THE MASKS OF SANITY AND PSYCHOPATHY:  
A CLUSTER ANALYTICAL INVESTIGATION  
OF SUBTYPES OF CRIMINAL PSYCHOPATHY

by

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Abstract

By definition, those individuals who meet the Psychopathy Checklist-Revised (PCL-R) criteria for psychopathy share many common features. However, historical, clinical, theoretical, and empirical accounts also indicate that they differ in several ways, particularly with respect to the interpersonal, affective, lifestyle, and antisocial manifestations of the disorder. The current investigation used cluster analytical techniques to determine if clinically meaningful subtypes, each varying in terms of their facet elevations (Interpersonal, Affective, Lifestyle, Antisocial), can be identified in six samples of adult psychopathic inmates. Irrespective of gender, race, culture, and/or psychiatric co-morbidity and in line with clinical accounts, four stable clusters emerged: the classic psychopath, the manipulative psychopath, the macho psychopath, and one who might be described as the pseudopsychopath. Results are discussed according to their relevance to theory, treatment, and the criminal justice system.
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Classifications owe their existence to an economizing principle of the human intellect. Indeed, if we’re to renounce classifications — we also condemn ourselves to treat every new experience as the first one. (Riese, 1945, as cited in Werlinder, 1978, p. 186)

Introduction

Psychopathy is a clinical construct characterized, irrespective of age, sex, race, or culture (Cooke, 1997; Cooke & Michie, 1999; Forth, 1996; Forth, Hart, & Hare, 1990; Kosson, Smith, & Newman, 1990; Rutherford, Alterman, Cacciola, & McKay, 1998; Salekin, Rogers, & Sewell, 1997), by a cluster of interpersonal, affective, and lifestyle features, including: egocentricity; grandiosity; deceptiveness; shallow emotions; lack of empathy, guilt, or remorse; impulsivity; irresponsibility; and the ready violation of social and legal norms and expectations (Cleckley, 1941/1988; Craft, 1966; Hare, 1991, 1998a; McCord & McCord, 1964). Although psychopaths make up only about one percent of the general population (Hare, 1998a), they are nevertheless responsible for a disproportionate amount of antisocial and criminal behaviour, particularly of the violent type (Cornell, Warren, Hawk, Stafford, Oram, & Pine, 1996; Hare, 1995; 1996a; Hare & McPherson, 1984b). They represent a significant proportion of the criminal population (15-25%), and are among the most dangerous and violent of offenders, thus making their study and treatment a high priority for society (Hare, 1995; 1996a; 1998a).

Research has demonstrated that the most valid and reliable diagnostic protocol in the assessment of psychopathy is the Hare Psychopathy Checklist-Revised (PCL-R; Hare, 1991; see reviews by Fulero, 1995; Stone, 1995). Based on clinical conceptualizations (e.g., Cleckley, 1941/1988; Karpman, 1955; McCord & McCord, 1964), the PCL-R defines 20 traits that describe the interpersonal, affective, and behavioral aspects of the disorder. Each trait, or item, is scored on a three-point scale (no = 0, maybe = 1, yes = 2), and the total score reflects the degree to which an individual resembles the prototypical psychopath. Those individuals who meet the
PCL-R criteria for psychopathy\(^1\) (i.e., PCL-R ≥ 30 in North America: Hare, 1991; PCL-R ≥ 25 in Europe: Cooke & Michie, 1999) share many common features. Nonetheless, while psychopaths are more similar to one another than to nonpsychopaths, theory and clinical experience also indicate that psychopathic individuals differ from one another in several ways, particularly with respect to the interpersonal and lifestyle manifestations of the disorder (Cleckley, 1941/1988; Hare, 1998c; Mealey, 1995a; Porter, 1996). Indeed, early conceptions of psychopathy described the construct in terms of subtypes (e.g., Arieti, 1967; Henderson, 1947; Karpman, 1955; 1961). Unfortunately, such typologies have received little empirical attention and, therefore, their validity remains questionable.

The goal of the current investigation was to identify empirically the existence of psychopathic subtypes. Based on both a three- and four-facet structure of psychopathy (Facet 1: Interpersonal; Facet 2: Affective; Facet 3: Lifestyle; and Facet 4: Antisocial; see Cooke & Michie, 2001; Hare, in press), this study used cluster analytical techniques to determine if clinically meaningful subtypes, each varying in terms of their facet loadings, could be identified in samples of psychopathic inmates. Given that research has repeatedly identified psychopaths as having a unique emotional repertoire (Abbott, 2001; Bolt, Hare, & Newman, 2002; Cooke and Michie, 1997; Frick, 2000; Hare, 1998a; Hare, in press; Rogers, Duncan, Lynett, & Sewell, 1994), all psychopathic subtypes were expected to demonstrate high levels of the affective features of the disorder. However, in line with clinical wisdom and emerging research (e.g., Arieti, 1967; Cleckley, 1941/1988, Gretton, 1998; Hare, 1998c; Karpman, 1955; Millon & Davis, 1998; Ishakawa, Raine, Lencz, Bihrl, & Lacasse, 2001), inter-subject variability was expected on the interpersonal and behavioral characteristics of the disorder.

\(^1\) Throughout the text, psychopathy refers to the Hare Psychopathy Checklist-Revised (Hare, 1991) conceptualization unless otherwise specified.
The theory and research described below provides the background to the present study. First, given that traditional conceptions of psychopathic subtypes emerged in an era during which diagnostic confusion over the definition of psychopathy prevailed, the history of psychopathy is reviewed. This includes a discussion of the construct from clinical and theoretical perspectives, developments in the assessment of psychopathy, its subsequent validation as a valid clinical entity, and various theories regarding the etiology of the disorder. Second, clinical, theoretical, and empirical depictions of psychopathic subtypes are reviewed, as well as more distal empirical evidence favoring the notion that psychopaths may in fact differ from one another in meaningful ways.

The History of Psychopathy

While psychopathic individuals have been described throughout the ages (Cleckley, 1941/1988; Karpman, 1946; Millon, Simonsen, & Birket-Smith, 1998; Rush, 1786/1972), psychopathy, as it is defined in the 20th century (Hare, 1991), only began evolving into a clinical concept in the late 1700s-early 1800s (see reviews by Henderson, 1947; Werlinder, 1978). Prior to that time, mental health problems were viewed as diseases of the mind or intellect (Millon, Simonsen, & Birket-Smith, 1998; Werlinder, 1978) and, consequently, negated any discussion of psychopathy, which itself was best characterized as a disease of affect (Arieti, 1963; Cleckley, 1941/1988; Craft, 1966; Hare, 1996a; Karpman, 1955; McCord & McCord, 1964; Patrick, 1994; Porter, 1996; also see Newman, 1998 for another view). By the late 18th century, however, psychiatric descriptions began referring to problems in regulating affect and feeling as well as the mind (McCord & McCord, 1964; Millon, Simonsen, & Birket-Smith, 1998; Werlinder, 1978). This, in combination with the emerging view that antisocial actions could result from illness rather than just vice or evil forces (e.g., Rush, 1786/1972; also see Werlinder, 1978), laid the foundation for the development of the psychopathic construct as a real clinical entity.
An Emerging Construct

Pinel's manie sans delire.

Although many anecdotal accounts regarding individuals with psychopathic traits were rendered, Pinel (1801/1806, as cited in Henderson, 1947; also see Pichot, 1978; McCord & McCord, 1964; Werlinder, 1978) first designated this construct, which he termed *manie sans delire* (mania [or madness] without delirium) and later *manie / folie raisonnante* (madness-like), as a clinical syndrome. He described five syndromes, one of which (manie sans delire) referred to psychiatric patients "who at no period gave evidence of any lesion of the understanding but who were under the domination of instinctive and abstract fury, as if the faculties of affect alone had sustained injury" (1801/1806, as cited in Henderson, 1947, p. 12; also see Werlinder, 1978, p. 29). Such individuals engaged in impulsive and socially unacceptable acts that had, more often then not, negative consequences for themselves and those involved. What struck Pinel the most was that these same individuals, unlike those affected by other syndromes, had intact reasoning abilities and, consequently, were fully aware of the irrationality of their actions.

Rush's moral derangement.

Around the same time but independent of Pinel, Rush (1812, as cited in Craft, 1966) described a similar condition, which he termed *moral derangement* or *anomia* (i.e., ethical derangement; also see Millon, Simonsen, & Birket-Smith, 1998; Werlinder, 1978). Similar to Pinel’s manie sans delire, the morally deranged, although having intact intellect and reasoning abilities, engaged in socially disruptive behaviors and deception from an early age without showing remorse, guilt, or preoccupation with the negative consequences of their actions. Unlike Pinel, Rush emphasized the irresponsible and antisocial nature of such individuals and, therefore, turned a morally neutral syndrome into a socially condemned phenomenon (Millon, Simonsen, & Birket-Smith, 1998); a value laden position that continues to be debated to this day (i.e., is it a
disorder or a value judgement?; are they mentally ill or just bad?; etc; see Adshead, 2000; Benn, 2000; Blackburn, 1988; 1998a; Fenster, 1993; Gunn, 1998; Hare, 1996a; 1998b; Heginbotham, 2000; Henderson, 1947; McCord & McCord, 1964; Millon, Simonsen, & Birket-Smith, 1998; Schopp & Slain, 2000; Tucker, 1999; Werlinder, 1978).

Prichard’s moral insanity.

This morally loaded approach to defining psychopathy is also evident in the work of Prichard, which took place in England (1835, as cited in Henderson, 1947; Berrios, 1999). Although generally credited for providing the first comprehensive description of psychopathy (Craft, 1966; Henderson, 1947; Millon, Simonsen, & Birket-Smith, 1998; Partridge, 1930), he, as can be seen from the above review, was not the first to do so (also see Berrios, 1999). However, Prichard expanded previous conceptualizations and, unlike his predecessors, was instrumental in introducing Pinel’s work and, more importantly the concept, to the English-speaking world (Berrios, 1999; Werlinder, 1978). According to Prichard (Berrios, 1999), manie sans delire, or – as he termed it – moral insanity (later referred to moral imbecility and moral defective, respectively) described a psychiatric state characterized by disordered affect in individuals whose understanding and intellect were nevertheless intact:

There is likewise a form of mental derangement in which the intellectual faculties appear to have sustained little or no injury, while the disorder is manifested, principally or alone, in the state of the feelings, temper or habits. In cases of this nature, the moral and active principles of the mind are strongly perverted or depraved; the power of self-government is lost or greatly impaired and the individual is found to be incapable, not of talking or reasoning upon any subject proposed to him, but of conducting himself with decency and propriety in the business of life. (1835, as cited in Henderson, 1947, p. 11)

Like Rush, Prichard also believed the morally insane to have strong criminal propensities that were immutable to punishment (1835, as cited in Berrios, 1999; Werlinder, 1978) and, consequently, should be socially condemned (Millon, Simonsen, & Birket-Smith, 1998). In contrast to Pinel and Rush who attempted to refine the diagnostic features of this disorder,
Prichard actually expanded the concept to include a greater number of psychiatric syndromes (Berrios, 1999); a decision likely based in both theory and morality. Theoretically, Prichard was interested in adding to the etiological understanding of this syndrome and, towards this aim, proposed several different pathways to the disorder: “The varieties of moral insanity are perhaps as numerous as the modifications of feelings or passions in the human mind” (1835, as cited in Werlinder, 1978, p. 40). Morally, he, like many others, was concerned with the social damage caused by (some) mentally ill individuals and, consequently, extended his nosological net to include all disorders that render those afflicted unable to guide themselves according to social and moral norms (Karpman, 1948a; Millon, Simonsen, & Birket-Smith, 1998). As a result the term moral insanity became a wastebasket category for emotionally disordered but intellectually intact individuals who engaged in impulsive and antisocial behaviors. Therefore, it consisted of an array of disorders, including clinical syndromes (e.g., schizophrenic states, mania, hypomania, and obsessional states), personality disorders (e.g., antisocial, psychopathy, histrionic, and borderline), and organic brain syndromes (e.g., brain injuries and degenerative diseases; see Craft, 1966; Karpman, 1948a; McCord & McCord, 1964; Millon, Simonsen, & Birket-Smith, 1998; Pichot, 1978; Werlinder, 1978). Unfortunately, although Prichard's widening of the syndrome exerted a great impact on the legal and psychiatric communities of both the United Kingdom and North America (Henderson, 1947; Millon, Simonsen, & Birket-Smith, 1998; Pichot, 1978; Werlinder, 1978), it also resulted in a heterogeneous classification that obscured the clinical reality of psychopathy.

*Koch's psychopathic inferiority.*

A parallel situation occurred in Germany in the latter part of the 19th century. Koch (1888, as cited in Craft, 1966; Henderson, 1947; McCord & McCord, 1964; Millon, Simonsen, & Birket-Smith, 1998; Pichot, 1978; Partridge, 1930; Schneider, 1950/1958; Werlinder, 1978) was the first to introduce the term psychopathy, under the rubric *psychopathic inferiority*, to the
psychiatric literature. Unlike his English counterpart, Koch's depiction of psychopathy was restricted to personality pathology (i.e., disorders between mental illness and health), which he advocated was biologically rather than environmentally predetermined (Craft, 1966; Henderson, 1947; McCord & McCord, 1964; Partridge, 1930; Schneider, 1950/1958). However, in contrast to the 20th century conceptualization (Cleckley, 1941/1988; Craft, 1966; Karpman, 1955; Hare, 1991), his definition reflected a class of personality disorders (i.e., psychopathic inferiority referred to personality disorders in general) and was therefore over-inclusive (Partridge, 1930; Werlinder, 1978). Nevertheless, his work set the stage for others, such as Kraepelin (1907/1981; 1913; 1915, as cited in Henderson, 1947; also see Millon, Simonsen, & Birket-Smith, 1998; Partridge, 1930; Schneider, 1950/1958; Werlinder, 1978) and Schneider (1950/1958), to investigate psychopathy in its current form; that is, as a personality disorder rather than some obscure clinical syndrome.

**Kraepelin's psychopathies.**

In the early 1900s, Kraepelin (1907/1981; 1913; 1915 as cited in Henderson, 1947; also see Millon, Simonsen, & Birket-Smith, 1998; Partridge, 1930; Schneider, 1950/1958; Werlinder, 1978), influenced by both Prichard's view of the morally insane and Koch's work on personality pathology (Partridge, 1930; Schneider, 1950/1958; Werlinder, 1978), proposed several types of psychopathies (i.e., personality disorders), all of which had in common deficiencies in emotions and will that were not attributable to any specific clinical syndrome or disease process (Henderson, 1947; McCord & McCord, 1964; Schneider, 1950/1958; Werlinder, 1978): The born criminal (i.e., a morally blind individual who lacks social feelings and remorse over his antisocial and violent actions; also see Lombroso, 1887, as cited in Werlinder, 1978; Huertas, 1993; McCord & McCord, 1964); the unstables (i.e., individuals lacking drive to carry out tasks); the morbid liars and swindlers (i.e., superficial individuals who engage in deception for the intrinsic joy it brings them); the pseudo-querulants (i.e., self-centered and egocentric
individuals with sub-clinical forms of paranoia); the *excitable* (i.e., individuals with very labile and dramatic emotions); the *impulsive* (i.e., individuals who exhibit impulsiveness or compulsion in their actions); and the *eccentrics* (i.e., individuals with a lack of uniformity or consistency in their mental lives). Clearly, Kraepelin's typology included disorders other than psychopathy (Kraepelin, 1907/1981; 1913; 1915 as cited in Henderson, 1947; also see Cleckley, 1941/1988; McCord & McCord, 1964; Millon, Simonsen, & Birket-Smith, 1998; Partridge, 1930; Schneider, 1950/1958; Werlinder, 1978), including hysteria (i.e., the excitable), paranoid or schizoid personality (i.e., the pseudo-querulant), hypomania (i.e., the excitable or impulsive), schizotypal personality (i.e., the eccentric), and antisocial (i.e., the unstable) personality. However, the characteristics of the born criminals and morbid liars and swindlers (Kraepelin, 1907/1981; 1913), as well as some subtypes of the impulsive (i.e., the spendthrift who lives a lifestyle s/he cannot afford by economically bleeding friends and society; the vagabond who lives life day-to-day, often taking off on nothing more than a whim or out of boredom; Kraepelin, 1915, as cited in Werlinder, 1978), appear akin to current conceptualizations of psychopathy (Hare, 1991; 1998a; 1998c).

*Schneider's psychopathies*.

Following Kraepelin, Schneider (1950/1958) proposed a typology of psychopathic personalities of his own. Unlike Kraepelin, who used value-laden labels, Schneider was more interested in building a nosology based primarily on characterological deviations that caused the individual and/or society to suffer (Craft, 1966; Partridge, 1930; Werlinder, 1978): *Hyperthymic* psychopaths (i.e., cheerful, overly optimistic, and boastful individuals with elevated moods who constantly start new projects but lack endurance in their activities); *depressive* psychopaths (i.e., pessimistic individuals characterized by predominantly depressed mood); *insecure* psychopaths (i.e., anxious individuals with high standards, inner uncertainty and feeling of insufficiency); *fanatic* psychopaths (i.e., individuals with prevailing, or overvalued, ideas which control and
confine them); *attention-seeking* psychopaths (i.e., entitled, boastful and dramatic individuals who, in their quest to appear better than they are, are prone to manipulate and deceive those around them); *labile* psychopaths (i.e., individuals with labile and reactive emotions, especially depressive ones); the *explosive* psychopaths (i.e., impulsive individuals with violent affective outbreak to seemingly innocuous situations); *affectionless* psychopaths (i.e., callous, remorseless, deceptive, and incorrigible individuals with an emotional dullness towards others and a propensity to engage in criminal activities); *weak-willed* psychopaths (i.e., shallow, chameleon-like individuals who appear to have few motivations of their own and, consequently, are at the whim of their environment); and *asthenic* psychopaths (i.e., highly nervous and anxious individuals who are prone to psychosomatic complications). Like Prichard and Kraepelin, Schneider’s typology included an array of disorders, only three of which (the attention seeking, affectionless, and explosive psychopaths) had traits in common with the 20th century concept of psychopathy (Hare, 1991).

*The wastebasket effect.*

Although influential in the development of psychopathy proper (Arieti, 1967; Cleckley, 1941/1988; Hare, 1970; Henderson, 1947; Karpman, 1955; 1961), Prichard, Kraepelin, and Schneider, as well as many others in the 19th and early 20th centuries, failed to arrive at any one definition of psychopathy, thereby leaving psychiatry in a state of confusion regarding the diagnostic boundaries of the disorder (Cleckley, 1941/1988; Karpman, 1941; 1946; 1948a; 1955). As a result, psychopathy became a wastebasket category that included either an array of clinical syndromes, as was seen in England, or personality disorders, as found in the German literature (Cleckley, 1941/1988; Hare, 1970; Henderson, 1947; Millon, Simonsen, & Birket-Smith, 1998; Werlinder, 1978). Unfortunately, the lack of diagnostic specificity regarding psychopathy, coupled with the relative lack of knowledge at that time regarding the various pathways to antisocial behavior, resulted in many (antisocial) individuals being wrongly
diagnosed with psychopathy based on value judgments rather than sound clinical observations 
(Craft, 1966; Karpman, 1946; 1955; Gunn, 1998; Hare, 1970; Henderson, 1947; McCord & 

The Refinement of the Construct

Partridge's sociopath.

In contrast to the English and German traditions, Partridge (1928; 1929; 1930), an 
American psychologist, felt it of paramount importance to restrict the concept to one rather than 
many disorders as to not lose sight of the construct (Cleckley, 1941/1988). He believed 
psychopathy to be characterized by antisocial and socially futile behaviors, immature values, 
interests and activities, emotional instability, disturbances in social emotions, irresponsibility, 
manipulativeness, impulsiveness, an unstable lifestyle, egocentricity, and poor judgement 
(Partridge, 1930). In addition, Partridge felt, given the nonspecific fashion in which the label of 
psychopathy was being applied, that the term itself should be replaced with what he believed to 
be the more specific concept of sociopathy (1930); a term originally proposed by Birnbaum 
(1909; as cited in Millon, Simonsen, & Birket-Smith, 1998). Moreover, the use of this term, he 
suggested, would highlight the fact that sociopathy can as easily be the product of environment 
as of constitution (i.e., biology; Partridge, 1930), a position unlike that of the biologically loaded 
German view of psychopathy. Partridge (1929) even suggested that, at least in some cases, 
psychopathy could be an adaptation (i.e., adjustment) to social demands, a view held by some 
today (e.g., Porter, 1996). His view likely stemmed from the fact that he found what appeared to 
be two etiological pathways in his review of 50 psychopathic cases (i.e., individuals diagnosed as 
such by hospital staff; Partridge, 1928). On the one hand, he noted that his delinquent and 
inadequate psychopaths (see below), who had a relatively high rate of psychopathy in their 
families, were likely biologically predetermined. On the other hand, he felt that the emotionally 
unstable psychopaths (see below), who had little or no family history of the disorder, were the
product of an early chaotic environment\(^2\). This led to the view that psychopathy had many gradations (i.e., mild to severe), some of which, however, could be so severe and immutable to any punitive techniques, as to be treated as a class of their own (Partridge, 1929; 1930). Thus, by advocating the replacement of the label psychopathy with sociopathy (Partridge, 1930), Partridge was not only able to focus his peers on a single construct (Cleckley, 1941/1988) but also on the possibility that psychopathy may have different etiological courses, each with its’ own unique clinical presentation. Indeed, he kept alive the idea that psychopathy, at least in some individuals, may be more reflective of a clinical syndrome than a personality disorder (Partridge, 1930). His work eventually led to sociopathy being adopted by the American Psychiatric Association (APA) in their first edition of the Diagnostic and Statistical Manual (DSM; APA, 1952), in which they defined it as follows:

> This term refers to chronically antisocial individuals who are always in trouble, profiting neither from experience nor punishment, and maintaining no real loyalties to any person, group, or code. They are frequently callous and hedonistic, showing marked emotional immaturity, with lack of responsibility, lack of judgement, and an ability to rationalize their behavior so that it appears warranted, reasonable, and justified (p. 38).

Nonetheless, although helping to refocus the field to some degree, and highlighting alternative etiological pathways to the disorder, Partridge’s syndrome relied so heavily on social value judgements for a diagnosis (i.e., the sociopath basically represented anti- or asocial individuals), that it resulted, despite his intentions (Partridge, 1929; 1930), in a broad category (i.e., Antisocial Personality Disorder; APA, 1994), only part of which would include today’s psychopath (Hart & Hare, 1996).

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\(^2\) Porter (1996) recently proposed a model to account for this etiological pathway to psychopathy (see below).
Henderson's psychopath.

Henderson (1947) was another influential clinician to address the conceptualization of psychopathy. Like Partridge (1930), he believed that psychopathy, as a diagnostic term, should be restricted to one specific syndrome, a syndrome deserving a much more sophisticated and focused psychiatric approach given its serious and negative impact on society at large (Henderson, 1947). Henderson defined psychopathy as a personality disorder characterized, from an early age, by conduct of an antisocial or asocial nature, an unstable and irresponsible lifestyle, explosiveness, impulsivity, egocentricity, a sense of entitlement, a lack of social emotions, and poor judgement with no apparent intellectual defects. He viewed psychopaths as unable to live as social creatures, choosing instead an individualistic and egocentric lifestyle with no thought or feeling for those around them (Henderson, 1947). To Henderson the psychopath was much like a spoiled and unmanageable child; a syndrome of intense immaturity. Consistent with early traditions, he viewed the pathology of psychopathy as a separation of the affective and moral systems from the intellect, the former lacking in the psychopath. Etiologically, Henderson, unlike Partridge (1930), believed psychopathy to have a strong biological foundation in which psychological and sociological factors have little room to exert any influence. Indeed, he stated, “The inadequacy or deviation or failure to adjust to ordinary social life is not a mere willfulness or badness which can be threatened or thrashed out of the individual so involved, but constitutes a true illness for which we have no specific explanation” (Henderson, 1947, p. 17).

Karpman's psychopath.

Karpman (1946; 1948a; 1955; 1961), another influential clinician to broach the topic, was also pessimistic about the ability to change the psychopath’s nature. Like Partridge (1930) and Henderson (1947), Karpman (1941; 1946; 1948a; 1948b; 1955) was concerned with the lack of specificity with which the diagnosis of psychopathy was being applied and, therefore, urged his peers to restrict the term to individuals who, in addition to showing an antisocial lifestyle, were
characterized by a strong need for immediate gratification, a lack of anxiety, guilt or remorse over their actions, a grandiose sense of self, an entitled attitude, and callous, impulsive, and irresponsible actions, a description that mirrors contemporary views (e.g., see Cleckley, 1941/1988; Hare, 1991; 1996a; 1998a). Karpman (1946; 1955; 1961), a psychoanalyst in the midst of a behavioral era, also made it a point to clearly describe the internal world of the psychopath and, towards this aim, wrote a great deal about the emotional experiences of such individuals. He described psychopaths as being emotionally immature in that they do not experience deep rooted, complex social emotions (e.g., love, empathy, guilt, and remorse), emotions that – to the rest of us – convey important social messages that act as behavioral moderators (Karpman, 1961). In his view, the end result is that psychopaths only experience fleeting yet intense simple emotions, such as tension, worry, frustration, and elation, which have little or no future consequences. These emotions are closely tied to the situation at hand and, therefore, easily oscillate between pleasure and displeasure with moment-to-moment changes in their environment (Karpman, 1961). Positive emotions are evoked by primitive, instinctual needs (e.g., sex, power, greed, lust) and, conversely, negative emotions by threats to goal attainment (Karpman, 1961). Given the psychopath’s need for immediate gratification and inability to effectively cope with tension (i.e., emotional) build up, these emotions are highly motivating and can only be tolerated for a short period of time before being acted upon (Karpman, 1961).

Having no future- or people-oriented emotions, Karpman felt psychopaths could not learn to control their behaviors in ways analogous to non-disordered individuals. The psychopath’s emotional life, as had been proposed by Henderson (1947), seemed very superficial and immature, not unlike that of a child (Karpman, 1961).

Arieti’s psychopath.

Arieti (1963; 1967) also gave an eloquent account of the psychopath. In general, he viewed psychopathy much like Karpman and like that described today (Hare, 1991): A disorder
characterized from an early age by a strong need for immediate gratification, callousness, lack of anxiety or guilt over past and future events, grandiosity, irresponsibility, an inability to learn from experience, and an antisocial lifestyle. Although acknowledging a lack of anxiety in psychopaths for past and future deeds, Arieti did not suggest that psychopaths did not experience anxiety (i.e., tension or worry not pathology) or, more generally, emotions. Indeed, he believed *emotions* to be the motivating force behind psychopathic behaviors. However, Arieti, like Karpman (1961), felt that psychopaths only experienced superficial emotions (e.g., shallow, behaviorally motivating emotions, such as tension, worry, discomfort, fear, rage, appetite, and pleasure, that dissipate quickly upon action) rather than deep rooted ones (e.g., profound, long-lasting emotions such as love, hate, empathy, guilt, remorse, etc). This is in contrast to the anxiety-based emotions experienced by *neurotic* individuals (i.e., those suffering from anxiety disorders; Arieti, 1967). According to Arieti (1963; 1967) neurotic anxiety had to do with future events (i.e., fear of real or imagined dangers in the near or distant future), which he called *long-circuited* anxiety. The psychopath’s anxiety, however, is *short-circuited*; that is, tension or discomfort resulting from current frustrations. In this view, the psychopath, motivated by these shallow emotions and uninhibited by deeper ones, is unable to postpone gratification (i.e., pursue long range goals), acting solely upon the pleasure principle and doing so irrespective of whether or not his/her behavior is socially sanctioned. Moreover, given that his/her behavior alleviates unwanted tension, the behavior itself is followed by positive feelings (e.g., satisfaction) and is, therefore, reinforced. Arieti proposed that this short-circuited mechanism is the reason why psychopaths seem incorrigible: “punishment is a possibility concerning the future, and therefore [the psychopath] does not experience the idea of it with enough emotional strength to change the course of his present actions” (Arieti, 1967, p. 248; also see Karpman, 1961 for a similar view). He also believed the psychopath’s short-circuited emotional system to be the reason why s/he is unable to form strong loyalties or empathize with others (Arieti, 1963; 1967; also see Karpman,
1961 for a similar view); loyalty and empathy are based on strong, deeply felt, long-circuited emotions, which are absent in the psychopath. Finally, the lack of long-circuited emotions further suggested, as Karpman did (1955; 1961), that psychopaths are not as impulsive as they seem. That is, they may actually think before they act:

A person who has no anxiety can mentally scan all possible ways by which he can obtain quick gratification, and he can promptly translate them into action. For a person who experiences adequate amounts of anxiety, such scanning is not possible. The antisocial possibilities are automatically inhibited or suppressed by the anxiety (Arieti, 1967, p. 253).

Hence, to Arieti, the immature emotional system of the psychopath (i.e., short-circuited with no long-circuited emotions) is the basis of his/her pathology and, consequently, can be used to explain his/her psychopathic lifestyle.

McCord & McCord's psychopath.

McCord and McCord (1964) also put forward a clear and specific interpretation of psychopathy that delineated the psychopath's affective qualities. They described the psychopath as having a dangerously maladaptive personality characterized by a deep-rooted lack of social emotions, including empathy, love, guilt, and remorse, an asocial, egocentric, and manipulative attitude that, in the psychopath's view, gives them the right to impulsively, callously, and aggressively act upon their selfish urges and to do so without any regard for the consequences of their actions to self or others. They present as very immature and childlike, living only in the moment and uninhibitedly seeking immediate gratification, reacting with frustration and aggression when their needs are not met.

McCord and McCord (1964) were concerned, like many others (Cleckley, 1941/1988; Karpman, 1955; Partridge, 1930), with the lack of specificity in the label of psychopathy as it was being used. They emphasized that although psychopaths are inclined to engage in severe, chronic, and varied criminal acts and are, therefore, over-represented in criminal populations,
psychopathy is nevertheless not synonymous with criminality. Antisociality is only a secondary symptom that, when taking the psychopath’s personality into account, is easily understood ("The psychopath’s uninhibited search for pleasure often clashes with society" McCord & McCord, 1964, p. 11). Indeed, unlike other criminals, as well as non-criminals, they viewed psychopaths as unmotivated, that is, as lacking any external motives that could explain their actions, criminal or otherwise.

McCord and McCord (1964) viewed psychopaths’ profound lack of social emotions, that is, their “guiltlessness and lovelessness” as their primary pathology and, therefore, as the characteristics that best separates them from other individuals. In their view, any emotional connection is at best superficially felt and at worst parasitic in nature. This lack of emotional depth in respect to other humans results in their having no capacity for empathy and, consequently, no emotional inhibitors to their aggressive tendencies. Lacking guilt, they never internalize other’s values or social norms and, therefore, never develop a conscience. However, that they do not experience social emotions does not negate the experience of other emotions. Indeed, although less clear in this regard, the McCords do allude to the fact that psychopaths do in fact experience intense, fleeting emotions: “The panic which any animal experiences when faced with serious frustration more often causes the psychopath to react with aggression” (McCord & McCord, 1964, p. 11). Similarly, they repeatedly noted that psychopaths characteristically react to frustration with fury, which is an emotion, albeit a primitive one. Thus, it seems that for psychopaths as described by the McCords, the emotional deficit is one restricted to long-circuited emotions (Arieti, 1967), leaving, however, psychopaths at the mercy of their primitive, immature short-circuited urges. The McCords discuss psychopathic anxiety in a very similar fashion, that is, their anxiety is only short-circuited, never experienced for any period of time, as psychopaths waste little time in acting upon their anxious state. Although prone to tension and frustration (i.e., short-circuited anxiety), psychopaths, according to the McCords, are
immune to anxiety proper (i.e., long-circuited anxiety): “In fact, psychopathy is almost the antithesis of neurosis. In terms of emotional sensitivity, the neurotic is ‘thin-skinned,’ and the psychopath is ‘thick-skinned’” (McCord & McCord, 1964, p. 47). Etiologically, they adopted a biopsychosocial model and suggested three pathways to psychopathy: one resulting from severe parental rejection or neglect; one resulting from mild parental rejection or neglect in an individual with a strong biological predisposition towards impulsivity (“neural malfunction seems to be the catalyst which, in some cases, turns a rejected child into a psychopath” (McCord & McCord, 1964, p. 84); and one resulting from mild parental rejection or neglect in a socially disadvantaged environment (e.g., psychopathic parental role model, erratically harsh discipline, and absence of adult supervision). They viewed parental rejection and neglect as central to the development of psychopathy in that such rejection would negate any possibility of the child developing strong emotional ties to others, which they viewed as the central characteristic of the disorder.

Consensus regarding the syndrome.

Viewed together, the work of Partridge, Henderson, Karpman, Arieti, and McCord and McCord painted a portrait of the psychopath with a much clearer outline than had previously been accomplished. The label was being increasingly applied to a specific syndrome rather than being used to denote clinical enigmas with antisocial features. The syndrome itself, across various clinicians, emerged consistently as a disorder of affective bluntness towards others and the future, accompanied by grandiose, superficial, and manipulative attitudes, which manifested in irresponsible, callous, impulsive, and aggressive behaviors. This clinical picture was also quite consistent with that of forensic professionals: a lack of social emotions (i.e., affectionlessness or lovelessness); a propensity to act on impulse without forethought; aggressive behavior; a lack of shame or remorse over past deeds; an inability to profit from experience or imposed sanctions; an apparent lack of drive or motivation to behave in a socially acceptable manner; callousness;
lack of any psychosis or intellectual deficit that could explain the presentation; poor judgement; and an apparent lack of external motivations that could explain their criminal behaviors (Craft, 1966; McCord & McCord, 1964; McGrath, 1966). Moreover, influenced by psychodynamic views (e.g., Arieti, 1963; Henderson, 1947; Karpman, 1955), a glimpse at the internal world of the psychopath also began to emerge: an affective wasteland governed by primitive instincts that require immediate action no matter the consequences. The consistency with which psychopathy was being described across theorists, clinicians, and professionals suggests that psychopathy was not simply of academic or theoretical interest but a real entity with significant clinical implications.

The Narrowing of the Construct: The Cleckley Psychopath

As the above review illustrates, the construct of psychopathy was broached by many theorists and clinicians. Nonetheless, it was Cleckley – in his influential book, *The Mask of Sanity* (1941/1988) – who, in providing a specific and well-defined set of symptoms anchored in rich clinical case examples, exerted the most influence on how the construct would eventually be defined (Hare, 1991; Millon, Simonsen, & Birket-Smith, 1998). Like Partridge, Henderson, and Karpman, Cleckley (1941/1988) was quite dissatisfied with the misuse of the term. He felt that defining psychopathy as personality pathology in general, as seen in the work of Kraepelin and Schneider, resulted in psychiatric confusion over the more specific syndrome. In addition, and related to the latter point, he noted that even when used to define a specific disorder, many of his contemporaries did so inappropriately, often to define clinically enigmatic cases with antisocial features, only some of whom were in fact psychopaths as defined by Pinel, Rush, Partridge, and Karpman (Cleckley, 1941/1988). As highlighted above, this concern was not specific to Cleckley. For example, McCord & McCord (1964) pointed out that “much of psychology’s confusion over the psychopath can be traced to a basic mistake: equating deviant behavior with the psychopathic personality” (p. 8). Cleckley (1941/1988) largely attributed this diagnostic
mishap to the lack of an explicit, agreed upon, and well-defined definition of psychopathy (also see Karpman, 1955; McCord & McCord, 1964). In a similar vein, he also questioned the growing trend to discuss psychopathic subtypes (see below), noting “before these fine distinctions can be made to any good purpose, there must first appear some recognition of the basic group that is to be further differentiated” (Cleckley, 1941/1988, p. 229). In support of this claim, Cleckley found that many of the existing psychopathic typologies had little to do with psychopathy proper.

In an attempt to resolve this problem, Cleckley (1941/1988) set out to define the core characteristics of the disorder and did so in a much more explicit fashion than any of his predecessors. Based on years of clinical experience with such individuals in forensic and psychiatric settings he described in detail what he believed to be the 16 most defining characteristics or traits of the disorder (Cleckley, 1941/1988): absence of delusions and other signs of irrational thinking; absence of “nervousness” or psychoneurotic manifestations; unreliability; untruthfulness and insincerity; lack of remorse or shame; inadequately motivated antisocial behavior; poor judgement and failure to learn by experience; pathologic egocentricity and incapacity for love; general poverty in major affective reactions; specific loss of insight; unresponsiveness in general interpersonal relations; fantastic and uninviting behavior with drink and sometimes without; suicide rarely carried out; sex life impersonal, trivial, and poorly integrated; and failure to follow any life plan. By emphasizing the lack of any psychoneurotic manifestations in psychopaths (i.e., clinically significant anxiety as seen in the anxiety disorders; see APA, 1994), Cleckley, as had been suggested by Karpman (1946; 1948a; 1955), basically restricted diagnoses to individuals whose primary pathology was psychopathy, that is, to primary or idiopathic types (Karpman, 1955). However, this does not suggest, as many subsequent investigators have erroneously indicated (e.g., Schmitt & Newman, 1999; Skeem, Poythress, Edens, Lilienfeld, & Cale, in press), that Cleckley believed psychopaths to be free from anxiety
altogether. Indeed, much in the same vein as Karpman (1961) and Arieti (1963), he suggested that the type of anxiety experienced by psychopaths is simply different from that experienced by their nonpsychopathic counterparts:

There are usually no symptoms to suggest a psychoneurosis in the clinical sense. In fact, the psychopath is nearly always free from minor reactions popularly regarded as ‘neurotic’ or as constituting ‘nervousness.’... Even under concrete circumstances that would for the ordinary person cause embarrassment, confusion, acute insecurity, or visible agitation, his relative serenity is likely to be noteworthy...It is true [the psychopath] may become vexed and restless when held in jails or psychiatric hospitals. This impatience seems related to his inability to realize the need or justification for his being restrained. What tension or uneasiness of this sort he may show seems provoked entirely by external circumstances, never by feelings of guilt, remorse, or intrapersonal insecurity (Cleckley, 1941/1988, p. 339-340).

Thus, according to Cleckley, psychopaths do in fact experience anxiety but only in the form of tension and worry rather than in a clinical sense. As such, their anxiety, unlike that of individuals who suffer from anxiety disorders, is not self-induced, be it conscious or not, but is evoked by external circumstances in which they are unable to gratify their selfish needs. Similarly, psychopaths, unlike individuals with forethought or emotional ties to others, are relatively immune to socially induced anxiety; that is, anxiety over how their actions may impact on their future or on other individuals.

A clearer understanding of Cleckley’s position in this regard is evident when one considers the fact that anxiety is simply another emotion that the psychopath seems to lack, that is, in the conventional sense. Indeed, although noncommittal in respect to etiological causes, Cleckley (1941/1988) believed this aspect of psychopathy to be the core pathology of the disorder. He stated, “If we grant the existence of a far-reaching and persistent blocking, absence, deficit, or dissociation of [affect], we have all that is needed, at the present level of our inquiry, to account for the psychopath” (p. 371). Furthermore, he proposed that psychopaths suffer from a “semantic aphasia”: a deep-seated semantic disorder in which the affective and semantic components of language are dissociated, which, to Cleckley, explained why psychopaths often
say one thing but do another. However, that the psychopath has an emotional deficit should not be taken to mean that he does not experience any affect altogether:

Vexation, spite, quick and labile flashes of quasi-affection, peevish resentment, shallow moods of self-pity, puerile attitudes of vanity, and absurd and showy poses of indignation are all within his emotional scale and are freely sounded as the circumstances of life play upon him. But mature, wholehearted anger, true or consistent indignation, honest, solid grief, sustaining pride, deep joy, and genuine despair are reactions not likely to be found within this scale. (p. 348)

In other words, Cleckley (1941/1988), like Karpman (1961) and Arieti (1963), believed that while psychopaths experience short-circuited emotions (e.g., rage, frustration, lust, and elation; see Arieti, 1963), they are incapable of experiencing – in any significant way – long-circuited emotions (Arieti, 1963), that is, deep-rooted, complex social affective states (e.g., love, empathy, remorse, guilt), for which they have only a superficial, intellectual, or theoretical understanding (Cleckley, 1941/1988). Unfortunately, such emotions are required to control basic human impulses (Cleckley, 1941/1988), either by providing alternatives (e.g., love vs. lust) or by signaling their inappropriateness (e.g., via some empathetic response or future projection of remorse or guilt). Accordingly, lacking complex social emotions in their day-to-day activities, psychopaths are left with no other alternatives but to uninhibitedly act upon their short-circuited emotions (i.e., impulses, urges, etc.) in whichever way they see fit. Thus, Cleckley, like Karpman (1961), Arieti (1963), and McCord and McCord (1964), viewed psychopathy as rooted in a specific rather than a global affective pathology. In this view, it is not that psychopaths do not experience any emotions. Rather, the emotions that they do experience are different from that of nonpsychopaths in kind, degree, duration, and in the manner in which they are elicited (Arieti; 1963; Cleckley, 1941/1988; Karpman, 1961).

Psychopathy according to the Clinical Literature

Although the construct of psychopathy began as a wastebasket category, it appears to have evolved into a clear and meaningful clinical syndrome rooted, as had originally amazed
Pinel two centuries ago (1801/1806, as cited in Henderson, 1947; also see Pichot, 1978; McCord & McCord, 1964; Werlinder, 1978), in a profound affective bluntness towards the past, the future, and anything human. So meaningful is the syndrome that it has withstood the test of time, regularly reemerging in the writings of prominent clinicians from various backgrounds, all of which point to a specific psychopathic pattern of interpersonal, affective, and behavioral characteristics (e.g., Arieti, 1967; Buss, 1966; Cleckley, 1941/1988; Craft, 1966; Hare, 1996a; Karpman, 1961; Lykken, 1957; McCord & McCord, 1964; Partridge, 1930). Across these various renditions, the psychopath’s portrait consistently emerged to be one of a manipulative, grandiose, and superficial parasite who, devoid of emotional connections to anything or anyone but him/herself, irresponsibly and selfishly drifts through life, only stopping long enough to callously, impulsively, and aggressively satisfy the urge of the moment.

The Empirical Revolution

The Assessment of Psychopathy

The Hare psychopath and the PCL-R.

Based on the rich clinical tradition described above, Hare set out to operationally define the interpersonal, affective, and behavioral characteristics of psychopathy in the form of a clinical rating scale: the Hare Psychopathy Checklist (PCL: Hare, 1980) and, later, the Hare Psychopathy Checklist-Revised (PCL-R: Hare, 1991). The PCL-R, taking both personality and behavioral indices into account, as had been suggested by authors such as Cleckley (1941/1988), Karpman (1955), and McCord and McCord (1964), contains twenty items, each of which are scored on a three-point scale (0 = no; 1 = maybe / sometimes; 2 = yes), that, when summed, provide an indication of the degree to which a particular individual matches the prototypical profile of a psychopath. By definition, those individuals who meet the PCL-R criteria for psychopathy (i.e., PCL-R ≥ 30 in North America; Hare, 1991; PCL-R ≥ 25 in Europe; Cooke & Michie, 1999) share many common features; that is, they must possess high levels of the
interpersonal, affective, and behavioral characteristics of the disorder, neither set of symptoms in isolation would result in a diagnosis of psychopathy (Hare, 1991). Accordingly, Hare’s psychopath is one who demonstrates, from an early age and across various situations, egocentricity, grandiosity, deceptiveness, shallow emotions, lack of empathy, guilt, or remorse, impulsivity, irresponsibility, and the ready violation of social and legal norms and expectations; a psychopath as had been depicted in the clinical tradition.

Early factor analytical investigations demonstrated that the PCL-R items fall into two correlated \( r = 0.5-0.6 \), yet distinct, factors (see Table 1; Hare, Harpur, Hakstian, Forth, Hart, & Newman, 1990; Harpur, Hakstian, & Hare, 1988). Factor 1 (Interpersonal/Affective) consists of items that measure the affective and interpersonal features of psychopathy, such as egocentricity, manipulativeness, callousness, and lack of remorse, while Factor 2 (Lifestyle) consists of items that describe an impulsive, antisocial, and unstable lifestyle. While the personality traits (i.e., Factor 1) have been found to be stable throughout the life span, it appears that the manifestation of the disorder (i.e., Factor 2) decreases with age, especially after age 40, (Harpur & Hare, 1994; Porter, Birt, & Boer, 2001). Further investigation also revealed each factor to have its own correlates. Factor 1 correlates negatively with self-report measures of empathy, psychophysiological indices of fear, DSM ratings of avoidant and dependent personality disorder, and positively with self-report measures of narcissism and dominance, DSM ratings of narcissistic and histrionic personality disorder, and violence (Dempster, Lyon, Sullivan, Hart, Smiley, & Mulloy, 1996; Edens, Skeem, Cruise, & Cauffman, 2001; Hart & Hare, 1998; Lilienfeld, 1998). Factor 2 correlates negatively with self-report measures of nurturance, school performance, and socioeconomic status and positively with self-report measures of sensation seeking and impulsivity, DSM ratings of antisocial and borderline personality, and substance abuse disorders; it also relates to the manner in which psychopaths express their violence.
Recent analyses, relying on a combination of Item Response Theory (IRT) and Factor Analysis (Bolt et al., 2002), have resulted in more refined factor structures (see Table 1) that differ only in degree, not kind. For example, Cooke and his colleagues, based on an IRT reduced subset of 13 PLC-R items (Cooke & Michie, 1997) found, via confirmatory factor analyses (Cooke & Michie, 2001), that psychopathy is a hierarchical structural model (which, for convenience will be referred to as the Three Facet model [PCL: 3F]) consisting of a superordinate factor (Psychopathy) and three subordinate factors or facets (i.e., Interpersonal, Affective, Lifestyle). While a more refined factor structure has much clinical appeal (i.e., provides more refined descriptions of clients), certain methodological weaknesses have been noted in regards to these analyses (Bolt et al., 2002; Hare, in press; Parker, Sitarinios, & Hare, 2002). First, Cook and Michie (1997) used some clinical overrides (i.e., subjectively selecting some items while discarding others) in the selection of their 13 items (Cooke & Michie, 1997). Their reasoning regarding this approach was vague. For example, it is unclear why they failed to include “early behavioral problems,” especially given that the early manifestation of psychopathy is not only central to the concept itself (Arieti, 1967; Cleckley, 1941/1988; Hare, 1998c; Henderson, 1947; Karpman, 1955, McCord & McCord, 1964) but to personality disorders in general (APA, 1994). Second, their item reduction was likely influenced by sample characteristics. By comparing psychopaths to other offenders, many of whom have personality...

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3 For convenience, the PCL: 3F and PCL-R (2nd ed.) subordinate factors will referred to as Facet 1 (Interpersonal), Facet 2 (Affective), Facet 3 (Lifestyle), and Facet 4 (Antisocial).
disorders themselves (Rutherford, Alterman, Caccioia, & McKay, 1998; Stålenheim & von Knorring, 1996), core features that are common to all personality disorders would ‘wash out’ in IRT analyses. This may possibly explain why “early behavioral problems” was excluded from the list of core characteristics. Third, the manner in which Cook and Michie (1997) selected their anchor items for their IRT analyses (i.e., a priori selected items, believed to be highly discriminative of the construct, required as anchors by which other items can be measured) was again vague. Moreover, they only selected a handful of such items when, at least in this case, more is better (Bolt et al., 2002). It was also unclear why they selected a different set of anchor items than in previous analyses (e.g., Cooke, Kosson, & Michie, 2001). Nonetheless, while their item selection appears somewhat suspect, their three-facet structure remains appealing if for nothing more than descriptive purposes. Indeed, independent analyses suggest that a three-facet structure does indeed emerge when factor analyzing Cooke and Michie’s (1997) set of 13 items, albeit a two-factor structure fits just as well (Parker et al., 2002). In addition, the 13-item set has been found to be significantly correlated with the PCL-R when scored in isolation (i.e., excluding the seven other items), suggesting that the construct is not lost with item reduction (Hervé, Spidel, & Hare, 2000).

Most recently, Hare and his colleagues (Hare, in press; Parker et al., 2002), performed exploratory analyses on very large data sets and found that two items (many marital relationships, promiscuous sexual behavior) did not load on either of the two factors identified. Confirmatory factor analyses of the remaining 18 items revealed a hierarchical structure model consisting of a superordinate factor (Psychopathy), two general subordinate factors as had originally been proposed (Interpersonal/Affective and Behavioral), and four more specific subordinate facets (Interpersonal, Affective, Lifestyle, and Antisocial). Other than containing an additional facet (i.e., Antisocial), this structure does not differ significantly from Cooke and Michie’s findings (1997; 2001); the interpersonal, affective, and lifestyle facets are identical in
both structures (see Table 1). Both analyses have identified the affective items as having the most informative value in discriminating psychopaths from other offenders, thereby supporting the view that the psychopath's affective bluntness is his/her most salient feature (Abbot, 2001; Arieti, 1967, Cleckley, 1941/1988, Frick, 2000; Hare, 1996a; 1998a; Karpman, 1961; McCord & McCord, 1964, Patrick, 1994; Porter, 1996; also see Newman, 1998 for a different view).

Obviously, the promise of a more specific factor structure has much appeal, both clinically (i.e., by providing a more refined picture of clients' interpersonal, affective, lifestyle, and criminal features) and empirically (i.e., by possibly accounting for different correlates or subtypes of the disorder). However, unlike the original two-factor structure, neither of the Facet structures has been empirically validated; that is, the individual Facets have not proven themselves to have unique and theoretically meaningful correlates. Nonetheless, the clinical utility of these new models cannot be denied. Knowing where one falls on each of these facets, irrespective of diagnosis, can be quite informative. For example, an individual who shows all of the interpersonal traits of psychopathy is likely quite different from one who shows none. On the one hand, the psychopathic individual, who flourishes in interpersonal interactions (Hare, 1998c), will be relatively easy to engage in an interview. On the other hand, the nonpsychopathic individual, who presents as reserved and socially anxious, will be relatively difficult to engage in an interview. A similar argument supporting the clinical utility of each of the other facets could just as easily be rendered. Accordingly, while these subordinate facet structures should not yet make their way into court or parole hearings to explain a specific client's criminal propensities (Hare, in press), they may nevertheless be used descriptively, in much the same way the results of other semi-structured interviews are used. Although psychopathy itself predicts risk (see below), it is the construct rather than the instrument that is most relevant in this respect (Hare, 1998a; 1998b).
While debate still exists regarding the factor structure of the PCL-R, there is little confusion regarding the reliability and validity of this instrument (Cunningham & Reidy, 1998; Hare, in press). The impressive body of research on the PCL-R not only attests to the reliability and validity of this instrument but, more importantly, to the notion that psychopathy is a clinical entity with clinical-forensic utility (Hare, 1996a; 1998a). Indeed, the success of the PCL-R in diagnosing psychopathy has led to its widespread use in numerous correctional systems around the world (e.g., Cunningham & Reidy, 1998; Dolan & Doyle, 2000; Hare, Clark, Grann, & Thornton, 2000; Moltó, Poy, & Torrubia, 2000) and to the development of similar instruments for use with civil psychiatric patients (Screening Version [PCL-SV]: Hart, Cox, & Hare, 1995), adolescent offenders (Youth Version [PCL-YV]: Forth, Kosson, & Hare, in press), and children (Antisocial Process Screening Device [APSD]: Frick & Hare, 2001). As a result, investigators have been able to conclude that psychopathy begins to emerge at an early age (e.g., Christian, Frick, Hill, Tyler, & Fraser, 1997; Forth, 1996; Forth, Hart, & Hare, 1990; Frick, Bodin, & Barry, 2001; Loney, Frick, Ellis, & McCoy, 1998; Vitacco, Neumann, Robertson, & Durrant, 2002), occurs in both genders (Rutherford, Alterman, Cacciola, & McKay, 1998; Rutherford, Alterman, Cacciola, & Snyder, 1996; Vitale, & Newman, 2001; Vitale, Smith, Brinkley, & Newman, 2002), and in various races and cultures (e.g., Cooke, Kosson, & Michie, 2001; Hare, Clark, Grann, & Thornton, 2000; Howard, Payamal, & Neo, 1997; Kosson, Smith, & Newman, 1990; Moltó, Poy, & Torrubia, 2000).

Antisocial personality disorder and the DSM.

The DSM-IV suggests that psychopathy is another term for antisocial personality disorder (APD; APA, 1994), which itself is characterized by an early (i.e., prior to the age of 15 years) and chronic disregard for, and violation of, the rights of others as exemplified by criminal behavior, deceitfulness, impulsivity, irritability and aggressiveness, reckless disregard for safety of self or others, consistent irresponsibility, and lack of remorse (APA, 1994). However, strictly
speaking, the PCL-R and the DSM-IV define the disorder quite differently (Hare, 1996b). While the PCL-R psychopath must show high levels of both personality and behavioral traits to be diagnosed as such, the DSM-IV APD criteria is heavily weighted towards the behavioral manifestation of the disorder: APD criteria only include one interpersonal (i.e., deceitfulness) and one affective (i.e., lack of remorse) characteristic. Not only is the DSM-IV definition lacking important aspects of psychopathy as described within the clinical literature (Arieti, 1967; Craft, 1966; Hare, 1991; Karpman, 1955; McCord & McCord, 1964; Partridge, 1930), but a diagnosis of APD, which only requires three of seven symptoms, could easily be rendered solely on the basis of antisocial behaviors, thereby ignoring the features which clinicians (e.g., Cleckley, 1941/1988; Karpman, 1955; McCord & McCord, 1964) and researchers (e.g., Abbott, 2001; Bolt et al., 2002; Cooke & Michie, 1997; Frick, 2000; Hare, in press; Rogers, Duncan, Lynett, & Sewell, 1994) have noted to be most essential in discriminating psychopaths from other criminals.

Given the behavioral approach taken by the DSM, it is not surprising that research has constantly found an asymmetrical relationship between psychopathy and APD (Cunningham & Reidy, 1998; Hart & Hare, 1996; 1998; Lilienfeld, 1998; Serin, 1991). In forensic contexts, approximately 50-80% of offenders meet criteria for APD and yet only 15-25% meet the PCL-R definition of psychopathy (Cunningham & Reidy, 1998; Hare, 1996b; Hare, 1991; in press; Lilienfeld, 1998). While most individuals with psychopathy would also qualify for a diagnosis of APD, most APD individuals would not be diagnosed as psychopathic (Hart & Hare, 1998; Rutherford, Alterman, Caccioia, & McKay, 1998). Acknowledging the lack of APD specificity in forensic settings, the DSM-IV suggests in its section on the “Associated Features and Disorders” of APD that:

“Lack of empathy, inflated self-appraisal, and superficial charm are features that have been commonly included in traditional concepts of psychopathy and may be particularly distinguishing of the Antisocial Personality Disorder in prison or
forensic settings where criminal, delinquent, or aggressive acts are likely to be nonspecific” (APA, 1994, p. 647).

Not only is this text inclusion likely to further propel the false notion that these two disorders are one and the same (Hare, 1991; 1998a; 1998b), but it is wholly non-specific and, therefore, of questionable validity. For example, how are these additional traits to be measured? Are they to count as one of the three items required for the diagnosis or as additional symptoms?

Furthermore, interpretation of the association between APD and psychopathy is colored by the fact that both share a propensity towards antisocial and criminal actions, as reflected by the high correlations between APD and Factor 2 but not Factor 1 of the PCL-R (Hare, 1996b; Hart & Hare, 1996; 1998). Although they share criminal propensities, psychopathy has been consistently found to be a better predictor of general, violent, and sexual recidivism, institutional maladjustment, and treatment failure than APD in forensic and civil-psychiatric settings (Cunningham & Reidy, 1998; Hare, Clark, Grann, & Thornton, 2000; Harris, Rice, & Cormier, 1991; Salekin, Rogers, & Sewell, 1996), thereby attesting to the importance of the interpersonal and affective features of psychopathy.

That APD shows little or no association with the Factor 1 psychopathic personality traits further suggests that these two disorders are different in kind. As was noted half a century ago by Karpman (1946; 1955; 1961), manifestations of psychopathic behaviors, on the surface, can be mimicked by individuals suffering from an array of problems other than psychopathy: “Like behavior and seemingly like personality traits may have different etiologies and motivations and, therefore, have entirely different significances and meanings” (Karpman, 1946. P. 287). Given the numerous variations in which APD symptoms can combine into a diagnosis (i.e., 3.2 million variations; Rogers, Salekin, Sewell, & Cruise, 2000), there are likely to be many forms of APD. Although most of these types are not likely to be psychopathic (Cunningham & Reidy, 1998; Rogers Duncan, Lynett, & Sewell, 1994), they still require clinical attention. Several other
criticisms of APD have been noted in the literature as well (Cunningham & Reidy, 1998), including shifting diagnostic criteria from one DSM version to the next (Rogers & Dion, 1991; Rogers, Salekin, Sewell, & Cruise, 2000), questionable reliability (Rogers Duncan, Lynett, & Sewell, 1994), absence of symptom weighing (i.e., APD equally weighs all items although some are unquestionably more important than others in diagnosing psychopathy; Lykken, 1995; Rogers Duncan, Lynett, & Sewell, 1994), and temporal instability (Cunningham & Reidy, 1998). In addition, the fact that APD can coexist with Anxiety and Depressive Disorders (APA, 1994) further questions its validity as an indicator of psychopathy, in which such disorders are not typical seen (Cleckley, 1941/1988; Karpman, 1955; Stålenheim & von Knorring, 1996). Most perplexing of all, however, is the fact that the APD criteria in the DSM-IV were not the ones field tested (Hare 1996b; Rogers, Salekin, Sewell, & Cruise, 2000). Instead, “political and non-empirical considerations appear to have overridden matters of diagnostic validity” (Rogers, Salekin, Sewell, & Cruise, 2000, p. 216).

The clinical and research literatures clearly support the utility of the PCL-R for assessing psychopathy (Hart & Hare, 1998; Lilienfeld, 1998), with APD being most strongly criticized for being too behaviorally loaded and therefore sacrificing validity for apparent reliability (Lilienfeld, 1998). The DSM’s stance is surprising given the longstanding clinical tradition which specifically warns that such an approach yields too many false positives (Arieti, 1963; Blackburn, 1998b; Cleckley, 1941/1998; Karpman, 1955; Prichard, 1930): “The actions of the psychopath are only outward symptoms of a sick mind….Consequently, any adequate study of the psychopath must look beyond asociality” (McCord & McCord, 1964, p. 8). By relying so heavily on behavioral indicators, the DSM approach seems like a step back to a behavioral era in which personality factors were deemed unimportant or unmeasurable (Karpman, 1941; 1946; 1948a; 1955); factors that have since been validated and found to be of crucial importance for
management and treatment (Thornton, Blud, & Attrill, in preparation; Wong & Hare, in press). Unfortunately, the concerns noted above are not unique to the DSM.

**Other assessment devices.**

In addition to the structured clinical rating approach to the assessment of psychopathy as exemplified by the PCL-R and, to a lesser the degree, the DSM-IV, investigators have also attempted to assess the syndrome via self-report measures (Lilienfeld, 1998). In this vein, two approaches have developed. First, investigators have attempted to use subscales from pre-existing measures, such the Minnesota Multiphasic Personality Inventory (MMPI/MMPI-2: Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Hathaway & McKinley, 1940), the Personality Assessment Inventory (PAI: Morey, 1991), the California Psychological Inventory (CPI; Gough, 1957), the Millon Clinical Multiaxial Inventory (MCMI-II: Millon, 1987), and the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1987). These measures are moderately correlated with the PCL-R ($r = .30$ to $.53$), more strongly with Factor 2 than with Factor 1 (Edens, Cruise, & Buffington-Vollum, 2001; Hare, 1985; Harpur, Hart, & Hare, 2002; Hart & Hare, 1998; Lilienfeld, 1998).

Second, investigators have attempted to develop their own self-report measures of psychopathy, such as the Self-Report Psychopathy Scale (SRPS; Levenson, Kiehl, & Fitzpatrick, 1995), the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996), the Social Psychopathy scale (SPS; Smith, 1985), and the Self-Report Psychopathy – II scale (SRP-II; Hare, 1991). Although some of these scales show some promise for the study of non-incarcerated individuals where collateral information and, therefore, PCL-R scores are typically unattainable, they have yet to receive much attention in forensic settings (Lilienfeld, 1998). The few studies that have been conducted with offenders suggest that they are only moderately correlated with the PCL-R, especially with the Behavioral/Lifestyle Factor (Brinkley, Schmitt, Smith, & Newman, 2001; Edens, Skeem, Cruise, & Cauffman, 2001; Lilienfeld, 1998). Although some
improvement in measuring the personality traits of the disorder via self-report has occurred, the
association is still only moderate (Brinkley, Schmitt, Smith, & Newman, 2001; Edens, Poythress,
& Lilienfeld, 1999; Hare, 1985). More importantly, these measures typically fail to correlate
with theoretically meaningful variables (e.g., crime, institutional maladjustment, and attention
tasks) to the same extent as the PCL-R and their ability to correctly identify PCL-R defined
psychopaths is highly questionable (e.g., \( \kappa = 0.11 - 0.47 \); Brinkley, Schmitt, Smith, &
Newman, 2001; Edens, Poythress, & Lilienfeld, 1999; Edens, Skeem, Cruise, & Cauffman,
2001; Hart & Hare, 1998; Lilienfeld, 1998; Sandoval, Hancock, Poythress, Edens, & Lilienfeld,
2000).

Quinsey, Harris, Rice, and Cormier (1998) have suggested that their Childhood and
Adolescent Taxon Scale (CATS), an empirically developed clinical rating scale, essentially
measures the same construct as the PCL-R and, more importantly, they advocated the
replacement of the PCL-R with the CATS for the purpose of risk assessments. However,
independent investigations revealed that the CATS only measures the deviant and antisocial
aspects of psychopathy and not the more fundamental personality traits, thereby calling into
question its utility as a measure of psychopathy (e.g., Erickson, Spidel, Giesbrecht, Hemphill, &
Hervé, 1999; Lyon, Hart, Dempster, & Douglas, 1999).

In short, the construct validity of self-report instruments, as well as the CATS, appears
limited at best. These scales, especially those specifically designed to assess psychopathy, are
limited in other respects as well. They have yet to establish adequate norms in forensic settings,
are susceptible to deceit, and are reactive to state effects (i.e., are dependent on participants’
psychological state at the time of testing; Hart & Hare, 1998; Lilienfeld, 1998), all of which
further suggests that such instruments are of limited use in assessing psychopathy in forensic
contexts. Indeed, the criminal psychopath is known for his/her manipulative and deceitful
presentation (Gacono, Meloy, Sheppard, Speth, & Roske, 1995; Hare, Forth, & Hart, 1989;
Hervé & Hare, 1999; Rogers & Cruise, 2000) and, more importantly, appears to gain some intrinsic joy from behaving so (Hervé & Hare, 1999), thereby calling into question the logic of self-report instruments for the assessment of psychopathy. Although a similar argument (i.e., regarding the manipulation of test results) could be made against the PCL-R (e.g., see Rogers, Vitacco, Jackson, Martin, Collins, & Sewell, 2002), the PCL-R’s heavy reliance on collateral information should reduce such effects, especially if file information is reviewed prior to making contact with the client (Hare, 1991)⁴. Furthermore, it has been suggested that psychopaths, having little insight into their own disorder, may not be well suited for the self-reported assessment of their own condition (Hare, 1985; Hart & Hare, 1998). Nonetheless, that self-report scales have their use is not debatable. Such instruments, for example, are needed as screening (not diagnostic) devices or research tools where adequate resources preclude routine PCL-R assessments (Brinkley, Schmitt, Smith, & Newman, 2001; Edens, Poythress, & Lilienfeld, 1999; Edens, Skeem, Cruise, & Cauffman, 2001; Hart & Hare, 1998; Lilienfeld, 1998; Sandoval, Hancock, Poythress, Edens, & Lilienfeld, 2000). However, when it comes to diagnostic questions “scores on self report scales for psychopathy should not be confused with clinical or behavioral assessment based on reliable and valid criteria for the disorder” (Hart & Hare, 1998, p. 26), that is, with the PCL-R and its derivatives. This issue is even more salient in clinical, legal, and forensic settings in which a diagnosis of psychopathy can have dire consequences for those involved (Cunningham & Reidy, 1998; 2001; Hare, 1998b)

*The Correlates of the PCL-R: Psychopathy and Criminality*

As the above review indicates, the PCL-R appears to be the instrument of choice when it comes to assessing psychopathy. Unlike most other instruments, the PCL-R has generated an impressive body of research (>500 studies) that not only attest to its validity but, more

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⁴ Rogers et al. (2002) found that PCL-R scores could be manipulated by the interviewee’s presentational style. However, their interviewers were graduate students who, more importantly, failed to review collateral information prior to conducting the interviews.
importantly, to the dangerousness of the psychopath. Although psychopaths represent only 15-25% of the incarcerated criminal population (Hare, 1991), they begin their criminal careers at a very early age, engage in a great variety of crimes, and are responsible for a disproportionate amount of crime (Hare, 1995; 1996a; Hare, Clark, Grann, & Thornton, 2000; Hare & McPherson, 1984b; Hart & Hare, 1998; Hemphill, Hare, & Wong, 1998). They are more likely than other offenders to use threats, intimidation, weapons, and violence to dominate and control their victims (Hare & McPherson, 1984b; Williamson, Hare, & Wong, 1987). Their violence is frequently instrumental (Cornell, Warren, Hawk, Stafford, Oram, & Pine, 1996; Raine & Sanmartin, 2001; Woodworth & Porter, 2002), usually based on selfish needs rather than external pressures (Hervé, Petitclerc, & Hare, 1999), cold-blooded in nature (Hare, 1998b; Hare, Cooke, & Hart, 1999), opportunistic (Brown & Forth, 1997; Porter, Drugge, Fairweather, Hervé, Birt, & Boer, 2000), and used against both intimates and strangers (Dutton & Kropp, 2000; Hare, 1981; Hare & McPherson, 1984b; Porter et al., 2000; Williamson et al., 1987). Even while incarcerated they are unable to control their psychopathic impulses (Furr, 1996; Forth, Hart, & Hare, 1990; Hare & McPherson, 1984b; Molto, Carmona, Poy, Avila, & Torrubia, 1996). More importantly, unlike nonpsychopaths, they engage in a variety of antisocial acts irrespective of previous treatment and/or incarceration (e.g., Hemphill et al., 1998; Ogloff, Wong, & Greenwood, 1990; Rice, Harris, & Cormier, 1992; Salekin, Rogers, & Sewell, 1996). Thus, this line of research suggests that the PCL-R psychopath is a criminal like no other.

The Correlates of the PCL-R: Psychopathic Pathology

Research on the psychopath’s core pathology may explain why s/he so readily violates the rules and norms of society. As has been noted by such scholars as Karpman (1955) and McCord and McCord (1964), that the psychopath acts in a manner that most people cannot even fathom is only one part of the picture. To truly understand the psychopath, one needs to know why s/he chooses such deplorable actions in the first place. With this goal in mind, several
investigators have turned their attention to studying psychopathic pathology (Hare, 1970; 1978; 1996a; 1998a; Patrick, 1994; Raine, 2001). Across various studies comparing criminal psychopaths to criminal nonpsychopaths using behavioral, psychophysiological, and/or neuroimaging techniques, psychopaths have consistently shown deficiencies in the processing of emotional material (Blair, Sellars, Strickland, Clark, Williams, Smith, & Jones, 1995; Christianson, Forth, Hare, Strachan, Lidberg, & Thorell, 1996; Hervé, Hayes, & Hare, in press; Intrator, Hare, Stritzke, Brichtswein, Dorfman, Harpur, et al., 1997; Kiehl, Hare, McDonald, & Brink, 1999; Kiehl, Smith, Hare, Mendrek, Forster, Brink, et al., 2001; Louth, Williamson, Alpert, Pouget, & Hare, 1998; Patrick, 1994; Williamson, Harpur, & Hare, 1991), especially in that which is negatively toned (Blair, Sellars, Strickland, Clark, Williams, Smith, et al., 1995; Day & Wong, 1996; Levenston, Patrick, Bradley, & Lang, 2000; Patrick, Bradley, & Lang, 1993; Patrick, Cuthbert, & Lang, 1994), the processing of abstract language (e.g., Hare & Jutai, 1988; Hare & McPherson, 1984a; Kiehl, Hare, McDonald, & Brink, 1999; Kiehl, Liddle, Smith, Mendrek, Forster, & Hare, 1999; Raine, O’Brien, Smiley, Scerbo, & Chan 1990), their sensitivity to fear or punishment (e.g., Hare, 1968; 1982; Hare, Frazelle, & Cox, 1978; Lykken, 1957; Newman & Wallace, 1993; Ogloff & Wong, 1990; Patrick, Cuthbert, & Lang, 1994), the inhibition of responses (Kiehl, Smith, Hare, & Liddle, 2000; Newman, 1987; Roussy & Toupin, 2000; Smith, Liddle, Kiehl, Mendrek, Hare, & Forster, 1999), and in the switching of attention (Jutai & Hare, 1983; Kosson, 1998; Kosson & Harpur, 1997; Kosson & Newman, 1986). Findings from recent neuroimaging investigations suggest that these deficits are rooted, or at least represented, in limbic (i.e., abnormal affective and fear processing; Intrator, et al., 1997; Kiehl et al., 2001; Laakso, Vaurio, Koivisto, Savolainen, Eronen, Aronen, et al., 2001; Tiitonen, Hodgins, Vaurio, Laakso, Repo, Soininen, et al., in press), temporal (i.e., abnormal language processing; Kiehl, et al., 1999), and prefrontal (i.e., lack of response inhibition and switching of
attention; Kiehl, et al., 2000; Raine, 2001; 2002; Smith, et al., 1999) brain mechanisms. Based on this line of research, several theories regarding the root of psychopathy have been put forward.

**Contemporary Theories of Psychopathy**

**Affective deficit.**

The strong tendency for psychopaths to show deficits in the processing of abstract and emotional material has been taken as support for the longstanding notion that psychopathy is rooted in a profound emotional deficit that precludes any deep understanding of affective experiences (Hare, 1996a; 1998a; Patrick, 1994; in preparation). Indeed, psychopaths appear to use cognitive rather than emotive mechanisms to interpret emotional events (e.g., Intrator et al., 1997; Kiehl, et al., 2001; see Patrick, in preparation), which may explain why they are so easily able to say one thing but do another (Cleckley, 1941/1998). This aspect of psychopathy has long been noted (Arieti, 1963; Karpman, 1955; Hare, 1996a; 1998a; McCord & McCord, 1964; Porter, 1996). For example, Johns and Quay (1962) remarked that psychopaths “know the words but not the music” (p. 217); Grant (1977) considered psychopaths to know “only the book meaning of words” (p. 50); and Gillstrom and Hare (1988) suggested that emotions are “like a second language to the psychopath.” In light of this evidence and consistent with clinical views, Hare (1996a; 1998a) proposed that psychopathy is a biologically-predisposed disorder in which the ability to experience emotional depth is hindered from an early age by limbic system abnormalities, a system that regulates affective experiences and, given its strong ties to prefrontal areas, inhibition in nonpsychopathic individuals (i.e., affect signals the prefrontal inhibitory mechanisms to put on the brakes; Hare, 1998a). Like others (Abbott, 2001; Cleckley, 1941/1988; Patrick, 1994; in preparation), Hare viewed this deficit as an integral part of psychopathy and suggested that individuals lacking these characteristics are therefore not true psychopaths (Hare, 1970, 1998a).
Violence inhibition deficit.

A related but more specific emotional deficit has been proposed by Blair (1995) to explain why psychopaths are specifically emotionally non-responsive to other individuals, especially to their pain and distress. Based on Mandler’s (1984) conceptualization of emotions, which postulates that emotions are the result of unspecific physiological arousal that is interpreted emotionally by cognitive mechanisms which themselves can serve as arousal eliciting cues (i.e., act as a feedback mechanism), Blair (1995) suggested that the psychopath, although physiologically reactive, lacks a central violence inhibitory cognitive schemata, the Violence Inhibition Mechanism (VIM). Typically, VIM, when activated by non-verbal communications of distress from, for example, a victim, engages a response that inhibits further acts of aggression. The activation of VIM is then postulated to stimulate further arousal which then becomes interpreted as guilt or remorse over the actions that required VIM activation (Blair, 1995; Mandler, 1984). Through classical conditioning, events that occur during VIM activation become VIM triggers, which accounts for the role of VIM in social and moral development (i.e., behaviors that cause distress in others activate VIM, which leads to feelings of guilt, remorse, and empathy, which themselves become conditioned to the VIM eliciting behavior; Blair, 1995). According to Blair (1995), the lack of VIM explains both the psychopath’s tendency to aggress against others and to feel no guilt or remorse (i.e., social emotions) in doing so. In other words, he viewed VIM as an explanation for the psychopath’s deviant behaviors and his/her lack of conscience and, therefore, as the pathology behind psychopathy. In support of his theories, Blair and colleagues found psychopaths to have problems attributing guilt when it is called for (Blair, et al., 1995), to lack responsiveness to distress cues (Blair, Jones, Clark, & Smith, 1997), and to show deficiencies in moral reasoning (Blair, Monson, & Frederickson, 2001).
Attention deficit

Newman and his colleagues (Newman, 1998; Newman, Patterson, & Kosson, 1987; Patterson, Kosson, & Newman, 1987; Patterson & Newman, 1993) have attempted to explain psychopaths' poor passive avoidance learning, that is, their failure to inhibit behaviors that previously have led to punishment. Their model builds on Fowles (1980) three-factor theory of poor passive avoidance in psychopath, which itself is an extension of Gray's (1975) two-factor learning theory. According to the three-factor model (Arnett, Smith, & Newman, 1997; Fowles, 1980; Newman, 1998), learning is mediated by three interactive arousal systems: (a) the behavioral activation system (BAS) is a motivational system which, when cued by conditioned stimuli, initiates either an active-approach or active-avoidance response whose sole purpose is to seek reward; (b) the behavioral inhibition system (BIS) is a motivational system which, when cued by conditioned aversive stimuli, initiates an inhibitory response whose sole purpose is to avoid further punishment (i.e., passive avoidance) or frustrations from non-reward; and (c) a nonspecific arousal system (NAS) that receives input from both the BAS and BIS, which themselves share strong excitatory and inhibitory connections. Over the years, psychopaths' poor passive avoidance has been related to a weak BIS (i.e., a lack of inhibitory mechanisms; Fowles, 1980), an overactive BAS (i.e., hypersensitivity to reward such that punishment cues are not processed; Gorenstein & Newman, 1980), and a deficit in modulating BAS activation (i.e., a response modulation model which suggests that once a response is initiated it perseveres irrespective of other contingencies; Patterson & Newman, 1993). Of the three theories, the response modulation model has received the most empirical support (Newman, 1998; e.g., Arnett, Howland, Smith, & Newman, 1993; Arnett, Smith, & Newman, 1997 [Experiment 1]; Howland, Kosson, Patterson, & Newman, 1993; Newman, Patterson, & Kosson, 1987; Newman & Schmitt, 1998; Newman & Wallace, 1993; however also see Arnett, Smith, & Newman, 1997 [Experiment 2]; Howard, Payamal, & Neo, 1997 for contradictory findings), suggesting that
when psychopaths are involved in reward-seeking activities they are unable or unwilling to switch their attention to potentially important peripheral information in the environment such as punishment cues. As a consequence of this attentional rigidity, psychopaths are oblivious to punishment contingencies and, therefore, fail to learn from experience (Arnett, Smith, & Newman, 1997; Newman, 1998; Patterson & Newman, 1993). Hyperfocused on reward seeking activities and unmindful to their surroundings, psychopaths also fail to experience the pain they cause others as they reap their rewards. Without such experiences, they never develop feelings of guilt or remorse, the precursors of empathy and moral development (Blair, 1995).

*Long-circuited deficit revisited.*

Although each of the above theories has merit (Hare, 1996a; 1998a; Patrick, 1994; in preparation; Newman, 1998), they only explain one part of the puzzle, most notably, the psychopath’s failure to inhibit responses that are normally inhibited in nonpsychopathic individuals. However, irrespective of whether the pathology is one in which emotional brakes are absent (Hare, 1998a; Blair, 1995; Patrick, in preparation) or one in which attentional rigidity prevails (Newman, 1998), these models fail to explain how the psychopath came to be so callous, sadistic, and ruthless. That a “car without brakes” (Woolley, 1942, as cited in Cleckley, 1941/1988) or with a stuck steering wheel is problematic, cannot be denied. However, this tells us little about why the driver chose to stop his/her unimpeded vehicle by running over a stroller, priests, and puppy when s/he could have just as easily let the car come to an uneventful stop. One possible explanation for such aberrant behaviors comes to light by superimposing the theories of Karpman (1955; 1961), Arieti (1967), and Cleckley (1941/1988) on Mandler’s (1984) theory of emotional development.

Mandler (1984) proposed that emotional experiences are the result of unspecific physiological arousal that is interpreted emotionally by cognitive mechanisms, which themselves act to moderate further arousal responses (i.e., cognitive analyses feedback into the arousal
system and vice versa). On the one hand, arousal-induced emotions, which signal the organism for immediate action (i.e., immediate gratification) are relatively primitive (i.e., innate), intense, and short-lived (Mandler, 1984; also see Mealey, 1995a). As such, positive and negative arousal-induced emotions are, respectively, evoked by the organism’s primitive needs (e.g., food and procreation) or by some significant environmental stimuli (i.e., one denoting danger). On the other hand, cognitively induced affect, which serve to control primitive urges (i.e., long-term gratification), evolve with time via classical conditioning and, therefore, are much more complex, and long lasting but typically of moderate intensity (Mandler, 1984; also see Mealey, 1995a). As a result of classical conditioning, they become activated by an increasing number of stimuli with maturation and, therefore, their depth, nuances, and salience are much more profound than those of arousal-induced emotions. Using Arieti’s (1967) terminology, arousal induced emotions are short-circuited (SCE) and cognitively induced emotions are long-circuited (LCE).

As noted earlier, Karpman (1955; 1961), Arieti (1967), and Cleckley (1941/1988) believed psychopaths to be blind to LCEs and, therefore, completely governed by their short-circuited impulses, which is also consistent with the ideas of McCord and McCord (1964), Patrick (1994; in preparation), Blair (1995), and Hare (1996a; 1998a). Two theories have been proposed to explain this phenomenon, one suggesting that the psychopath is physiologically insensitive to arousal (e.g., Blackburn, 1979; Ellis, 1987; Hare, 1978; Hervé, Hare, & Porter, 1999; Quay, 1965; Zuckerman, 1979) and the other that psychopaths are hypersensitive to reward cues (Gorenstein & Newman, 1980; also see Smith & Newman, 1990; McCord & McCord, 1964). In each case, the end result is that long-circuited mechanisms never become engaged, thereby negating development of LCEs via classical conditioning. However, empirical support for these hypotheses has been inconsistent (Gorenstein & Newman, 1980; Newman, 1998; Patrick, in preparation; Raine, 1997; 2002). This leaves at least two alternatives. First, that
there may be different etiologies to psychopathy (Porter, 1996; Ishakawa, Raine, Lencz, Bihrle, & Lacasse, 2001; Patrick, in preparation) that serve to introduce methodological confounds, thereby explaining the inconsistency with which some ‘deficits’ have been found. Second, that the psychopath is not physiologically but cognitively insensitive to arousal, as if his/her cognitive system is arousal insoluble (i.e., top-down rather than bottom-up deficit in which arousal reaches the cognitive system but has little to grab onto and therefore dissipates quickly). Admittedly, this is mere speculation and, therefore, in need of empirical validation. However, that psychopaths show functional and structural abnormalities in brain structures known to regulate arousal (i.e., limbic areas; see Hare, 1998a; Tiitonen, et al., in press) and a bias towards processing emotional material via cognitive rather than emotive mechanisms (e.g., Intrator et al., 1997; Kiehl et al., 2001) is in line with this theory.

Irrespective of the origin, viewing psychopathy as rooted in a deficit involving LCEs in an organism with intact short-circuited impulses has much theoretical appeal (Partick’s [in preparation] integrated, hierarchical model of emotion). In terms of evolution, SCEs were required to prepare the organism for immediate action (i.e., fight-flight response; see Mandler, 1984; Mealey, 1995a) and, therefore, are simply primitive impulses that require immediate gratification. Their relative intensity and motivational powers suggests that actions that are successful at reducing SCEs are likely to be highly reinforced and, therefore, repeated in similar circumstances. LCEs, however, are (relatively) evolutionary delayed adaptations required to moderate short-circuited impulses that would otherwise impede communal life (Mandler, 1984; Mealey, 1995a). Accordingly, lacking long-circuited controls, the psychopath is left unimpeded to act upon his/her urges as s/he sees fit. Although such instinctive action (i.e., SCE motivated behavior) may have been adaptive at some point in human evolution (i.e., required for survival; e.g., approach-avoidance), its need in today’s society is relatively limited as life is less-and-less about survival and more-and-more about living (e.g., the difference between scavenging for food
and finishing one’s dissertation). This suggests that the psychopath’s SCEs become evoked significantly more often by his/her selfish needs and impulses than in reaction to threats to life and limb. Consequently, the psychopath’s SCEs serve one primary purpose, that is, to signal him/her that it is time to seek satisfaction, which is consistent with his/her instrumental nature (Cornell et al., 1996; Woodworth & Porter, 2002). As such, this view would predict that their SCEs, throughout development, have become heavily biased towards the positive end of the spectrum, which is consistent with research demonstrating psychopaths to have more difficulty processing negative as compared to positive emotional material (e.g., Blair, et al., 1995; Day & Wong, 1996; Patrick, Bradley, & Lang, 1993; Patrick, Cuthbert, & Lang, 1994). The utility of this model in explaining the psychopath’s clinical picture was already noted by Karpman (1955; 1961), Arieti (1967), and Cleckley, (1941/1988).

This theory also accounts for the effects of other models. That psychopaths fail to experience the emotional nuances of events is likely a byproduct of their lack of LCEs (Hare, 1998a). In nonpsychopathic individuals, LCEs are acquired during development through classical conditioning. As LCEs are evoked in various situations they become associated with a greater number of stimuli and therefore become more meaningful. Since psychopaths presumably lack this mechanism but are otherwise cognitively intact (Hare, 1996a; 1998a), they never learn these associations and, as a result, the psychopath’s representations of LCEs are limited to intellectual rather than emotional meanings; thereby explaining why they fail to appreciate the various nuances of LCEs (Arieti, 1963; Karpman, 1955; Gillstrom & Hare, 1988; Grant, 1977; Hare, 1996a; 1998a; Johns & Quay, 1962; McCord & McCord, 1964; Porter, 1996). In this respect, psychopaths appear developmentally delayed, like a child who has yet to learn the difference between love for a friend and that for ice cream (Henderson, 1947; Karpman, 1955). Lacking LCEs, a higher order construct, suggests that psychopaths would not be able to develop a VIM, as postulated by Blair (1995). That psychopaths, when engaged in reward seeking
behavior, fail to switch their attention to important peripheral information (Newman, 1998) may simply be a byproduct of the fact that they are at the mercy of SCEs, which, by definition, require immediate and constant attention for as long as they are activated. Therefore, the psychopath is not likely to switch his/her attention to SCE-unrelated information (i.e., LSE-related information); that is, until his ‘itch has been scratched.’ Although the SCE and LCE mechanisms have much in common with the BIS and BAS mechanisms (Fowles, 1980), they are not identical. The latter system, focusing exclusively on arousal systems, fails to account for the complexity and importance of higher-order affective experiences. Incidentally, this model suggests that laboratory research is only of limited use. Given current ethical standards, such research can only investigate the psychopath’s LCE deficit, thereby telling us little about his/her SCE motivated world. Ecologically valid research, such as that conducted on real world psychopaths (e.g., Babiak, 1995; 1996; Ishikawa, Raine, Lencz, Bihrlle, & Lacasse, 2001) is therefore much needed. As Cleckley (1941/1988) noted, “aside from questions of cause and effect, we have little opportunity even to realize the existence of the subject we must deal with unless the psychopath can be followed as he departs from the (essentially in vitro) situation of physician’s office or hospital and takes up his activities in the community on a real and (socially) in vivo status” (p. 21).

This model also provides a framework by which to understand not only the psychopath’s emotional deficit but his/her deviant behavioral repertoire as well. As stated above, psychopaths are at the mercy of their SCEs, which demand immediate gratification. In nonpsychopaths, LCEs become activated in order to guide the individual to meet his/her need in a manner that takes long-term consequences and the feelings of other parties involved into consideration. However, lacking LCEs, the psychopath is unguided by dictates of conscience and, therefore, is able to select from a wide array of alternatives, from the prosocial to the sadistic, in his/her quest to satisfy the urge of the moment. Assuming that psychopaths are not evil by nature, s/he, requiring
immediate gratification, is likely to choose the path of least resistance in a novel situation. Any
obstacle to need attainment will result in increased action or effort (e.g., moves from
manipulation to threat) rather than in need-postponement. With successive frustrations, action
selection becomes more and more primitive (e.g., moves from threat to violence) until the SCE
has been satiated, at which point the successful behavior (i.e., violence) is reinforced and,
consequently, becomes the preferred course of action in future situations. That is, the
psychopath, as to not waste valuable time in meeting his/her needs, chooses what has worked in
the past rather than attempting to figure what lower intensity behavior might work in the present
situation (e.g., why romance when one knows that rape works just as well). This does not reflect
habituation effects to previous arousing situations, as would be suggested by bottom-up theories
of arousal hyposensitivity (Ellis, 1987; Zuckerman, 1979), but simply psychopathic efficiency.

According to this model, the psychopath’s deviancy is due to SCE activation in the
absence of LCEs and not simply the result of not having LCEs (as proposed by Blair, 1995;
Cleckley, 1941/1988; Hare, 1998a). The primitive nature of SCEs is, in part, to blame for the
psychopath’s apparent deviance, in that s/he is only responding to primitive urges and impulses
(e.g., sexual, power, greed), which, unfortunately, can be satisfied by primitive means (e.g., rape,
vioence). Conditioning explains the rest. When facing obstacles to gratification, s/he becomes
more intense, thereby explaining his/her behavioral escalation. In novel situations, s/he relies on
previously reinforced behaviors irrespective of the demands of the new situation and, therefore,
may superficially appear callous in that his/her behavior is significantly more intense than
required by the situation. Unfortunately, callousness itself, over time, is likely to become
reinforced simply by its more distal association with SCE reducing behaviors. Therefore
psychopaths learn, through simple conditioning, that callous and sadistic actions (i.e., actions of
intensity levels not required by the demands of the situation) are not only effective in achieving
need fulfillment but can be ‘fun’ as well. Given that SCE motivated actions are susceptible to
classical conditioning suggests that environmental conditions, especially early childhood events, can influence the manner in which SCEs become satisfied, which explains recent findings that early chaotic environments influence the course of the disorder (e.g., Ishikawa, et al., 2001; Monahan, Steadman, Silver, Appelbaum, Robbins, Mulvey, et al., 2001).

Thus, unlike other models, the long-circuited deficit hypothesis appears to address not only why the psychopath is not able to stop his/her reward-seeking behavior, but also why s/he chooses such aberrant behaviors in the first place. Moreover, it does so while accounting for the predictions of other models. However, this remains a theory to be tested. Of special theoretical and clinical interest is the fact that all models, irrespective of the underlying pathology being proposed, attempt to explain the psychopath’s apparent blindness to the emotional world within which s/he roams, thereby further attesting to the importance of this trait to the construct of psychopathy.

*Psychopathy according to the Empirical Literature*

Although disagreement exists regarding the core pathology of psychopathy, all theories highlight the psychopath’s profound deficit in experiencing deep-rooted social emotions (Arieti, 1967; Blair, 1995; Cleckley, 1941/1988; Gorenstein & Newman, 1980; Hare, 1998a; Henderson, 1947; Karpman, 1955; 1961; McCord & McCord, 1964; Newman, 1998). Evidence is mounting that this psychopathic feature is the most discriminating of the construct (e.g., Abbott, 2001; Bolt et al, 2002; Cooke & Michie, 1997; Frick, 2000; Hare, in press; Rogers, Duncan, Lynett, & Sewell, 1994). Most importantly, the PCL-R, unlike other tools, defines psychopaths as has been done throughout the ages (e.g., Arieti, 1967; Cleckley, 1941/1988, Craft, 1966; Karpman, 1955; McCord & McCord, 1964; Partridge, 1930), that is, as superficial and grandiose individuals who callously, ruthlessly, and impulsively use charm, manipulation, and aggression to satisfy their selfish needs and desires with little regard for the consequences of their actions for self or others. Development of the PCL-R has, for the first time, enabled researchers, clinicians, and theorists to
focus their attention on a single, operationally defined construct, thereby facilitating the investigation of psychopathic subtypes in a sensitive and specific manner.

**Psychopathy and Its Subtypes**

*Subtypes from the Clinical Tradition*

The notion that psychopaths differ in presentation and behavior has long been noted in the clinical literature (Arieti, 1963; 1967; Cleckley, 1941/1988; Hare, 1970; 1998c; Henderson, 1947; Karpman, 1941; 1946; 1955; 1961; Partridge, 1928). However, the diagnostic confusion surrounding psychopathy from the 18\textsuperscript{th} to late 20\textsuperscript{th} century was, in part, the basis for conceptualizing psychopathic subtypes (Cleckley, 1941/1988, Karpman, 1941; 1946; 1955; Partridge, 1930). Obviously, if one throws a bunch of apples, oranges, and pears into a basket one will later see that it contains different types of fruits, which parallels what occurred within the psychopathy literature (Henderson, 1947; Karpman, 1946; 1955; Kraepelin, 1907/1981; 1913; 1915, as cited in Werlinder, 1978; Millon, Simonsen, & Birket-Smith, 1998; Schneider, 1950/1958). Reviewing this literature with the Hare (1991) psychopath in mind reveals that investigators were also able to find various types of bad apples, that is, true psychopathic subtypes.

*Psychopathic Subtypes Selected from the Wastebasket*

*Kraepelin's subtypes.*

Kraepelin (1907/1981) and Schneider (1950/1958) proposed several different types of psychopaths in their respective typologies, three of which – within each typology – appear to echo current conceptualizations. Based on Lombroso’s theories (1887, as cited in Werlinder, 1978), Kraepelin (1907/1981; 1913) discussed the born criminal; a morally blind individual, usually male, with a violent bent and few social feelings and little remorse over his/her actions. Unlike the term suggests, such individuals were not viewed as predisposed to crime per se but rather to experience morality only superficially, which itself leads them to come into frequent
and early contact with the criminal justice system (Werlinder, 1978). Kraepelin’s morbid liars and swindlers (1907/1981; 1913), which was seen in males more so then females, were described as interpersonally talented (i.e., easily reads others and situations) and yet, superficial in presentation and discourse. They are able to tell convincing stories that place them in a favorable light, often converse on topics they actually know little about (e.g., poetry, science, and the like), and appear to gain intrinsic joy from their deceptive actions (Kraepelin, 1907/1981; 1913; 1915, as cited in Werlinder, 1978; also see Partridge, 1930). The impulsive psychopath, as described by Kraepelin (Kraepelin, 1907/1981; 1913; 1915, as cited in Werlinder, 1978; also see Partridge, 1930), included two subtypes, which were typically seen in males, that, at the very least, possessed chore psychopathic characteristics: The spendthrift, who is parasitic in nature, attempts to live a lifestyle beyond his/her means by economically bleeding family, friends, and society; and the vagabond, who is characterologically prone to boredom, prefers to live life day-to-day.

*Schneider’s subtypes.*

As with Kraepelin’s (1907/1981) subtypes, Schneider’s (1950/1958) typology also described three types of psychopaths. The affectionless psychopath, who was more likely to be male than female, is a callous, manipulative, and remorseless individual who is devoid of social emotions, prone to criminal acts, and immune to any attempt at rehabilitation. Although intellectually intact and aware of social norms s/he does not experience them emotionally and, therefore, feels justified in acting in whatever way s/he chooses. The attention-seeking psychopath, which was more prevalent in males then females, is a vain and conceited individual who is obsessed with gaining recognition and fame, irrespective if deserved or not, and who will easily turn to deception and manipulation to achieve this goal. The explosive psychopath, which was slightly more prevalent in women than in men, is an egotistical, entitled, demanding,
impulsive, and irresponsible individual who overreacts to insignificant events, often in a violent way.

*The Wastebasket subtypes.*

Interestingly, there appears to be some consistency across Kraepelin’s (1907/1981) and Schneider’s (1950/1958) typologies. Although this is not all that surprising, given that Schneider’s typology evolved from that of Kraepelin’s (Schneider, 1950/1958), Schneider felt it important to include these types in his classification is nonetheless noteworthy. Kraepelin’s born criminal and Schneider’s affectionless psychopath seem to describe the classic psychopath (Cleckley, 1941/1988; Craft, 1966; Hare, 1991): A grandiose, superficial, manipulative, impulsive, irresponsible, and callous individual who shows no emotional connections to others and no remorse for his antisocial actions, which tend to be numerous and varied. Kraepelin’s liars and swindlers and Schneider’s attention seekers allude to a predominantly manipulative psychopath: An immature, demanding, self-centered, egotistical, and entitled individual who uses manipulation, with little regard of the consequences, in his/her quest to achieve (undeserved) recognition. Finally, Kraepelin’s impulsive and Schneider’s explosive psychopath describes a highly impulsive, emotionally reactive, grandiose, callous, and sensitive psychopath who lives day-to-day according to his/her own set of rules.

Although consistent with one another, it is important to note that these typologies were derived prior to any accepted definition of psychopathy and, consequently, may reflect, in part, other disorders as well (Cleckley, 1941/1988; Henderson, 1947; Karpman, 1946; 1955; Partridge, 1930). Nevertheless, by definition, the born criminal and affectionless psychopath, having deficiencies in affect and morals, seem akin to current conceptualizations of psychopathy, with the remaining types – at the very least – possessing personality traits that have since been found to be defining characteristics of the disorder (Cleckley, 1941/1988; Craft, 1966; Cooke & Michie, 2001; Hare, 1991; 1996a; 1998a). While these later types are arguably controversial in
terms of current views, they do contain traits that other theorists have found to be influential in defining subtypes of psychopathy (Arieti, 1963; 1967; Henderson, 1947; Karpman, 1941; 1946; 1948a; 1955; 1961; Partridge, 1928).

**Psychopathic Subtypes Selected from the Bad Apples**

*Partridge's subtypes.*

In an attempt to further delineate the syndrome, Partridge (1928) described in detail the characteristics of 50 male and female psychopaths (i.e., individuals diagnosed as such by hospital staff), among which he found three main types. Like the born criminal and the affectionless type, the *delinquent type*, which was most prevalent in male psychopaths, showed, from an early age, a chronic pattern of affective dullness towards others, deception, manipulation, and social maladjustment, including varied antisocial behaviors (i.e., boastful, egocentric, irresponsible, and impulsive individuals with an unwillingness to plan for the future and who care little for the consequences of their actions). Like the liars and swindlers, and the attention seekers, the *inadequate type*, which was commonly seen in female patients, were characterized, from an early age, by their grandiosity, lack of emotions, manipulative ways, and irresponsible, impulsive, and immature behaviors (i.e., proneness to boredom, general unwillingness to accept adult responsibilities and to plan for the future). Given their childish and entitled nature, they demand immediate gratification and, when their needs are not met, they throw temper tantrums, often complaining about how they are being treated unfairly (i.e., assume a victim role). The *general incompatible* or *emotionally unstable* type, like the impulsive and the explosive, is a grandiose, entitled, callous, and incorrigible individual who lives life in the present and according to personal rather than social rules or norms (i.e., is extremely nonconformist in behavior and attitude). S/he tends to take the path of least resistance, often doing so in an impulsive and irresponsible manner and with little concern for their future or the consequences of his/her actions upon others. Nevertheless, they characteristically worry about their current misfortunes,
which they blame on circumstances or other people rather than themselves, and are sensitive to
criticism. If their needs or desires are blocked, they, suspecting others of contriving against them,
may show signs of dissatisfaction or unhappiness.

In addition to showing unique constellations of psychopathic characteristics, Partridge’s
(1928) subtypes appeared to show different developmental paths as well. On the one hand, he
noted that his delinquent and inadequate psychopaths had relatively high rates of psychopathy in
their families and, therefore, were likely biologically predetermined. On the other hand, he found
that the emotionally unstable psychopaths had little or no family history of the disorder but came
from relatively chaotic families and, therefore, were likely the product of environment. Unlike
the relatively heterogeneous groups described by Kraepelin and Schneider, Partridge’s
psychopaths have much in common with current conceptualizations. Moreover, his belief that
psychopathy could have various etiological pathways is an idea that continues to be explored
(e.g., Ishakawa, et al., 2001; Mealey, 1995a; Porter, 1996; Skeem, et al., in press).

Henderson’s subtypes.

Henderson (1947) also described subtypes of psychopathy. His typology reiterated the
aggressive, callous, remorseless, unempathetic, and manipulative characteristics highlighted by
Pinel, Prichard, Kraepelin, Schneider, and Partridge. He discussed three types of psychopaths,
the predominantly aggressive, the predominantly passive or inadequate, and the predominantly
creative, all of whom share characteristics of instability, queerness, explosiveness, intuitiveness,
and egocentricity. The aggressive psychopaths are emotionally immature, preferring impulse and
instinct over reason and judgment, and repeatedly failing to meet the demands of real life. S/he
may be reacting to society’s lack of attention or, conversely, to its prosecution. Irrespective of
the motive, s/he becomes bitter towards society and, consequently, attempts to get back at it by
whatever means available. Although intellectually intact, they show ruthlessness, callousness,
and a complete lack of empathy. Henderson (1947) discussed five variants of the aggressive
type, including the suicidal (i.e., individuals characterized, from an early age, by an ill-adapted personality, rebellious, touchy, explosive, ruthless, and egotistical; suicidal gestures are seen as reflecting their aggressive and impulsive natures), the murderer (i.e., these egotistical sensation seekers are reactive and opportunistic in nature; their aggression is characteristically impulsive, ruthless, and callous and conducted with an insensitivity for others which is almost 'inhuman'), the addicts (i.e., unreliable and untrustworthy individuals who are known for their self-centeredness, immaturity, and weak behavioral controls), the epileptoid (i.e., a highly sensitive, egocentric, manipulative, and belligerent individual), and the sex-variant (i.e., an individual who behaves sexually in the same impulsive, instinctive, self-centered, and remorseless manner as the suicidal and the murderer). The passive or inadequate psychopath is described as less aggressive, impulsive, and insightful than the aggressive type. They are typically glib and superficially charming (i.e., “flowers without perfume,” Henderson, 1947, p. 68) and possess good language and interpersonal skills which, coupled with their strong sense of entitlement, leads them to manipulate those around them to satisfy their parasitic needs. Although aggression is common, this behavior usually involves threats more than actions, thereby echoing their manipulative ways. Their true nature, although initially masked, eventually surfaces as they repeatedly fail to show any warmth towards others or honor contracts. Self-gratification is of paramount importance, irrespective of the consequences to follow, and is never succeeded by any deeply experienced remorse. Indeed, they prefer to revel in the pain of others than act in any altruistic manner. As with the aggressive type, variants of the passive type were also put forth (Henderson, 1947): the cycloid and schizoid states. The cycloid is further characterized by his/her chronic heightened affective state, a state reflecting intensity not depth. The schizoid, although psychopathic in many respects, tends to be more eccentric and reclusive than the other types, avoiding social contact out of an immature grandiosity rather than due to anxiety. Finally, the predominantly creative psychopath is noted to be a highly grandiose, impulsive individual who,
endowed with a brilliant mind, feels justified in following his/her own set of rules rather than those set out by society. Their feelings of superiority, justified or not, often bring them into conflict with others, at which point their aggressive nature is revealed. Their activity level, which can be intense at times, enables them to accomplish much in a brief span. However, longevity (i.e., perseverance) is not their forte.

Obviously, Henderson’s typology did not exclusively focus on psychopathy as later defined (Karpman, 1948a; McCord & McCord, 1964). For example, his predominantly creative type, which appears to describe manic (APA, 1994) rather than psychopathic individuals, has little in common with current conceptualizations (McCord & McCord, 1964). Similarly, his aggressive-suicidal and passive-schizoid types reflected borderline/histrionic and schizoid traits, respectively, more so than psychopathic ones (APA, 1994; also see McCord & McCord, 1964). Nonetheless, his predominantly aggressive and passive subtypes – comparing primarily violent individuals with primarily manipulative ones – provided a continuity with previous typologies (e.g., Kraepelin’s, Schneider’s, and Partridge’s) and, more importantly, had theoretical and clinical appeal, as exemplified by the emergence of similar classifications across theorists and clinicians, as seen, for example, in the work of Karpman (1955).

**Karpman’s subtypes.**

Unlike his predecessors, who at best only hinted at various etiological pathways to psychopathy, Karpman (1941; 1946; 1948a; 1948b; 1950; 1955; 1961) felt it of paramount importance to actually distinguish psychopaths who were superficially psychopathic from true psychopaths. In doing so, Karpman (1941) was the first to make an explicit distinction between *primary* or *idiopathic* and *secondary* or *symptomatic* psychopaths. On the one hand, he classified idiopathic psychopaths as those individuals whose primary psychiatric concern, irrespective of comorbidity (e.g., paranoia, paraphilia, etc.), was psychopathy. No matter how hard and long one searches, no other cause to their pathology, other than a psychopathic one, can be found.
Early and adult socializing effects, irrespective if positive or negative, have little effect on the course of the disorder other than influencing its manifestation (i.e., environment affects their behaviors not their personality; Karpman, 1950). Thus, their emotional immaturity is the result of a lack of development in this sphere rather than some kind of developmental arrest (Karpman, 1961). As a result, they display, from an early age, a grandiose and entitled attitude that leads them to guiltlessly and remorselessly seek immediate gratification through callous, parasitic, manipulative, impulsive, aggressive and other antisocial (i.e., unethical) behaviors that are uninhibited by complex social emotions, which they lack. They have no conscience and, therefore, uninhibitedly act upon their primitive instincts no matter the consequences for those around them (Karpman, 1948b). According to Karpman (1948b; 1961), while their actions, uninhibited by affect and often reflecting poor judgement, may appear impulsive to an observer, this is not actually the case. Their lack of social emotions gives them access to a wider range of alternatives to choose from, from the relatively prosocial to the downright sadistic, in their quest to satisfy their psychopathic needs. Caring only for themselves and having little concern for the future, they often choose the path of least resistance (e.g., the sadistic one), which – to a future oriented observer – may seem rash or irrational. Once a path is chosen, their affective and social blindness enables them to quickly put their plan into action without any concerns for injuries to others. The end result is that the psychopath appears impulsive, rash, irrational, and/or reactive to an observer although, in reality, his/her plan came about in a calm, methodical, and instrumental fashion, that is, in a psychopathic but non-impulsive way (Arieti, 1967 for a similar view).

On the other hand, Karpman classified individuals who presented a psychopathic façade, but whose main pathology was best explained in terms of some other syndrome, including hysteria, manic-depression, and early, pre-active phases of schizophrenia, as symptomatic psychopaths (Karpman, 1941; 1946; 1948a; 1955). As a result of their primary, nonpsychopathic,
pathology, they experience *intra-psychic* or internal conflicts (i.e., anxiety, urges, and the like) that typically lead to feelings of hostility (Karpman, 1946; 1955; 1961). In light of early socializing effects (i.e., over-indulging or neglectful/invalidating upbringings; Karpman, 1950; 1955; also see Levy, 1950), these individuals learned to express their underlying pathology and hostile feelings in callous, guiltless, irresponsible, impulsive, and aggressive ways, that is, in a psychopathic fashion; an etiological course much like that previously suggested by Partridge (1930; also see McCord & McCord, 1964; Porter, 1996). The greater the intensity of their underlying pathology, the more impulsively (i.e., reactively, without much forethought) they act out against society and, consequently, the more psychopathic they appear to be. Like the idiopathic, the symptomatic is emotionally immature but for a different reason, most notably because of some development interruption rather than a total lack of development (Karpman, 1961; see Porter, 1996 for a similar view). Unlike the idiopathic type, the symptomatic psychopath has a conscience, albeit a very disturbed, conflicted, or uneven one (Karpman, 1948b). Thus, while the idiopathic psychopath is hard to the core, the symptomatic psychopath is “tough on the outside and soft on the inside” (Alexander & Healy, as cited in Karpman, 1948b, p. 487). To the symptomatic psychopath, psychopathy itself is therefore only of secondary or superficial importance, with the underlying pathology being of primary psychiatric importance.

In light of this, Karpman (1946; 1948a; 1955) advocated that such individuals should not be called psychopathic but defined according to their primary pathology, which characteristically precedes their psychopathy and, more importantly, is amenable to treatment, unlike psychopathy proper.

In addition to this primary-secondary distinction, and consistent with the work of his predecessors, Karpman (1946; 1948b; 1955) also proposed two basic subtypes of idiopathic psychopaths: the *aggressive-predatory* and the *passive-parasitic*. The aggressive-predatory psychopaths satisfy their needs by extremely aggressive, callous, and predatory means, actively
taking what they want. They are egotistical and completely lack social emotions, such as empathy, love, guilt, and remorse, and, consequently, are uninhibited in their selfish pursuits, which themselves are motivated by intense yet fleeting primitive emotional reactions (e.g., tension, worry, frustration, and – especially, hate) that require immediate gratification. As a result, they chronically disregard the rights and feelings of others, as well as accepted social norms. They live entirely in the present and spend little or no time worrying about the future. Although impervious to change, they may, temporarily, act prosocially to satisfy a not-to-distant goal. Nevertheless, his/her entire life is characteristically spent in active aggressive predation (Karpman, 1946). The passive-parasitic psychopaths achieve what they want by manipulating and “bleeding” others (Karpman, 1955, p. 47). In many respects they are similar to the aggressive type except that they are not actively predatory or aggressive but rather parasitic (Karpman, 1946; 1955). Like parasites, they attach themselves to others, on whom they depend to satisfy their selfish needs. They have little or no intention of returning favors, nor any appreciation that they ought to be returned (Karpman, 1955). Uninhibited by social emotions and lacking a conscience, they, unlike most parasites, do not know when to call it quits and, therefore, will ‘destroy’ their hosts, at which point they guiltlessly move on to other victims. If hosts are unavailable, they may resort to aggressive predation. However, unlike the aggressive psychopaths, their use of aggression is minimal (i.e., only as required by the situation) and generally manipulative in nature. As a result, they are more likely to use threats then aggression itself in their pursuits. Indeed, as long as they get what they want, they are superficially docile and obedient.

Arieti’s subtypes.

As indicated above, Arieti (1963, 1967) was another influential clinician who broached the topic of psychopathy and its subtypes. According to Arieti (1967), psychopathy is the result of an underlying pathology in which individuals are without long-circuited emotions (LCEs) and,
therefore, are free to act upon their short-circuited emotions, impulses, or urges (SCEs). He viewed this LCE deficit as instrumental in distinguishing psychopathy from other disorders. His subtypes, consequently, were discernible in terms of how they manifested their SCEs.

Like Karpman (1941; 1955; 1961), Arieti felt it important to distinguish between idiopathic psychopaths and pseudopsychopaths (i.e., symptomatic) in order to separate personality deviations that "appear as secondary manifestations in practically all psychiatric conditions from the syndromes in which they constitute the basic pathology” (Arieti, 1963, p. 301). On the one hand, the idiopathic psychopath is free from internal conflicts and, therefore, consciously (i.e., instrumentally, objectively) motivated to meet his/her needs as quickly and easily as possible: "We are dealing here with something beyond a fight against ethical principles or against the superego, and something beyond an acting out in accordance with the unconscious sanction of the parents” (Arieti, 1967, p. 246). On the other hand, the pseudopsychopath is filled with internal conflicts and, consequently, is unconsciously (i.e., reactively, subjectively) motivated to meet his/her needs in a quick, sometimes compulsive fashion: “Although the actions of these patients seem consciously motivated, it is the unconscious motivation (generally defiance of parents [and later society]) which [generally] directs their behavior” (Arieti, 1967, p. 244). The manifestation of their short-circuited emotions differs as well, such that the idiopathic and pseudo-psychopaths primarily become emotional, and I use the term loosely, in response to external and internal ‘frustrations’, respectively. While both, for example, are prone to engage in aggressive behavior of a callous nature, the idiopathic does so purely for the joy of it and, in contrast, the pseudopsychopath, much like Partridge’s (1930) sociopath, does so for retribution for some past wrongdoing, be it real or imagined. Thus, pseudopsychopaths, in this view, are simply individuals who symptomatically manifest psychopathic characteristics without, however, having the same underlying pathology. According to Arieti (1963; 1967), various conditions could manifest as pseudopsychopathy, including psycho- and character neuroses (e.g., mania,
histrionic), post-psychotic (e.g., schizophrenics in remission), and organic conditions (e.g., postencephalitic patients and those with lesions to the prefrontal lobes); all of whom share in common a propensity for irresponsible, impulsive, and callous antisocial behavior with little regard for the consequence of their actions.

Arieti (1963; 1967) also described various types of idiopathic psychopaths, including the simple, complex, dyssocial, and paranoid. The simple psychopaths are best characterized by their impulsive way of life and primitive needs (i.e., sex, food, and fun). When cued by a shallow emotion, which they experience intensely, they are unable to delay gratification for any period of time and, therefore, use short-term, impulsive-like strategies to satisfy their needs. To the simple psychopaths, insight is limited to finding a way to satisfy their needs. Many are endowed with “inadequate” personalities and, consequently, lack the intellect to achieve their pretentious goals. However, they will nevertheless pursue their goals, albeit in an impulsively antisocial and often aggressive manner. Complex psychopaths are similar in many respects to simple psychopaths, but their needs are less primitive (i.e., power, control, fame) and their SCEs are experienced as relatively less intense. As a result, their insights are more complex, thereby enabling their behavior to be influenced by an appraisal of how to get what they want and how to get away with it. Although this suggests that the complex psychopath is more inclined to use long-circuited mechanisms, this is not actually the case. Having a greater intellect than simple psychopaths, complex psychopaths are able to rely on this ability to achieve longer ranging goals and, as such, their seemingly “long-circuited mechanisms are in the service of short-circuited ones” (Arieti, 1967, p. 257). For example, when faced with a sexual opportunity (i.e., stimuli), the simple psychopath is likely to use aggressive means, and the complex psychopath manipulation, to satisfy their short-circuited sexual impulses. Indeed, the ability with which complex psychopaths manipulate and deceive, as well as their greater sense of entitlement, further distinguishes them from their simple counterparts.
Dyssocial psychopaths are psychopaths who found a niche (Arieti, 1967). They associate with a specific subculture or in-group that allows or even encourages them to act psychopathic against society at large, the out-group. Unlike the other idiopathic subtypes, they may show some loyalty, albeit to antisocial peers. Although still governed by their short-circuited emotions, their actions do not disrupt their own group but society at large. Like the complex psychopaths, they use long-circuited mechanisms (i.e., loyalty to group) for short-circuited purposes (e.g., sanctioned antisocial actions). Finally, the paranoiac is an individual who has both paranoid and psychopathic features (Arieti, 1967). Their paranoia is more central to their disorder than their impulsivity. While the simple, complex, and dyssocial psychopaths may, at times, present with paranoid ideations, these are typically superficial and transient; that is, a state rather than a trait. For the paranoiac psychopath, however, paranoid ideations are relatively deep rooted, well organized, and long-term. As such, psychoses are an integral part (i.e., triggers) of their short-circuited emotions. In a somewhat similar fashion to the complex and dyssocial psychopaths, the paranoiacs use long-circuited mechanisms (i.e., delusions) to justify their short-circuited indulgences.

Cleckley's subtypes.

Cleckley (1941/1988), who provided the first working definition of psychopathy in his book, *The Mask of Sanity*, also discussed variants of psychopathy, albeit implicitly. He alluded to two variants of psychopathy by devoting separate chapters to “the disorder in full clinical manifestation” (p. 29) and “Incomplete manifestations or suggestions of the disorder” (p. 188). It is important to note that, given his own critiques of typological efforts, he did not explicitly state that these types were separate entities. Instead, he suggested that the primary difference between these two groups is one of degree (Cleckley, 1941/1988). However, it could be argued that notable differences in one’s level of psychopathy could just as well be indicative of categorical differences (e.g., Harris, Rice, & Quinsey, 1994; Skilling, Quinsey, & Craig, 2001). For
example, while the catatonic schizophrenic may appear on the surface to be in a much more
severe schizophrenic state than his/her paranoid counterpart, this is not actually the case. Rather,
it is a reflection of different subtypes of schizophrenia, neither of which is 'better' or 'worse'
than the other (APA, 1994). Furthermore, Cleckley’s own rendition suggested that his two
groups are more than a simple reflection of gradation.

Cleckley’s first group of psychopaths (i.e., the disorder in full clinical manifestation; full
psychopathy) typically included individuals who, from an early age, demonstrated a chronic and
unbending propensity towards an antisocial lifestyle. They repeatedly engage in various criminal
acts, tend to be aggressive, and make absolutely no attempts at functioning within society, acting
impulsively and irresponsibly as they see fit. This is an individual whose psychopathy is
completely out of his/her control and, consequently, s/he finds him/herself constantly in some
kind of trouble. In many respects, Cleckley’s description of these individuals is akin to those of
the aggressive-predatory and simple subtypes rendered by Karpman (1955) and Arieti (1967),
respectively. Like the simple psychopath, individuals in this group are completely at the mercy
of their short-circuited emotional reactions and, therefore, are never able to mask their
psychopathy for any considerable amount of time (e.g., their psychopathy quickly becomes
evident during periods of hospitalization or incarceration; see Cleckley, 1941/1988). They focus
solely on how to satisfy their selfish needs without any forethought regarding how to achieve
these needs without being detected, thereby explaining why they constantly come to the attention
of authorities. They show a complete inability to learn from experience and, therefore, never
learn to use their psychopathy to their advantage.

In contrast, Cleckley’s second group (i.e., incomplete manifestations or suggestions of
the disorder; partial psychopathy) is no less psychopathic in terms of underlying pathology but
nonetheless show much better control over their disorder. Objectively, they appear to be able to
adjust to life’s demands and live as part of society as, for example, businessmen, lawyers,
scientists, psychologists, and graduate students (e.g., Babiak, 1995). However, the manner in which they function within society at large is wholly psychopathic, in that they use their grandiose, entitled, callous, manipulative, aggressive, and parasitic ways to satisfy their selfish needs for power, fame, and fortune within the niches they have carved out for themselves. In other words, these psychopaths are overtly responsible in life but psychopathic in its pursuit. In many respects, this group appears very similar to the descriptions of the passive-parasitic and complex psychopaths put forward by Karpman (1955) and Arieti (1967), respectively. Like the complex psychopaths, they are able to utilize long-circuited intellectual mechanisms while chasing their short-circuited emotional needs and, therefore, are relatively skilled at masking their psychopathy over long periods of time (Cleckley, 1941/1988). They may spend a considerable amount of time thinking about how to achieve their goals and especially how to do so without detection. Like the parasitic subtype, individuals in this group are less overtly aggressive, relying instead on manipulation and intimidation to get what they want and get it quickly. As a result, aside from possible conflicts with their hosts, they are less likely than Cleckley’s first group to get into serious trouble for their actions. Their parasitic nature and relative ability to function within society further suggests a similarity with Arieti’s (1967) dyssocial subtype, the only difference being the type of group they have attached themselves too.

*Millon and Davis’ subtypes.*

Most recently, Millon and Davis (1998) took a page from history and also broached the topic of psychopathic subtypes from a clinical perspective. Their basis for doing so stemmed from their observation that both historical and current clinical accounts of psychopathy varied from one version to the next in regards to which psychopathic traits were emphasized. Based on this knowledge, as well as on clinical experience, these authors described ten different types of psychopaths, each having in common a marked self-centeredness and disdain for the needs of others, all the while possessing unique characteristics that differentiate them from each other.
The unprincipled psychopaths are characterized by narcissistic features. These are manipulative, deceitful, parasitic, arrogant, and grandiose individuals with little social conscience and a generally fearless attitude. Caring only for themselves, they are indifferent to the evaluations and complaints of others. Such individuals have a strong tendency towards sub-criminal or white-collar crime. The disingenuous psychopaths are characterized by histrionic features. Like the unprincipled, this type tends to be quite manipulative, deceitful, self-centered, and parasitic. However, they are more impulsive and irresponsible and desire and require constant attention from others, which is their primary interpersonal motivation. As a result, they tend to be very moody and sensitive to criticism. The risk-taking psychopaths are characterized by an insatiable need for stimulation. They are impulsive, bold, and fearless in their pursuits and, consequently, are undependable, irresponsible, and oblivious to others in life. The covetous psychopaths are characterized by a strong sense of entitlement. Although similar to the unprincipled, the covetous psychopaths are motivated by a deep and pervasive sense of emptiness that they try to fill by manipulating and bleeding others as they see fit. They are self-indulgent and show little guilt or remorse over their actions. The spineless psychopaths are characterized by feelings of insecurity and a need for superiority. They have a profound fear of looming dangers, which makes them project hostile intentions onto others and, consequently, motivates them to aggress before they are aggressed upon. Their actions appear compulsive in nature and at the mercy of their obsessive fears. The explosive psychopaths are characterized by poor behavioral controls and a short fuse and, therefore, are unpredictably and reactively extremely hostile and violent. They are quite sensitive to perceived betrayals and characteristically pessimistic about life, responding violently to minor frustrations. The abrasive psychopaths are characterized by intentional and overt antagonistic attitudes and behaviors. They seek conflict no matter the circumstance, yet blame others for its occurrence. The malevolent psychopaths are fearless, vindictive and hostile, with little social affect or care for the consequence of their actions. Distrustful of others and
anticipating retribution, they have developed a callous, ruthless, and instrumental attitude. The tyrannical psychopaths are much like the malevolent but more instrumental and sadistic in nature, gaining pleasure from the pain, both physical and emotional, they cause others. Finally, the malignant psychopaths are characterized by their sub-clinical paranoid features. Feeling as they have been unjustly treated, they are ruthlessly motivated to seek revenge.

Although Millon and Davis’ (1998) typology is richly descriptive, it is obviously over inclusive. For example, the disingenuous, spineless, explosive, and malignant types appear more conceptually related to DSM notions of histrionic, obsessive-compulsive, borderline, and paranoid personality disorders than to psychopathy. Similarly, their risk taking type has little in common with psychopathy aside from being an insatiable sensation seeker. Describing these types as psychopaths not only confuses matters but also is a disservice to the individuals labeled as such, as their pathology is wholly unrelated to psychopathy. Moreover, unlike the symptomatic or pseudopsychopaths of Karpman (1955) and Arieti (1967), their outward manifestations are not necessarily psychopathic. That Millon and Davis (1998) labeled these individuals as psychopathic is likely due to the fact that they admittedly did not base their typology solely on the PCL-R psychopath but more generally on variations of the disorder as depicted in various diagnostic systems, such as the DSM and ICD. Moreover, the features they took as common to all types of psychopaths do not fit generally accepted views regarding defining features of the disorder (e.g., Abbott, 2001; Cleckley, 1941/1988; Cooke & Michie, 1997; Karpman, 1955; Hare, 1991; McCord & McCord, 1964; Rogers, Duncan, Lynett, & Sewell, 1994). Accordingly, their typology appears more related to personality pathology in general than specifically to psychopathy, a concern that was articulated years ago in regards to the German tradition. Nonetheless, their remaining types (i.e., the malevolent, tyrannical, unprincipled, abrasive, and covetous) appear to share some features of psychopathy proper and, more importantly, show a continuity with previous classifications.
Clearly, there is a rich clinical literature regarding psychopathy and its subtypes. Across the typologies of Kraepelin (1907/1981; 1913; 1915, as cited in Werlinder, 1978), Schneider (1950/1958), Partridge (1928), Henderson (1947), Karpman (1955), Arieti (1967), Cleckley (1941/1988), and Millon and Davies (1998), the classic (e.g., born criminal, affectionless, delinquent, predominantly aggressive, aggressive-predatory, simple, full, malevolent, and tyrannical), manipulative (e.g., liars and swindlers, attention seekers, inadequate, passive-parasitic, complex, partial, and unprincipled), and aggressive (e.g., impulsive, explosive, dyssocial, and abrasive) psychopaths are consistently depicted.

In addition, several theorists have made special note of individuals who present much like psychopaths, especially in their (antisocial) behaviors, without showing the same etiology or deficiencies in affect (e.g., Partridge’s incompatible, Karpman’s symptomatic, Arieti’s pseudopsychopaths, and Millon and Davis’ covetous). This latter type likely reflects both the state of affairs regarding the diagnostic confusion in the earlier part of the 20th century and a clinical syndrome that mimics psychopathy in many ways. Indeed, that psychopathy could have various etiological roots has been pointed out by others. For example, McCord & McCord (1964) proposed a neuro-social theory of psychopathy that included three possible etiologies to the disorder: (a) severe early emotional rejection; (b) mild emotional rejection in combination with damage to neural areas that normally inhibit behavior; and (c) mild emotional rejection in combination with a early chaotic environment. That early traumatic environments can cause a phenotypic copy of psychopathy was also proposed more recently by Porter (1996) and Skeem and her colleagues (Skeem et al., in press). Thus, while some psychopaths, to use Cleckley’s terminology, present a mask of sanity, other individuals appear to present a mask of psychopathy.
Limitations of Clinically Defined Subtypes.

Although of clinical and theoretical interest, it is important to note that the psychopathic subtypes reviewed above were not grounded in research but based on clinical intuition and observations. Indeed, very little is known regarding the validity and/or reliability of these typologies, as well as their generalizability to various populations (e.g., women, other races and cultures). Moreover, given their subjective roots, these typologies may, in part, have been affected by several confounds. As mentioned above, the lack of a clear definition guiding clinicians in their work likely resulted in many false positives, as exemplified by the classifications of Pinel, Prichard, Kraepelin, Schneider, and, to a lesser extent, Henderson. Since these typologies were primarily based on clinical impressions (e.g., Karpman, 1955; Arieti, 1967; Millon & Davis, 1998) and research has identified such impressions to often lack validity and/or reliability (Melton, Petrila, Poythress, & Slobogin, 1997; Monahan, 1995), previous typologies were likely also tainted by clinical contaminants, such as impression management and the presence of comorbid disorders.

Impression management, which refers to an instrumental interpersonal behavior in which individuals present in such a way as to maximize benefits and minimize costs (Melton et al., 1997; Paulhus, 1994), is a fundamental feature of psychopathy (Gacono, Meloy, Sheppard, Speth, & Roske, 1995; Hare, Forth, & Hart, 1989; Hervé & Hare, 1999; Rogers & Cruise, 2000). As a result, the clinical impressions of such individuals are likely to be biased in an impression management congruent manner. The impact on clinically derived typologies is that such systems may then be based on intra-individual (i.e., within subject variability) rather than inter-individual (i.e., between subject variability) heterogeneity and, consequently, lack validity. For example, the dyssocials, or at least some of them, and pseudopsychopaths proposed by Arieti (1967), each being heavily characterized in terms of their antisociality, may simply be variants of the same subtype, only differing in terms of their environmental circumstances. Similarly, the malevolent
and tyrannical subtypes proposed by Millon and Davis (1998), each of which are evidently predisposed towards aggressive and callous acts, may be the same subtype, only expressing their violent tendencies in slightly different ways. Consequently, any classification system – to avoid diagnostic confusion and, therefore, to be clinically meaningful – needs to define clear boundaries distinguishing each subtype (Blashfield & Livesley, 1999). An obvious solution to this problem is to rely not on clinical impression, which is too easily confounded, but on some reliable and valid instrument to investigate this issue, such as the PCL-R.

In addition, proposed typologies need to avoid defining subtypes based on the presence of co-morbid disorders, as such disorders likely reflect dual diagnosis issues or false positives rather than subtyping (Blashfield & Livesley, 1999). In regards to dual diagnoses, investigators need to be careful that their classification system reflects psychopathic variations and not variations in Axis I pathology. Typologies that fail to do so run the risk of becoming invalid solely based on the successful treatment of the secondary condition. This issue is especially important within this context, as psychopathy is known to coexist with other disorders (e.g., Hart & Hare, 1989; Rice & Harris, 1995; Stålenheim & von Knorring, 1996). The link between psychopathy and schizophrenia, for example, brings into question the paranoid-like subtype referred to by Arieti (1967) and Millon and Davis (1998). These individuals may be suffering from psychopathy and a sub-clinical form of schizophrenia (e.g., paranoid, delusional, or schizoaffective disorder). In regards to false positives, there is evidence and theoretical speculation that some individuals who display a relatively large number of psychopathic traits suffer from disorders other than psychopathy (e.g., schizotypal personality disorder, borderline personality disorder, posttraumatic disorder of a chronic and longstanding nature; Arieti, 1967; Blackburn & Coid, 1999; Karpman, 1955; Lykken, 1995; Meloy & Gacono, 1993; Porter, 1996; Raine, 1992). In such cases, the diagnostic overlap may reflect the fact that the co-morbid condition, at a superficial level, appears to share many traits in common with psychopathy. For example, Raine
(1992) found schizotypal and borderline personality disorders to be especially linked to the following psychopathic traits: need for stimulation/proneness to boredom; lack of realistic, long-term plans; many short-term relationships; and promiscuous sexual relationships. That disorders share traits in common does not negate the fact that the genesis of deviant personality traits across disorders is likely to vary in significant ways. For example, while the schizotypal individual is likely to be unable to maintain long-term relationships (Raine, 1992), the psychopathic individual is likely to be unwilling to do so (Hare, in press). Clearly, different disorders have different implications for research, practice, and theory. As such, investigators need to ensure that their subtypes refer to individuals with a psychopathic personality disorder rather than with some psychopathy-mimicking condition. As noted previously, labeling such individuals as psychopaths creates confusion within the psychopathy literature and results in a significant disservice to those individuals labeled as such; individuals who, for example, could be refused much needed treatment. A possible solution to these dilemmas is to investigate “pure” groups of psychopaths (i.e., psychopaths with little secondary pathology) and replicate the identified classification system in a sample of psychopaths known to have dual diagnoses, as any variation in findings would bring the typology into doubt (Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair, Anderson, Tatham, & Black, 1998).

Empirically Based Typologies

Irrespective of the limitations associated with previous typologies, the idea that clinically meaningful subtypes of psychopathy can be identified is worth investigating, especially given the consistency with which subtypes have been described in the literature. Not only would such research increase the diagnostic sensitivity and specificity of psychopathy but it may also highlight important risk and protective factors specifically associated with this socially devastating disorder – factors that have yet to receive proper empirical attention. However, as is repeatedly noted in regards to clinical typologies, it is important to anchor the investigation of
psychopathic subtypes to a specific diagnostic entity, such as the one defined by the PCL-R. Prior to classification one requires that the entity being classified be operationalized in a valid and reliable manner (Blashfield & Livesley, 1999 for a review on classification). Since its introduction, the PCL-R has enabled the theoretical and empirical investigation of psychopathy, and its subtypes, to proceed in a much more specific and sensitive manner.

*Theoretically Derived Subtypes*

*Mealey's subtypes.*

Mealey (1995a; 1995b) proposed a sociobiological evolutionary theory of *primary and secondary sociopathy* (i.e., psychopathy). Based on a review of the empirical and theoretical research on the developmental pathways to sociopathy and antisocial personality disorder and on evolutionary models of emotions and game-theories (i.e., theories explaining evolution in terms of adaptations stemming from competitive strategies for successful genetic reproduction), Mealey (1995a) proposed two etiological pathways to psychopathy. On the one hand, primary psychopathy reflects a genotype characterized by an autonomic hyposensitivity to arousal and a certain biologically predetermined temperament or personality that, in combination, make individuals particularly non-responsive to cues required for the normal development of social emotions and morality. Since intellect is unaffected, primary psychopaths’ cognitive development occurs normally except for the fact that it is devoid of emotional depth. As a consequence, their cognitions are purely instrumental, serving only themselves and their needs, which is consistent with their offence pattern (Cornell et al., 1996; Woodworth & Porter, 2002). In other words, Mealey (1995a) proposed that primary psychopaths are biologically predisposed against the development of long-circuited emotions (LCEs) but emerge relatively unscathed in regards to their SCEs. Having no inhibitory emotions, they play the game of life purely on a cost-benefit approach, which is based on immediate gratification with no care for cooperation or for the consequences of their actions. Consistent with research on the PCL-R psychopath
(Cooke, Kosson, & Michie, 2001; Hare, 1998a; 1998c; Hare et al., 2000), Mealey also suggested that primary psychopaths, given their strong biological foundation, would be found in all cultures and facets of society, and be relatively immune to treatment attempts.

On the other hand, secondary psychopaths reflect a phenotype that developed through exposure to environmental risk factors (e.g., disadvantaged social milieu, childhood abuse or neglect, etc.) in individuals who are only mildly genetically predisposed to psychopathy (Blackburn, 1979; Porter, 1996). Unlike the primary psychopath, the secondary is hypothesized to have developed relatively normally both emotionally and cognitively. However, because of a chaotic childhood that leaves them socially, academically, and reproductively disadvantaged in respect to their peers, they seek out alternate and typically antisocial peer groups in which they can prosper. Through involvement in, and competition within, such groups the secondary psychopath develops an instrumental attitude towards life that, although mimicking psychopathy, is nevertheless not devoid of affect. Since it is environmentally induced, Mealey (1995a) proposed that this subtype would be much more likely to fluctuate with environmental changes (i.e., across time and cultures) and be responsive to treatment attempts.

Mealey’s model is closely aligned with both Partridge’s (1930) and McCord and McCord’s (1964) views that psychopathy can develop through either biological or environmental influences (also see Lykken, 1995, Porter, 1996). However, in contrast to other models of primary-secondary psychopathy (e.g., Arieti, 1967; Karpman, 1955), Mealey (1995b) speculated that while her primary psychopaths would score high on Factor 1 (i.e., the interpersonal/affective factor) of the PCL-R and variably on Factor 2 (i.e., the lifestyle/behavioral factor), her secondary psychopaths would only score high on Factor 2, suggesting that this latter type reflects an antisocial rather than psychopathic personality.
Lykken's subtypes.

Lykken (1995) proposed that severe antisocial conditions are of two types: psychopathy and sociopathy. On the one hand, he suggested that psychopathy is a biologically predisposed disorder rooted in a deficient fear response. Throughout development, psychopaths, being relatively insensitive to fear conditioning, fail to learn from punishment and, consequently, mature into self-gratifying adults with little care for the consequences of their actions. On the other hand, he described sociopathy as an environmental adaptation in which antisocial lifestyles and attitudes are required for survival. From an early age, sociopaths, who grow up within disadvantaged milieus, feel rejected by mainstream society and, therefore, gravitate towards antisocial groups. It is within such groups that sociopaths develop their antiauthoritarian views and antisocial ways. As a result, they present much like psychopaths. However, their need for self-gratification is born out of retribution rather than some deficient biological system. Consequently, while they may care little for the consequences of their actions upon their victims, one would expect that they are very much concerned with how their actions impact upon themselves and their associates. Unlike psychopaths, sociopathic variations are hypothesized, variations reflecting differences in environment and antisocial subculture (Lykken, 1995).

Lykken's (1995) theory therefore proposes a genotype and phenotype for personality conditions typified by severe antisociality and, as such, is quite similar to the model proposed by Mealey (1995a) and to the developmental views of psychopathic subtypes put forward by both Partridge (1930) and McCord and McCord (1964). However, his theory fails to account for the specific psychological mechanism(s) that lead to sociopathy and, furthermore, the evidence for his distinction has been mixed, especially in regards to the fear conditioning hypothesis of psychopathy (Hare, 1978; Raine, 2002). One possible explanation for such inconsistent findings is that poor fear conditioning may not be unique to psychopathy but simply characteristic of antisociality (Patrick, in preparation; Raine, 1997; 2002; Raine et al., 2000). Poor fear
conditioning is thought to result in individuals with low autonomic activity (Raine, 1997; 2002); such individuals, whether psychopathic or simply antisocial, develop a fearlessness that facilitates their involvement in high risk behavior (e.g., violence) and that makes them relatively insensitive to punishment throughout their development, thereby enabling them to pursue their selfish and often antisocial pursuits. Accordingly, fearlessness per se might not be central in distinguishing one antisocial individual from another; however, its etiology might be more discriminating. Based on literature reviews, Raine (1997; 2002) speculated that many of the biopsychosocial features of antisociality, including low autonomic arousal, fearlessness, emotional bluntness, attentional and other cognitive deficits, social processes, and antisocial behaviors, are either closely or more distally related to neurocognitive executive functions, which are themselves rooted within the prefrontal cortex. He proposed that prefrontal deficits are central to the development of antisociality. More germane to the present topic, he noted that the nature of the deficit and the psychosocial context in which it develops might help explain the various pathways to antisociality reported in the literature. For example, he proposed that early, lifelong, and severe patterns of antisociality might result from early damage to or dysfunctions of the prefrontal cortex in individuals from disadvantaged environments. However, a similarly disordered individual from a relatively unremarkable environment may develop into a prosocial member of society or, at the very least, may be much less antisocial than his disadvantaged counterpart. In contrast, individuals with no prefrontal damage are much less likely to become antisocial, unless environmentally induced to do so (i.e., come from disadvantaged backgrounds). Indeed, environmental demands might act to overload intact prefrontal resources and, therefore, lead to antisocial acts. This "overloading" hypothesis is thought to occur in individuals whose prefrontal cortex is structurally normal but functionally limited in some way. For example, one's prefrontal cortex might be late to mature (i.e., the prefrontal cortex maturation process continues into the 20s and beyond; Raine, 2002) and/or the demands of a
situation may simply be too overwhelming for one’s executive functioning capacities. If such
demands occur early enough in one’s development and are chronic in nature, they may result in
permanent functional prefrontal dysfunctions that result in chronic rather than situational
antisociality (Raine, 1997). Thus, Raine’s theory appears to provide the etiological background
missing in Lykken’s work. While all forms of psychopathy/sociopathy are likely characterized
by fearlessness, the fearlessness found in genotypic and phenotypic versions likely results from
biological and environmental mechanisms, respectively. Unfortunately, neither Raine’s nor
Lykken’s theories have been empirically validated. Nonetheless, that two pathways to
psychopathy/sociopathy might exist, one biological and one environmental, has much theoretical
appeal.

Porter’s subtypes.

Porter (1996) also proposed two pathways to psychopathy, one resulting in what he
termed the fundamental (i.e., idiopathic, primary) psychopath and the other in the secondary (i.e.,
symptomatic, pseudopsychopath) psychopath. Influenced by Hare’s work (e.g., Hare, 1996a),
Porter (1996) believed psychopathy to be a disorder of affect (i.e., emotional blindness) that
results in an individual whose mental or cognitive life is devoid of emotional meaning. He
speculated, much as had Partridge (1930), McCord and McCord (1964), and Mealey (1995a),
that such a clinical presentation could result from both biological and environmental events (also
see Blackburn, 1979; Lykken, 1995). On the one hand, the fundamental psychopath was believed
to be a genotype in which deep-rooted deviant biological processes, likely within the limbic
system, precluded any emotional development. That is, Porter viewed fundamental psychopaths
as heavily biologically predisposed to the disorder. On the other hand, the secondary psychopath
was believed to be a phenotype in which there is a predisposition not to psychopathy proper but
to some posttraumatic stress response (i.e., perhaps via dissociative processes in which emotions
are separated from cognitions) that, if activated within childhood by some traumatic event (e.g.,
abuse), interrupts or postpones emotional development. The end result, in each case, is a fundamental disruption in the processing of affect – a fundamental feature of psychopathy.

Although similar theories have been put forward in the past (e.g., Partridge, 1930; McCord & McCord, 1964; Mealey, 1995a; 1995b), Porter (1996) was the first to address the issue following the adoption of the PCL-R. As a result, both of his subtypes, unlike, for example, those proposed by Mealey (1995a), appear to fit the PCL-R definition of psychopathy. In addition, Porter’s model not only supports earlier distinctions made between idiopathic and symptomatic psychopathy (Arieti, 1967; Karpman, 1955) but also provides a much clearer etiological perspective. While Karpman and Arieti described symptomatic psychopaths, both stayed relatively clear from etiological issues, likely a byproduct of the fact that they viewed this type as consisting of a heterogeneous set of disorders (from clinical to organic). Although this may well be the case (e.g., acquired psychopathy; Damasio, Tranel, & Damasio, 1990; also see Blackburn & Coid, 1999; Lykken, 1995), by proposing a specific etiological mechanism underlying secondary psychopathy Porter (1996) introduced, for the first time, a relatively homogenous construct (i.e., secondary psychopathy) with clear empirical, clinical, and theoretical implications. In addition, his work reminded others about the importance of considering environmental precursors to psychopathy (Skeem et al., in press). Nonetheless, as his model has yet to be empirically investigated, it remains speculative.

Hare’s subtypes.

Hare (1998b) also proposed that early environment influences the development of psychopathy. However, unlike Porter (1996) who argued for different etiologies with a common development, Hare argued for one etiological pathway with various developmental trajectories. To Hare, all psychopaths suffer from some biologically based deficit (i.e., all are fundamental), with environmental factors only influencing the course of the disorder. Specifically, he noted that psychopaths raised in good environments are less likely to become criminals as compared to
those raised in poor environments, although the former, given their underlying personality structure, may nevertheless engage in white collar crime (Hare, 1998c). That psychopathy can be found in all walks of life and that developmental background can influence the course of the disorder, has long been noted in the clinical literature (e.g., see Cleckley, 1941/1988; Kraepelin, 1907/1981; 1913; Levy, 1950). For example, Schneider (1950/1958), in discussing his affectionless psychopath, noted that, although prone to callous criminal acts, such individuals can easily be found in prominent social positions, especially those psychopaths from higher social classes. Interestingly, recent research supports this notion (Forth & Burke, 1998; Marshall & Cooke, 1995). For example, as part of the MacArthur Violence Risk Assessment Study, Steadman and his colleagues (Steadman, Silver, Monahan, Appelbaum, Robbins, Mulvey, et al., 2000) found that early environment did affect future psychopathic behaviors, with psychopaths who had been sexually abused as children being at greater risk for future violence than those that had not experienced such abuse. Unfortunately, although distally supporting Porter’s model as well, information regarding pre-abuse functioning was not available and, therefore, it is unknown whether or not the abuse caused psychopathy or simply affected its trajectory.

**Empirically Derived Subtypes**

The above review highlights the notion that psychopathic subtypes have much clinical and theoretical appeal. Unfortunately, empirical investigations in this area have been lacking. Of the few studies that have been conducted, methodological constraints in assessment and procedures raise questions as to whether their findings would generalize to psychopaths as defined by the PCL-R. As a result, relatively little is known regarding the validity and reliability with which psychopaths can be classified into subtypes.

*Blackburn’s subtypes.*

Blackburn (1975) conducted one of the first empirical investigations of criminal subtypes in the pre-PCL era. Concerned with clinical tendencies to equate psychopathy with chronic
antisocial behaviors and the empirically unsubstantiated psychopathy definitions of such scholars as Cleckley (1941/1988) and McCord and McCord (1964), Blackburn (1975) set out to investigate the hypotheses that (a) criminal subtypes do in fact exist and (b) that one such subtype represents the Cleckley psychopath. Towards this aim, he cluster analyzed the Minnesota Multiphasic Personality Inventory (MMPI) protocols of 79 forensic-psychiatric patients who had been classified as suffering from a psychopathic disorder (i.e., abnormally aggressive or seriously irresponsible conduct not psychopathy proper). His results suggested that criminals can be subdivided into four meaningful groups or types, the first two of which he identified as primary and secondary psychopaths, respectively. As compared to the other groups, primary and secondary psychopaths were more impulsive, aggressive, hostile, and violent in their crimes and began their criminal careers at an earlier age. Primary psychopaths, consistent with clinical depictions, were additionally characterized by low anxiety and guilt and high extraversion. In contrast, the secondary psychopaths tended to be anxious and introverted. Using other similar self-report measures, Blackburn (1978; 1986; 1996) replicated these findings in other samples and, furthermore, found that primary psychopaths show more narcissistic, histrionic, and sensation seeking traits than do secondary psychopaths, who themselves show more passive-aggressive, schizoid, dependent, avoidant, and paranoid traits. Unlike what would be predicted by theory (Hare, 1970), Blackburn (1979) also found primary psychopaths to show higher levels of cortical and autonomic arousal than do secondary psychopaths. This latter finding, in addition to the fact that his diagnostic criterion was based on self-report measures that have been empirically found to lead to a large number of false positives (i.e., they are heavily weighted towards the behavioral indices of psychopathy; see Hare, 1985; Harpur, Hare, Hakstian, 1989), puts his typology into question. Indeed, when his primary and secondary psychopaths were evaluated with the PCL-R, only 45% and 14%, respectively, qualified for a diagnosis of psychopathy (Blackburn, 1998a). Nonetheless, although his specific groups do not
represent psychopaths as defined by the PCL-R, his category, comparing low and high anxious psychopaths, is in line with clinical and theoretical distinctions between idiopathic and symptomatic psychopaths (Arieti, 1963; 1967; Karpman, 1941; 1946; 1955; Mealey, 1995a; Porter, 1996).

More recently, Blackburn and Coid (1999), based on cluster analyses of the DSM-III personality disorder criteria, found six subtypes of violent offenders, three of which also scored high on the PCL-R. Their cluster analyses revealed the following DSM-based subtypes: antisocial-narcissistic, paranoid-antisocial, borderline-antisocial-passive-aggressive, borderline, compulsive-borderline, and schizoid. On the PCL-R, the first three groups were no different from one another but scored significantly higher than all of the other groups (PCL-R = 32.08, 32.60, 31.62, 20.80, 17.62, 17.85, respectively). Categorically, over three quarters of their participants in each of the first three groups scored above the recommended diagnostic criteria on the PCL-R (76%, 80%, 77%, respectively). Consistent with the literature on psychopathy (Hare, 1996a; 1998a), further analyses revealed these psychopathic groups to have began their criminal careers much earlier, to have a greater number of prior convictions, and to have had a higher lifetime prevalence rate of substance abuse problems than the nonpsychopathic groups. Head-to-head comparisons also found the paranoid-schizoid type to have the highest lifetime history of psychotic disorders and the borderline-antisocial-passive-aggressive type the highest lifetime history of affective and anxiety disorders. In addition, the paranoid-schizoid type had more convictions for fraud and fewer for robbery and firearm offences than the antisocial-narcissistic subtype. When compared to nonpsychopaths, the antisocial-narcissistic and paranoid-antisocial subtypes scored significantly higher on Factor 1 of the PCL-R (i.e., interpersonal and affective traits) and the borderline-antisocial-passive-aggressive on Factor 2 (i.e., lifestyle traits). Blackburn and Coid (1999) tentatively interpreted their findings as supporting their earlier work on primary and secondary psychopaths, with the narcissistic-antisocial described as primary
psychopaths and the borderline-antisocial-passive-aggressive and paranoid-antisocial as secondary psychopaths. However, it could be argued that their paranoid-antisocial type actually represents a primary and manipulative psychopath (e.g., they engage in more fraud type crimes) with comorbid features, much like that proposed by Arieti (1967) and, to a lesser extent, Millon and Davis (1998). As has been noted previously, their reliance on non-PCL measures for classification tells us little about how psychopaths differ in terms of the core features of the disorder, differences that clinicians feel are of paramount importance in distinguishing one psychopath from the next (e.g., Arieti, 1967; Cleckley, 1941/1988; Karpman, 1955). Nonetheless, that one or more types of psychopaths may present with features of other personality disorders has received some empirical support (Alterman, McDermott, Cacciola, Rutherford, Boardman, McKay, & Cook, 1998; Meloy, & Gacono, 1993; Raine, 1992). Moreover, the inclusion of the PCL-R in the validation phase of their study was an improvement on their previous attempts to measure psychopathy via self-report measures and, therefore, provided some support for their primary (i.e., narcissistic-antisocial) – secondary (i.e., borderline-antisocial-passive-aggressive) distinction.

Alterman et al’s subtypes.

In a similar vain, Alterman and his colleagues (Alterman, et al., 1998) investigated subtypes of antisociality in a sample of 252 male methadone patients by cluster analyzing various measures indexing antisocial attitudes and personality traits, including a shortened version of the PCL-R (i.e., they excluded the three items that do not load on any one factor). Their analyses revealed six replicable and temporally stable clusters, each of which were also found to show unique criminal and psychiatric (Axis I/II) histories: early onset, high antisociality (10%); late onset, high antisociality (12%); emotionally unstable, moderate antisociality (18%); nonantisocial, drug-related adult antisocial behavior (17%); psychopathic criminal, moderate antisociality (15%); and low antisociality (28%). Of special interest to the present discussion are
their early onset, high antisociality (Type 1), late onset, high antisociality (Type 2), and psychopathic, moderate antisociality (Type 5) subtypes. Type 1 was characterized by a significant and long history of criminal involvement, drug and alcohol problems, and social maladjustment, as well as by high levels of anxiety and depression, hostility, and paranoid, borderline, and sadistic personality features. Type 2 was similar to Type 1 except that it reflected relatively less antisociality in youth and more features of histrionic and narcissistic personalities. As compared to Types 1 and 2, Type 5 showed a similar adult criminal pattern but less youth antisociality, less problems in social spheres, and markedly less anxiety, guilt, and depression than any other type. At a superficial level, Types 1, 2, and 5 appear in many respects similar to Blackburn and Coid’s (1999) paranoid-antisocial, borderline-antisocial-passive-aggressive, and narcissistic-antisocial subtypes, respectively. However, none of these types actually met the diagnostic criteria for psychopathy (Mean PCL-R for Types 1, 2, and 5 was 21, 23, and 20, respectively; diagnostic cut-off on 17 items = 25.5). Unfortunately, while lower PCL-R scores could simply reflect lower Factor 2 elevations, as would be expected in a non-forensic sample, PCL-R factor comparisons were not conducted because of relatively a high inter-factor correlation ($r = 0.65$). It is unknown to what degree each type reflected the core interpersonal and affective features of psychopathy. Like the Blackburn and Coid (1999) study, this investigation, although suggestive of subtypes along a primary-secondary dimension, tells us little about how diagnosed psychopaths may differ from one another in respect to the degree to which they display the core features of the disorder.

Frick’s subtypes.

In contrast to the work of Alterman and his colleagues (Alterman, et al., 1998) is the emerging research by Frick and his colleagues on psychopathic children and their subtypes (e.g., Christian, Frick, Hill, Tyler, & Fraser, 1997; Frick, Bodin, & Barry, 2001; also see Skeem et al., in press). Based on a child-appropriate version of the PCL-R (i.e., a parent-teacher rating scale;
the Antisocial Process Screening Device [APSD]: Frick & Hare, 2001), Frick investigated whether the APSD factor structure could identify different personality types in clinic-referred and community samples of children (i.e., see Edens et al., 2001; Frick, 2000 for reviews of ethical and methodological issues in the assessment of psychopathy in youth). Like the PCL-R factor structure, the APSD structure has evolved from a two factor (i.e., callous-unemotional [CU] and impulsive-conduct problem [I/CP]) to a three factor (i.e., CU, narcissistic [N], and impulsive [I]) structure (Christian, Frick, Hill, Tyler, & Fraser, 1997; Frick, Bodin, & Barry, 2001, respectively). Based on a cluster analysis of the CU factor of the two-factor solution and symptoms of oppositional defiant and conduct disorders (ODD/CD), Christian, Frick, Hill, Tyler, and Fraser (1997) identified four groups in a sample of clinic-referred children (Mean age = 9 [2.0]): a clinic control group (low on both CU and ODD/CD), a callous/unemotional group (high on CU, low on ODD/CD), an impulsive conduct group (low on CU, high on ODD/CD), and a psychopathic conduct group (high on both CU and ODD/CD), the latter of which displayed the greatest amount of youth antisociality. In a follow-up study using the three-facet model, Frick, Bodin, and Barry (2001) found, via cluster analytical procedures, five groups of children in a community sample (Mean age = 11 [1.6]): a low psychopathy group (low on CU, N, and I); a mild callous group (higher on CU then N and I); a pure narcissism group (higher on N than CU and I); a pure impulsive group (higher on I then CU and N); and a high psychopathy group (high on CU, N, and I). In relation to one another, the low and high psychopathy groups displayed the least and most amount of antisociality, respectively. In addition, the mild callous group showed significantly less behavioral problems than the three other groups with significant scale elevations.

5 Given the age group considered, personality, in this respect, is loosely defined to refer to relatively stable interpersonal, emotional, and behavioral traits.
Together these studies suggest that behaviorally problematic children can be differentiated according to the extent to which they show features associated with psychopathy in adult populations. In addition, these subtypes reflect those believed to underlie adult psychopathy (e.g., Arieti, 1967; Karpman, 1955; Skeem, et al., in press). The psychopathic conduct/high psychopathy groups, possessing high levels of the interpersonal, affective, and behavioral traits of psychopathy, appear similar to descriptions of classic psychopaths. The callous-unemotional group and, to a lesser degree, the mild callousness group, each displaying significant levels of the affective traits of psychopathy but relatively few behavioral problems, may be precursors to adult manipulative psychopathy. The pure narcissistic type, showing a general self-centeredness and significant behavioral problems, brings to mind pictures of the adult aggressive psychopath. Finally, the impulsive conduct/pure impulsive group, showing significant behavioral problems in the absence of affective and interpersonal psychopathic traits, may, depending on further socialization factors, develop into a type of secondary psychopath. However, all of this remains speculative as the long-term course of these subtypes has yet to be investigated (Edens et al., 2001; Skeem, et al., in press). Nonetheless, Frick’s work has theoretical appeal and, more importantly, his methodology, using psychopathy facets to identify subtypes, is a significant step forward in this area.

The bad apples-II.

Empirical studies, although few in number, appear to support the notion that psychopathy may in fact include subtypes. Empirically, there appears to be greater support for the primary-secondary distinction than for the finer idiopathic categories (Alterman, et al., 1998; Blackburn & Coid, 1999). However, this may reflect methodological limitations rather than reality, in that studies have typically relied on classifying psychopaths according to comorbid features rather than according to the extent to which they display the core features of the disorder. Indeed, research employing the latter approach, although limited in its own ways, not only supports the
primary-secondary distinction but the classic-manipulative-aggressive idiopathic distinction as well (e.g., Christian, Frick, Hill, Tyler, & Fraser, 1997; Frick, Bodin, & Barry, 2001).

Empirical Differences Among Psychopaths

In addition to the direct investigation of psychopathic subtypes, there is indirect evidence in support of the view that psychopaths, although unquestionably different as a group from nonpsychopaths, may vary from one another in certain important respects as well.

Low and High Anxious Psychopaths

The notion that primary and secondary psychopaths may differ in terms of their ability to experience anxiety has received the most empirical attention. This area of inquiry stems from various clinical accounts depicting primary psychopaths as incapable of experiencing pathological anxiety, that is long-circuited or future oriented anxiety as seen, for example, in the spectrum of DSM anxiety disorders (e.g., Arieti, 1963; Cleckley, 1941/1988; Karpman, 1955; McCord & McCord, 1964). In contrast, secondary psychopaths, whose underlying pathology is altogether different from that of primary psychopaths, presumably experience a great deal of internal conflict that, in theory, could manifest as anxiety; that is, chronic tension or worry not pathological anxiety (Arieti, 1963; Karpman, 1961; Porter, 1996). In partial support of this theory, Kosson, Smith, and Newman (1990) found some psychopaths to score highly on self-report measures of anxiety (also see Schmitt & Newman 1999). Intrigued by this finding, Newman and his colleagues began dividing their psychopathic and nonpsychopathic groups into high and low anxious participants and, as a result, found high and low anxious psychopaths to differ on experimental tasks (e.g., Arnett, Smith, & Newman, 1997; Kosson & Newman, 1995; Newman & Schmitt, 1998; Newman, Wallace, Schmitt, & Arnett, 1997). For example, while low-anxious psychopaths show deficits in passive avoidance (i.e., inhibition of response) as compared to low-anxious nonpsychopaths, high-anxious psychopaths show no such deficit, performing as if nonpsychopathic. Further research suggests that low-anxious psychopaths have
specific difficulty integrating peripheral information once engaged in reward seeking behavior, an attentional rigidity not seen in high-anxious psychopaths (Newman, 1998). According to Newman, these findings suggest that low-anxious psychopaths, as theory would predict (Fowles, 1980), either have an overly active BAS (i.e., are very sensitive to reward; Gorenstein & Newman, 1980) or a malfunction in communication between the BIS and the BAS (i.e., response modulation deficit; Patterson, Kosson, & Newman, 1987). Since secondary psychopaths show no such deficit, these findings could be interpreted as supporting the primary-secondary distinction (Skeem, in press).

However, in light of other contradictory findings and methodological concerns regarding Newman’s line of research, this conclusion is premature. Several studies, for example, have failed to find differences between low and high anxious psychopaths on similar, as well as other, experimental tasks (e.g., Arnett, Smith, & Newman, 1997 [Experiment 2]; Brinkley, Newman, Harpur, & Johnson, 1999; Doninger & Kosson, 2001; Howard, Payamal, & Neo, 1997). More importantly, their measure of anxiety, which typically relies on the MMPI/MMPI-II Welsh Anxiety Scale (WAS; Welsh, 1956), is of questionable validity when it comes to measuring anxiety (Butcher, Graham, Ben-Porath, Tellegen, Dahlstrom, & Kaemmer, 2001; Greene, 2000). While some studies suggest that higher scorers are likely to report more symptoms of anxiety, other research suggests that this scale simply measures general maladjustment, with higher scores being less well adjusted (Butcher, et al., 2001; Greene, 2000). Paradoxically, Newman himself (Schmitt & Newman, 1999) found the WAS only correlated mildly with other anxiety measures ($r = 0.40 - 0.63$). In addition, Newman and his colleagues administered the WAS in a nonstandard fashion (i.e., in isolation rather than as part of the MMPI). Although norms exist for the WAS, these researchers separate participants based on the sample median, the logic of which is unclear. As noted previously, self-report measures, especially when it comes to assessing psychopaths, are of questionable utility. Finally, according to the long-circuited deficit
hypothesis of psychopathy (see above), self-report measures may not actually be adequate to assess the anxiety differences between primary and secondary psychopaths. Specifically, although secondary psychopaths, given their internal conflicts, are more likely to report a chronic type of anxiety (i.e., worry and tension) at any given time, the primary psychopath, whose incarceration blocks his ability to satisfy his/her SCEs, may report experiencing frustration, tension, and worry in light of his/her current situation. The end result is that each type would be undifferentiated on global measures of anxiety. Together, this suggests that Newman’s low and high anxious psychopaths, rather than reflecting a primary-secondary division, could simply be two idiopathic psychopaths, with the former likely being classic and the latter aggressive (e.g., Arieti, 1967; Millon & Davis, 1998).

The concerns raised in regards to this line of research also calls into question Schmitt and Newman’s (1999) critique of the PCL-R. These authors suggested that the PCL-R’s inability to explicitly\(^6\) account for anxiety, or the lack there of, weakens its construct validity in that it cannot differentiate primary from secondary psychopathy. Although one cannot deny that subtypes likely introduce noise in research paradigms, it is important to note that the PCL-R is a diagnostic tool whose sole purpose is to identify psychopaths irrespective of type. Given the almost perfect phenotypic copy of the secondary psychopath (Arieti, 1963; Karpman, 1961; Porter, 1996), it is not surprising that it is difficult to differentiate this group from primary psychopaths based solely on their overall level of psychopathy (i.e., total scores). Possibly, the recent emergence of the new PCL-R factor structures will help shed some light on this issue in a matter akin to the research by Frick and his colleagues (Christian, Frick, Hill, Tyler, & Fraser, 1997; Frick, Bodin, & Barry, 2001); that is, such research may show psychopathic subtypes to vary in terms of their interpersonal, affective, and behavioral presentations.

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\(^6\) Note, however, that the PCL-R’s interpersonal and affective items implicitly take into account the psychopath’s lack of anxiety, as well as other emotions (Hare, 1991, 2002).
Linguistic Differences Between Psychopaths

Recent findings support the notion that PCL-R psychopaths may differ from one another in terms of their interpersonal skills. For example, Gretton (1998), as part of a larger study, found that some adolescent offenders with high scores on the Psychopathy Checklist: Youth Version (PCL: YV; Forth, Kosson, & Hare, in press), tended to be more violent or aggressive in their crimes while others tended to be more manipulative. Further analyses revealed that the aggressive psychopaths had lower verbal intelligence quotient than performance intelligence quotient (i.e., VIQ < PIQ) on the Wechsler Intelligence Scale for Children (WISC-III) and that the manipulative group showed the opposite pattern (i.e., VIQ > PIQ). Similar linguistic differences were also observed by Roussy (1999). This investigator found that psychopaths demonstrating behavioral problems as children achieved lower VIQ scores and educational performances in adulthood than those psychopaths with unremarkable backgrounds. Given evidence suggesting that delayed language development appears to be a contributing factor to antisociality at later ages (Stattin & Klackenberg-Larsson, 1996), Gretton’s and Roussy’s findings not only lend support to the distinction between manipulative and aggressive psychopaths but also point to developmental precursors of each subtype, with the latter possibly being developmentally delayed in his/her acquisition of language as compared to the former. In addition, given that many interpersonal skills (e.g., manipulation, superficial charm, etc,) rely heavily on language (Hare, 1998a; 1998c), the findings support the clinical speculations regarding psychopathic variability in interpersonal presentation (e.g., Arieti, 1967; Karpman, 1955; Hare, 1998c; Millon & Davis, 1998).

Behavioral Differences Between Psychopaths

Research is also starting to gather support for the idea that PCL-R psychopaths differ from one another with respect to the lifestyle manifestations of the disorder (Hare, 1998c). For example, although research has identified psychopaths as being at high risk to recidivate, the fact
remains that not all psychopaths re-offend (for a review, see Hemphill et al., 1998). Although some of these apparently “successful” psychopaths may have simply moved jurisdiction to avoid detection, have gotten ‘better’ at committing crimes, or died, the fact that not all psychopaths recidivate indicates behavioral variability. That successful psychopaths may differ in significant ways from unsuccessful psychopaths is further supported by a recent study conducted by Ishikawa et al. (2001). These investigators compared the autonomic reactivity, executive functioning, and psychosocial and criminal histories of successful and unsuccessful PCL-R psychopaths recruited from the community, with success defined as not ever having been convicted of an offence. Results indicated that, while unsuccessful psychopaths showed the predicted decreased autonomic reactivity (Hare, 1970, 1978; Raine, 2002), successful psychopaths actually showed heightened autonomic reactivity, stronger executive functioning, and greater childhood parental absence. This suggests that successful and unsuccessful psychopathy, although identical in respects to the core features of psychopathy (i.e., they did not differ on Factor 1), may have different underlying pathologies (Ishikawa, et al., 2001), with the former being a product of environment (i.e., parental absence) and the latter of biology (i.e., autonomic reactivity). Although these finding are limited in light of the psychopathy assessments used (i.e., lower psychopathy thresholds and limited collateral information), they are nevertheless theoretically appealing, and lend further support to the idiopathic-symptomatic distinction.

Finally, research has demonstrated that some psychopaths are more violent than others (Gretton, 1998). The best example of this comes from the results of the MacArthur Violence Risk Assessment Study (Monahan et al., 2001; Steadman et al., 2000). As a result of this multi-site violence risk study, the largest risk study of its kind, a new risk assessment scheme was developed based on a classification tree approach. Consistent with previous research (Hare, 1996a; 1998a), psychopathy, as assessed by the screening version of the PCL-R (i.e., PCL: SV;
Hart, Cox, & Hare, 1995), was the single best predictor of violent re-offending and therefore the first step in the classification tree. Of special interest to the current topic is that serious childhood abuse, including sexual abuse, additionally predicted violent re-offending, specifically in psychopaths. Psychopaths who had been seriously abused as children were at greater risk for future violence than those that had not experienced such abuse, which is consistent with Harris, Rice, and Lalumiere’s (2001) finding that inadequate, antisocial parenting is related to psychopathy.

The Three Masks of Sanity and the One Mask of Psychopathy

Based on the above review, it appears that the clinical, theoretical, and empirical literatures support the notion that psychopathic subtypes do in fact exist. Moreover, the various lines of inquiry are all strikingly similar in their conclusions. The distinction of central importance across the literature appears to be between primary or idiopathic and secondary or symptomatic psychopathy. The former is believed to be a biologically predetermined genotype and the latter an environmentally induced phenotypic copy. While both show profound deficits in the experience of affect, which is believed to be the core feature of psychopathy, their respective pathology varies in important respects. On the one hand, the idiopathic’s deficit is believed to be one in which biological emotive mechanisms are disabled from an early age and, therefore, preclude the development of complex, social emotions. On the other hand, the symptomatic’s deficit is thought to result from early traumatic events (e.g., from abuse, neglect, or from being socialized in a disadvantaged environment) that block the development of, or turns off, complex, social emotions in a biologically intact individual.

In addition to this primary-secondary distinction, evidence suggests that idiopathic psychopaths may differ from one another as well, especially in respect to the level at which they display the interpersonal and behavioral aspects of psychopathy. While this sub-typology has received relatively less attention from clinicians, theorists, and researchers, the depictions that
have been put forward are quite consistent in the kind and number of suggested subtypes. The classic psychopath consistently emerges as one who embodies all of the features of psychopathy. In contrast, the manipulative and aggressive psychopaths appear relatively less psychopathically loaded but no less socially destructive, with the former reeking havoc by bleeding others through manipulation and deceit and the latter through hostile and aggressive acts. In these cases, environmental factors are thought to account for the differences. On the one hand, an idiopathic individual born into a chaotic environment is likely to develop into an aggressive psychopath, while, on the other hand, an idiopathic psychopath from a stable and loving environment is likely to become manipulative with development. Presumably, a verbally gifted idiopathic psychopath who, early on in development, is exposed to a violent way of life will become classic rather than simply aggressive or manipulative in nature. However, comorbid biological deficits in autonomic functioning and in various neurocognitive domains (e.g., in prefrontal and temporal areas) cannot be ruled out (Raine, 2002).

Individual differences among psychopaths are likely to be reflected at the levels at which they display the core interpersonal, affective, and lifestyle characteristics of the disorder, a theory and methodology that has yet to be explored empirically in adult populations of psychopaths. The interpersonal, affective, and lifestyle features of psychopathy have been operationally defined by Hare (1991) and empirically validated in recent item response theory (Cooke & Michie, 1997; Bolt et al, 2002) and confirmatory factor analyses of the PCL-R (Cooke & Michie, 2001; Parker et al., 2002). These analyses support either a three- or four-facet structure (PCL: 3F [Interpersonal, Affective, Lifestyle]; Cooke & Michie, 2001; PCL-R 2nd Ed. [Interpersonal, Affective, Lifestyle, Antisocial]; Parker et al, 2002, respectively), both of which were used in the present investigation to examine whether psychopathic subtypes could be differentiated from one another in a clinically meaningful fashion. PCL: 3F scores for each facet for several samples of
offenders were cluster analyzed. In addition, the newest four-facet structure from the second edition of the PCL-R (Hare, 2002) was investigated in one sample for comparative purposes.

The proposed methodology limits the number of subtypes that can be investigated, with the maximum number, based on high and low facet loadings, being eight and 16 with the three- and four-facet models, respectively. Based on the above literature review, one could expect anywhere from two (e.g., Cleckley, 1941/1988; Kosson & Newman, 1995; Skeem et al., in press) to ten (e.g., Millon & Davis, 1998) different types of psychopaths to emerge in the present investigation, with the primary-secondary distinction being the most discussed and, therefore, the most likely to be empirically replicated. Nevertheless, given recent findings (e.g., Frick, Bodin, Barry, 2001; Gretton, 1998; Ishikawa et al., 2001; Roussy, 1999), a more refined typology was hypothesized to emerge in the present investigation, one reflecting both the clear distinction in emotional presentation between idiopathic and symptomatic psychopaths, and the more subtle interpersonal and lifestyles differences believed to differentiate primary psychopaths from one another. Accordingly, it was hypothesized that all idiopathic psychopaths would possess the affective characteristics of the disorder to high degrees, that idiopathic group differences would emerge on the interpersonal and behavioral facets, and that symptomatic psychopaths would possess relatively less of the affective features of psychopathy. Specifically, four psychopathic subtypes were expected: (1) the classic psychopath, with a high score on all three facets of the PCL: 3F; (2) the manipulative psychopath, with a high score on the interpersonal and affective facets and a relatively low score on the lifestyle facet; (3) the macho psychopath, with a high score on the affective and lifestyle facets and a relatively low score on the interpersonal facet;

7 The label “macho” (Hare, 1991) rather than “aggressive” was used, as the methodology employed would not directly address aggressive or violent tendencies.
and (4) the pseudopsychopath, with a relatively low score on the affective facet and a high score on the interpersonal and lifestyle facets.

Method

Cluster Analysis: A Review

Cluster analysis (CA) is an objective methodology for quantifying the structural characteristics (e.g., facet loadings) of a set of observations (e.g., from offenders) according to specific mathematical procedures (Blashfield & Aldenderfer, 1988, Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair, Anderson, Tatham, & Black, 1998; Hartigan, 1975; Norusis, 1994). It has no underlying assumptions and is not concerned with significance testing but with the measurement of relatedness between different objects within a predefined multidimensional space and with the classification of related objects into meaningful groups. CA appears more akin to a measurement tool than to a statistical procedure. Following is a brief review of cluster analysis and its various components, with special emphasis placed on the clustering procedures depicted in SPSS, Version 10, the statistical package used to complete this investigation. Further details regarding procedures central to the current investigation are discussed below in relevant sections.

There are two main components to CA: The measurement of interobject similarity; and the classification of objects (Blashfield & Aldenderfer, 1988, Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair, Anderson, Tatham, & Black, 1998; Hartigan, 1975; Norusis, 1994). Interobject similarity refers to the degree of correspondence or resemblance among objects to be clustered. It does not specify how items are combined but simply how alike different objects are. When dealing with continuous data, as in the present study (i.e., facet scores are measured on interval scales), there are two main classes of measures of interobject similarity:

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8 The label "pseudopsychopath" rather than "secondary" was chosen to highlight the fact that this subtype, differing in regards to his/her affective deficit, is not a true psychopath. The labels "symptomatic" or "sociopathic" were not selected as they have etiological connotations that the current methodology cannot address.
similarity to choose from, each having unique ways of weighing data characteristics.

Correlational measures (e.g., correlation coefficients) are measures of similarity (i.e., larger values denote greater similarity) that focus upon the correspondence of patterns across the characteristics of interest and, therefore, pay little attention to any magnitude differences across variables (Hair et al., 1998). Such measures are relatively resistant to range, distribution, and dispersion differences among the clustering characteristics. Distance measures (e.g., squared Euclidean distance) are measures of dissimilarity (i.e., larger values denote lesser similarity) that focus on the proximity of observations to one another across the characteristics of interest (i.e., focuses upon multidimensional proximity). Unlike correlational measures, distance measures are sensitive to both pattern and magnitude differences, albeit more so to the latter than to the former (Hair et al., 1998). Most distance measures are vulnerable to range, distribution, and dispersion differences among the clustering characteristics; variables with skewed distributions and larger scales and standard deviations exert the greatest influence upon the final similarity values (Blashfield & Aldenderfer, 1988; Everitt, 1980; Hair et al., 1998; Norusis, 1994). Accordingly, some authors advocate for the standardization/transformation of variables prior to distance-based clustering (Gore, 2000). However, this procedure serves to artificially equate the weights of the clustering characteristics, thereby distorting the real-world relationship among variables (e.g., standardizing/transforming limits the effects of magnitude differences; standardizing/transforming might minimize the real-world importance of one variable over another; Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). Therefore, if there are no theoretical and/or practical reasons to standardize/transform variables, then raw data should be employed as it results in a more sensitive measure of similarity and avoids any experimenter-induced biases (i.e., reduces subjectivity), which is especially important when conducting exploratory research (Everitt, 1980; Everitt, Landau, & Leese, 2001). Overall, unless solely interested in pattern-based relationships, distance measures
appear to be the method of choice, with the squared Euclidean distance receiving the most attention as it is the most flexible of these measures (i.e., most sensitive to both magnitude and pattern differences; Blashfield & Aldenderfer, 1988, Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair et al., 1998; Norusis, 1994).

Once a measure of interobject similarity has been selected, the classification of objects can proceed. This process is accomplished through the use of clustering algorithms, which are a set of mathematical formulas that operationalize specific criteria for grouping objects together (i.e., are decision rules used in the combination of objects; Blashfield & Aldenderfer, 1988, Everitt, Landau, & Leese, 2001; Gore 2000; Hair et al., 1998; Norusis, 1994; Romesburg, 1990). There are two main classes of clustering algorithms: hierarchical and nonhierarchical. Hierarchical clustering refers to a non-iterative procedure that joins individuals or groups in a stepwise fashion, thereby resulting in a tree-like construction of clusters. Unfortunately, the non-iterative nature of this method leaves it highly susceptible to distortions resulting from poor initial partitions (i.e., once clusters are formed, they are irrevocable; Everitt, Landau, & Leese, 2001; Gore, 2000). The ordering of the data in some theoretically and/or clinically meaningful manner can help reduce the incidence of poor initial partitions (Hair et al., 1998). Hierarchical clustering can follow either an agglomerative (i.e., goes from many clusters to one) or divisive (i.e., goes from one cluster to many) schedule, with the former receiving the most support (Blashfield & Aldenderfer, 1988, Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair et al., 1998; Hartigan, 1975; Norusis, 1994; Romesburg, 1990). Numerous agglomerative methods have been developed, each with unique ways of defining group differences. The following seven methods were considered for the purpose of the present study:

1. **Single Linkage** (or Nearest Neighbor; Blashfield & Aldenderfer, 1988; Everitt, 1980):

   This method combines those individuals/groups that have the smallest distance between their nearest members (i.e., looks at the similarity of the most similar pair of objects). It
can be used with both similarity and distance measures. Although this is the most mathematically sound of all the methods, it is highly liberal in its clustering and typically only performs well when groups are well separated. If the data contain noise (i.e., points between well-defined clusters), this method becomes highly sensitive to chaining (i.e., the joining of objects based on their one-dimensional proximity).

2. **Complete Linkage** (or Furthest Neighbor or Diameter Method; Blashfield & Aldenderfer, 1988; Everitt, 1980): This method combines those individuals/groups that have the smallest distance between their furthest members (i.e., looks at the similarity of the least similar pair of objects). It can be used with both similarity and distance measures. This is a very conservative method that is relatively resistant to chaining and that tends to result in clusters that are compact and spherical.

3. **Average Linkage** (Blashfield & Aldenderfer, 1988; Everitt, 1980): This method combines those individuals/groups with the smallest average distance between them (i.e., looks at the average similarity resulting from calculating the distance between all pairs of objects). It can be used with both similarity and distance measures. It tends to combine clusters with small within-cluster variation and is biased towards the production of clusters with similar variance. Unlike the nearest and furthest neighbor methods, average linkage takes into account all members of clusters. There are two types of Average Linkage methods:

   a. **Between Group** (Norusis, 1994): This method defines the distance between two clusters as the average of the distances between all pairs of cases in which one member of the pair is from each of the two clusters.

   b. **Within Group** (Norusis, 1994): This method defines the distance between two clusters as the average of the distances between all possible pairs of cases in the resulting cluster.
4. **Centroid Method** (Blashfield & Aldenderfer, 1988; Everitt, 1980; Norusis, 1994): This method combines those individuals/groups that have the smallest distance between their centroids; that is, between their center of mass (i.e., the mean values of the observations on the variables in the clusters). It can be used with both similarity and distance measures. This method has the advantage that it tends to be resistant to distortions produced by the presence of outliers. However, it often results in reversals (i.e., a decrease in distance at which clusters are combined from one step to the next), which is counterintuitive given that clusters are supposed to be less and less similar as clustering proceeds. It also overemphasizes the characteristics of larger groups during the joining of clusters, thereby obscuring the unique contributions of smaller groups.

5. **Median Linkage** (Blashfield & Aldenderfer, 1988; Everitt, 1980; Norusis, 1994): This method combines those individuals/groups that have the smallest distance between their centroids and does so under the assumption that all groups are of equal size. Accordingly, the Median Linkage, unlike the Centroid Method, weighs groups equally, thereby enabling each to have an influence on the final results. It should only be used with distance measures of interobject similarity. This method is sensitive to chaining and is biased towards finding optimally connected clusters rather than homogenous clusters.

6. **Ward’s Method** (or Minimum Variance; Blashfield & Aldenderfer, 1988; Everitt, 1980): This method combines those individuals/groups that result in the smallest possible increment in cluster variance (i.e., the combination of clusters occurs for the two clusters that will produce the smallest possible increase in variance). It can be used with either similarity or distance measures. This method tends to combine clusters with a small number of observations and is biased towards the production of clusters of equal sizes.

Nonhierarchial (or K-means) clustering refers to an iterative process that joins individuals/groups so as to optimize the fit between the data at hand and some predefined

Unlike hierarchical clustering, it relies on an optimizing procedure (i.e., iterative process) that allows objects to move from one cluster to another in order to correct for early misclassifications; therefore, the final solution cannot be hierarchical in nature. It further differs from hierarchical clustering in that it requires a starting point. This starting point consists of the number of clusters to expect and their centers (i.e., the anticipated average values of the characteristics specific to the cluster in question). In contrast to hierarchical clustering, this type of CA requires the user to pre-specify the exact number of clusters to be investigated, limiting its use to times in which prior knowledge regarding the number of clusters exists (Everitt, 1980; Gore, 2000; Hair et al., 1998). Cluster centers can be either computer-generated (e.g., randomly assigned) or user-specified (e.g., based on theory or some prior classification) and can either remain static (i.e., fixed throughout the clustering procedure) or be dynamic (i.e., updated each time a member is added to a cluster). As long as well-formulated hypotheses exist about the number and characteristics of clusters, then the literature suggests the use of user-specified centers over computer generated ones as the former method in effect acts as a confirmatory, a priori analysis and the latter as an exploratory, post-hoc analysis that is less effective than most hierarchical procedures (Everitt, 1980; Gore, 2000; Hair et al., 1998). Dynamic procedures are preferred over static procedures as they allow for additional fine-tuning (Everitt, 1980; Gore, 2000; Hair et al., 1998). Once an initial clustering configuration has been chosen, objects are allocated to the cluster to which they have the most resemblance (i.e., to the cluster whose center is nearest to the object), with resemblance typically being based on some distance measure and allocation, within SPSS (v.10), on the nearest centroid sorting algorithm (Norusis, 1994). After completing this initial classification, a search is made for objects that require reallocation (i.e., objects that were initially wrongly classified). This search terminates after a predetermined
number of iterations has been reached or once reallocation results in little change in the final clustering configuration.

In theory, the iterative process of nonhierarchical clustering makes this procedure more appealing than hierarchical methods (i.e., being able to correct errors has clear advantages). In practice, however, each type of clustering has its own advantages and disadvantages (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore, 2000; Hair et al., 1998; Hartigan, 1975; Norusis, 1994; Romesburg, 1990). Hierarchical methods are ideal when looking for hierarchical structures and when conducting exploratory research. They perform best and equally well with well-separated, spherical groups. Unfortunately, real-world clusters are rarely well defined and are not necessarily spherical in nature (Everitt, 1980; Gore, 2000; Hair et al., 1998). In such cases, Average Linkage (Between and Within Group) and Ward’s Method appear to be the most ecologically valid of the hierarchical methods (i.e., best at retrieving real clusters), with the latter performing best when investigating groups of equal size. The evidence appears mixed for Complete Linkage and Median Linkage, with the former receiving the most support. Single Linkage and Centroid Method appear to be the least ecologically valid (i.e., fail to retrieve real clusters) and, consequently, their use is not recommended. Although the use of Ward’s Method, Average Linkage-Between Group, Average Linkage-Within Group, Complete Linkage, or Median Linkage appears justifiable, it is important to note that each has its own set of classification biases that impose a particular structure upon the data (i.e., result in clusters of specific shapes and sizes) that does not necessarily reflect the actual structure inherent in the data at hand (Everitt, 1980). Therefore, unless the shape and size of clusters can be determined a priori, there is no objective basis to pick one method over another (Everitt, 1980); doing so would reflect the experimenter’s bias and, more importantly, would put into question the validity of the procedure (i.e., weaken statistical conclusion validity; Kazdin, 1992), thereby limiting the validity of the resulting solution in a manner analogous to how single operations and narrow
stimulus sampling threaten construct validity (Kazdin, 1992). One way to avoid introducing experimenter bias in this process is to use several methods and compare their results (Everitt, 1980; Hair et al., 1998; Hughes, 1979; Romesburg, 1990), a procedure akin to having multiple raters and assessing interrater reliability or having multiple measures and assessing convergent validity (Kazdin, 1992). The idea behind such an approach is that if clusters do in fact exist (i.e., are well-defined) then they should emerge irrespective of the method used. Conversely, if different algorithms yield different clustering solutions, then the clusters are likely to be only weakly defined and/or represent artifacts of the clustering methods. If cross-method consistency exists, then the least biased/most valid estimate of the classification in question is likely to be the average solution.

Nonhierarchical clustering is ideal when investigating large data sets, when clusters are not hierarchically related, and when conducting confirmatory research. When the number of clusters and their centers are selected according to well-defined objective guidelines, k-means clustering performs as well as, if not better then, either Ward's Method or Average Linkage (Everitt, 1980; Gore, 2000; Hair et al., 1998). In such cases, nonhierarchical procedures are less susceptible than hierarchical methods to outliers, to the distance measure used, and to the inclusion of irrelevant or inappropriate variables. Unfortunately, selecting the most appropriate starting point is highly susceptible to experimenter bias, especially when the analyses are exploratory in nature; by definition, there is no way to know how many clusters to expect and/or their specific configuration if one is conducting exploratory research. Even theoretically and/or clinically driven starting points are vulnerable to interpretive biases; that is, to the experimenter's particular theoretical and/or clinical orientation. This is not to say that CA should be undertaken in a theoretical vacuum. Quite to the contrary: A clear theoretical and/or clinical grounding provides the guidelines by which to choose the appropriate procedure (e.g., which variables to select, whether or not to standardize the data, what type of distance measure to use, what solution
to select, etc.) and, therefore, serves to objectify the subjective steps of CA, thereby addressing one its biggest criticisms (Blashfield & Aldenderfer, 1988, Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair et al., 1998; Hartigan, 1975; Norusis, 1994; Romesburg, 1990). Another way to reduce experimenter bias is by combining the objectiveness of hierarchical procedures with the self-correcting nature of nonhierarchical methods (Blashfield & Aldenderfer, 1988, Everitt, 1980; Gore 2000; Hair et al., 1998; Norusis, 1994; Romesburg, 1990).

Hierarchical techniques can be used to establish the number of clusters, profile the cluster centers, and identify any obvious outliers. The resulting hierarchical structure (i.e., the number of clusters and their centers) can then be used as a starting point in the nonhierarchical analyses, permitting the latter method to fine-tune the results by allowing the switching of cluster membership.

General Procedure

Following the most stringent cluster analytical procedures (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair, et al., 1998; Hartigan, 1975; Norusis, 1994; Romesburg, 1990), this investigation was conducted within a strong theoretical framework and in a step-wise fashion. Given the lack of research on this topic, Study 1 was exploratory in nature. Part 1 made use of hierarchical cluster analysis to identify a stable clustering solution. Scores on three facets of psychopathy (Cooke & Michie, 2001), for a sample of psychopaths selected from a population of adult male correctional inmates, were subjected to five different types of hierarchical cluster algorithms. Part 2 made use of non-hierarchical procedures – a clustering method that, unlike hierarchical methods, continuously corrects errors in cluster assignment (Hair et al., 1998; Hartigan, 1975) – to provide a non-independent replication of the previously identified solution. For comparative purpose, the above procedure was repeated using the newly developed four-facet structure of psychopathy (Hare, in press; Parker et al, 2002).
Studies 2 and 3 assessed the reliability and generalizability, respectively, of the previously identified three-facet clustering solution. Given that the purpose of these latter studies was to address whether or not the typology was replicable, confirmatory, or non-hierarchical, cluster analytical procedures were employed (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair, et al., 1998; Romesburg, 1990). Study 2 consisted of independent replications of the clustering solution in two additional samples of adult male correctional psychopaths from North America and England, respectively. Study 3 aimed to replicate the clusters in independent samples, each varying from one another in terms of theoretically important subject variables. It was assumed that if the psychopathic subtypes previously identified are indeed valid and reliable then they should consistently emerge in samples of psychopaths, irrespective of race, gender, and/or psychiatric condition (Hair et al., 1998). Parts 1, 2, and 3 aimed to replicate the cluster solution in adult samples of African-American males, North American females, and incarcerated European (i.e., English, Scottish, and Swedish) psychiatric psychopaths, respectively.

Finally, Study 4 made use of univariate analyses in order to assess the possible confounding influence of age in the previous cluster analyses. This step was essential to ensure that the various clusters identified reflected a natural division and not age related differences (e.g., differences in lifestyle facet scores could possibly be related to age differences as younger individuals may simply not have had the opportunity to display the same amount of psychopathic behaviors as their older counterparts).

Study 1: Exploratory Investigation

Participants

Sample 1.

The analyses were performed on the PCL-R data of male offenders selected from a database of 411 adult correctional inmates who had participated in research conducted in various
medium-to-high security correctional institutions around Vancouver, British Columbia between 1985 and 1999. For clarity, this sample will be referred to as Sample 1. The average age of the offenders was 29.4 (SD = 7.9) and the majority (83%) were of European descent.

Trained researchers, using a semi-structured interview and file information\(^9\), conducted the PCL-R assessments. Double ratings were available for all 411 subjects and the Spearman-Brown intraclass correlation coefficients of reliability for a single rating and for the average of two independent ratings was .83 and .91, respectively. Scores were averaged across raters, with a sample PCL-R mean score of 25.4 (SD = 7.1)\(^{10}\). A score of 30 or above is typically used for a research diagnosis of psychopathy (Hare, 1991). However, a score of 27 or above was selected for the present study, for two reasons. First, this particular score is approximately one standard error of measurement below the recommended cut-off and, therefore, takes into account the measurement error associated with a cut-off of 30 (Hare, 1991). Therefore, a cut-off of 27 should either correct for false negatives (i.e., by including them in emerging clusters) or result in false positives (i.e., by creating an independent cluster), each of which would have important theoretical implications. Second, by adopting a liberal cut-off the sample size was augmented, thereby increasing the validity and reliability of the cluster analyses (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). The resulting sample consisted of 202 “offenders” (i.e., 49% of original sample). The mean PCL-R score and mean age for this sample was 31.1 (SD = 2.8) and 29.2 (SD = 8.1), respectively.

\(^9\) Assessments conducted without an interview were not deemed appropriate for this research as such assessments may misrepresent offender’s true interpersonal and affective styles and, thus, artificially influence the analyses (Grann, Långström, Tengström, & Stalenheim, 1998; Wong, 1988).

\(^{10}\) While this mean score is relatively high compared to other samples (Hare, 1991), it likely reflects the fact that offenders in this sample were generally from high security institutions where higher psychopathy levels are expected.
For each offender, the PCL-R assessments were used to obtain a score on each of the four facets of psychopathy\(^{11}\) described by Hare (2002); Facets 1-3 are identical to those described by Cooke & Michie (2001). For comparison and statistical purposes, Facets 3 and 4, which contain five items, were prorated to the same scale as Facets 1 and 2, which contain four items each (see Table 1 for a description of the facets). This was deemed necessary to ensure that the weighing of variables during the clustering procedure did not reflect artificially produced differences in measurement (Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Romesburg, 1990). The mean PCL: 3F total score and mean total score for the 18 four-facet model items was 20.2 (SD = 2.3) and 28.3 (SD = 2.6), respectively. The mean scores on Facet 1, Facet 2, Facet 3 (prorated), and Facet 4 (prorated) were 5.6 (SD = 1.4), 6.6 (SD = 1.1), 6.4 (SD = 1.0), and 6.4 (SD = 1.1), respectively.

**Procedure**

**Part 1: Hierarchical analyses.**

The scores on each of the PCL: 3F’s facets and, separately, on each of the PCL-R’s (2\(^{nd}\) Ed.) four facets for the 202 psychopaths were subjected to several hierarchical cluster analytic procedures. Hierarchical rather than nonhierarchical analyses were chosen at this stage due to the exploratory nature of this study (Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore 2000; Hair et al., 1998; Romesburg, 1990). To avoid errors caused by the non-iterative nature of hierarchical clustering, the literature suggests that the data be ordered – whenever possible – in some theoretically meaningful fashion (Hair et al., 1998). Given that offenders with similar PCL-R scores are more similar to one another than are offenders with different PCL-R scores (Hare, 1991), offenders were rank ordered – in an ascending fashion – based on their PCL-R total scores prior to conducting cluster analyses.

\(^{11}\) Note that extracting the PCL: 3F from the PCL-R is no different than scoring the PCL-3F directly from file information and interviews (Hervé, Spidel, & Hare, 2000).
Although Facet 2 was expected to show little inter-subject variability (i.e., as it had a negatively skewed distribution) and, thus, could be excluded from the analyses (Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore, 2000; Hair et al., 1998; Romesburg, 1990), it was nonetheless included to enable the emergence of a cluster (or clusters) consisting of false positives (i.e., pseudopsychopaths). Raw scores were entered rather than standardized/transformed scores in order to maintain the variability inherent in the data (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Romesburg, 1990). Facets 3 and 4 (5 items) were prorated to the same scale as Facets 1 and 2 (4 items each). As the aim of the present investigation was to investigate whether or not psychopaths differ in terms of their interpersonal, affective, and/or lifestyle characteristics (i.e., differ in terms of scale elevations and, to a lesser degree, patterns of elevations), the distance measure chosen was the Squared Euclidean Distance measure for interval data (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore, 2000; Hair et al., 1998; Romesburg, 1990).

The data were subjected to five different clustering algorithms (Norusis, 1994): Average Linkage – Within Group (WG), Complete Linkage (CL), Ward’s Method (WM), Median Linkage (ML), and Average Linkage – Between Group (BG). Note that the Single Linkage and the Centroid Method algorithms were not selected as research has identified several problems with each of these methods (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Hartigan, 1975; Romesburg, 1990), the most salient being that these methods often fail to concur with other methods and/or fail to replicate real-world clusters. In each case, the final clustering solution (i.e., the number of clusters in the data set) was determined in a step-wise fashion, the goal being to seek the simplest solution that still represented homogenous groupings (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Gore, 2000; Hair et al., 1998; Hartigan, 1975; Norusis, 1994;
Romesburg, 1990). First, the distance coefficient for each fusion in the agglomeration schedule was examined. In this case, the distance coefficient represents the Squared Euclidian distance between two fusing clusters and signifies the similarity of joining clusters; small coefficients indicate that two relatively homogenous clusters were fused, whereas large coefficients suggest that relatively heterogeneous clusters were joined. The actual value of this coefficient depends on the clustering method and the distance measure used and, therefore, can only be evaluated in relation to other coefficients in the agglomeration schedule. The recommended procedure is to consider the clustering solution preceding a large jump in the distance coefficient, the rationale being that further fusions result in heterogeneous groupings. To reduce the subjectiveness inherent in this procedure, several solutions were examined and considered in subsequent steps. Second, the stability of the various to-be-considered solutions was examined via the dendrogram. The dendrogram is a two-dimensional diagram illustrating the agglomeration schedule (i.e., what clusters are joined and the distance at which they are joined). The longer along the distance axis a cluster remains unchanged, the more homogenous it appears to be as compared to other individuals/clusters. A dendrogram that continuously join clusters at relatively short distances indicates that the data contains no real classification. The dendrogram can also be very useful in identifying outliers (i.e., cases that result in one-case clusters because they bear no resemblance to other cases). Third, the interpretability of the various to-be-considered solutions needs to be evaluated. Clearly, this step requires an a priori understanding of the classification being investigated; any one cluster should be easily interpretable along clinical and/or theoretical lines. Unexpected large differences in cluster sizes or clusters with only one or two observations (i.e., could be outliers or indicate that the solution selected had too many clusters) can put the solution into question. Finally, the statistical conclusion validity of the final solution needs to be assessed.

12 Although subjective in nature, it is important to note that this procedure has proven to result in accurate decisions in empirical studies (Milligan & Cooper, 1985)
Not only should the final solution be stable and interpretable, but it should also emerge consistently/reliably across the various clustering methods (i.e., algorithms) and across different samples (Romesburg, 1990). To further address the statistical conclusion validity of the resulting solution, consistency in group assignment across clustering methods (i.e., whether or not the same individuals are being placed in the same clusters across methods) was measured via Kappa’s coefficient of reliability (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998).

Once a stable cluster solution had been identified (i.e., as assessed via the distant coefficients, dendrogram stability, cluster interpretability, and the cluster consistency across the five algorithms), cluster facet scores were averaged across algorithms to provide the best possible estimate for subsequent nonhierarchical analyses.

**Part 2: Nonhierarchical analysis.**

The scores on each of the PCL: 3F’s facets and, separately, on each of the PCL-R’s (2nd Ed.) four facets for the 202 offenders were subjected to a non-hierarchical (NH) cluster analysis. As in the previous section, the data were ranked-ordered in an ascending fashion based on offenders’ PCL-R total scores. Raw facet scores were employed, with Facets 3 and 4 being prorated to the same scale as Facets 1 and 2, and the distance measure chosen was the Squared Euclidean Distance measure for interval data. Given that the goal of this analysis was not exploratory in nature but rather to provide a non-independent replication of the above findings, initial cluster centers were entered in the analysis and a four-cluster solution was investigated (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Hartigan, 1975). As noted above, these centers were calculated by averaging the facet scores, for each cluster, across the five hierarchical procedures. Unlike hierarchical clustering,

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13 Selecting several solutions for further consideration was deemed necessary to avoid selecting one solution over another in a manner congruent with the experimenter’s expectations (Everitt, 1980; Hair, et al., 1998)
nonhierarchical analyses provide between group comparisons, via a Univariate Analysis of Variance (ANOVA), on each variable investigated (i.e., analyzes whether a variable [facet] statistically differentiates one or more groups from the others). If a variable is found to be non-significant in this regard, clustering methodology dictates that it be excluded and the data reanalyzed (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Hartigan, 1975). The non-independent nature of these analyses (i.e., between clustering and ANOVA) makes the ANOVA uninformative in regards to the overall fit of the solution (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Hartigan, 1975).

If the identified clusters are indeed reliable, then they should re-emerge, irrespective of the clustering method employed. Cluster replication was deemed successful if the same number of clusters re-emerged and the cluster membership matched that previously found, as assessed via the Kappa’s coefficient of reliability (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998).  

Results

Three-Facet Model

Part I: Hierarchical analyses.

According to the distance coefficients and the dendrograms, the WG, CL, and WM algorithms resulted in either two or four clusters and the ML algorithm resulted in four clusters, suggesting a four-cluster solution (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). However, the BG algorithm yielded 2, 3, or 5 clusters. The five-cluster solution was ruled out as it contained only two participants and thus was not deemed theoretically, clinically, and/or statistically meaningful (Blashfield & Aldenderfer, 1988);

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14 Analyses were repeated with participants in various random orders. In each case, the results were virtually identical, which is to be expected given the iterative nature of nonhierarchical procedures.
Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998), and the three cluster solution was ruled out because it did not emerge with the other methods (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). Computation of the facet means and standard deviations for the two (see Table 2: Panel A) and four (see Table 2: Panel B) cluster solutions across methods revealed greater cross-method consistency for the four-cluster solution than for the two-cluster solution. Therefore, the four-cluster solution was deemed to be the most reliable solution across clustering methods (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). Moreover, although one would expect that classification agreement would decrease with an increase in the number of categories being classified (i.e., errors in classification are more likely as one moves from a two to a four group design), cross-method group assignment for the four-cluster solution (average Kappa = 0.83) was found to be highly consistent (see Table 3: Panel B), and higher than that for the two-cluster solution (average Kappa = 0.37; see Table 3: Panel A), thereby attesting to the validity of the former solution (Blashfield & Aldenderfer, 1988; Everitt, 1980, Everitt, Landau, & Leese, 2001; Hair et al., 1998).

Insert Table 2 and Table 3 about here

Part 2: Nonhierarchical analysis.

Cluster centers for each of the clusters were calculated by averaging the facet scores across the five hierarchical procedures used in Part 1 (see Table 2: Panel C). All variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). The results of the nonhierarchical four cluster solution (see Table 4: Panel A) paralleled that found

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12 In theory, the iterative process could result in one cluster losing all of its members to other clusters, thereby failing to replicate the hierarchical findings.

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via hierarchical clustering (see Table 2: Panel C). The Facet scores for each cluster are presented graphically in Figure 1. For illustrative purposes, Figure 1 includes data from offenders in sample 1 scoring in the low (PCL-R < 20) and medium (20 ≤ PCL-R < 27) range of the PCL-R (n = 86 and 123, respectively). Cross-method group assignment for the four-cluster solution was found to be highly consistent with the four-cluster hierarchical solutions found in Study 1: Part 1 (see Table 3: Panel B).

Cluster 1 (C1) consisted of psychopaths who scored high on all three Facets. Cluster 2 (C2) consisted of psychopaths who scored relatively low on Facet 1 and high on Facet 2 and Facet 3. Cluster 3 (C3) consisted of psychopaths who scored high on Facet 1 and Facet 2 and relatively low on Facet 3. Cluster 4 (C4) consisted of offenders who scored moderate on Facets 1 and 2 and relatively high on Facet 3. The size of the clusters varied in the following manner (see Table 4: Panel A): C1 > C2 > C3 = C4.

**Four-Facet Model**

**Part 1: Hierarchical analyses.**

A two-cluster solution was consistently found across all algorithms (i.e., resulted in homogenous and stable groupings). In addition, all but the BG algorithms resulted in a four-cluster solution. A three-cluster solution was also evident in the BG, ML, and WM clustering algorithms. Finally, the CL algorithm also resulted in a five-cluster solution. Since the two and four cluster solutions were the most represented in these analyses, as well as those using the three-facet model, these solutions were further investigated (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). Computation of the facet means and standard deviations for the two (see Table 5: Panel A) and four (see Table 5: Panel B) cluster
solutions across methods revealed similar cross-method consistency for both solutions. In each case, one of the algorithms produced clusters inconsistent with those of other algorithms (i.e., ML and CL for the two and four cluster solutions, respectively). Cross-method group assignment for the four-cluster solution (average Kappa = 0.64; see Table 6: Panel B) was found to be more consistent than that for the two-cluster solution (average Kappa = 0.58; see Table 6: Panel A). However, both solutions were less consistent in this regard as compared to the results of the three-facet model. Nonetheless, the four-cluster solution resulted in greater cross-method assignment agreement (i.e. a larger average kappa value) than did the two-cluster solution even though errors in classification are more likely as the number of groups in which individuals are classified increases (Blashfield & Aldenderfer, 1988; Everitt, 1980, Everitt, Landau, & Leese, 2001; Hair et al., 1998).

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Insert Table 5 and Table 6 about here

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Part 2: Nonhierarchical analysis.

Cluster centers for each of the clusters were calculated by averaging the facet scores across the five hierarchical procedures used in Part 1 (see Table 5: Panel C). All variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). The results of the nonhierarchical four-cluster solution (see Table 4: Panel B) paralleled that found via hierarchical clustering (see Table 5: Panel C). The Facet scores for each cluster are presented graphically in Figure 2. For illustrative purposes, Figure 2 includes data from offenders in sample 1 scoring in the low ($\text{PCL-R} < 20$) and medium ($20 \leq \text{PCL-R} < 27$) range of the PCL-R ($n = 86$ and 123, respectively). Cross-method group assignment for the four-cluster solution was found to be highly consistent with the four-cluster hierarchical solutions found in Study 1: Part 1 (see Table 6: Panel B). The four-cluster hierarchical solutions based on the three-facet and four-
facet models were generally consistent with one another in regards to group assignment (Kappa = 0.62).

Cluster 1 (C1) consisted of psychopaths who scored high on all four Facets. Cluster 2 (C2) consisted of psychopaths who scored relatively low on Facet 1 and high on Facets 2, 3, and 4. Cluster 3 (C3) consisted of psychopaths who scored high on Facet 1 and Facet 2, moderately on Facet 3, and relatively low on Facet 4. Cluster 4 (C4) consisted of offenders who scored moderate on Facets 1 and 2 and relatively high on Facets 3 and 4. The size of the clusters varied in the following manner (see Table 4: Panel B): C1 > C2 ≡ C3 > C4.

Discussion

The primary goal of Study 1 was to delineate possible subtypes of psychopathy via cluster analysis. As expected, four different subtypes were identified with both hierarchical and nonhierarchical clustering procedures. Each subtype varied in the extent to which it exhibited the characteristics reflected in three of the facets of psychopathy (Cooke & Michie, 2001).

Cluster one consisted of individuals who possessed all of the characteristics of the disorder to high degrees and, therefore, was felt to be representative of classic psychopaths. These individuals greatly outnumbered the other types and, as a group, scored the highest on the PCL-R. Cluster two, which consisted of psychopaths with a relatively low score on the interpersonal facet but high scores on the affective and lifestyle facets, was felt to reflect macho psychopaths. Cluster three consisted of psychopaths with high scores on the interpersonal and affective facets, and relatively low scores (for psychopaths, that is) on the lifestyle facet. These individuals were described as manipulative psychopaths. Finally, cluster four consisted of individuals who, while possessing some of the interpersonal and behavioral characteristics of
psychopathy, did not seem to have the prerequisite emotional deficit thought to underlie the disorder. They had the lowest PCL-R scores and generally did not meet the PCL-R cut-off of 30 typically required for a diagnosis of psychopathy (Hare, 1991). For this reason, this group was referred to as pseudopsychopaths.

The second goal of this study was to investigate whether a newly developed four-facet structure of the PCL-R (Hare, in press) would yield similar results. Consistent with the above findings and with the study’s predictions, both hierarchical and nonhierarchical clustering analyses resulted in a four-cluster solution, albeit a less stable one across hierarchical procedures than that derived via the three-facet model. More importantly, both sets of analyses yielded similar subtypes, with identical facet patterns on the dimensions they share in common. With regard to the fourth facet (i.e., Antisocial), the classic, macho, and pseudo-psychopaths scored high in this domain and the manipulative psychopath scored relatively low, as predicted by clinical wisdom, theory, and research. In addition, both sets of analyses generally classified individuals within the same categories. It did appear, however, that several of the offenders identified as classic psychopaths in the three-facet analyses were later identified as manipulative psychopaths when investigated within a four-facet framework. This shift in membership could either reflect a statistical artifact (i.e., some minor variations are to be expected between different methodologies) and/or a more refined typology resulting from the added informational load brought by the fourth facet (Blashfield & Aldenderfer, 1988; Everitt, 1980, Everitt, Landau, & Leese, 2001; Hair et al., 1998). By definition, the classic and manipulative psychopaths primarily differ in terms of their behavioral presentation. Accordingly, classification errors between these two groups would be expected to decrease as more behavioral information (e.g., antisocial history) becomes available, such as reflected in Facet 4.

Although replicated across several clustering procedures and with different models, the reliability and generalizability of these findings are questionable given that the replications were
conducted on the same sample (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998; Hartigan, 1975). The relatively high psychopathy base rate in this sample suggests that it is not typical of other samples generally reported in the literature (Hare, 1991; in press), which further emphasizes the need to replicate the current findings in independent, more representative samples. Accordingly, the next study attempted to replicate these findings in similar but independent samples of offenders via confirmatory (i.e., nonhierarchical) analyses. For these analyses, only the three-facet model was used, as the four-facet model had not yet been developed at the time this investigation was conceived.

Study 2: Reliability Analyses

Participants

Sample 2.

Sample 2, which was provided by Dr. Joseph Newman, consisted of 1190 adult American correctional inmates, the majority of whom were housed in low-to-medium security institutions, and who had participated in research conducted in various correctional institutions around Madison, Wisconsin between 1991 and 2000. The average age of the offenders was 28.3 (SD = 6.2) and the sample contained inmates of African-American (44%) and European (56%) descent.

Trained researchers, using a semi-structured interview and file information, conducted the PCL-R assessments. Double ratings were available for 291 participants. The Spearman-Brown intraclass correlation coefficients of reliability for a single rating and for the average of two independent ratings were .89 and .94, respectively. Scores were averaged across raters, with a sample PCL-R mean score of 23.1 (SD = 7.3). Consistent with the above procedure, a score of 27 or above was used in the present study to identify psychopaths. The resulting sub-sample consisted of 443 offenders (i.e., 37% of original sample). The mean PCL-R score and age for the sub-sample was 30.5 (SD = 2.6) and 28.1 (SD = 6.1), respectively. The mean PCL: 3F total score
was 19.0 \( (SD = 2.3) \). The mean score on Facet 1, Facet 2, and Facet 3 (prorated) was 5.3 \( (SD = 1.4) \), 6.5 \( (SD = 1.1) \), and 5.7 \( (SD = 1.2) \), respectively.

**Sample 3.**

Sample 3 was provided by Danny Clark and consisted of 627 adult English correctional inmates, housed in a variety of institutions (i.e., local jails to high security institutions), who had participated in research sponsored by Her Majesty’s Prison Service in England. The average age of the offenders was 33.6 \( (SD = 10.0) \) and the majority (79.3%) were of European decent.

Interrater reliability for this sample was not available. However, all researchers involved in collecting these PCL-R scores had undergone stringent PCL-R training by Dr. Hare and his group, including a three-day workshop and an examination assessing raters’ knowledge of the PCL-R and the corresponding research. PCL-R assessments were conducted using a semi-structured interview and file information. The sample PCL-R mean score was 16.8 \( (SD = 7.3) \), a value consistent with mean scores found in European samples (Cooke, 1997). In line with the above procedure, a score of 22 or above (i.e., one standard error below the recommended cutoff of 25 in Europe) was used in the present study to identify the sample for cluster analysis. The resulting sample consisted of 167 offenders (i.e., 27% of the original sample). The mean PCL-R score for this sample was 26.4 \( (SD = 3.8) \). Mean age was 32.0 \( (SD = 8.6) \). The mean PCL: 3F total score was 16.6 \( (SD = 3.1) \). The mean score on Facet 1, Facet 2, and Facet 3 (prorated) was 3.9 \( (SD = 2.1) \), 5.4 \( (SD = 1.6) \), and 5.6 \( (SD = 1.3) \), respectively.

**Procedure**

The same nonhierarchical clustering procedure and cluster centers (see Table 2: Panel C) as that used in Study 1 (Part 2) was employed.
Results

Sample 2

All variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). The nonhierarchical analysis resulted in a four-cluster solution (see Table 7: Panel A and Figure 3) that paralleled that found in Study 1 (see Table 4: Panel A and Figure 1). The size of the clusters varied in the following manner (see Table 7: Panel A): manipulative > pseudo > classic > macho.

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Insert Table 7 and Figure 3 about here

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Sample 3

The nonhierarchical analysis resulted in a four-cluster solution (see Table 7: Panel B and Figure 4) in which all variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). Although the relative facet elevation differed from that found in samples 1 and 2, the pattern of results was virtually identical to that found with these two samples (see Table 4: Panel A; Table 7: Panel A; Figures 1 and 3). The size of the clusters varied in the following manner (see Table 4: Panel C): pseudo > macho > manipulative > classic.

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Insert Figure 4 about here

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Discussion

The goal of Study 2 was to examine the reliability of the four-cluster solution identified in Study 1. Towards this aim, non-hierarchical cluster analyses were conducted in two independent samples of adult male correctional inmates. As expected, the pattern of results in the present study paralleled those found in Study 1.
Both samples accommodated\textsuperscript{16} the four-cluster solution identified in the previous study. While relative scale score differences were evident, the pattern of results was virtually identical. The scale score differences were expected in light of the nature of the samples investigated: North American samples have greater PCL-R/PCL-3F scale elevations than do European samples (Hare, in press). Together, these findings suggest that offenders with high PCL-R scores can be reliably divided into four groups consisting of classic, manipulative, macho, and pseudo-psychopathic individuals.

Although replicated across clustering methods and across samples, the generalizability of these findings is questionable given the fact that the previous analyses were conducted on similar samples – adult male correctional inmates. It should be noted, however, that both North American and English samples have been investigated, thereby suggesting some cross-cultural generalizability. Nonetheless, the observed pattern of results may be true only for adult male correctional inmates of European descent. Accordingly, the next study was conducted to assess whether these subtypes are present in samples varying in terms of race, gender, and psychiatric condition. Any variation would limit the generalizability of the findings and, therefore, put into question the validity of these subtypes in populations other than adult male correctional inmates.

Study 3: Generalizability Analyses

Participants

Sample 4.

African-American inmates were selected from Sample 2 for inclusion in Sample 4. The resulting sample consisted of 664 adult North American African-American federal inmates, the majority of whom were housed in low-to-medium security institutions across North America, and had participated in research conducted in various correctional institutions between 1991 and 2000. The average age of the offenders was 28.2 (SD = 6.1).

\textsuperscript{16} "Accommodated" reflects the fact that confirmatory rather than exploratory clustering techniques were employed.
The sample PCL-R Total score was 23.1 ($SD = 7.3$), a mean consistent with that found in the literature (e.g., Kosson, Smith, & Newman, 1990). Consistent with the above procedure, a score of 27 or above (i.e., one standard error below the recommended cutoff) was used in the present study to identify a sub-sample of offenders. The resulting sample consisted of 238 offenders (i.e., 36% of the original sample). The mean PCL-R score for this sample was 30.6 ($SD = 2.7$). Mean age was 28.4 ($SD = 6.4$). The mean PCL: 3F total score was 18.9 ($SD = 2.4$). The mean score on Facet 1, Facet 2, and Facet 3 (prorated) was 5.4 ($SD = 1.4$), 6.5 ($SD = 1.1$), and 5.6 ($SD = 1.2$), respectively.

Sample 5.

Sample 5 consisted of 1118 adult North American female inmates, housed in low-to-maximum security institutions across North America, who had participated in research conducted in various correctional institutions between 1991 and 2000. The average age of the offenders was 30.7 ($SD = 6.8$) and the sample contained inmates of African-American (54%) and European (45%) descent.

Trained researchers, using a semi-structured interview and file information, conducted the PCL-R assessments. Double ratings were available for 255 participants. The Spearman-Brown intraclass correlation coefficients of reliability for a single rating and for the average of two independent ratings were .92 and .96, respectively. Scores were averaged across raters, with a sample PCL-R mean score of 19.2 ($SD = 7.4$), a value similar to those found in other samples of female offenders (e.g., Rutherford, Alterman, Cacciola, & McKay, 1998; Salekin, Rogers, & Sewell, 1997; see Hare, 1992). Although a score of 30 and above is typically used to identify psychopaths in such samples, it should be noted that this cutoff has yet to be empirically validated for use with female offenders (Vitale & Newman, 2001; Vitale, Smith, Brinkley, Newman, 2001). Given that the mean PCL-R Total score for pooled samples of female offenders is 19.0 (Hare, in press), a score of 28 was deemed appropriate for a psychopathy diagnosis in
female offenders (Hare, personal communication). Thus, consistent with the above procedure, a score of 25 or above (i.e., one standard error below the recommended cutoff) was used in the present study to identify a female sub-group. The resulting sample consisted of 292 offenders (i.e., 26% of the original sample). The mean PCL-R score for this sample was 28.6 \( (SD = 2.8) \). Mean age was 29.3 \( (SD = 6.3) \). The mean PCL: 3F total score was 19.4 \( (SD = 2.7) \). The mean score on Facet 1, Facet 2, and Facet 3 (prorated) was 5.2 \( (SD = 1.7) \), 6.1 \( (SD = 1.5) \), and 6.5 \( (SD = 1.1) \), respectively.

**Sample 6.**

Sample 6 consisted of 351 adult male Swedish forensic psychiatric patients who had participated in research conducted between 1991 and 2000. The average age of the offenders was 31.4 \( (SD = 10.5) \). Race demographics were not available for this sample. Interrater reliability for this sample was not available. PCL-R assessments were based on file reviews. The sample PCL-R total score was 19.5 \( (SD = 7.8) \). Consistent with the above procedure, a score of 22 or above (i.e., one standard error below the recommended cutoff) was used to select a sub-group of offenders for cluster analysis. The resulting sample consisted of 142 offenders (i.e., 41% of the original sample). The mean PCL-R score for this sample was 27.4 \( (SD = 3.5) \). Mean age was 31.1 \( (SD = 9.5) \). The mean PCL: 3F total score was 18.4 \( (SD = 2.9) \). The mean score on Facet 1, Facet 2, and Facet 3 (prorated) was 4.4 \( (SD = 1.6) \), 6.2 \( (SD = 1.3) \), 6.2 and \( (SD = 1.2) \), respectively.

**Procedure**

The same nonhierarchical clustering procedure and cluster centers (see Table 2: Panel C) as that used in Study 1 (Part 2) were employed.
Results

Sample 4

All variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). The nonhierarchical analysis resulted in a four-cluster solution (see Table 7: Panel C) that paralleled that found in Studies 1 and 2 (see Table 4: Panel A; Table 7: Panels A-B; Figures 1, 3, and 4). The Facet scores for each cluster are presented graphically in Figure 5. For illustrative purposes, Figure 5 includes data from offenders in sample 4 scoring in the low (PCL-R < 20) and medium (20 ≤ PCL-R < 27) range of the PCL-R ($n = 204$ and 222, respectively). The size of the clusters varied in the following manner (see Table 7: Panel C): manipulative > classic ≥ pseudo > macho.

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Insert Figure 5 about here

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Sample 5

The nonhierarchical analysis resulted in a four-cluster solution (see Table 7: Panel D) in which all variables were found to statistically differentiate one or more clusters from the others ($p < .05$ in each case). The Facet scores for each cluster are presented graphically in Figure 6. For illustrative purposes, Figure 6 includes data from offenders in sample 5 scoring in the low (PCL-R < 18) and medium (18 ≤ PCL-R < 24) range of the PCL-R ($n = 479$ and 347, respectively). Note that although the relative facet elevations differed from that found with samples 1, 2 and 4 (see Tables 4: Panel A; Table 7: Panels A & C; Figures 1, 3, & 5), the facet elevations were similar to those found in sample 3 (see Table 7: Panel B; Figure 4) and the pattern of results was virtually identical as that found in other samples (see Tables 4: Panel A; Table 7: Panels A-C; Figures 1, 3-5). The size of the clusters varied in the following manner (see Table 7: Panel D): classic ≥ pseudo > macho > manipulative.

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Sample 6

The nonhierarchical analysis resulted in a four-cluster solution (see Table 7: Panel E) in which all variables were found to statistically differentiate one or more clusters from the others \( (p < .05 \text{ in each case}) \). The Facet scores for each cluster are presented graphically in Figure 5. For illustrative purposes, Figure 7 includes data from offenders in sample 6 scoring in the low (PCL-R < 15) and medium \((15 \leq \text{PCL-R} < 22)\) range of the PCL-R \((n = 114 \text{ and } 95, \text{ respectively})\). Note that although the relative facet elevation differed from that found with samples 1, 2 and 4 (see Tables 4: Panel A; Table 7: A & C; Figures, 1, 3, & 5), the facet elevation was similar to that found in samples 3 (see Table 7: Panel B; Figure 4) and 5 (see Table 7: Panel D and Figure 6) and the pattern of results was virtually identical as that found in other samples (see Table 7). The size of the clusters varied in the following manner (see Table 7: Panel E): macho > pseudo > classic \(=\) manipulative.

Discussion

The goal of Study 3 was to examine the generalizability of the four subtypes identified in Studies 1 and 2. If the subtypes reflect some “natural” phenomenon, then one would expect them (and maybe others; see below) to characterize all samples, irrespective of age, race, culture, gender, and/or psychiatric condition. As expected, the pattern of results in the present study paralleled that found in Studies 1 and 2.
All three samples accommodated the four-cluster solution identified in the previous studies. While relative scale score differences were evident, the pattern of results was virtually identical and the scale score differences were expected in light of the samples investigated – as male’s and North American’s PCL-R/PCL-3F scores are, on average, greater than female’s and European’s scores, respectively (Hare, in press). Together, these findings suggest that offenders with high scores on the PCL-R can be reliably divided into four groups (i.e., classic, manipulative, macho, and pseudo-psychopaths), irrespective of race, gender, and/or psychiatric diagnosis.

Nonetheless, there still exists the possibility that some of these clusters may reflect differences in age rather than true psychopathic variability. On the one hand, younger psychopaths may simply not have yet had the chance to demonstrate their psychopathic abilities to their fullest. If so, then one could expect manipulative psychopaths, for example, to simply be young classic individuals who, with time, would develop a greater behavioral repertoire and, consequently, receive higher Facet 3 (lifestyle) scores. Similarly, it may be that macho and pseudo psychopaths are also budding prototypes who are simply still in the process of developing their manipulative and callous behaviors, respectively. On the other hand, older psychopaths may have simply burned-out (Hare & McPherson, 1984; Hare, McPherson, & Forth, 1988), which would explain the relatively lower behavioral scores obtained by manipulative psychopaths. Thus, the following study aimed to investigate the possible confounding influence of age on cluster formations.

Study 4: Age-Related Analyses

Participants

The same participants as those used in Studies 1 to 3 were used in the following analyses. Participants in each sample were grouped into their respective clusters (classic, macho,
manipulative, and pseudo), as defined by the non-hierarchical analyses (see Table 4: Panel A and Table 7).

Procedures

ANOVAs were used to assess the possible confounding influence of age on the above analyses. In each case, homogeneity of variance was assessed via Levene’s test and, when significant, the Brown-Forsythe statistic \( F^* \) was used as a correction (Glass & Hopkins, 1996).

Results

The mean age of each subtype for Sample 1 is depicted in Table 4: Panel A, with the remaining sample/cluster ages being depicted in Table 7. Subtypes were not found to differ in terms of age in Samples 2 \([F^*(3, 412) = 1.49, p > .10]\), 3 \([F(3, 160) = 0.46, p > .50]\), 4 \([F(3, 234) = 2.00, p > .10]\), and 5 \([F(3, 215) = 1.26, p > .10]\). However, age related differences were found in Samples 1 \([F^* (3, 143) = 4.65, p < .01]\) and 6 \([F^*(3, 81) = 5.44, p < .01]\). Multiple comparisons (Dunnett’s C) demonstrated that manipulative psychopaths were significantly older than both pseudo and macho psychopaths in Sample 1, and classic psychopaths were significantly older than both pseudo and macho psychopaths in Sample 6 \((p < .05 \text{ in each case})\).

Discussion

The goal of study four was to investigate the influence of age on the previously identified clustering solution. While group differences were observed in Samples 1 and 6, no systematic pattern emerged that could invalidate any of the subtypes previously identified. Indeed, both samples demonstrated different patterns, with the former having older manipulative individuals and the latter having older classic psychopaths. Consequently, none of the between-group differences in facet score elevations could consistently be explained by age related effects.

Across samples, manipulative psychopaths were of a similar age to the other groups, thereby ruling out the possibility that the former were either younger psychopaths who had not yet had the chance to fully engage in the psychopathic lifestyle, or older individuals who had
simply run out of gas (i.e., no longer fully engaged in the psychopathic lifestyle). Similarly, macho and pseudo psychopaths were no younger than any of the other types, suggesting that these psychopaths had plenty of time to develop their manipulative behaviors and callous attitudes, respectively. The “burn-out” hypothesis is further weakened by the fact that the mean age of all subtypes in all samples was below the “burn-out” age of 40 plus years reported in the literature (Hare & McPherson, 1984; Hare, McPherson, & Forth, 1988; Porter, Birt, & Boer, 2001). Thus, the subtypes identified within this investigation appear to be reliable, generalizable, and generally unaffected by cohort effects.

General Discussion

Clinical experience suggests that psychopaths differ from one another in several ways, particularly with respect to the interpersonal and lifestyle manifestations of the disorder (Arieti, 1967; Cleckley, 1941/1988; Hare, 1998c; Henderson, 1947; Karpman, 1955). Indeed, historical and theoretical renditions consistently depict psychopathy as a higher order construct that manifests itself in several unique ways. This observed variability has led to the notion that psychopathy may in fact subsume subtypes. Theoretical accounts, for example, have highlighted the possibility of both genotype (i.e., idiopathic, primary, fundamental) and phenotype (i.e., symptomatic, secondary, pseudo) versions of psychopathy, with the former being the product of nature and the latter of nurture (e.g., Arieti, 1967; Karpman, 1955; Lykken, 1995; McCord & McCord, 1964; Mealey, 1995a; Porter, 1996; Partridge, 1928). In addition, several different sightings of the genotype have been reported as well, including one that embodies all aspects of the disorder (i.e., classic), one that manifests itself in parasitic ways (i.e., manipulative), and one whose aggressive impulses predominate (i.e., the aggressive; Arieti, 1967; Hare, 1998c; Henderson, 1947; Karpman, 1955; Millon & Davis, 1998; Partridge, 1928). Although the topic has received some empirical attention in recent years (e.g., Alterman, et al., 1998; Blackburn, 1975; Blackburn & Coid, 1999; Christian, et al., 1997; Frick, Bodin, & Barry, 2001), studies in
this area have either not been specific to psychopathy (e.g., Alterman, et al., 1998; Blackburn, 1975) or have typically utilized methodologies that were not conducive to identifying clinically meaningful subtypes (e.g., Alterman, et al., 1998; Blackburn & Coid, 1999), that is, psychopaths who differ from one another in respect to the degree to which they incarnate the core characteristics of the disorder. The goal of the present investigation was to provide empirical support for the notion that subtypes of psychopaths can be distinguished based on their characteristic presentation. As predicted, three psychopathic subtypes and a pseudopsychopathic subtype were identified across both clustering methods and samples, each of which varied from the other in the extent to which it displayed the interpersonal, affective, and behavioral characteristics of the disorder (Cooke & Michie, 2001; Hare, in press).

Summary and Strengths of the Current Study

The Three-Facet Subtypes.

In Study 1, exploratory (i.e., hierarchical) cluster analyses revealed that adult North American male offenders with high PCL-R scores can be subdivided into four clinically meaningful groups based on the extent to which they display the interpersonal, affective, and lifestyle features of psychopathy (Cooke & Michie, 2001); a finding supported by follow-up confirmatory (i.e., nonhierarchical) analyses. The first of these groups had the highest overall PCL-R scores and consisted of individuals who scored highly on all three facets of the PCL: 3F (i.e., showed all the characteristics of the disorder to high levels). For this reason, they were referred to as classic psychopaths. The second group, which had the second highest PCL-R elevations, scored relatively low (for psychopaths, that is) on the interpersonal facet but high on the affective and lifestyle facets. Given that their behavioral traits were more significant to their disorder than their interpersonal ones, these individuals were referred to as macho psychopaths (Hare, 1991). The third group consisted of individuals who scored highly on the interpersonal and affective facets but relatively low on the lifestyle facet. These psychopaths may be termed
manipulative, as their interpersonal (psychopathic) skills seem more central than their behavioral ones. Finally, the fourth group to emerge consisted of offenders who showed the interpersonal and behavioral characteristics of the disorder but not the affective ones, at least not to the same degree as the other groups. Offenders in this group had the lowest PCL-R scores and generally did not meet the PCL-R research cut-off of 30 typically required for a diagnosis of psychopathy (Hare, 1991). For this reason, they were referred to as pseudopsychopaths, a term originally used by Arieti (1967). The term implies that certain incarcerated offenders with a significant number of psychopathic features are not necessarily true (i.e., idiopathic) psychopaths. While other terms may have been more descriptive (e.g., sociopath, borderline, schizotypal, etc.), the present investigation was not concerned with identifying the primary pathology (ies) of this group of offenders and, therefore, the use of these more descriptive labels would have been inappropriate. A more refined understanding of this group of offenders will need to be sought in future research.

The Four-Facet Subtypes.

For comparative purposes, the newly developed four-facet structure of psychopathy (Hare, in press) was also employed in this investigation. Although the ensuing clustering result was not as definitive as that found with the three-facet model, the resulting four-cluster solution was nonetheless the one that proved to be the most statistically rigorous and representative of the sample. More importantly, the resulting pattern was virtually identical to the one found with the three-facet model (i.e., in regards to the domains that these models share in common), with the additional facet further differentiating the subtypes in a clinically and theoretically predictable manner (Arieti, 1967; Karpman, 1955; Hare, 1998c; Henderson, 1947). That is, manipulative psychopaths scored relatively lower than all other subtypes on the domain of early and persistent antisocial behavior.
Subtype Reliability and Generalizability.

If the subtypes reflect some natural psychopathic phenomenon, then one would expect them to emerge in various samples, irrespective of age, race, culture, gender, and/or psychiatric condition (Blashfield & Livesley, 1999; Everitt, Landau, & Leese, 2001). In line with this notion, the same four subtypes (classic, macho, manipulative, and pseudo) were found in five other forensic samples via confirmatory (i.e., non-hierarchical) cluster analyses. In Study 2, the division described above was confirmed in two new samples of adult male correctional inmates, one from the United States and one from England. These findings suggest that the subtypes are reliable and, moreover, that they are generalizable to English samples of adult male inmates. In Study 3, the same clustering pattern emerged in three new samples, each varying from the previous samples in terms of race, gender, and psychiatric profile, respectively. These analyses suggest that these subtypes are highly reliable and generalizable, thereby setting the foundation for further research into this topic, in that reliability sets the parameters of validity (Glass & Hopkins, 1996).

Possible Reasons for Proportional Differences.

It should be noted that there were sample-to-sample differences in the proportion of individuals found within each of the categories (see Table 8: Panel A). While the classic psychopaths outnumbered all other types in sample 1, the manipulative and pseudo-psychopaths outnumbered other psychopaths in samples 2 and 3, respectively. These differences, rather than reflecting issues in reliability, may be due to differences in sample characteristics. Given that psychopaths are some of the most persistently dangerous of offenders (Hemphill et al., 1998), one would expect that the more psychopathic the individual the greater the likelihood that s/he will be housed in maximum security institutions, which is what seemed to have occurred here: The number of classic psychopaths found decreased from maximum security institutions to local jails (i.e., from sample 1 to 2 to 3), accompanied by a proportional increase in the number of
manipulative and pseudo-psychopaths. As such, the best proportional estimate is likely one based on the average group size (i.e., across samples), which would suggest that these types are found in equal numbers, at least within the general adult male correctional population (see Table 8: Panel A).

A similar logic can be applied to explain the differences in group membership found in the other samples (see Table 8: Panel B). The proportion of individuals in each subtype in the sample of African-Americans (sample 4) was no different than that found in its parent population (sample 2). Similarly, given both the setting from which the female sample was taken (i.e., low-to-maximum security) and that such samples often contain individuals with severe behavioral difficulties (e.g., Brownstone & Swaminath, 1989; Vitale & Newman, 2001), it makes sense that this sample contained relatively few manipulative psychopaths, individuals who presumably are less violent and destructive than other psychopaths. The manipulative (male) psychopaths' low score on the domain of early and persistent antisocial behavior (Facet 4) is consistent with this view. Finally, and a little more perplexing, was the finding that, in the psychiatric sample (sample 6), macho and pseudo outnumbered classic and manipulative psychopaths. Since such samples primarily consist of individuals with severe (i.e., behaviorally damaging) personality disorders and/or psychiatric conditions (e.g., Harris, Rice, & Quinsey, 1993; Stålenheim & von Knorring, 1996), one could (theoretically) expect a greater number of both macho and pseudo psychopaths in such samples. Both types are likely to consist of individuals who engage in very severe overt antisocial behaviors (i.e., have poor behavioral controls) both within the community and in institutions and, therefore, may be more likely to be remanded to psychiatric care. However, while the former is likely to do so for instrumental reasons, theory would suggest that
the latter's behavior is likely more reactive than instrumental in nature (see below; also see Arieti, 1967, Karpman, 1955; Skeem et al., in press). Nevertheless, while intuitively appealing, these are post-hoc explanations.

Subtypes and Age.

The subtypes cannot be explained by age-related factors such as inexperience or burn-out (Edens, et al., 2001; Hare & McPherson, 1984; Hare, McPherson, & Forth, 1988; Porter, Birt, & Boer, 2001). Future research should investigate age-related issues in more detail, as well as other factors that may account for the subtypes, such as developmental delays in language (Gretton, 1998; Roussy, 1999), autonomic reactivity (Hare, 1970; 1978; Ishakawa, et al., 2001), early childhood traumas (Ishakawa, et al., 2001; Monahan et al., 2001; Porter, 1996; Steadman, et al., 2000), diagnostic co-morbidity (Alterman, 1998; Blackburn & Coid, 1999), and/or time spent incarcerated.

Summary.

Together, the present findings suggest that North American, English, Scottish, and Swedish samples of adult offenders contain at least four types of offenders with high PCL-R scores, a finding that does not appear to be dependent on race, gender, psychiatric co-morbidity, or cohort effects (i.e., age-related differences). These results add weight to the long-held belief that highly psychopathic individuals differ from one another in respect to the degree to which they embody the core interpersonal, affective, and behavioral characteristics of the disorder (Arieti, 1967; Cleckley, 1941/1988; Hare, 1998c; Henderson, 1947; Karpman, 1955; Millon & Davis, 1998).

The use of the PCL-R facet profiles makes this investigation unique. Although a similar approach has been used in the child literature (Christian, Frick, Hill, Tyler, & Fraser, 1997; Frick, Bodin, & Barry, 2001), no research to date has employed this methodology in the study of adults and, more specifically, in the investigation of psychopathic subtypes. Instead, previous
research in the area has attempted to delineate subtypes by their association with other disorders (Alterman, 1998; Blackburn, 1975; Blackburn & Coid, 1999). However, such an approach only addresses issues related to dual-diagnosis, not to classification (Blashfield & Livesley, 1999). That psychopathy can co-occur with other disorders is not debatable (Hare, 1996a; 1998a; Hart & Hare, 1989; Rice & Harris, 1995; Stålenheim & von Knorring, 1996). Moreover, that subtypes of psychopaths may be prone to different co-morbid psychiatric conditions is not only likely but could even serve as a way of validating the current typology. The concern with this approach to classification is that it fails to inform how individuals with a specific diagnosis differ in respect to the disorder itself. As a result, when the co-morbid condition is not present (i.e., pre-morbid states or states in remission), the identified subtypes essentially disappear. Future research on this topic should focus on how subtypes vary in terms of their psychopathic characteristics, as indexed by either the three-or four-facet models of psychopathy (Cooke & Michie, 2001; Hare, in press), rather than according to their general psychiatric profiles. The latter, however, could be used to validate the former approach.

Limitations of the Present Study.

Researchers, clinicians, and theorists should remain open to the possibility that other subtypes may exist, a speculation evolving out of the methodological weaknesses of the present study. First, it is clear that the subtypes described within the current study are tied to the data at hand (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair et al., 1998). The inclusion of other classification variables (e.g., anxiety, abuse history, psychiatric pathology, criminal profile, etc.) could result in different subtypes, both in number and type. For example, a reliance on anxiety as a classification variable might have resulted in two different types of psychopaths, primary (low anxiety) and secondary (high anxiety) psychopaths (e.g., Kosson & Newman, 1995; also see Porter, 1996; Raine, 1992). The addition of abuse history to an anxiety-based typology, although not necessarily adding to the secondary distinction (i.e.,
secondary psychopaths are likely high in anxiety and have an abuse history), could further delineate primary psychopaths into manipulative (i.e., no abuse history) and macho (i.e., abuse history) psychopaths (see below). The goal of this study, however, was to use the PCL-R facets to delineate subtypes. This approach may be more useful than other approaches, at least from a clinical perspective. If the results are replicated and validated by future research, clinicians might have a better understanding of the individuals with whom they deal without having to resort to other measures (e.g., anxiety measures; see Schmitt & Newman, 1999). However, this would not invalidate other subtyping procedures, such as those founded on etiology (e.g., Hare, 1998c; Ishakawa, et al., 2001; Mealey, 1995a; Monahan et al., 2001; Porter, 1996; Steadman, et al., 2000), autonomic reactivity (Ishakawa, et al., 2001), psychiatric co-morbidity (Alterman, et al., 1998; Blackburn, 1975; Blackburn & Coid, 1999; Raine, 1992), fear conditioning (Lykken, 1995), and/or perceived anxiety (e.g., Arnett, Smith, & Newman, 1997; Blackburn, 1975; Kosson & Newman, 1995; Newman, Wallace, Schmitt, & Arnett, 1997). These classification approaches are not necessarily mutually exclusive, and etiology, autonomic reactivity, co-morbidity, fear conditioning, and anxiety may map directly onto the present classification.

Second, the current investigation could be criticized for its relatively liberal diagnostic cutoff for psychopathy. While the literature recommends a score of 30 or above on the PCL-R for the identification of psychopaths (Hare, 1991; in press), the present investigation used a diagnostic cutoff of 27. However, a score of 27 is within one standard error of the recommended cutoff (Hare, 1991; in press), and the use of this diagnostic criterion seemed appropriate for the current investigation, as it allowed the cluster analyses to accommodate measurement error. That is, false negatives (i.e., idiopathic psychopaths scoring between 27-29) and false positives (i.e. pseudopsychopaths scoring 30 or above) resulting from measurement error potentially could be statistically corrected, with the former being extracted into a cluster of idiopathic psychopaths and the latter into a cluster of symptomatic individuals. Nonetheless, it is possible that a different
number of subtypes will emerge with either higher or lower cutoffs. For example, raising the bar to a score of 35 would have likely limited the investigation to classic and macho psychopaths (see Tables 4 & 7), while using a lower cutoff would have extended the investigation to include offenders other than psychopaths (Alterman et al., 1998; Blackburn & Coid, 1999). Given that the goal of the present study was to study subtypes of psychopaths, the diagnostic criterion used here seemed the most appropriate.

Third, the current investigation made use of the newly developed PCL-R factor structures (Cooke & Michie, 2001; Hare, in press) rather than the more validated two-factor structure (Hare, 1991). The use of two factors likely would have limited the typology to three types (i.e., classic [high on both factors], manipulative [high on Factor 1 and low on Factor 2], and pseudo [low on Factor 1 and high on Factor 2]). However, the current investigation was focused on identifying variability within the construct itself in a clinically ecological fashion. The more descriptive three- and four-facet models were deemed more appropriate than the two-factor model in this regard. Obviously, the added descriptive dimension afforded by the four-facet model makes this the method of choice for future investigations, especially given mounting evidence that this structure is more statistically sound than its three-facet counterpart (Hare, in press). The use of other psychopathy measures, such as the various self-report measures, the DSM-IV antisocial personality disorder criteria, and the CATS, may yield different typologies. These measures are much more sensitive in the assessment of the behavioral features of psychopathy than the interpersonal and affective ones. Therefore, classifications based on self-report measures might result in typologies that discriminate psychopaths according to their behavioral manifestations. The present findings suggest that such an approach would likely result in two types, most notably psychopathic individuals with relatively many (i.e., classic, macho, and pseudo-psychopaths) and psychopaths with relatively few (i.e., manipulative) behavioral traits of the disorder.
Fourth, it is important to note that the subtypes identified here may be specific to correctional populations, as all samples consisted of incarcerated individuals. Researchers interested in white-collar criminals (e.g., Babiak, 1995), for example, may find other subtypes (e.g., possessing less of the lifestyle and antisocial characteristics than found in the present subtypes), as well as different proportions of the four subtypes identified in the current study (e.g., less of the macho and pseudo and more of the manipulative psychopaths). Fifth, while the confirmatory analyses employed in samples two through six suited the study’s purposes (i.e., assessed the reliability and generalizability of the findings), these did not allow for new clusters to emerge (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair, et al., 1998). Future research in this area should employ exploratory analyses until a more definite picture emerges. Meanwhile, the four clusters identified in the present study should be viewed as primarily reflecting criminal subtypes of offenders with high PCL-R scores in adult samples.

Finally, the most significant limitation of the present investigation is its lack of validation with respect to external correlates (Blashfield & Aldenderfer, 1988; Everitt, 1980; Everitt, Landau, & Leese, 2001; Hair, et al., 1998). It is unknown whether these subtypes have any value other than a theoretical one, or whether they are uniquely associated with, for example, different patterns of offending (e.g., violent vs. fraud), treatment outcome (e.g., in-session behaviors as well as overall success), or psychosocial development (e.g., early vs. late language development). Validity data would also have helped to address some of the methodological weaknesses noted above. If the subtypes identified here are validated, the criticisms regarding the variables used to classify psychopaths (i.e., the three- and four-facet models rather than the two-factor model or other measures altogether), the diagnostic cutoff employed, and the use of confirmatory analyses would be weakened. Interestingly, recent research supports the validity of this typology and, therefore, the methodology used to derive it. Hervé (2002) found the four
subtypes, as derived from the three-facet model of psychopathy, to differ from one another and from nonpsychopathic offenders with respect to their criminal histories (i.e., convictions). Specifically, prototypical and pseudo psychopaths engaged in a greater number of crimes across their criminal careers and were more likely to have defied authority (i.e., escape, obstruction, court violations) than were the macho and manipulative psychopaths, with the latter being the least criminally problematic, especially in regards to severe interpersonal violence (i.e., murder, sexual and simple assault, and kidnapping). Pseudo and macho psychopaths also engaged in more destructive (e.g., arson, vandalism, and threat) and less fraudulent crimes than did other psychopaths, especially manipulative ones. Although the design was unbalanced (i.e., 65 classic, 11 manipulative, 29 macho, 27 pseudo, 89 medium, and 62 low) and there were low base rates for various crime categories (e.g., violent crimes, anger-related crimes [vandalism, arson, and threat], and some types of frauds), these findings support the validity of the current typology in a theoretically meaningful manner. For example, that manipulative psychopaths appear to commit fewer crimes than do other psychopaths is in line with clinical anecdotes, as well as with the fact that, in the current study, they had the lowest score on the antisocial facet of the PCL-R (2nd ed., in press; see Figure 2). Nonetheless, additional validity studies are required prior to applying these findings to practice. The current investigation provides the basis for examining the validity of this typology (Glass & Hopkins, 1996).

Implications of the Current Study.

The current findings support the clinical and behavioral observations that offenders who meet criteria for psychopathy may exhibit different patterns of defining characteristics, particularly those associated with the interpersonal and lifestyle features of the disorder (Arieti, 1967; Cleckley, 1941/1988; Hare, 1998c; Henderson, 1947; Karpman, 1955; Millon & Davis, 1998). Of the four clusters or subtypes that emerged, three were of particular significance to the construct of psychopathy. As compared to the pseudopsychopaths, the classic, macho, and
manipulative psychopaths all possessed high levels of the core affective traits thought to underlie the disorder (Abbott, 2001; Cleckley, 1941/1988; Cooke & Michie, 2001; Hare, 1998a; 1998b; in press; Patrick, 1994; in preparation; for an alternate view, see Newman, 1998) and, therefore, these subtypes could be viewed as “primary” or “idiopathic” psychopaths (Blackburn, 1975; Karpman, 1955). Unlike these three idiopathic types, the pseudopsychopaths, while similar to other psychopaths in many respects, did not seem to have the prerequisite constellation of emotional traits thought to underlie the disorder. These individuals might represent what others have termed “secondary” or “symptomatic” psychopathy (Arieti, 1967; Blackburn, 1975; Karpman, 1955; Porter, 1996), a disorder related to but not the same as the primary type. This type of individual may not be a psychopath per se (i.e., is a false positive) but an individual who either reacts to the injustices of society (e.g., the sociopath; Mealey, 1995a; Partridge, 1930), mimics his/her delinquent sub-culture (e.g., the dyssocial; Arieti, 1967), suffers from a longstanding dissociative and/or posttraumatic stress response (e.g., Porter, 1996), or has another disorder all together (e.g., borderline and/or antisocial personality disorder; Arieti, 1967; Blackburn & Coid, 1999; Karpman, 1955; 1961; Lykken, 1995; Meloy, & Gacono, 1993; Raine, 1992). Future research may even investigate the notion that several of these conditions may manifest as pseudopsychopathy (Arieti, 1967; Blackburn & Coid, 1999; Karpman, 1955; Lykken, 1995; McCord & McCord, 1964). That only one mask of psychopathy was identified within the current study does not negate the possibility that different types of individuals wear this mask. The pattern of scores reflecting pseudopsychopathy, especially the relatively lower score on the affective facet, could – theoretically – result from any of the aforementioned conditions. For example, while dyssocial individuals and sociopaths may have learnt to suppress their affective experiences in light of long-term environmental demands (i.e., emotional reactions could be viewed as a sign of weakness in antisocial subcultures), trauma-induced conditions, as well as those reflecting borderline personality disorder, may have limited affective experiences,
not due to environmental demands, but as a result of the underlying pathology. The end result is that each of these nonpsychopathic emotionally constricted (not barren) conditions should score highly on the affective facet of psychopathy but lower than those individuals who have greatly attenuated or impaired affective experiences (i.e., idiopathic psychopaths).

The current findings also imply that psychopathy has multiple etiologies, with nature and nurture having different influences across the various subtypes. For example, one might speculate that the idiopathic and symptomatic psychopaths have different biological predispositions, with the former being much more biologically weighted than the latter. On the one hand, idiopathic psychopathy (i.e., classic, macho, and manipulative psychopathy), representing the genotype, might have a strong biological predisposition that requires little or no environmental events in order to manifest itself (i.e., is both necessary and sufficient; see Arieti, 1967; Karpman, 1955; Hare, 1996a; Henderson, 1947; Lykken, 1995; McCord & McCord, 1964; Mealey, 1995a; Partridge, 1930; Porter, 1996; Raine, 2002). The predisposition is to psychopathy proper (i.e., is specific) and, therefore is probably responsible for the apparent abnormality within the emotive centers of the brain that govern the development of complex, long-circuited behaviorally inhibitory emotions (i.e., limbic system). Differences between idiopathic types could then reflect either environmental contingencies and/or additional neuro-cognitive limitations. On the other hand, symptomatic psychopathy, representing the phenotype, might have a weaker biological predisposition that, in combination with specific environmental events, leads to psychopathy (i.e., is necessary but not sufficient; see McCord & McCord, 1964; Mealey, 1995a; Partridge, 1930; Porter, 1996; Raine, 2002). Unlike that for idiopathic psychopathy, the predisposition is not to psychopathy (i.e., it is nonspecific) but to a psychopathy mimicking condition (i.e., a ‘disruption’ in emotive brain centers that govern the development and expression of LCEs) that requires an environmental catalyst (e.g., trauma, neglect, etc.) for its manifestation. If this affective disruption is one in which the physiological components of
emotions are dissociated from the cognitive ones (Porter, 1996; also see Mandler, 1984; Patrick, in preparation, for a discussion of emotional development), then pseudopsychopaths, although cognitively immune to LCEs, may nonetheless be under the influence of LCE-induced arousal. This undifferentiated arousal could, theoretically, influence either the emergence or the intensity of SCEs, which suggests that the SCEs of pseudopsychopaths may be either more reactive or of a greater intensity than those of idiopathic psychopaths – a point in need of research. If this proves to be the case, then it may help explain the finding that some psychopaths experience tension or anxiety, that is, nonspecific physiological arousal (e.g., Kosson & Newman, 1995; also see Porter, 1996; Raine, 1992; 1997) and, therefore, address recent criticisms of the PCL-R in regard to its inability to account for anxiety-based subtypes (Schmitt & Newman, 1999). Clearly, this multi-etiology model of psychopathy is highly speculative, but it may lead to fruitful research that could make use of advances in related areas that have already yielded a great deal of knowledge regarding the development of the interpersonal, emotional, and behavioral spheres of human functioning.

The present findings also have implications for the debate on whether psychopathy, as assessed by the PCL-R, is a categorical or a continuous trait (Hare, 1996a; 1998a; Harris, Rice, & Quinsey, 1994). This debate has typically been viewed as having only one outcome, that is, psychopathy is either categorical (i.e., different in kind) or dimensional (i.e., different in degree). However, perhaps the PCL-R assesses both a categorical and a dimensional entity, a notion that stems from the idiopathic-symptomatic distinction found in the current investigation. The categorical concept may apply only to idiopathic psychopaths, whose biologically rooted emotional deficit sets them apart from other individuals (Arieti, 1967; Hare, 1996a; 1998a; Karpman, 1955; Patrick, in preparation). Symptomatic psychopathy may be a dimensional concept reflecting different life trajectories. As such, the intensity of the environmental agent (e.g., acute vs. chronic childhood traumas) leading to pseudopsychopathy, in combination with
other developmental events (e.g., poor parenting, delinquent subculture, etc.), would set the level at which an inflicted individual displays his/her psychopathy.

Although additional research is required before applying these results to practical settings, the idea that there may be psychopathic subtypes has certain implications for the criminal justice system (Skeem et al., in press). Indeed, if these subtypes have unique etiological histories, these findings would have significant treatment implications; each subtype may require a different treatment approach. For example, idiopathic psychopaths, whose disorder is thought to be rooted in biology, will likely be immune to psychotherapies aimed at ‘treating’ their emotional deficit (e.g., Ogloff et al., 1990; Wong & Hare, in press). While pharmacotherapy may prove to be useful in this regard, the current state of affairs suggests that idiopathic psychopaths require a treatment regimen that teaches them how to cope with, not ‘cure,’ their unique emotional constitution (Thornton, Blud, & Attrill, in preparation; Wong & Hare, in press). That is, they must learn how to control the expression of their SCEs. The most successful approach in this respect will likely be one that is heavily behaviorally loaded, supplemented with cognitive interventions to ensure treatment compliance (Thornton, Blud, & Attrill, in preparation; Wong & Hare, in press). More cognitive and dynamic therapies, however, may be useful in treating other aspects of the disorder (i.e., interpersonal, lifestyle, and antisocial aspects), especially those features with strong environmental (past or current) underpinnings. As noted above, the use of adjunct pharmacotherapy should not be dismissed, because such an approach might enable idiopathic psychopaths to gain control over their SCEs and, consequently, facilitate active and constructive therapeutic participation. Incidentally, if research identifies one type of idiopathic psychopathy to be more treatment responsive or less socially destructive than the rest, then this type could be used as a treatment prototype (i.e., a model for others to emulate). The use of a treatment prototype is akin to a harm reduction approach to therapy; the basic premise would be to reduce the harm associated with psychopathy rather than abolish it altogether. Turning classic
and macho psychopaths into manipulative ones might be considered a positive treatment outcome for society in that it is relatively better to lose one's money than one's life. Clearly, the end goal should be to reduce all antisocial manifestation of the disorder, as being defrauded, for example, can have significant adverse consequences for victims, consequences that should not be minimized (e.g., some individuals may commit suicide after losing all of their life savings). Such therapeutic attempts, however, will have to be carefully conducted as to not turn a relatively benign psychopath into a socially devastating one (i.e., turn a manipulative into a classic; e.g., Ogloff et al., 1990).

In contrast to the treatment of idiopathic psychopathy, pseudopsychopaths may have an emotional constitution that enables them to benefit from traditional treatment programs (i.e., those relying on empathy and responsibility taking); programs that consistently fail (at the very least) with primary psychopaths (e.g., Ogloff et al., 1990; for a review, see Thornton, Blud, & Attrill, in preparation; Wong & Hare, in press). Unlike that suggested for idiopathic psychopathy, the treatment regimen of the pseudopsychopath will likely need to focus directly on his/her affective dysfunction and the causal agent(s) responsible for its manifestation. While initial treatment goals may focus on teaching them how to cope with their SCEs in a manner similar to that noted for idiopathic psychopaths, long-term goals should be aimed at helping them regain their LCEs. If successful, the disorder would be 'cured,' in that such individuals would then be able to use their LCEs to inhibit or manage the expression of their SCEs. It is important to note that any treatment attempt will need to be undertaken in a manner that is sensitive to the pseudopsychopath's underlying pathology and unique developmental history (e.g., abuse vs. neglect vs. delinquent subculture vs. other disorder). As with idiopathic psychopaths, pharmacotherapy may also prove useful as an adjunct to psychotherapy. In this case, however, the focus should be on helping pseudopsychopaths to manage both their SCEs and any
undifferentiated LCE-induced arousal, thereby reducing the intensity of their distress and facilitating their ability to engage in treatment.

Another implication of these findings for the criminal justice system is that these subtypes may differ in terms of both the type and frequency of crime and violence in which they engage. For example, while the classic psychopath may become involved in all types of antisocial behaviors, the manipulative psychopath (the “talker”) may specialize in fraud and embezzlement, the macho psychopath (the “doer”) may be more prone to commit armed robberies and assaults, and the pseudopsychopath (the “distressed”) may be most likely to engage in crimes of anger and destruction. As noted above, preliminary research appears to support these hypotheses (Hervé, 2002); each subtype appears to have a unique criminal profile. In addition, the pseudopsychopath may display a pattern of offending, especially in regards to violent offending, unlike that of his idiopathic counterparts (Skeem et al., in press). Specifically, the pseudopsychopath, whose conscience presumably is in a state of chaos (Arieti, 1967; Karpman, 1955; Partridge, 1930; Porter, 1996) and whose system is likely highly aroused, may be much more reactive in his/her violence than an instrumentally motivated peer (Cornell, et al., 1996; Woodworth & Porter, 2002). With respect to idiopathic psychopaths, recent research also suggests that macho psychopaths, who engage in destructive crimes to the same extent as pseudo psychopaths, may be the most reactive of the idiopathic psychopaths (Hervé, 2002), possibly due to an increased sense of frustration at not being able to communicate effectively (Stattin & Klackenberg-Larsson, 1996). Further research needs to investigate the extent to which these subtypes differ in various criminal history variables. Such research could potentially increase the sensitivity and specificity of risk prediction in a group of individuals who account for a disproportionate amount of crime (Hare, 1995; 1996a).

Finally, research is needed on the correlates of each subtype, including etiological (e.g., biological, cognitive, and psychosocial), developmental (e.g., lifestyle differences), experimental
(e.g., emotional processing, fear conditioning, attentional rigidity, etc.), and behavioral (e.g., impulsivity, type of violence, criminal history, etc.) factors associated with one or more types of psychopathy. Some factors may characterize all psychopaths (e.g., some criminal history variables), others may apply only to a couple of subtypes (e.g., experimental factors may apply only to idiopathic psychopaths), and some might only relate to one type (e.g., high anxiety might only characterize pseudopsychopaths). In addition, researchers who are more broadly focused on psychopathy in general may find that the presence of subtypes introduces ‘noise’ into their analyses. For example, the inclusion of pseudopsychopaths in research on the emotional underpinnings of psychopathy is likely to act as a confound that obscures the emotional deficits that may be at the root of the psychopathic genotype. A similar argument could be made regarding the investigation of the correlates uniquely associated with each of the other facets of psychopathy. The present findings suggest that research on the interpersonal characteristics of the disorder should separate prototypical and manipulative from macho and pseudo-psychopaths, and that studies on the lifestyle and antisociality of psychopathy should investigate manipulative psychopaths separately from the other subtypes. At the very least, investigators should partial out the effects of facets other than the one of primary research interest (Patrick, 1994; in preparation). In this respect, the idiopathic-symptomatic distinction found in the current study suggests that the various facets of psychopathy may have to be dealt with differently. Conceptually, the affective facet appears much more central and unique to the diagnosis of idiopathic psychopathy than any of the other facets, which themselves vary from one subtype to the next. Statistical analyses should reflect these conceptual differences.

Conclusion

The goal of the present study was to empirically validate the clinical and theoretical notion that psychopaths may differ from one another in respect to the degree to which they display all of the characteristic of the disorder. As predicted, three psychopathic subtypes (the
classic, macho, and manipulative) and one pseudopsychopath subtype emerged. These four types varied from one another in the extent to which they possessed the interpersonal, affective, and behavioral characteristics of the disorder. Confirmatory analyses revealed this typology to be unaffected by cohort effects, to be highly reliable, and to generalize across cultures, races, genders, and psychiatric conditions. Possible implications for theory, practice, and research were discussed. Further research is required to validate these findings and to identify their practical implications.
References


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### Table 1
Hierarchical Model of Psychopathy

<table>
<thead>
<tr>
<th>Psychopathy</th>
<th>Factor 1</th>
<th>Factor 2</th>
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<tbody>
<tr>
<td><strong>PCL-R(^1)</strong></td>
<td>Facet 1</td>
<td>Facet 2</td>
</tr>
<tr>
<td>PCL-R (2(^{nd}) ed.)(^1)</td>
<td>Facet 2</td>
<td>Facet 3</td>
</tr>
<tr>
<td>PCL: 3F(^2)</td>
<td>Facet 1</td>
<td>Facet 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interpersonal</th>
<th>Affective</th>
<th>Lifestyle</th>
<th>Antisocial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glib/Superficial</td>
<td>Shallow Affect</td>
<td>Gets Bored</td>
<td>Poor Controls</td>
</tr>
<tr>
<td>Grandiose</td>
<td>Callous</td>
<td>Impulsive</td>
<td>Early Problems</td>
</tr>
<tr>
<td>Lying</td>
<td>Lacks Guilt</td>
<td>Irresponsible</td>
<td>Juvenile Crime</td>
</tr>
<tr>
<td>Conning</td>
<td>Not Responsible</td>
<td>Parasitic</td>
<td>Revocations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No Realistic Goals</td>
<td>Versatility</td>
</tr>
</tbody>
</table>

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1 Two items (sexual promiscuity and many marital relationships), although included in these 20-item scales, do not load on any one Factor or Facet.

2 All 13 items from this scale are included.
Table 2

Three-Facet Model Cluster Facet Scores

Across Clustering Methods for a Two and Four Cluster Solution for Sample 1

<table>
<thead>
<tr>
<th>Method</th>
<th>n</th>
<th>Facet 1</th>
<th>Facet 2</th>
<th>Facet 3</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>(Mean)</td>
<td>(Std Dev)</td>
<td>(Mean)</td>
</tr>
</tbody>
</table>

A. Two-Cluster Solution:

Cluster 1:  
- WG: 73, 4.33 (1.10) 6.00 (1.32) 6.20 (0.74)
- CL: 73, 4.19 (1.01) 6.11 (1.36) 6.45 (0.77)
- WM: 109, 4.77 (1.27) 6.34 (1.22) 6.01 (0.99)
- ML: 176, 5.51 (1.46) 6.62 (1.15) 6.65 (0.74)
- BG: 170, 5.98 (1.14) 6.54 (1.14) 6.36 (0.98)

Cluster 2:  
- WG: 129, 6.28 (1.04) 7.02 (0.73) 6.52 (1.04)
- CL: 129, 6.36 (0.92) 6.96 (0.76) 6.38 (1.05)
- WM: 93, 6.52 (0.89) 7.01 (0.81) 6.88 (0.66)
- ML: 26, 6.00 (0.96) 6.83 (0.62) 4.78 (0.55)
- BG: 32, 3.45 (0.65) 7.22 (0.62) 6.68 (0.80)

B. Four-Cluster Solution:

Cluster 1:  
- WG: 106, 6.32 (1.04) 6.99 (0.78) 6.90 (0.67)
- CL: 103, 6.45 (0.90) 6.99 (0.80) 6.78 (0.70)
- WM: 93, 6.52 (0.89) 7.01 (0.81) 6.88 (0.66)
- ML: 105, 6.42 (0.91) 6.99 (0.79) 6.80 (0.70)
- BG: 105, 6.40 (0.95) 7.03 (0.78) 6.85 (0.69)

Cluster 2:  
- WG: 29, 3.41 (0.67) 7.29 (0.59) 6.57 (0.76)
<table>
<thead>
<tr>
<th></th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>102</td>
<td>37</td>
<td>29</td>
<td>34</td>
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<tr>
<td>WM</td>
<td>6.42 (0.94)</td>
<td>3.56 (0.70)</td>
<td>6.01 (0.97)</td>
<td>4.83 (0.86)</td>
</tr>
<tr>
<td>ML</td>
<td>7.00 (0.79)</td>
<td>7.17 (0.64)</td>
<td>6.85 (0.62)</td>
<td>4.92 (0.86)</td>
</tr>
<tr>
<td>BG</td>
<td>6.84 (0.68)</td>
<td>6.68 (0.78)</td>
<td>4.87 (0.60)</td>
<td>6.08 (0.61)</td>
</tr>
</tbody>
</table>

1 Facet 3 was prorated from a 10-point scale to an 8-point scale.

Note: WG = Average Linkage – Within Group; CL = Centroid Linkage; WM = Ward’s Method; ML = Median Linkage; BG = Average Linkage – Between Group
Table 3
Kappa’s Coefficients of Agreement Among Clustering Methods for the Two- and Four-Cluster Solutions Based on the Three-Facet Model for Sample 1

<table>
<thead>
<tr>
<th></th>
<th>WG</th>
<th>CL</th>
<th>WM</th>
<th>ML</th>
<th>BG</th>
<th>NH</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>WG</td>
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<tr>
<td>CL</td>
<td>0.81**</td>
<td>-----</td>
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<tr>
<td>WM</td>
<td>0.65**</td>
<td>0.65**</td>
<td>-----</td>
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<tr>
<td>ML</td>
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<td>-0.25**</td>
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<tr>
<td>BG</td>
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<td>-0.34**</td>
<td>-0.31**</td>
<td>-0.17*</td>
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<td></td>
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<tr>
<td>B: Four-Cluster Solution</td>
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<td></td>
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<td>WG</td>
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<td>CL</td>
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<td>0.84**</td>
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<tr>
<td>ML</td>
<td>0.78**</td>
<td>0.90**</td>
<td>0.74**</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BG</td>
<td>0.96**</td>
<td>0.87**</td>
<td>0.76**</td>
<td>0.82**</td>
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<td></td>
</tr>
<tr>
<td>NH</td>
<td>0.78**</td>
<td>0.84**</td>
<td>0.77**</td>
<td>0.82**</td>
<td>0.79**</td>
<td>-----</td>
</tr>
</tbody>
</table>

Note 1:  * p < 0.05; ** p < 0.001

Note 2:  WG = Average Linkage – Within Group; CL = Centroid Linkage; WM = Ward’s Method; ML = Median Linkage; BG = Average Linkage – Between Group; NH = Non-Hierarchical
Table 4

Sample 1 Cluster Size, Facet Scores, PCL-R Total Scores, and Age for Each of Four Clusters Derived via Nonhierarchical Clustering of Three- and Four-Facet Models of Psychopathy

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Facet 1</th>
<th>Facet 2</th>
<th>Facet 3(^1)</th>
<th>Facet 4(^1)</th>
<th>PCL-R</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Sample 1: PCL: 3F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster 1</td>
<td>88</td>
<td>6.6 (0.89)</td>
<td>7.0 (0.73)</td>
<td>6.9 (0.63)</td>
<td>--</td>
<td>33.1 (2.44)</td>
<td>28.8 (8.71)</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>44</td>
<td>3.7 (0.78)</td>
<td>7.2 (0.67)</td>
<td>6.7 (0.75)</td>
<td>--</td>
<td>30.7 (2.07)</td>
<td>27.6 (6.03)</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>35</td>
<td>6.0 (0.91)</td>
<td>6.9 (0.68)</td>
<td>5.0 (0.62)</td>
<td>--</td>
<td>29.4 (1.74)</td>
<td>33.5 (9.11)</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>35</td>
<td>5.0 (0.92)</td>
<td>4.8 (0.78)</td>
<td>6.2 (0.60)</td>
<td>--</td>
<td>28.4 (1.45)</td>
<td>28.2 (6.57)</td>
</tr>
<tr>
<td>B. Sample 1: PCL-R (2(^{nd}) Ed.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster 1</td>
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<td>7.2 (0.64)</td>
<td>6.9 (0.87)</td>
<td>6.9 (0.87)</td>
<td>33.8 (2.32)</td>
<td>29.1 (8.84)</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>55</td>
<td>3.9 (0.80)</td>
<td>7.0 (0.69)</td>
<td>6.5 (0.85)</td>
<td>6.7 (0.91)</td>
<td>30.3 (2.02)</td>
<td>28.0 (6.18)</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>50</td>
<td>6.7 (0.80)</td>
<td>6.7 (0.74)</td>
<td>5.8 (0.98)</td>
<td>5.1 (0.80)</td>
<td>30.2 (1.91)</td>
<td>31.4 (9.59)</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>33</td>
<td>5.2 (0.93)</td>
<td>4.8 (0.75)</td>
<td>6.2 (0.73)</td>
<td>6.8 (0.82)</td>
<td>28.6 (1.58)</td>
<td>28.5 (6.69)</td>
</tr>
</tbody>
</table>

\(^1\) Facets 3 and 4 were prorated from a 10-point scale to an 8-point scale.
Table 5
Four-Facet Model Cluster Facet Scores
Across Clustering Methods for a Two and Four Cluster Solution for Sample 1

<table>
<thead>
<tr>
<th>Method</th>
<th>n</th>
<th>Facet 1</th>
<th>Facet 2</th>
<th>Facet 3&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Facet 4&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Two-Cluster Solution:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cluster 1: WG</td>
<td>73</td>
<td>4.22 (1.02)</td>
<td>6.15 (1.36)</td>
<td>6.48 (0.76)</td>
<td>6.77 (0.91)</td>
</tr>
<tr>
<td>CL</td>
<td>70</td>
<td>4.06 (0.87)</td>
<td>6.42 (1.34)</td>
<td>6.58 (0.76)</td>
<td>6.74 (0.87)</td>
</tr>
<tr>
<td>WM</td>
<td>86</td>
<td>4.26 (0.91)</td>
<td>6.43 (1.31)</td>
<td>6.41 (0.82)</td>
<td>6.75 (0.87)</td>
</tr>
<tr>
<td>ML</td>
<td>143</td>
<td>5.27 (1.45)</td>
<td>6.63 (1.22)</td>
<td>6.75 (0.77)</td>
<td>6.80 (0.93)</td>
</tr>
<tr>
<td>BG</td>
<td>79</td>
<td>4.34 (1.10)</td>
<td>6.04 (1.30)</td>
<td>6.40 (0.78)</td>
<td>6.74 (0.90)</td>
</tr>
<tr>
<td>Cluster 2: WG</td>
<td>129</td>
<td>6.35 (0.95)</td>
<td>6.93 (0.79)</td>
<td>6.37 (1.05)</td>
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</tr>
<tr>
<td>CL</td>
<td>132</td>
<td>6.38 (0.90)</td>
<td>6.77 (0.93)</td>
<td>6.31 (1.04)</td>
<td>6.29 (1.18)</td>
</tr>
<tr>
<td>WM</td>
<td>116</td>
<td>6.55 (0.80)</td>
<td>6.81 (0.88)</td>
<td>6.40 (1.05)</td>
<td>6.21 (1.21)</td>
</tr>
<tr>
<td>ML</td>
<td>59</td>
<td>6.31 (1.00)</td>
<td>6.69 (0.73)</td>
<td>5.58 (0.84)</td>
<td>5.58 (1.04)</td>
</tr>
<tr>
<td>BG</td>
<td>123</td>
<td>6.37 (0.94)</td>
<td>7.04 (0.72)</td>
<td>6.41 (1.06)</td>
<td>6.25 (1.19)</td>
</tr>
</tbody>
</table>

B. Four-Cluster Solution:

<p>| Cluster 1: WG | 83  | 6.27 (0.97)   | 6.84 (0.77)   | 6.47 (1.15)         | 6.92 (0.74)         |
| CL     | 69  | 6.49 (0.89)   | 7.09 (0.84)   | 6.85 (0.82)         | 6.90 (0.78)         |
| WM     | 36  | 6.51 (0.90)   | 7.36 (0.56)   | 7.22 (0.64)         | 7.38 (0.54)         |
| ML     | 70  | 6.29 (1.00)   | 7.25 (0.64)   | 7.08 (0.64)         | 6.80 (0.95)         |
| BG     | 79  | 6.10 (0.92)   | 7.20 (0.65)   | 6.54 (1.18)         | 6.94 (0.75)         |
| Cluster 2: WG | 41  | 3.82 (0.78)   | 7.15 (0.62)   | 6.79 (0.74)         | 6.66 (0.98)         |</p>
<table>
<thead>
<tr>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL 70</td>
<td>WM 67</td>
<td>CL 45</td>
<td>BG 50</td>
</tr>
<tr>
<td>4.06 (0.87)</td>
<td>4.10 (0.88)</td>
<td>3.67 (0.72)</td>
<td>3.75 (0.73)</td>
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<tr>
<td>6.42 (1.34)</td>
<td>7.01 (0.74)</td>
<td>6.90 (0.80)</td>
<td>6.83 (0.81)</td>
</tr>
<tr>
<td>6.58 (0.76)</td>
<td>6.43 (0.87)</td>
<td>6.58 (0.76)</td>
<td>6.49 (0.79)</td>
</tr>
<tr>
<td>6.74 (0.87)</td>
<td>6.71 (0.90)</td>
<td>6.80 (0.96)</td>
<td>6.73 (0.94)</td>
</tr>
</tbody>
</table>

Cluster 3: WG 46
- CL 45: 6.58 (0.77)
- WM 80: 6.57 (0.75)
- ML 59: 6.31 (1.00)
- BG 44: 6.86 (0.78)

Cluster 4: WG 32
- CL 18: 5.47 (0.67)
- WM 19: 4.82 (0.80)
- ML 28: 5.32 (0.87)
- BG 29: 5.34 (0.87)

C. Average Four-Cluster Solution:

<table>
<thead>
<tr>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL 67</td>
<td>WM 55</td>
<td>CL 55</td>
<td>BG 25</td>
</tr>
<tr>
<td>6.33 (0.84)</td>
<td>3.88 (0.84)</td>
<td>6.56 (0.83)</td>
<td>5.14 (0.86)</td>
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<tr>
<td>7.15 (0.81)</td>
<td>6.86 (0.78)</td>
<td>6.73 (0.79)</td>
<td>4.95 (0.81)</td>
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<tr>
<td>6.83 (0.81)</td>
<td>6.58 (0.74)</td>
<td>6.00 (0.75)</td>
<td>5.97 (0.70)</td>
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<tr>
<td>6.99 (0.84)</td>
<td>6.73 (0.78)</td>
<td>5.27 (0.75)</td>
<td>6.91 (0.76)</td>
</tr>
</tbody>
</table>

¹ Facets 3 and 4 were prorated from a 10-point scale to an 8-point scale.

Note: WG = Average Linkage – Within Group; CL = Centroid Linkage; WM = Ward’s Method; ML = Median Linkage; BG = Average Linkage – Between Group
Table 6
Kappa’s Coefficients of Agreement Among Clustering Methods for the Two- and Four-
Cluster Solutions Based on the Four-Facet Model for Sample 1

<table>
<thead>
<tr>
<th></th>
<th>WG</th>
<th>CL</th>
<th>WM</th>
<th>ML</th>
<th>BG</th>
<th>NH</th>
</tr>
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<tr>
<td><strong>A:</strong> Two-Cluster Solution:</td>
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<td>WG</td>
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</tr>
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<tr>
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<td>0.79**</td>
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<tr>
<td>ML</td>
<td>0.38**</td>
<td>0.27**</td>
<td>0.26**</td>
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<td></td>
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</tr>
<tr>
<td>BG</td>
<td>0.85**</td>
<td>0.74**</td>
<td>0.70**</td>
<td>0.33**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **B:** Four-Cluster Solution |     |     |     |     |     |     |
| WG  |     |     |     |     |     |     |
| CL  | 0.54** |     |     |     |     |     |
| WM  | 0.55** | 0.57** |     |     |     |     |
| ML  | 0.61** | 0.66** | 0.62** |     |     |     |
| BG  | 0.70** | 0.69** | 0.64** | 0.78** |     |     |
| NH  | 0.70** | 0.67** | 0.71** | 0.79** | 0.83** |     |

Note 1: * p < .05; ** p < .001

Note 2: WG = Average Linkage – Within Group; CL = Centroid Linkage; WM = Ward’s Method; ML = Median Linkage; BG = Average Linkage – Between Group; NH = Non-Hierarchical
Table 7
Cluster Size, PCL: 3F Facet Scores, PCL-R Total Scores, and Age for Each of the Four Clusters Derived From Nonhierarchical Procedures for Samples 2 to 6

<table>
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<th>n</th>
<th>Facet 1</th>
<th>Facet 2</th>
<th>Facet 3</th>
<th>PCL-R</th>
<th>Age</th>
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<td>6.7 (0.89)</td>
<td>6.7 (0.82)</td>
<td>6.9 (0.62)</td>
<td>33.0 (2.47)</td>
<td>29.2 (6.39)</td>
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<tr>
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<td>7.0 (0.74)</td>
<td>6.1 (0.88)</td>
<td>29.2 (2.44)</td>
<td>28.1 (5.49)</td>
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<td>7.0 (0.74)</td>
<td>4.7 (0.81)</td>
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<td>27.9 (6.52)</td>
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<td>6.0 (0.94)</td>
<td>29.0 (2.09)</td>
<td>27.4 (5.56)</td>
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<tr>
<td>B. Sample 3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cluster 1</td>
<td>18</td>
<td>6.6 (1.07)</td>
<td>6.7 (1.03)</td>
<td>6.8 (0.57)</td>
<td>32.4 (2.56)</td>
<td>30.3 (8.01)</td>
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<td>26.5 (3.40)</td>
<td>31.5 (8.89)</td>
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<td>4.1 (0.92)</td>
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<td>33.0 (8.96)</td>
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<td>6.1 (1.12)</td>
<td>25.0 (3.06)</td>
<td>32.4 (8.46)</td>
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<td>6.7 (0.79)</td>
<td>6.8 (0.60)</td>
<td>33.0 (2.44)</td>
<td>30.1 (6.74)</td>
</tr>
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<td>7.0 (0.79)</td>
<td>6.0 (0.89)</td>
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<td>27.9 (5.80)</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>95</td>
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<td>7.0 (0.74)</td>
<td>4.7 (0.87)</td>
<td>30.5 (2.25)</td>
<td>27.6 (6.53)</td>
</tr>
<tr>
<td>Cluster 4</td>
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<td>4.8 (1.09)</td>
<td>5.1 (0.86)</td>
<td>5.9 (0.87)</td>
<td>29.2 (1.92)</td>
<td>27.7 (5.43)</td>
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<tr>
<td>D. Sample 5</td>
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</tr>
<tr>
<td>Cluster</td>
<td>N</td>
<td>Facet 1</td>
<td>Facet 2</td>
<td>Facet 3</td>
<td>Facet 4</td>
<td></td>
</tr>
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<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
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</tr>
<tr>
<td>Cluster 1</td>
<td>88</td>
<td>6.6 (1.10)</td>
<td>7.0 (0.88)</td>
<td>7.1 (0.69)</td>
<td>30.8 (2.33)</td>
<td>27.9 (6.38)</td>
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<tr>
<td>Cluster 2</td>
<td>71</td>
<td>3.4 (1.18)</td>
<td>6.8 (1.00)</td>
<td>6.8 (1.03)</td>
<td>28.1 (2.64)</td>
<td>29.6 (7.21)</td>
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<tr>
<td>Cluster 3</td>
<td>49</td>
<td>6.3 (0.91)</td>
<td>6.9 (0.90)</td>
<td>5.0 (0.68)</td>
<td>28.0 (2.53)</td>
<td>29.8 (5.31)</td>
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<tr>
<td>Cluster 4</td>
<td>84</td>
<td>4.7 (1.26)</td>
<td>4.3 (1.04)</td>
<td>6.5 (0.97)</td>
<td>27.3 (2.09)</td>
<td>29.9 (5.99)</td>
</tr>
</tbody>
</table>

**E. Sample 6**

<table>
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<th>Facet 3</th>
<th>Facet 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>25</td>
<td>6.4 (1.09)</td>
<td>7.1 (0.81)</td>
<td>7.3 (0.63)</td>
<td>32.0 (3.31)</td>
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<tr>
<td>Cluster 2</td>
<td>51</td>
<td>3.4 (1.03)</td>
<td>6.8 (0.87)</td>
<td>6.3 (1.06)</td>
<td>26.8 (2.64)</td>
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<td>Cluster 3</td>
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<td>5.4 (1.05)</td>
<td>6.8 (0.74)</td>
<td>4.7 (0.89)</td>
<td>26.5 (2.61)</td>
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<tr>
<td>Cluster 4</td>
<td>43</td>
<td>4.0 (1.05)</td>
<td>4.8 (0.89)</td>
<td>6.1 (1.13)</td>
<td>26.0 (2.66)</td>
</tr>
</tbody>
</table>

1. Facet 3 was prorated from a 10-point scale to an 8-point scale.
Table 8

Sample Size and Percentage of Inmates in Each of the Four Clusters
Derived From Nonhierarchical Procedures for Each Sample Investigated

<table>
<thead>
<tr>
<th></th>
<th>Classic</th>
<th>Macho</th>
<th>Manipulative</th>
<th>Pseudo</th>
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<tr>
<td><strong>A. Reliability Samples</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample 1</td>
<td>88 (43.6%)</td>
<td>44 (21.8%)</td>
<td>35 (17.3%)</td>
<td>35 (17.3%)</td>
</tr>
<tr>
<td>Sample 2</td>
<td>98 (22.1%)</td>
<td>84 (19.0%)</td>
<td>160 (36.1%)</td>
<td>101 (22.8%)</td>
</tr>
<tr>
<td>Sample 3</td>
<td>18 (10.8%)</td>
<td>46 (27.5%)</td>
<td>30 (18.0%)</td>
<td>73 (43.7%)</td>
</tr>
<tr>
<td>Average&lt;sup&gt;1&lt;/sup&gt;</td>
<td>204 (25.1%)</td>
<td>174 (21.4%)</td>
<td>225 (27.7%)</td>
<td>209 (25.8%)</td>
</tr>
</tbody>
</table>

| **B. Generalizability Samples** |         |        |              |         |
| Sample 4         | 54 (22.7%) | 36 (15.1%) | 95 (39.9%)  | 53 (22.3%) |
| Sample 5         | 88 (30.1%) | 71 (24.3%) | 49 (16.8%)  | 84 (28.8%) |
| Sample 6         | 25 (17.6%) | 51 (35.9%) | 23 (16.2%)  | 43 (30.3%) |

<sup>1</sup> Average for male correctional inmates
Figure 1. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult Canadian male federal inmates (Sample 1).
Figure 2. PCL-R (2nd ed.) facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult Canadian male federal inmates (Sample 1).
Figure 3. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult North American federal inmates (Sample 2).
Figure 4. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult European male inmates (Sample 3).
Figure 5. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of African-American male federal inmates (Sample 4).
Figure 6. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult North American female inmates (Sample 5).
Figure 7. PCL: 3F facet scores for psychopathic subtypes and medium and low psychopathy groups for a sample of adult European male forensic psychiatric patients (Sample 6).