

Is Criminal Behavior a Central Component of Psychopathy? Conceptual Directions for Resolving the Debate

Jennifer L. Skeem
University of California, Irvine

David J. Cooke
Glasgow Caledonian University

The development of the Psychopathy Checklist—Revised (PCL–R; R. D. Hare, 2003) has fueled intense clinical interest in the construct of psychopathy. Unfortunately, a side effect of this interest has been conceptual confusion and, in particular, the conflating of measures with constructs. Indeed, the field is in danger of equating the PCL–R with the theoretical construct of psychopathy. A key point in the debate is whether criminal behavior is a central component, or mere downstream correlate, of psychopathy. In this article, the authors present conceptual directions for resolving this debate. First, factor analysis of PCL–R items in a theoretical vacuum cannot reveal the essence of psychopathy. Second, a myth about the PCL–R and its relation to violence must be examined to avoid the view that psychopathy is merely a violent variant of antisocial personality disorder. Third, a formal, iterative process between theory development and empirical validation must be adopted. Fundamentally, constructs and measures must be recognized as separate entities, and neither reified. Applying such principles to the current state of the field, the authors believe the evidence favors viewing criminal behavior as a correlate, not a component, of psychopathy.

Keywords: psychopathy, criminal behavior, construct validity, violence risk assessment

Over the past decade, there has been an explosion of research on psychopathic personality disorder. Although several groups of investigators have focused on the etiology, manifestations, and treatment of psychopathy, much research—and virtually all practical interest—revolves around the utility of measures of psychopathy in forecasting violent and criminal behavior (e.g., Hare, 1999; Salekin, Rogers, & Sewell, 1996; Tolman & Mullendore, 2003). The most widely used measures of psychopathy are the Psychopathy Checklist—Revised (PCL–R; Hare, 1991, 2003) and its progeny (the Psychopathy Checklist: Screening Version, Hart, Cox, & Hare, 1995; the Psychopathy Checklist: Youth Version, Forth, Kosson, & Hare, 2003). Although there are alternatives (Blackburn, 1987; Levenson, Kiehl, & Fitzpatrick, 1995; Lilienfeld & Widows, 2005), the PCL–R is the measure from which most others

are derived (see Edens, Skeem, Cruise, & Cauffman, 2001). One proponent asserted that, once the PCL–R “emerged, it was the first time in history that everyone who said ‘psychopath’ was saying the same thing. For research in the field, it was like a starting gun” (Hercz, 2001, ¶ 6). Discovering that this diagnostic tool happened to predict violence and criminal recidivism, researchers may have run too quickly: Predictive utility cannot substitute for construct validity. In our opinion, the field is in danger of crossing a thin line between using the PCL–R as a “common metric for psychopathy” (Hare & Neumann, 2005, p. 57) and equating this metric with the theoretical construct of psychopathy. The PCL–R has been referred to as “the gold standard of psychopathy” (Vitacco, Neumann, & Jackson, 2005, p. 466; see also, e.g., Fulero, 1995).

A recent debate about the essence of psychopathy brings this line into vivid relief. On one side of the debate, scholars contended that “an integral part of psychopathy is the emergence of an early and persistent pattern of problematic behaviors” (Hare & Neumann, 2005, p. 58). They described antisocial behavior as “important” (Hare & Neumann, 2005, pp. 59 & 62), “critical” (Hare & Neumann, 2005, p. 59; Vitacco et al., 2005, p. 473), and even “central” (Hare & Neumann, 2005, p. 58) to psychopathy. Criminal behavior is prominently featured in this class of antisocial behavior (see below). On the other side, scholars argued that criminal behavior is an epiphenomenon that is neither diagnostic of psychopathy nor specific to personality deviation (Cooke & Michie, 2001; Cooke, Michie, Hart, & Clark, 2004). This debate about the essence of psychopathy involved the PCL–R. First, for decades, the field largely ignored the disconnect between the PCL–R and early conceptualizations of psychopathy. These conceptualizations (Cleckley, 1941; Karpman, 1948; McCord & McCord, 1964) focus on interpersonal and affective traits of psychopathy that we refer to in this article as *emotional detachment*, following Patrick, Bradley, and Lang (1993). However, the

Jennifer L. Skeem, Department of Psychology and Social Behavior, University of California, Irvine; David J. Cooke, Douglas Inch Centre, Forensic Psychological Services, Glasgow Caledonian University, Glasgow, Scotland.

We thank Ronald Blackburn, Scott Lilienfeld, and Norman Poythress for their helpful comments on an early version of this article.

This article references the Psychopathy Checklist—Revised (PCL–R; Hare, 1991, 2003). David J. Cooke provides professional workshops on the administration and scoring of the PCL–R, for which he receives remuneration. David J. Cooke received U.K. government funding to develop a measure of psychopathy that could capture change: the Comprehensive Assessment of Psychopathic Personality (CAPP). This article does not reference the CAPP, and David J. Cooke receives no remuneration for his work on that measure. Jennifer L. Skeem has no financial interest in the PCL–R, CAPP, or any other measure of psychopathy.

Correspondence concerning this article should be addressed to Jennifer L. Skeem, Department of Psychology and Social Behavior, 3311 Social Ecology II, University of California, Irvine, CA 92697-7085. E-mail: skeem@uci.edu

PCL–R weighs antisocial behavior as strongly as—if not more strongly than—traits of emotional detachment in assessing psychopathy. Without a history of violent or criminal behavior, even an individual with pronounced interpersonal and affective traits of psychopathy is unlikely to surpass the PCL–R’s threshold score for diagnosing psychopathy. Second, the field’s recent efforts to resolve the disconnect between conceptualization and measurement have centered tightly on the structure of the PCL measures. These measures are being intensively analyzed to determine whether criminal behavior belongs to the psychopathy construct itself (see Neumann, Kosson, & Salekin, 2007, p. 96: “Do two, three, or four dimensions underlie the psychopathy construct?”). Few investigators reference theories on the nature of psychopathy to inform such analyses.

To be certain, use of the PCL measures has advanced the field’s understanding of the nature and implications of psychopathy over the past quarter century; the measures have firmly established themselves in the history of research on personality disorder and in the armamentarium of forensic practitioners. At a practical level, psychologists have learned much about assessing the disorder, including the bare fact that such traits as callousness can be assessed reliably. The ever-increasing momentum of research on psychopathy is largely attributable to the availability of these measures, which have facilitated comparison of research results across studies and clarified communication among practitioners and researchers. However, constructs and measurement should not stand still (Smith, 2005). The influence of the PCL measures on the understanding of psychopathy has grown so strong that we believe it is time to take stock of the field (see also Blackburn, 2005; Krueger, 2006).

Although informative, factor analysis of PCL items in a theoretical vacuum cannot reveal the essence of psychopathy (Smith, 2005). In the first part of this article, the section entitled *Parameters of the Debate*, we provide a backdrop that outlines the factor debate and key concepts in the debate. In the second part, the section entitled *Problems of Confusing a Measure With a Construct: The Two-Factor Model*, we present key problems with the field’s confusion of PCL–R measurement models with the construct of psychopathy. In the third part, *Revisiting Theory to Disentangle Measures and Constructs: Promise and Peril*, we speculate on why the field has forgone this iterative scientific process to embrace PCL–R measurement models as psychopathy. We specifically argue that the process of understanding and appropriately diagnosing psychopathy must be separated from the enterprise of predicting violence. In the fourth part of the article, *Conceptual Directions for Resolving the Debate*, we present conceptual (logical, theoretical) directions for resolving the debate about whether criminal behavior is a central component or downstream correlate of psychopathy. In a companion piece (Cooke, Michie, & Skeem, 2007), we presented empirical (analytic) directions for resolving this debate. On both conceptual and empirical grounds, we believe the evidence falls in favor of viewing criminal behavior as a correlate, rather than component, of psychopathy.

Parameters of the Debate

Competing Factor Models

To understand the field’s current confusion about whether criminal behavior is a component of psychopathy, it is important to

have a basic understanding of the PCL–R and contemporary debate about its structure. The PCL–R is a 20-item scale that trained clinicians complete based on an interview of a criminal offender and a review of his or her institutional record. To date, three models of psychopathy have been offered, based on analyses of the PCL–R. First, exploratory factor analyses of the PCL measures yielded a two-factor model of psychopathy (Hare, 1991), in which *old Factor 1* reflects the interpersonal and affective core of psychopathy, or the “selfish, callous, and remorseless use of others,” and *old Factor 2* describes a collection of socially deviant behaviors, or a “chronically unstable and antisocial lifestyle” (Hare et al., 1990, p. 340). Second, Cooke and Michie (2001) proposed a three-factor model of the PCL–R, based on theories of psychopathy and confirmatory factor analyses. This model deletes four items from the old antisocial behavior factor that failed to load significantly on any factor, are relatively imprecise indicators of psychopathy, and manifest relatively poor stability across cultural and age groups (Bolt, Hare, Vitale, & Newman, 2004; Cooke & Michie, 1997; Cooke, Michie, Hart, & Clark, 2005; Vincent, 2002; for a review, see Hare, 2003, Tables 6.1–6.6). The remaining items are grouped into interpersonal (new Factor 1), affective (new Factor 2), and lifestyle (new Factor 3) features. Third, Hare (2003) proposed a four-factor model that consists of Cooke and Michie’s three factors, plus a fourth antisocial facet (new Factor 4) that revives five PCL–R items that reference criminal behavior. A variant of this model nests the four facets within the old factors of the original two-factor model (Hare, 2003).

The essential conceptual difference between the two- and four-factor models on one hand and the three-factor model on the other is that the first two include direct indices of criminal behavior whereas the third focuses more on personality pathology. Although these PCL–R models have been compared statistically, extant published studies have not applied the same approach to modeling in large samples. Our companion article (Cooke et al., 2007) outlined premises that must be taken into account to increase the utility of horse races between models and provided the code and data from a large sample to test several three- and four-factor models. Using hierarchical models and items for both models, we found that even a degraded version of the three-factor model (comparative fit index [CFI] = .93, root-mean-square error of approximation [RMSEA] = .06) fitted the PCL–R data better than a four-factor model (CFI = .88, RMSEA = .07). For reasons explained later, however, factor analytic studies alone cannot address the conceptual issue of whether criminal behavior is a core feature of psychopathy.

Key Concepts

To inform this debate, it is important to define criminal behavior and explain how behavior relates to personality. The definition of criminal behavior and its distinction from antisocial behavior could be the topic of considerable discussion. For simplicity’s sake, we use the term *criminal* to refer to behavior that is sanctioned by the legal system. Because measures of psychopathy that include criminal behavior have been extended downward from adults to children (see Edens et al., 2001), we include the equivalent of criminal behavior in early development (e.g., theft, fire setting, violence). The items of the PCL–R antisocial facet (Hare, 2003) directly point to criminal behavior during adulthood and

adolescence (criminal versatility, revocation of conditional release, juvenile delinquency), include criminal behavior during childhood (early behavioral problems), and refer to violent behavior that often is sanctioned by law (poor behavioral controls). We use the term *antisocial* to refer more broadly to behavior that defeats the interests of the social order. Some antisocial behavior seems inherent to the interpersonal and affective core of psychopathy (e.g., noncriminal manipulative behavior).

This raises the issue of how behavior relates to personality. Few would confuse a behavioral act (e.g., an act resulting in a criminal conviction) with a personality trait (e.g., a disposition to commit crime). However, one moves from behavioral acts to personality dispositions through a process of inference. That is, latent traits are inferred based on behavioral cues that occur across contexts. Traits or dispositions “are defined by regularities in behavior” (Blackburn, 2007, p. 144). For this reason, there is no bright line between habits and traits.

Given the distinction between criminal and antisocial behavior and the continuum between behaviors and traits, there are three foundational problems with construing antisocial facet items as traits of psychopathy. First, many of these items involve counts of criminal behavior (e.g., the number of types of detected criminal acts amounts to criminal versatility), and for some, a single criminal act is sufficient evidence of the purported trait (e.g., a serious criminal act amounts to juvenile delinquency). Repeated criminal acts may be used to help infer a personal disposition toward criminal conduct, but the acts themselves cannot be equated with traits (S. D. Hart, personal communication, March 13, 2006). Second, most of these items are closed concepts, or concepts that require the diagnostician to attend to a fixed and restricted set of indicators of a trait. “The use of closed concepts ignores the fact that a given trait can be reflected in a wide variety of behaviors and that a given behavior can reflect more than one personality trait” (Hare, Hart, & Harpur, 1991, p. 393). Third, the PCL–R closes these concepts tightly on criminal or unlawful behavior. However, criminal behavior lies in a conceptual domain (violation of legal rules) that differs from that of personality deviation (violation of interpersonal norms; Blackburn, 2007).

In the remainder of this article, we focus on conceptual and empirical problems with construing criminal behavior as a component of psychopathy. We do so recognizing that traits are inferred from regularities in behavior across contexts and that some traits of psychopathy seem inherently linked with antisocial behavior that defeats the social order. We begin with the notion that indicators of psychopathic traits should not be closed or fixed on criminal acts.

Problems of Confusing a Measure With a Construct: The Two-Factor Model

Criminal behavior plays an important role in the most influential contemporary conceptualization of psychopathy. This model, quite simply, is the old two-factor model (Hare, 1991) and its four-factor offspring (Hare, 2003), which require features of both emotional detachment and antisocial behavior to reach a diagnosis of psychopathy. We refer collectively to these models as the *two-factor model*. It seems to us that the two-factor model has slipped from a description of factor analytic results for a measure developed with a correctional population to a definition of psychopathy itself. In

this section, we present three key problems with this slippage. First, the PCL–R is a measure that imperfectly maps psychopathy, the domain of interest. Second, the PCL–R’s factor structure is not a conceptualization of, or explanation for, psychopathy and does not fully correspond to Cleckley’s (1941) conceptualization, on which it is purportedly based. Third, reification of the PCL–R forecloses on the possibility of iteratively using theory and empirical results to revise this tool (and others) to advance understanding of psychopathy.

Measures Are Fallible

The PCL measures—like all measures—are necessarily imperfect, having been developed with a particular population for a specific purpose. This issue bears directly on the notion that criminal behavior is central to psychopathy. The PCL expressly was developed as a research rating scale for correctional inmates (see Hare, 1980; Rogers, 1995). By definition, psychopathic inmates have histories of criminal conduct. Given that it grew up in this correctional environment, the PCL is heavily dependent on information about criminal behavior. It directly assesses such behavior with some items (e.g., criminal versatility) and indirectly includes such behavior in most others (e.g., callousness may be inferred from the offender’s discussion of crimes and victims and from file reports of violent behavior).

The problems inherent in equating the structure of a measure with a model of psychopathy are visible at both the person and construct levels. First, because it frames criminality as central to psychopathy, the dominant two-factor model is underinclusive of some psychopathic people and overinclusive of some nonpsychopathic people (Lilienfeld, 1994). With respect to underinclusion, the framework of basic tendencies and characteristic adaptations is useful. Basic tendencies are underlying dispositions that, in combination with environmental forces, produce a variety of characteristic adaptations, or concrete habits, attitudes, and skills (Cattell, 1957; McCrae & Costa, 2003). By assuming there is only one characteristic adaptation to psychopathic tendencies, the two-factor model has established this as a literature on unsuccessful psychopathy. Given individual differences in talents and opportunities, psychopathic tendencies may be manifested in one individual’s criminality, in another individual’s heroism, and in still another’s worldly success (see Cleckley, 1976; Harkness & Lilienfeld, 1997; Lilienfeld, 1998; Lykken, 1995). The business success of “snakes in suits” (Babiak & Hare, 2006) contradicts the notion that classic criminal behavior is central to psychopathy (Hare & Neumann, 2005). Hare (1996a) has long spoken of the psychopaths among us who infiltrate political, law enforcement, government, and other social structures: “Thanks to Hare, we now understand that the great majority of psychopaths are not violent criminals and never will be. Hundreds of thousands of psychopaths live and work and prey among us” (Hercz, 2001, ¶ 11). The two-factor model poorly identifies this “great majority of psychopaths” who escape contact with the legal system or simply express their psychopathic tendencies in a manner that does not conflict with the law.

By the same token, the two-factor model is potentially overinclusive in that it identifies individuals who are antisocial but not necessarily psychopathic. Criminal and violent behavior may be based on a host of factors other than psychopathic personality

deviation (Blackburn, 1998), ranging from substance abuse to disadvantaged neighborhoods (Monahan et al., 2001). Perhaps because they include nonspecific indices of criminal behavior, PCL measures have been shown to identify a heterogeneous group of individuals as psychopathic (Brinkley, Newman, Widiger, & Lynam, 2004; B. M. Hicks, Markon, Patrick, Krueger, & Newman, 2004; Skeem, Johansson, Andershed, Kerr, & Eno Louden, 2007). Ideally, a diagnostic tool would operationalize a disorder with a common etiology, pathology, course, and treatment response: It is problematic for a tool to yield "a heterogeneous group of people all called the same thing" (Follette & Houts, 1996, p. 1128). In summary, Hare et al. (1991) once noted that the criteria for antisocial personality disorder "define a diagnostic category that is at once too broad, encompassing criminals and antisocial persons who are psychologically heterogeneous, and too narrow, excluding those who have the personality structure of the psychopath but who have not exhibited . . . antisocial behaviors" (p. 393). We believe that similar problems apply to the two-factor model's PCL-R criteria for psychopathy. Second, beyond the person level, the two-factor model also is under- and overrepresentative of the psychopathy construct itself, in the sense that it excludes some features that appear central to psychopathy (e.g., low trait anxiety) and includes others (e.g., criminal behavior) that are not. For example, of those identified as psychopathic by the PCL-R, only the subset that also possesses low trait anxiety manifests deficits in passive avoidance learning (Arnett, Smith, & Newman, 1997; Newman & Schmitt, 1998), modulation of responses to emotional and neutral stimuli (Hiatt, Lorenz, & Newman, 2002; Lorenz & Newman, 2002; Newman, Schmitt, & Voss, 1997), and fear-potentiated startle response (Sutton, Vitale, & Newman, 2002). Anxiety is positively associated with antisocial behavior (old Factor 2) and inversely associated with interpersonal and affective features of psychopathy (old Factor 1; B. M. Hicks & Patrick, 2006; Patrick, 1994; Verona, Patrick, & Joiner, 2001; cf. Schmitt & Newman, 1999). These data suggest that the PCL-R's omission of trait anxiety and inclusion of criminal features promote overdiagnosis of psychopathy. Only a subset of individuals with high PCL-R scores shares potential pathological processes seen by some as the core of the disorder. In recognition of this fact, some scholars (e.g., Newman) have long supplemented the PCL-R with measures of anxiety to better isolate psychopathy.

Despite its strong psychometric properties (Hare, 1991, 2003), then, the PCL is an imperfect diagnostic measure developed with a correctional population. It is subject to underinclusion and overinclusion of people and of the construct itself. Because the PCL-R does not adequately map the domain of interest, factor analysis of the PCL-R is unlikely to reveal the essence of psychopathy. Westen and Rosenthal (2005) cautioned that, "as a field, we need to be aware of replacing our previous idolatry of *p* values with an idolatry of fit indices" (p. 410). The results of factor analysis are entirely dependent upon the items of input. Fit indices do not address whether the items selected are adequate for defining the construct.

Factor Structure Versus Theory

The second problem with the field's equation of the PCL structure with psychopathy is that a factor structure is neither a conceptualization of, nor a theory about, a construct. As Westen and

Rosenthal (2005) noted, "Construct validity is a dynamic process, and fit indices need to be used at the service of understanding, not in place of it" (p. 409). First, an a priori conceptualization of a disorder is necessary to guide measure development and measure refinement; otherwise, one must rely exclusively upon empirical criteria that may be biased by irrelevancies in the persons, items, and settings studied. Second, even if a measure adequately describes the structure of a construct, this should not be confused with an explanation (Cervone & Shoda, 1999). After choosing items for a measure and analyzing responses to those items, much is left to be explained. For example, what are the essential features of the disorder? How homogeneous are individuals who share these features? What basic mechanisms underpin the disorder? What is the disorder's fundamental etiology?

The two-factor model leaves such questions unanswered. Indeed, the model does not define psychopathy as much as embody a debate about the "primacy of and relationship between two constructs that are consistently distinguished in the literature" (Pilkonis & Klein, 1997, p. 109): psychopathy (old Factor 1) and antisocial personality disorder (old Factor 2). Classic views of psychopathy (Cleckley, 1941; Karpman, 1948; McCord & McCord, 1964) focus on core personality traits of emotional detachment, including remorselessness, callousness, deceitfulness, egocentricity, failure to form close emotional bonds, low trait anxiety, superficial charm, and externalization of blame (Lilienfeld, 1998). In contrast, behavior-based models embodied in consensus-based diagnostic criteria for antisocial personality disorder (e.g., American Psychiatric Association, 1994) emphasize a long history of impulsive, socially deviant, and antisocial behavior (e.g., lying, stealing, truancy). From a personality perspective, the two-factor model and PCL-R measures are contaminated with nonspecific indices of criminal behavior. In keeping with this position, the results of 10 studies indicated that PCL-R total scores are strongly ($M = .67$) associated with symptom counts for antisocial personality disorder (see Hare, 2003, chapter 8).

This heavy reference to criminal behavior is inconsistent with the conceptualization of psychopathy on which the PCL-R and two-factor model ostensibly are based. According to Hare (1991, p. 1), the PCL-R "taps behaviors and inferred personality traits related to a widely understood clinical construct of psychopathy, perhaps most clearly exemplified in Cleckley's (1976) *The Mask of Sanity*." For Cleckley (1941, 1976), fundamental manifestations of psychopathy included an incapacity for love, lack of anxiety, egocentricity, superficial charm, and failure to follow any life plan. "Cleckley did not include criminality as a defining feature" of psychopathy (Forth, Brown, Hart, & Hare, 1996, p. 531; see also Patrick, 2006). Instead, criminality was viewed as a rare expression of psychopathy that was characteristic only when it had no readily understandable purpose and was self-defeating:

The true psychopath . . . usually does not commit murder or other offenses that promptly lead to major prison sentences. . . . A large part of his antisocial activity might be interpreted as purposively designed to harm himself if one notices the painful results that so quickly overtake him. Of course I am aware of the fact that many persons showing the characteristics of those here described do commit major crimes and sometimes crimes of maximal violence. *There are so many, however, who do not, that such tendencies should be regarded as the exceptions rather than the rule, perhaps, as a pathologic trait independent, to a*

considerable degree, of the other manifestations which we regard as fundamental [italics added]. (Cleckley, 1976, p. 262)

Although criminality was not fundamental to Cleckley's (1976) conception of psychopathy, he included inadequately motivated antisocial behavior as a descriptor. He noted that in the rare event that "serious criminal tendencies do emerge in the psychopath, they gain ready expression" (Cleckley, 1976, p. 262). The implication is that psychopaths' affective deficit (i.e., semantic aphasia) leaves them uninhibited from acting on any given urge (Brinkley et al., 2004). It is not criminal behavior per se but the motivation or (lack of) explanation for such behavior that is key (see also Karpman, 1948). Simple counts of criminal acts (e.g., juvenile delinquency, revocation of conditional release) cannot address this subtlety. In keeping with this notion, clinicians' ratings of "Cleckleyan psychopathy" are more strongly related to emotional detachment (old Factor 1) than antisocial behavior (old Factor 2; Hare, 1991).

The two-factor model and PCL measures "actually deviate significantly from [their] own theoretical underpinnings" (Rogers, 2001, p. 302). If Cleckleyan psychopathy is the target, the model is overly saturated with criminality and impulsivity (Blackburn, 2005; Forouzan & Cooke, 2005) and omits such key features as absence of nervousness. At the level of description (let alone explanation), the measure and derivative model are inconsistent with their identified conceptual roots.

Dangers of Reifying the PCL Measures

The third and perhaps most troubling problem with the field's implicit equation of the PCL measures with a definition of psychopathy is that it promotes reification of the PCL measures. As noted earlier, the phrase *gold standard* has been used to refer to the PCL-R (e.g., Fulero, 1995; Vitacco et al., 2005). Because this phrase implies a strict criterion, its use would be problematic in virtually any clinical psychology and psychiatry context (see Faraone & Tsuang, 1994). As Cronbach and Meehl (1955) explained, "construct validity must be investigated whenever no criterion or universe of content is accepted as entirely adequate to define the quality to be measured" (p. 282). In the absence of such an infallible criterion (e.g., autopsy results for Alzheimer's disease, perhaps), it is necessary to adopt a construct validation approach rather than a strict criterion validity approach. The construct validation approach is necessary precisely because measures cannot be equated with the constructs they ostensibly assess.

In a construct validation process, operationalism, or the use of measures to study a construct, is necessary. Pseudo-operationalism (Meehl, 1978), or the conflation of measures with constructs, is dangerous. It blocks scientific progress by (a) treating a measure as real and (b) failing to recognize that the field's understanding of a construct is always evolving (Westen & Rosenthal, 2005).

This problem is recognized in discussions of diagnostic criteria and categories (Morey, 1991). Arguably, the PCL-R items are applied as diagnostic criteria for psychopathy. As is the case with all diagnostic criteria that comprise the field's current nosology (American Psychiatric Association, 1994), the PCL-R must be understood as an *intervening variable* rather than a *hypothetical construct* (MacCorquodale & Meehl, 1948). Intervening variables are convenient but have "no factual content beyond those facts that

they serve to summarize. On the other hand, hypothetical constructs have a factual referent beyond the data that constitutes their support" (Morey, 1991, pp. 289–290). The PCL-R fits all three of MacCorquodale and Meehl's (1948) rules for defining an intervening variable. First, PCL-R diagnoses of psychopathy are reducible to the empirical laws that define them (e.g., a score of 30 or greater on the 20-item checklist). Second, the validity of the empirical laws is necessary and sufficient for statements about the correctness of the concept (e.g., if the person has a score of 30 or greater, that is necessary and sufficient for presuming he or she is a PCL-R psychopath). Third, the quantitative expression of the concept can be obtained by grouping empirical terms and functions (e.g., summing scale scores; see Morey, 1991).

Although it is an intervening variable, the PCL-R psychopathy label arguably has come to represent a hypothetical construct. Morey (1991) discussed the same problem in the context of DSM diagnostic labels, which represent

an intervening variable for a hypothetical construct whose meaning is not exhausted by a listing of the DSM criteria. Such a construct may include a network of implications about etiology, course, prognosis, treatment, and interrelations with other constructs that comprise meaning surplus to an enumeration of features listed in the DSM. (p. 290)

One may, for example, incorrectly assume that the PCL-R criteria identify a homogeneous syndrome that possesses symptom clusters with a common, uniquely identifiable genetic etiology (see Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003) and will not respond to treatment (see Caldwell, Skeem, Salekin, & Van Rynboek, 2006; Salekin, 2002; Skeem, Monahan, & Mulvey, 2003). In fact, a PCL-R score is not psychopathy any more than an intelligence test score is intelligence itself. A PCL-R score represents a way, not the way, to assess psychopathy.

Ideally, the PCL and other measures would be used as tools that would be iteratively revised based on theory and empirical results to (a) better approximate psychopathy per se and (b) advance the field's understanding of this construct. There are signs that reification of the PCL measures impedes this process. First, the 20 items of the PCL-R were selected over 2 decades ago, based on their psychometrics and ability to predict global ratings of "the Cleckley conception of psychopathy" (Hare, 1991, p. 3). Although much relevant research has accumulated since then, there have been no substantive changes to those items. The implicit assumption is that the measure arrived in near-perfect condition. Second, theories have been referenced to preserve the PCL item set and two-factor model, rather than to inform and revise them. Hare and Neumann (2005) recently argued that criminal behavior is central to psychopathy. Corollaries of this argument are that the two-factor model and existing PCL item set adequately represent psychopathy. Rather than reference the conceptualization of psychopathy on which their model ostensibly is based (Cleckley, 1976), the authors instead referenced a theory that binds psychopathy to criminality: an "evolutionary psychology perspective [that] psychopathy is a heritable life strategy in which a central feature is the early emergence of antisocial behavior, including aggressive sexuality" (Hare & Neumann, 2005, p. 58).

Notably, this perspective rests on little evidence. For example, childhood maltreatment is associated with PCL-R scores and relates more strongly to antisocial behavior (Factor 2) than emotional detachment per se (Factor 1; e.g., Marshall & Cooke, 1995;

Poythress, Skeem, & Lilienfeld, 2006; Weiler & Widom, 1996). Given that maltreatment plays a causal role in antisocial behavior rather than just acting as a proxy for genetic factors (Jaffee, Caspi, Moffitt, & Taylor, 2004), including criminal behavior in the model for psychopathy may introduce etiological heterogeneity. Similarly, traits of emotional detachment are crucial for identifying—among a pool of children with an early and persistent pattern of antisocial behavior—children who possess information-processing and other deficits similar to those found among adult psychopaths (Frick & Ellis, 1999; Loney, Frick, Clements, Ellis, & Kerlin, 2003; O'Brien & Frick, 1996). This suggests that callous and unemotional traits—not necessarily antisocial behavior—are key features of psychopathy. Moreover, there is no compelling longitudinal evidence that psychopathy is highly stable from childhood to adulthood. Indeed, of adolescents with extremely high scores (upper 5%) on a PCL-derived measure of psychopathy during adolescence, less than one third were classified as psychopathic by a PCL measure in early adulthood (Lynam, Caspi, Moffitt, Loeber, & Stouthamer-Loeber, 2007). Measures that focus more exclusively on emotional detachment might yield greater stability estimates (see Vincent, 2002).

The larger and more important point is that no clear theory underpins the two-factor model. The model seems inconsistent with its roots in the Cleckleyan conceptualization of psychopathy. Although the model may be more consistent with an evolutionary perspective, fitting a theoretical framework to a measure-derived model seems less than ideal. Reification of the PCL (or any other measure) will block progress in understanding psychopathy. The field's understanding will best be advanced through an iterative process in which theory and research inform one another.

Revisiting Theory to Disentangle Measures and Constructs: Promise and Peril

As noted by Smith (2005), “the construct validation process involves an ongoing, iterative process in which new findings and new theories clarify and alter existing theories, thus requiring new measures and new theory tests” (p. 400). The “measures most likely to make an impact are those that stem from new, clarifying, or otherwise informative theory” (Smith, 2005, p. 399). Clear conceptualizations or theories of psychopathy should shape how psychopathy is operationalized in research; the results of that research should inform decisions about whether to maintain, refine, or reject the theory; and the informed theory should reshape how psychopathy is operationalized in a second generation of research (theory \rightarrow research \rightarrow theory₂ \rightarrow research₂; see Loevinger, 1957). Critical review is the most essential stage of this construct validation process (Smith, 2005): When theories fail empirical tests, they must be given up or, if appropriate, clarified and altered. Even the best of theorists could not perfectly capture essential features of psychopathy while omitting nonessential features—Cleckley included.

With the PCL-R, the initial construct validation process was somewhat clouded, given the measure's divergence from the Cleckleyan conceptualization it was meant to exemplify (Hare, 1991, p. 1). The measure itself has remained essentially unchanged over decades. However, as research on the measure's predictive utility accumulated, the very conception of psychopathy on which it was based seemed to change. Recall that Cleckley (1976) viewed

tendencies toward violence and major crime as something “independent, to a considerable degree, of the other manifestations which we regard as fundamental” to psychopathy (p. 262). Later, Hare (1996b) defined psychopaths as “remorseless predators who use charm, intimidation and, if necessary, impulsive and cold-blooded violence to attain their ends” (§ 3) and presented psychopathy as key to a “mini theory” of human predatory violence (Scottish Ministers, 2000, p. 138). Recently, criminal behavior was deemed “the ultimate criterion for a measure of psychopathy” (Williams & Paulhus, 2004, p. 774). An iterative process of looping between theory and research is necessary to avoid further slippage toward the notion that psychopathy is merely a violent variant of antisocial personality disorder.

Why has the field largely forgone this iterative process to embrace PCL-R measurement models as psychopathy? Informed speculation about this issue is needed to identify potential barriers to future scientific progress. Of several potential explanations, three interacting factors that powerfully drive contemporary interest in the PCL-R and psychopathy emerge as most compelling to us. First, the modern justice context has created a strong demand for identifying bad, dangerous people. Second, the PCL measures, which include many malignant personality traits, have been shown to be useful in predicting violent and criminal behavior. In fact, the PCL-R has been lauded as an “unparalleled” single predictor of violence (Salekin et al., 1996, p. 211; cf. Cooke & Michie, 2006), and scholars have cautioned, “psychopathy [i.e., PCL-R scores] is such a robust and important risk factor for violence that failure to consider it may constitute professional negligence” (Hart, 1998, p. 133). Third, this link between the PCL and violence has supported a myth that emotionally detached psychopaths callously use violence to achieve control over and exploit others. As far as the PCL is concerned, this notion rests on virtually no empirical support. The field's pseudo-operationalism, then, may largely be a product of the fact that the PCL-R has proven useful in ways that make conceptual sense and fit modern societal demands.

The way in which the PCL-R is applied is consistent with this interpretation. First, although the PCL measures were developed to diagnose psychopathy, they overwhelmingly are applied as violence risk-assessment instruments. In a survey of 71 diplomats in forensic psychology, Tolman and Mullendore (2003) found that the psychological test used most often by diplomats to assess violence risk was the PCL-R. Indeed, diplomats used the PCL-R more than twice as often as well-validated risk-assessment instruments (Quinsey, Harris, Rice, & Cormier, 1998; Webster, Douglas, Eaves, & Hart, 1998). Second, the PCL measures are used relatively often in legal proceedings, typically as a prosecution tool to meet the demands of sentencing (DeMatteo & Edens, 2006).

To counter such strong practical forces toward pseudo-operationalism, the process of understanding psychopathy must be separated from the enterprise of predicting violence. The field implicitly interprets the PCL measures' association with violence as an indication that emotionally detached psychopaths use violence to prey upon others. This interpretation arguably explains the widespread use of the PCL measures.

A growing body of evidence suggests that the PCL measures' predictive utility for violence cannot be attributed to their assessment of psychopathy per se (see Gendreau, Goggin, & Smith, 2002, 2003; Salekin et al., 1996; Serin, Peters, & Barbaree, 1990; Skeem, Miller, Mulvey, Tiemann, & Monahan, 2005; Skeem &

Mulvey, 2001). Instead, the lion's share of the PCL's predictive utility is attributable to its old Factor 2 assessment of antisocial behavior and traits that are not specific to psychopathic personality deviation (Walters, 2003b). Independent of an association with old Factor 2, the relation between old Factor 1 emotional detachment and future violence is often found to be insignificant (Harris, Rice, & Quinsey, 1993; M. M. Hicks, Rogers, & Cashel, 2000; Skeem & Mulvey, 2001; cf. Serin, 1996). Despite contentions that old Factor 1 is important too (see Hare & Neumann, 2005; Hemphill, Hare, & Wong, 1998; Vitacco et al., 2005), published studies suggest that the core interpersonal and affective features of psychopathy assessed by the PCL-R have yet to prove their independent value in predicting men's future violence and criminality (for an interesting exception with women, see Richards, Casey, & Lucente, 2003). Perhaps more importantly, measures that are designed to systematize ratings of chronic criminal behavior or a criminal lifestyle do as well as, or better than, the PCL-R in identifying persistently criminal offenders (Skilling, Harris, Rice, & Quinsey, 2002) and predicting violent and general recidivism (Cooke, Michie, & Ryan, 2001; Gendreau et al., 2002, 2003; Walters, 2003a).

The predictive utility of the PCL-R and these other measures of criminality seems to be based on two factors. First, indices of past criminal behavior (including violence) naturally are linked with future, like behavior. Recall that information about criminal behavior determines one's ratings of some PCL-R items and heavily affects one's ratings of others. Second, ratings of past criminal behavior appear to capture something traitlike that is clinically useful but not specific to psychopathy (Blackburn, 2007; Skeem et al., 2005). Several investigators have examined the utility of the PCL-R in predicting violent and other criminal behavior, after controlling for past criminal behavior statistically or by omitting some items that explicitly are criminal (for a review, see Skeem & Mulvey, 2001). Typically, PCL total or old Factor 2 (but not old Factor 1) scores manifest incremental utility over simple indices of past criminal behavior. The PCL ratings of antisocial behavior seem to provide

a consistent, reliable method for tapping a range of key personality features (e.g., impulsivity, hostility). Although these features are not necessarily pathological, if found sufficiently pronounced in an individual, they put him or her at high risk for involvement in violent situations. (Skeem et al., 2005, p. 455)

These features bring to mind an "externalizing" construct that weaves together traits of aggression and behavioral disinhibition, antisocial behavior, and substance use (see Krueger, Markon, Patrick, & Iacono, 2005; Patrick, Hick, Krueger, & Lang, 2005).

Given that (a) the core features of psychopathy explain relatively little variance in future violent and other criminal behavior as a whole and (b) there are compelling indications that criminal behavior and social deviance are, at best, epiphenomena of psychopathy (see Parameters of the Debate, above), the field would do well to refine the PCL measures to focus more narrowly on the interpersonal and affective traits of the disorder. As Blackburn (2007) explained, identifying psychopathy with criminality

confounds different conceptual domains because personality deviation and social deviance belong in different universes of discourse. Personality deviation is defined within the framework of interpersonal norms, whereas social deviance represents departures from legal or

moral rules. To define the former in terms of the latter precludes any understanding of the relationship [between the two]. (Blackburn, 2007, p. 145, citations omitted)

As this quotation suggests, failure to separate the process of understanding psychopathy (which seeks construct identification) from the enterprise of predicting violence (which seeks clinical utility) will generate confusion. One might assume that criminal behavior is central to psychopathy because including such behavior improves the PCL-R's ability to predict violence. Indeed, some have argued that the PCL-R four-factor model has incremental utility over the three-factor model in "predicting important external correlates of psychopathy" (Neumann et al., 2007, p. 98). Those correlates are violence and aggression. Beyond past criminal behavior, adding such variables as gender, age, or substance abuse to the PCL-R might also improve prediction of violence. Such an improvement would not imply that these characteristics are central to psychopathy.

Measures of psychopathy that do not emphasize criminal behavior will probably manifest limited utility in predicting violent and other criminal behavior (e.g., Salekin, Brannen, Zalot, Leistico, & Neumann, 2006; Skeem et al., 2003). At the same time, the measures may better assess psychopathy, furthering psychologists' ability to conduct powerful research to better understand its etiology, pathogenesis, and treatment. Clearly, there are measures for assessing risk of future violence at levels that rival or exceed those of the PCL measures (Douglas, Ogloff, Nicholls, & Grant, 1999; Gendreau et al., 2002, 2003; Skilling et al., 2002; Walters, 2003a). Measures of psychopathy are meant to assess an enduring personality disorder marked by emotional detachment. Measures of risk are meant to inform risk management. Researchers should not confuse the two. Thus, we believe that the promise of reintroducing theory outweighs its peril.

Conceptual Directions Toward Resolving the Debate

Revisiting theory and avoiding measure reification—the issues covered above—are two general conceptual principles for helping to resolve the debate about whether criminal behavior is a component of psychopathic personality deviation. In this section, we present three conceptual steps that we believe are essential for advancing the understanding of psychopathy and avoiding conflation of measures with constructs. The conceptual principles outlined here are designed to be applied in conjunction with the empirical principles outlined elsewhere (Cooke, Michie, & Hart, 2006), in the spirit of Poincaré's (1905/2001) iterative process between theory and empirical results (see also Smith, 2005).

Step 1: Specify a Refutable Theory That Dictates a Validation Hierarchy

As is the case with any mental disorder, a clearly explicated theory is necessary to advance scientific understanding of psychopathy. Such a theory allows researchers and clinicians to conduct meaningful tests of the model to iteratively refine conceptions of psychopathy. As put by Morey (1991),

The theory-based approach to classification emphasizes underlying explanatory principles that are common to category members and that determine what specific correlations between attributes are noteworthy.

thy. Categorization in such a system is not solely based on the matching of attributes (as in the *DSM*) but is also determined by processes that are inferred from these underlying principles. Finally, the development of theory-based concepts involves a *changing organization that evolves with increments in knowledge* [italics added]. Each of these characteristics is consistent with the nature of hypothetical constructs in many mature sciences . . . and collectively they seem to be a reasonable goal toward which a classification of psychopathology must strive. (Morey, 1991, p. 292)

The two-factor model and its derivatives specify criminal behavior as a key component of psychopathy. However, no articulated theory underpins this position. What underlying explanatory principles shared by PCL-R psychopaths make the moderate correlation between criminal behavior and psychopathic traits particularly noteworthy? What pathophysiological or etiological processes bind the two together into a homogeneous whole? How are they manifestations of the same underlying condition? How is criminal behavior unique when it occurs in conjunction with psychopathic traits as distinct from the traits or symptoms of other disorders? A theory that answers such questions would place the field in a position to test it, using behavior genetic and other designs. These designs would be a welcome departure from the bulk of risk-assessment research conducted to date on PCL psychopathy.

Without a theory that binds it to psychopathy, criminal behavior should be viewed as an "associated descriptive feature . . . that is not considered essential to making the diagnosis" rather than a "diagnostic feature" (American Psychiatric Association, 1994, p. 8) of psychopathy. As shown in a moment, theories of psychopathy dictate a hierarchy of validation principles that places criminal behavior at the bottom rung of the ladder. Consider Preskorn and Baker's (2002) rubric for organizing the field's depth of understanding about a disorder, as adapted to include Eysenck's (1970) steps to classification. The least sophisticated level of understanding is symptomatic (e.g., a patient presents with a lack of energy, fever, weight loss, thrush, extreme fatigue, and other symptoms). This first substep involves the observation that a number of symptoms are correlated. The next substep is to relate the syndrome to a group: A relatively homogeneous group of individuals must present with the same cluster of signs and symptoms (e.g., acquired immunodeficiency syndrome). At this level, the task is to define the boundaries of the syndrome as precisely as possible to identify a homogeneous group for further study and greater understanding. The pathophysiologic level involves understanding the features that underlie the disorder (e.g., progressive loss of specific lymphocytes). The etiologic level is highest (e.g., infection with human immunodeficiency virus). "The goal is to achieve the highest level of understanding possible, since higher levels of understanding permit better prognostication and improve the ability to alter the course of the [disorder]" (Preskorn & Baker, 2002, p. 172).

The logic and biomedical assumptions that underlie such frameworks have been compellingly criticized. Because most disorders may emerge from complex interactions of biology and social factors, a biopsychosocial model may be more appropriate than a biomedical one. Nevertheless, these frameworks have illustrative utility: They provide direction for defining a hierarchy of validators for diagnostic criteria (Rounsaville et al., 2002) and specify a biomedical hierarchy that happens to be consistent with several theories of psychopathy. These theories specify pathophysiologic

mechanisms and (sometimes) hypothesized etiologies for psychopathy. To illustrate this point, a simplified version of representative theoretical groups is presented. Although they differ in important ways, the theories are not necessarily incompatible, in that they all posit an affective or cognitive processing deficit (for alternative models, see Mealey, 1995; Raine, Lencz, Bihrl, LaCasse, & Colletti, 2000).

First, as noted earlier, seminal conceptualizations and theories of psychopathy posit that the disorder is a largely inherited affective deficit (Cleckley, 1976; Karpman, 1948) that results in self-defeating behavior. Recent variants of these theories posit that this affective deficit involves impaired processing of emotional meanings related to language and may be based on reduced lateralization of verbal processes (Hare & Forth, 1985). The second theoretical group begins with the Fowles-Gray model of psychopathy (Fowles, 1980; Gray, 1987). This model references two constitutionally based motivational systems that influence behavior: The behavioral inhibition system (BIS) regulates responsiveness to aversive stimuli and is associated with anxiety, whereas the behavioral activation system (BAS) regulates appetitive motivation and is associated with impulsivity. According to the Fowles-Gray theory, primary psychopaths possess an intact BAS and a weak BIS, so they do not experience anticipatory anxiety that causes most people to inhibit activity that leads to punishment or nonreward. In a related sense, Lykken's (1995) primary psychopath is fearless. Without the experience of fear to facilitate learning to avoid conditions associated with pain, the primary psychopath has difficulty with avoidance learning. Rather than fearlessness, Newman's (1988) conceptualization emphasizes a lack of anxiety. Specifically, Newman postulated that a cognitive processing or response modulation deficit lies at the core of Cleckley's low-anxious primary psychopaths: These individuals are unable to suspend a dominant response set to accommodate feedback from the environment (Newman, 1998).

Despite their differences, these theories define a validation hierarchy that places pathophysiological and etiological factors at the top (see Newman, 1998). At a general level, the key question is whether psychopathy criteria identify a homogeneous group of individuals with clearly delineated deficits and pathophysiology that are largely genetic. Although unmodulated, unrestrained, or self-defeating behavior is symptomatic of the disorder and may be found at lower levels of the validation hierarchy, there is nothing specific to criminal behavior. Indeed, several theories explicitly omit criminal behavior. Newman (1998) observed, "I believe our disinclination to conceptualize psychopathy as a psychological deficit as opposed to an inherently antisocial condition is a major factor impeding progress in the understanding and treatment of this disorder" (p. 81).

In summary, specifying a theory and validation hierarchy for the two- and four-factor models is the first step toward resolving the debate about whether criminal behavior is important in defining psychopathy. Applying Follette and Houts's (1996) general principles to the issue, conceptualizations of psychopathy

should be allowed to compete on the basis of how successful they are at achieving their specified goals that might include illuminating etiology, course, and response to treatment. Such systems are not likely to attend primarily to behavioral topography alone. (Follette & Houts, 1996, p. 1120)

Step 2: Apply the Validation Hierarchy to Evaluate the Theory

The second step is to assess how well the theory of psychopathy performs relative to its associated validation hierarchy. Given that there is no theory of psychopathic criminality to evaluate, we analyze extant theories of psychopathy as a group to illustrate this step. Recall that these theories place pathophysiological and etiologic processes at the top of the validation hierarchy. Thus, we apply McCrae and Costa's (2003) distinction between basic tendencies and characteristic adaptations to studies of the old two-factor PCL-R. We realize that the neat distinction between biologically and environmentally based features is a false one, given evidence that biological processes and life events reciprocally influence one another (see Kendler, 2005). We also realize that biological factors contribute to antisocial behavior.

Nevertheless, the results of etiological and pathophysiological studies suggest that purported biological influences are more strongly associated with interpersonal and affective features captured by the PCL-R (old Factor 1) than with the associated antisocial behavior (old Factor 2). As mentioned earlier, (a) maltreatment during childhood is more strongly associated with old PCL-R Factor 2 than with Factor 1, (b) anxiety is positively associated with old PCL-R Factor 2, and (c) only low-anxious PCL-R psychopaths manifest response modulation deficits (e.g., Newman, Patterson, Howland, & Nichols, 1990). Moreover, PCL-R scores are associated with a diminished startle response to negative or aversive emotional cues (Patrick et al., 1993), less autonomic arousal during fear and distress imagery (Blair, Jones, Clark, & Smith, 1997; Patrick, 1994), and greater recall for the peripheral details of aversive images (Christianson et al., 1996). When factor scores are examined, these deficits tend to be more strongly associated with old PCL-R Factor 1 than with Factor 2 (Harpur, Hare, & Hakstian, 1989; Patrick, Zempolich, & Levenston, 1997). Hare (1996b) acknowledged that

Psychopaths differ dramatically from nonpsychopaths in their performance of a variety of cognitive and affective tasks. Compared with normal individuals, for example, psychopaths are less able to process or use the deep semantic meanings of language and to appreciate the emotional significance of events or experiences. . . . It is worth noting that it is the interpersonal and affective components of psychopathy (as measured by PCL-R, Factor 1) that are most discriminating in these experiments. In sharp contrast, those with a diagnosis of ASPD [antisocial personality disorder] (in which interpersonal and affective traits play little role) differ little from those without ASPD in their processing of linguistic and emotional material. (Hare, 1996b, ¶¶ 15–16)

In turn, symptom counts for antisocial personality disorder are strongly (mean $r = .69$) associated with old PCL-R Factor 2 (for a review, see Hare, 2003, Table 8.2). Because the heritability of performance on these measures has not been examined, caution should be exercised in drawing etiological conclusions. Moreover, again, nature cannot be neatly cleaved from nurture. With these important qualifications, extant data are consistent with the conceptualization of interpersonal and affective features of psychopathy as basic tendencies, and associated criminal behavior as characteristic adaptations (Lilienfeld, 1994). Simultaneously, the

data are consistent with theories of psychopathy that emphasize personality traits (including a lack of anxiety) and deemphasize criminal behavior.

Step 3: Avoid Mono-Operation Bias and Validation Tautologies

Explicating an explanatory theory of psychopathy that defines an evidence hierarchy—and applying that hierarchy to test the theory—should obviate the need for a third step. Nevertheless, the study of psychopathy to date suggests that there is particular risk of (a) relying exclusively upon a single operationalization of psychopathy—the PCL-R and its progeny—and (b) adopting validation strategies that are tautological, given the nature of that operationalization. The third step involves avoiding these problems during the construct validation process.

First, researchers must avoid the problem of exclusive reliance upon the PCL-R and its variants, or mono-operation bias. Reliance upon a single measure of a construct in research threatens the validity of any resulting knowledge claim because it risks underrepresenting the construct and containing irrelevancies (e.g., Campbell & Fiske, 1959). If key replicated findings in the depression literature derived from a single self-report inventory, one would be uncomfortable about making too much of them. The fact that such findings generalize across multiple operationalizations instills confidence that they impart knowledge about depression rather than the specific measures of depression. Many investigators' exclusive reliance on the PCL-R and its progeny raises questions about how many of the reported findings in the psychopathy literature are idiosyncratic to the instrument itself. Tests of most hypotheses in the psychopathy literature are not especially risky in a Popperian sense, as they do not involve tests across diverse operationalizations of the construct and across such different modes of measurement as clinical ratings based on interview and records (e.g., Hare, 2003), observer ratings based on interpersonal behavior (e.g., Kosson, Steuerwald, Forth, & Kirkhart, 1997), and self-report (e.g., Lilienfeld & Widows, 2005), which is particularly undervalued and promising (see Lilienfeld & Fowler, 2006). Comparison of these operationalizations could help identify the strengths of alternative methods of measurement and disentangle method from construct. More importantly, converging findings across different operationalizations of psychopathy would provide compelling support for the generalizability of findings beyond an instrument. When a finding holds across a heterogeneity of irrelevancies, or variation in persons, settings, treatments, and measures that are presumed irrelevant, the validity of the knowledge claim earns compelling support (see Shadish, 1995).

Experience indicates that the second problem researchers must avoid is a tautological construct validation process for psychopathy. To date, much of the research on psychopathy has focused on the predictive utility of the PCL measures for violent and other criminal behavior. This research represents a tautology rather than a validation scheme. It is tautological to argue that "the four-factor model has incremental utility over the three-factor model in predicting important external correlates of psychopathy" (Hare & Neumann, 2005, p. 59) when those external correlates (patient aggression, community violence, and instrumental violence) lie within the same domain as the criminal behavior the authors use to define the disorder.

Cervone and Shoda (1999) explained the tautology of inferring traits from behavior and then using traits to explain behavior. A trait cannot both embody the observed tendency and explain it (people commit crime because of their psychopathy, which includes criminal behavior): "A basic principle of scientific explanation is that a property . . . will not refer to other things with that very same property; the possession and functioning of that property is what is to be explained" (Cervone & Shoda, 1999, p. 31). Ellard (1998) made the point starkly: "Why has this man done these terrible things? Because he is a psychopath. And how do you know that he is a psychopath? Because he has done these terrible things" (p. 387).

Provisional Implications for Assessment

In taking stock of the field, we have focused on outlining conceptual principles that must be followed to advance understanding and assessment of psychopathy. If researchers recognize that construct validation is a dynamic process that involves ongoing bootstrapping, they should experience a tension "between needing to use . . . measures, and hence needing to treat them as relatively . . . 'real' . . . while recognizing that they are always in flux, and that our current analyses are always built to some extent on quicksand" (Westen & Rosenthal, 2005, p. 409). As researchers work toward improving their understanding and measurement of psychopathy, they must decide what to treat as real for the moment.

Currently, the PCL-R is the best validated tool for assessing psychopathy. Because there has been much knowledge accumulation around this measure, we have argued that it can and should be used—along with other tools—to continue advancing understanding of psychopathy. Meanwhile, if the goal is to diagnose psychopathy using the PCL-R, available data suggest that clinicians should (a) omit the antisocial facet; (b) avoid relying heavily on criminal acts in scoring items from other facets and carefully weight patterns of interpersonal behavior, thoughts, and feelings across contexts; and (c) include measures of low trait anxiety (and/or fearlessness) to help isolate psychopathy, as some researchers have done for years. If the goal is to assess violence risk, clinicians should consider using brief tools designed to capture criminality or explicitly assess violence risk (see Revisiting Theory to Disentangle Measures and Constructs: Promise and Peril, above). The pursuit of validly diagnosing a personality disorder is distinct from the enterprise of predicting violence.

Conclusion

A decade ago, Hare (1996a) wrote an article titled "Psychopathy: A Clinical Construct Whose Time Has Come." He observed that "over the past two decades, one of the most dramatic changes in our view of psychopathy has been in its significance to the criminal justice system, particularly with respect to the assessment of risk for recidivism and violence" (Hare, 1996a, p. 37). The research that fostered such change was based "almost entirely" (Hare, 1996a, p. 37) on the PCL measures, which heavily reference past criminal behavior, in contrast with the conceptualization of psychopathy on which they are based (Cleckley, 1941). Thus, one might argue that the article may be better titled "The PCL-R: A

Measure Whose Time Has Come." Hare was prescient in predicting that

Even those opposed to the very idea of psychopathy cannot ignore its potent explanatory and predictive power, if not as a formal construct then as a static risk factor. In the next few years, indices of psychopathy almost certainly will become a routine part of the assessment batteries used to make decisions about competency, sentencing, diversion, placement, suitability for treatment, and risk for recidivism and violence. (Hare, 1996a, p. 49)

This statement crystallizes the failure to distinguish between constructs and measures. Measures do not possess explanatory power; constructs do. The PCL-R is not the theoretical construct of psychopathy.

To advance in the separate pursuits of identifying the construct of psychopathy and developing useful methods for violence and other crime prediction, researchers must avoid pseudo-operationalism. The PCL-R is one of several useful tools available to help advance the understanding of psychopathy. However, such advances cannot take place in a theoretical vacuum. Science involves an iterative process between theory development and empirical validation. To allow this process to advance, theories and measures must be recognized as separate entities, and neither can be reified. Failure to distinguish between personality pathology and criminal behavior can only serve to confuse the field.

References

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Arnett, P. A., Smith, S. S., & Newman, J. P. (1997). Approach and avoidance motivation in psychopathic criminal offenders during passive avoidance. *Journal of Personality and Social Psychology*, 72, 1413–1428.
- Babiak, P., & Hare, R. (2006). *Snakes in suits: When psychopaths go to work*. New York: Regan Books.
- Blackburn, R. (1987). Two scales for the assessment of personality disorder in antisocial populations. *Personality and Individual Differences*, 8, 81–93.
- Blackburn, R. (1998). Psychopathy and personality disorder: Implications of interpersonal theory. In D. Cooke, A. Forth, & R. Hare (Eds.), *Psychopathy: Theory, research and practice* (pp. 269–301). Dordrecht, the Netherlands: Kluwer Academic.
- Blackburn, R. (2005). Psychopathy as a personality construct. In S. Strack (Ed.), *Handbook of personality and psychopathology* (pp. 271–291). New York: Wiley.
- Blackburn, R. (2007). Personality disorder and antisocial deviance: Comments on the debate on the structure of the Psychopathy Checklist—Revised. *Journal of Personality Disorders*, 21, 142–159.
- Blair, R. J. R., Jones, L., Clark, F., & Smith, M. (1997). The psychopathic individual: A lack of responsiveness to distress cues. *Psychophysiology*, 34, 192–198.
- Bolt, D. M., Hare, R. D., Vitale, J. E., & Newman, J. P. (2004). A multigroup item response theory analysis of the Psychopathy Checklist—Revised. *Psychological Assessment*, 16, 155–168.
- Brinkley, C. A., Newman, J. P., Widiger, T. A., & Lynam, D. R. (2004). Two approaches to parsing the heterogeneity of psychopathy. *Clinical Psychology: Science and Practice*, 11, 69–94.
- Caldwell, M., Skeem, J., Salekin, R., & Van Ryoboek, G. (2006). Treatment response of adolescent offenders with psychopathy features: A 2-year follow-up. *Criminal Justice and Behavior*, 33, 571–596.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant

- validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81–105.
- Cattell, R. B. (1957). *Personality and motivation structure and measurement*. Yonkers, NY: World Book.
- Cervone, D., & Shoda, Y. (1999). Beyond traits in the study of personality coherence. *Current Directions in Psychological Science*, 8, 27–32.
- Christianson, S., Forth, A. E., Hare, R. D., Strachan, C., Lidberg, L., & Thorell, L. (1996). Remembering details of emotional events: A comparison between psychopathic and nonpsychopathic offenders. *Personality and Individual Differences*, 20, 437–444.
- Cleckley, H. (1941). *The mask of sanity: An attempt to reinterpret the so-called psychopathic personality*. Oxford, England: Mosby.
- Cleckley, H. (1976). *The mask of sanity: An attempt to clarify some issues about the so-called psychopathic personality* (5th ed.). St. Louis, MO: Mosby.
- Cooke, D. J., & Michie, C. (1997). An item response theory analysis of the Hare Psychopathy Checklist—Revised. *Psychological Assessment*, 9, 3–14.
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment*, 13, 171–188.
- Cooke, D. J., & Michie, C. (2006). *The Psychopathy Checklist—Revised and decisions about the single case: Limitations of diagnostic precision and predictive utility*. Manuscript submitted for publication.
- Cooke, D. J., Michie, C., & Hart, S. D. (2006). Facets of clinical psychopathy: Toward clearer measurement. In C. Patrick (Ed.), *Handbook of psychopathic personality disorder* (pp. 91–106). New York: Guilford Press.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. A. (2004). Reconstructing psychopathy: Clarifying the significance of antisocial and socially deviant behavior in the diagnosis of psychopathic personality disorder. *Journal of Personality Disorders*, 18, 337–357.
- Cooke, D. J., Michie, C., Hart, S. D., & Clark, D. (2005). Searching for the pan-cultural core of psychopathic personality disorder. *Personality and Individual Differences*, 39, 283–295.
- Cooke, D. J., Michie, C., & Ryan, J. (2001). *Evaluating risk for violence: A preliminary study of the HCR-20, PCL-R and VRAG in a Scottish prison sample* [Scottish Prison Service Occasional Papers No. 5/2001]. Edinburgh, Scotland: Scottish Prison Service.
- Cooke, D. J., Michie, C., & Skeem, J. (2007). Understanding the structure of the Psychopathy Checklist—Revised: An exploration of methodological confusion. *British Journal of Psychiatry*, 190(Suppl. 49), s39–s50.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52, 281–302.
- DeMatteo, D., & Edens, J. F. (2006). The role and relevance of the Psychopathy Checklist—Revised in court: A case law survey of U.S. courts (1991–2004). *Psychology, Public Policy, and Law*, 12, 214–241.
- Douglas, K. S., Ogloff, J. R. P., Nicholls, T. L., & Grant, I. (1999). Assessing risk for violence among psychiatric patients: The HCR-20 violence risk assessment scheme and the Psychopathic Checklist: Screening Version. *Journal of Consulting and Clinical Psychology*, 67, 917–930.
- Edens, J. F., Skeem, J. L., Cruise, K. R., & Cauffman, E. (2001). Assessment of juvenile psychopathy and its association with violence: A critical review. *Behavioral Sciences & the Law*, 19, 53–80.
- Ellard, J. (1988). The history and present status of moral insanity. *Australian and New Zealand Journal of Psychiatry*, 22, 383–389.
- Eysenck, H. J. (1970). The classification of depressive illnesses. *British Journal of Psychiatry*, 117, 241–250.
- Faraone, S. V., & Tsuang, M. T. (1994). Measuring diagnostic accuracy in the absence of a “gold standard.” *American Journal of Psychiatry*, 151, 650–657.
- Follette, W. C., & Houts, A. C. (1996). Models of scientific progress and the role of theory in taxonomy development: A case study of the DSM. *Journal of Consulting and Clinical Psychology*, 64, 1120–1132.
- Forouzan, E., & Cooke, D. J. (2005). Figuring out la femme fatale: Conceptual and assessment issues concerning psychopathy in females. *Behavioral Sciences & the Law*, 23, 765–778.
- Forth, A. E., Brown, S. L., Hart, S. D., & Hare, R. D. (1996). The assessment of psychopathy in male and female noncriminals: Reliability and validity. *Personality and Individual Differences*, 20, 531–543.
- Forth, A. E., Kosson, D. S., & Hare, R. D. (2003). *The Psychopathy Checklist: Youth Version*. Toronto, Ontario, Canada: Multi-Health Systems.
- Fowles, D. C. (1980). The three arousal model: Implications of Gray’s two-factor learning theory for heart rate, electrodermal activity, and psychopathy. *Psychophysiology*, 17, 87–104.
- Frick, P. J., & Ellis, M. L. (1999). Callous-unemotional traits and subtypes of conduct disorder. *Clinical Child and Family Psychology Review*, 2, 149–168.
- Fulero, S. M. (1995). Review of the Hare Psychopathy Checklist—Revised. In J. C. Conoley & J. C. Impara (Eds.), *Twelfth mental measurements yearbook* (pp. 453–454). Lincoln, NE: Buros Institute.
- Gendreau, P., Goggin, C., & Smith, P. (2002). Is the PCL-R really the unparalleled measure of offender risk? A lesson in knowledge cumulation. *Criminal Justice and Behavior*, 29, 397–426.
- Gendreau, P., Goggin, C., & Smith, P. (2003). Is the PCL-R really the unparalleled measure of offender risk? Erratum. *Criminal Justice and Behavior*, 30, 722–724.
- Gray, J. (1987). *The psychology of fear and stress* (2nd ed.). Cambridge, England: Cambridge University Press.
- Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences*, 1, 111–119.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist—Revised manual*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D. (1996a). Psychopathy: A clinical construct whose time has come. *Criminal Justice and Behavior*, 23, 25–54.
- Hare, R. D. (1996b). Psychopathy and antisocial personality disorder: A case of diagnostic confusion. *Psychiatric Times*, 13, 39–40. Retrieved December 8, 2008, from <http://www.psychiatristimes.com/p960239.html>
- Hare, R. D. (1999). Psychopathy as a risk factor for violence. *Psychiatric Quarterly*, 70, 181–197.
- Hare, R. D. (2003). *The Hare Psychopathy Checklist—Revised (PCL-R) manual* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.
- Hare, R. D., & Forth, A. E. (1985). Psychopathy and lateral preference. *Journal of Abnormal Psychology*, 94, 541–546.
- Hare, R. D., Harpur, T., Hakstian, R., Forth, A., Hart, S., & Newman, J. (1990). The revised Psychopathy Checklist: Reliability and factor structure. *Psychological Assessment*, 2, 338–341.
- Hare, R. D., Hart, S., & Harpur, T. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology*, 100, 391–398.
- Hare, R. D., & Neumann, C. S. (2005). Structural models of psychopathy. *Current Psychiatry Reports*, 7, 57–64.
- Harkness, A. R., & Lilienfeld, S. O. (1997). Individual differences science for treatment planning: Personality traits. *Psychological Assessment*, 9, 349–360.
- Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment*, 1, 6–17.
- Harris, G. T., Rice, M. E., & Quinsey, V. L. (1993). Violent recidivism of mentally disordered offenders: The development of a statistical prediction instrument. *Criminal Justice and Behavior*, 20, 315–335.
- Hart, S. D. (1998). The role of psychopathy in assessing risk for violence: Conceptual and methodological issues. *Legal and Criminological Psychology*, 3, 121–137.
- Hart, S. D., Cox, D., & Hare, R. (1995). *Manual for the Psychopathy*

- Checklist: Screening Version (PCL: SV)*. Toronto, Ontario, Canada: Multi-Health Systems.
- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology*, 3, 139–170.
- Hercz, R. (2001, September 8). Psychopaths among us. *Saturday Night Magazine*. Retrieved December 8, 2008, from <http://www.hare.org/links/saturday.html>
- Hiatt, K. D., Lorenz, A. R., & Newman, J. P. (2002). Assessment of emotion and language processing in psychopathic offenders: Results from a dichotic listening task. *Personality and Individual Differences*, 32, 1255–1268.
- Hicks, B. M., Markon, K., Patrick, C., Krueger, R., & Newman, J. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment*, 16, 276–288.
- Hicks, B. M., & Patrick, C. (2006). Psychopathy and negative emotionality: Analyses of suppressor effects reveal distinct relations with emotional distress, fearfulness, and anger–hostility. *Journal of Abnormal Psychology*, 115, 276–287.
- Hicks, M. M., Rogers, R., & Cashel, M. L. (2000). Predictions of violent and total infractions among institutionalized male offenders. *Journal of the American Academy of Psychiatry and Law*, 28, 183–190.
- Jaffee, S. R., Caspi, A., Moffitt, T. E., & Taylor, A. (2004). Physical maltreatment victim to antisocial child: Evidence of an environmentally mediated process. *Journal of Abnormal Psychology*, 113, 44–55.
- Karpman, B. (1948). The myth of the psychopathic personality. *American Journal of Psychiatry*, 104, 523–534.
- Kendler, K. S. (2005). Toward a philosophical structure for psychiatry. *American Journal of Psychiatry*, 162, 433–440.
- Kosson, D. S., Steuerwald, B. L., Forth, A. E., & Kirkhart, K. J. (1997). A new method for assessing the interpersonal behavior of psychopathic individuals: Preliminary validation studies. *Psychological Assessment*, 9, 89–101.
- Krueger, R. F. (2006). Perspectives on the conceptualization of psychopathy: Toward an integration. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 193–202). New York: Guilford Press.
- Krueger, R. F., Markon, K. E., Patrick, C. J., & Iacono, W. G. (2005). Externalizing psychopathology in adulthood: A dimensional-spectrum conceptualization and its implications for DSM–V. *Journal of Abnormal Psychology*, 114, 537–550.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68, 151–158.
- Lilienfeld, S. O. (1994). Conceptual problems in the assessment of psychopathy. *Clinical Psychology Review*, 14, 17–38.
- Lilienfeld, S. O. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy*, 36, 99–125.
- Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy: Problems, pitfalls, and promises. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 107–132). New York: Guilford Press.
- Lilienfeld, S. O., & Widows, M. R. (2005). *Psychopathic Personality Inventory—Revised: Professional manual*. Lutz, FL: Psychological Assessment Resources.
- Loevinger, J. (1957). Objective tests as instruments of psychological theory. *Psychological Reports*, 3, 635–694.
- Loney, B. R., Frick, P. J., Clements, C. B., Ellis, M. L., & Kerlin, K. (2003). Callous-unemotional traits, impulsivity, and emotional processing in adolescents with antisocial behavior problems. *Journal of Clinical Child and Adolescent Psychology*, 32, 66–80.
- Lorenz, A., & Newman, J. (2002). Do emotional and information processing deficiencies found in Caucasian psychopaths generalize to African-American psychopaths? *Personality and Individual Differences*, 32, 1077–1086.
- Lykken, D. T. (1995). *The antisocial personalities*. Hillsdale, NJ: Erlbaum.
- Lynam, D. R., Caspi, A., Moffitt, T., Loeber, R., & Stouthamer-Loeber, M. (2007). Longitudinal evidence that psychopathy scores in early adolescence predict adult psychopathy. *Journal of Abnormal Psychology*, 116, 155–165.
- MacCorquodale, K., & Meehl, P. (1948). On a distinction between hypothetical constructs and intervening variables. *Psychological Review*, 55, 95–107.
- Marshall, L., & Cooke, D. (1995). The role of childhood experiences in the aetiology of psychopathy. *Issues in Criminological and Legal Psychology*, 24, 107–108.
- McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton, NJ: Van Nostrand.
- McCrae, R. R., & Costa, P. T., Jr. (2003). *Personality in adulthood: A five-factor theory perspective* (2nd ed.). New York: Guilford Press.
- Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences*, 18, 523–599.
- Meehl, P. E. (1978). Theoretical risks and tabular asterisks: Sir Karl, Sir Ronald, and the slow progress of soft psychology. *Journal of Consulting and Clinical Psychology*, 4, 806–834.
- Monahan, J., Steadman, H., Silver, E., Appelbaum, P., Robbins, P., Mulvey, E., et al. (2001). *Rethinking violence risk assessment: Mental disorder and the law*. New York: Oxford University Press.
- Morey, L. (1991). Classification of mental disorder as a collection of hypothetical constructs. *Journal of Abnormal Psychology*, 100, 289–293.
- Neumann, C. S., Kosson, D., & Salekin, R. (2007). Exploratory and confirmatory factor analysis of the psychopathy construct: Conceptual and methodological issues. In H. Herve & J. Yuille (Eds.), *Psychopathy: Theory, research, and social implications* (pp. 79–104). New York: Erlbaum.
- Newman, J. P. (1998). Psychopathic behavior: An information processing perspective. In D. J. Cooke, R. D. Hare, & A. Forth (Eds.), *Psychopathy: Theory, research and implications for society* (pp. 81–104). Dordrecht, the Netherlands: Kluwer Academic.
- Newman, J. P., Patterson, C. M., Howland, E. W., & Nichols, S. L. (1990). Passive avoidance in psychopaths: The effects of reward. *Personality and Individual Differences*, 11, 1101–1114.
- Newman, J. P., & Schmitt, W. A. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology*, 107, 527–532.
- Newman, J. P., Schmitt, W. A., & Voss, W. D. (1997). The impact of motivationally neutral cues on psychopathic individuals: Assessing the generality of the response modulation hypothesis. *Journal of Abnormal Psychology*, 106, 563–575.
- O'Brien, B. S., & Frick, P. J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology*, 24, 223–240.
- Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights. *Psychophysiology*, 31, 319–330.
- Patrick, C. J. (2006). Back to the future: Cleckley as a guide to the next generation of psychopathy research. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 605–617). New York: Guilford Press.
- Patrick, C. J., Bradley, M. M., & Lang, P. J. (1993). Emotion in the criminal psychopath: Startle reflex modulation. *Journal of Abnormal Psychology*, 102, 82–92.
- Patrick, C. J., Hick, B. M., Krueger, R. F., & Lang, A. R. (2005). Relations between psychopathy facets and externalizing in a criminal offender sample. *Journal of Personality Disorders*, 19, 339–356.
- Patrick, C. J., Zempolich, K. A., & Levenston, G. K. (1997). Emotionality and violent behavior in psychopaths: A biosocial analysis. In A. Raine, P. A. Brennan, D. P. Farrington, & S. A. Mednick (Eds.), *Biosocial bases of violence* (pp. 145–161). New York: Plenum Press.
- Pilkonis, P. A., & Klein, K. R. (1997). Commentary on the assessment and

- diagnosis of antisocial behavior and personality. In D. M. Stoff, J. Breiling, & J. D. Maser (Eds.), *Handbook of antisocial behavior* (pp. 109–112). New York: Wiley.
- Poincare, J. H. (2001). Science and hypothesis. In S. J. Gould (Ed.), *The value of science: Essential writings of Henri Poincare* (pp. 7–165). New York: Random House. (Original work published 1905)
- Poythress, N., Skeem, J., & Lilienfeld, S. (2006). Associations among early abuse, dissociation, and psychopathy in an offender sample. *Journal of Abnormal Psychology, 115*, 288–297.
- Preskorn, S. H., & Baker, B. (2002). The overlap of *DSM-IV* syndromes: Potential implications for the practice of polypsychopharmacology, psychiatric drug development, and the Human Genome Project. *Journal of Psychiatric Practice, 8*, 170–177.
- Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (1998). *Violent offenders: Appraising and managing risk*. Washington, DC: American Psychological Association.
- Raine, A., Lencz, T., Bihle, S., LaCasse, L., & Colletti, P. (2000). Reduced prefrontal gray matter volume and reduced autonomic activity in antisocial personality disorder. *Archives of General Psychiatry, 57*, 119–127.
- Richards, H. J., Casey, J. O., & Lucente, S. W. (2003). Psychopathy and treatment response in incarcerated female substance abusers. *Criminal Justice and Behavior, 30*, 251–276.
- Rogers, R. (1995). *Diagnostic and structured interviewing: A handbook for psychologists*. Odessa, FL: Psychological Assessment Resources.
- Rogers, R. (2001). *Handbook of diagnostic and structured interviewing*. New York: Guilford Press.
- Rounsaville, B. J., Alarcón, R. D., Andrews, G., Jackson, J. S., Kendell, R. E., & Kendler, K. (2002). Basic nomenclature issues for *DSM-V*. In D. J. Kupfer, M. B. First, & D. A. Regier (Eds.), *A research agenda for DSM-V* (pp. 1–29). Washington, DC: American Psychiatric Association.
- Salekin, R. T. (2002). Psychopathy and therapeutic pessimism: Clinical lore or clinical reality? *Clinical Psychology Review, 22*, 79–112.
- Salekin, R. T., Brannen, D. N., Zalot, A. A., Leistico, A. M., & Neumann, C. S. (2006). Factor structure of psychopathy in youth: Testing the applicability of the new four-factor model. *Criminal Justice and Behavior, 33*, 135–157.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist—Revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice, 3*, 203–215.
- Schmitt, W. A., & Newman, J. P. (1999). Are all psychopathic individuals low-anxious? *Journal of Abnormal Psychology, 108*, 353–358.
- Scottish Ministers. (2000). *Report of the Committee on Serious Violent and Sexual Offenders*. Retrieved December 8, 2008, from <http://www.scottishexecutive.gov.uk/maclean/docs/svso.pdf>
- Serin, R. C. (1996). Violent recidivism in criminal psychopaths. *Law and Human Behavior, 20*, 207–217.
- Serin, R. C., Peters, R. D., & Barbaree, H. V. (1990). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment, 2*, 419–422.
- Shadish, W. R. (1995). The logic of generalization: Five principles common to experiments and ethnographies. *American Journal of Community Psychology, 23*, 419–429.
- Skeem, J. L., Johansson, P., Andershed, H., Kerr, M., & Eno Louden, J. (2007). Two subtypes of psychopathic violent offenders that parallel primary and secondary variants. *Journal of Abnormal Psychology, 116*, 395–409.
- Skeem, J. L., Miller, J. D., Mulvey, E., Tiemann, J., & Monahan, J. (2005). Using a five-factor lens to explore the relation between personality traits and violence in psychiatric patients. *Journal of Consulting and Clinical Psychology, 73*, 454–465.
- Skeem, J. L., Monahan, J., & Mulvey, E. (2003). Psychopathy, treatment involvement, and subsequent violence among civil psychiatric patients. *Law and Human Behavior, 26*, 577–603.
- Skeem, J. L., & Mulvey, E. (2001). Psychopathy and community violence among civil psychiatric patients: Results from the MacArthur Violence Risk Assessment Study. *Journal of Clinical and Consulting Psychology, 69*, 358–374.
- Skeem, J. L., Mulvey, E. P., & Grisso, T. (2003). Applicability of traditional and revised models of psychopathy to the Psychopathy Checklist: Screening Version. *Psychological Assessment, 15*, 41–55.
- Skeem, J. L., Poythress, N., Edens, J., Lilienfeld, S., & Cale, E. (2003). Psychopathic personality or personalities? Exploring potential variants of psychopathy and their implications for risk assessment. *Aggression and Violent Behavior, 8*, 513–546.
- Skilling, T. A., Harris, G. T., Rice, M. E., & Quinsey, V. L. (2002). Identifying persistently antisocial offenders using the Hare Psychopathy Checklist and *DSM* antisocial personality disorder criteria. *Psychological Assessment, 14*, 27–38.
- Smith, G. T. (2005). On construct validity: Issues of method and measurement. *Psychological Assessment, 17*, 396–408.
- Sutton, S. K., Vitale, J. E., & Newman, J. P. (2002). Emotion among women with psychopathy during picture perception. *Journal of Abnormal Psychology, 111*, 610–619.
- Tolman, A. O., & Mullendore, K. B. (2003). Risk evaluations of the courts: Is service quality a function of specialization? *Professional Psychology: Research and Practice, 34*, 225–232.
- Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality, and suicide risk. *Journal of Abnormal Psychology, 110*, 462–470.
- Vincent, G. M. (2002). *Investigating the legitimacy of adolescent psychopathy assessments: Contributions of item response theory*. Unpublished doctoral dissertation, Simon Fraser University, Burnaby, British Columbia, Canada.
- Vitacco, M. J., Neumann, C. S., & Jackson, R. L. (2005). Testing a four-factor model of psychopathy and its association with ethnicity, gender, intelligence, and violence. *Journal of Consulting and Clinical Psychology, 73*, 466–476.
- Walters, G. D. (2003a). Predicting criminal justice outcomes with the Psychopathy Checklist and Lifestyle Criminality Screening Form: A meta-analytic comparison. *Behavioral Sciences & the Law, 21*, 89–102.
- Walters, G. D. (2003b). Predicting institutional adjustment and recidivism with the Psychopathy Checklist factor scores: A meta-analysis. *Law and Human Behavior, 27*, 541–558.
- Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1998). *The HCR-20: Assessing risk for violence (Version 2)*. Odessa, FL: Psychological Assessment Resources.
- Weiler, B. L., & Widom, C. S. (1996). Psychopathy and violent behaviour in abused and neglected young adults. *Criminal Behaviour and Mental Health, 6*, 253–271.
- Westen, D., & Rosenthal, R. (2005). Improving construct validity: Cronbach, Meehl, and Neurath's ship. *Psychological Assessment, 17*, 409–412.
- Williams, K. M., & Paulhus, D. L. (2004). Factor structure of the Self-Report Psychopathy scale (SRP-II) in non-forensic samples. *Personality and Individual Differences, 37*, 765–778.

Received May 2, 2006

Revision received February 5, 2007

Accepted February 27, 2007 ■