surrounding psychopathy, however, is contingent upon developments in two domains.

First, researchers will need to develop measures of the personality-based approach that are uncontaminated by antisocial behaviors. The paucity of such measures renders comparative validity studies of the personality- versus behavior-based approaches difficult to conduct. Because the PCL, for example, assesses both personality traits and antisocial behaviors, it is not a pure measure of the personality-based conceptualization. Harpur and colleagues' (1989) two-factor model thus represents an important first step toward developing and comparing relatively clear-cut operationalizations of the personality- and behavior-based approaches.

Second, proponents of the behavior-based approach will need to make their predictions concerning the relation of ASPD to constructs in the domain of personality and psychopathology more explicit. Because construct validation is a deductive enterprise (Cronbach & Meehl, 1955), the absence of such falsifiable predictions makes much research on the ASPD diagnosis, including studies of comparative construct validity, difficult to interpret.

In 1974, Sir Aubrey Lewis referred to psychopathy as "a most elusive category" and commented that "the diagnostic subgroupings of psychiatry seldom have sharp and definite limits. Some are worse than others in this respect. Worst of all is psychopathic

personality, with its wavering outlines" (p. 133). Two decades later, one can still find much to agree with in Lewis' statements. Nevertheless, it appears that at least some of the smoke has lifted in the intervening 20 or so years, and that much of the current lack of consensus regarding the assessment of psychopathy can be traced to a dispute between the proponents of two competing conceptualizations. It also seems clear that studies of the comparative construct validity of these conceptualizations are essential if we are to resolve this dispute in the next two decades. In the interim, consumers of the psychopathy literature should resist the temptation to extrapolate findings from psychopathy to ASPD, or vice versa (Lilienfeld, 1989).

Acknowledgements—I thank Cathy Spatz Widom, Auke Tellegen, Paul E. Meehl, Lori A. Marino, Irwin D. Waldman, David T. Lykken, Richard Zinbarg, Alan Bellack and several anonymous reviewers for their extremely helpful comments and suggestions on earlier drafts of this manuscript.

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Received December 16, 1992
Accepted June 14, 1993