

CONSTRUCT VALIDITY OF PSYCHOPATHY IN MENTALLY DISORDERED
OFFENDERS: A MULTI-TRAIT MULTI-METHOD APPROACH

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Psychopathy continues to receive increased attention due to the negative outcomes, including recidivism, violence, and poor treatment amenability. Despite the vast amount of attention psychopathy has received, research on its applications to mentally disordered offenders remains sparse. The current study explored the relationship between psychopathy, depression, anxiety, and psychotic disorders. It also investigated the comparative fits of two and three-factor models of the PCL-R with mentally disordered offenders. Participants consisted of 96 inmates placed in the mental health pod at Tarrant County Jail. A Confirmatory Factor Analysis (CFA) with testlets found the three-factor PCL-R model had excellent fit (Robust Comparative Fit Index = 1.00). Psychopathy was found to be a construct independent of mental disorders. Two exceptions were (a) a modest correlation between anxiety and Impulsive and the Irresponsible Lifestyle factor of the PCL-R ($r = 0.20$) and (b) a modest negative correlation between Deficient Affective Experience of the PCL-R and mania ($r = -.37$). Based on the current data, treatment programs for mentally disordered offenders are suggested that focus on both behavioral and personality aspects of psychopathy.

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CHAPTER I

INTRODUCTION

Scientific literature addressing the classification of psychopathy has seen an exponential increase following the publication of Cleckley's (1941; see Appendix A) discourse outlining the characteristics of psychopathic individuals. Specifically, the quarter-century from 1950 to 1975 produced 377 articles on psychopathy, compared to 980 articles from 1976 to 2002 (PsycINFO, 2002). Researchers and clinicians have increasingly studied how factors of psychopathy are related to dangerousness and risk assessment. The rise in research on psychopathy has led to the development of specialized measures designed to assess symptoms of psychopathy.

The development of the Psychopathy Checklist (Hare, 1985; see Appendix B) and subsequent versions have led to practitioners and researchers to quantify psychopathy as two related factors. Factor 1 consists of core psychopathic traits, including superficiality, grandiosity, and lack of remorse for behaviors (Hare, 1989; Rogers et al., 2000). Factor 2 is typically explained by antisocial behavior manifested by failing to conform societal norms (Hare, 1989; Rogers et al., 2000). One goal of the introduction is to clarify issues related to the accurate assessment of psychopathy. This first chapter of the dissertation is divided into four sections focusing on different facets of psychopathy. The four sections include (a) developmental models, (b) external validity, (c) assessment, and (d) comorbid psychopathology. Following these sections, the chapter introduces the study and delineates its research questions.

OVERVIEW

Several researchers (Frick, 1998; Lynam, 1996, 1998) have developed sophisticated models addressing the etiology of psychopathy. Developmentally, psychopathic behaviors are hypothesized to first manifest in childhood and continue through adulthood (Forth & Burke, 1998; Frick, 1998; Lynam, 1996; Moffitt, 1996). Two theories have generated a significant amount of research. In particular, Lynam's (1996, 1998) Hyperactive-Impulsivity-Attention and Conduct Problems (HIA-CP) model and Frick's Callous Personality (CP) model (1998) have each proposed specific developmental pathways for psychopathy.

Beyond developmental models, the most clinically relevant behavioral correlates of psychopathy include (a) lying (Rogers & Cruise, 2000), (b) cold, interpersonal behavior (Skinner, 1988), and (c) violence and recidivism. Regarding the latter, two separate meta-analyses (Hemphill, Hare, & Wong, 1998; Salekin, Rogers, & Sewell, 1996) provide strong evidence of psychopathy being related to increased recidivism and greater violence. Moreover, impulsivity is described as a cardinal feature of both psychopathy (Hart, 1998a) and dangerousness (Hare, 1999).

The accurate assessment of psychopathy is a critical component of clinical forensic practice. To that end two semi-structured interviews, the Psychopathy Checklist-Revised (PCL-R, Hare, 1991) and the Psychopathy Checklist: Screening Version (PCL:SV, Hart, Cox, & Hare, 1995), were developed for use in forensic and correctional settings. More recently, self-report instruments with parallel factor structure to the PCL instruments have received attention as time-efficient methods of assessment.

Two measures, the Psychopathic Personality Instrument (PPI, Lilienfeld, 1994) and the Self-Report of Psychopathy-Second Edition (SRP-II, Hare, 1991), are at the forefront of self-report instruments as screens for psychopathy.

The relationship between psychopathy and psychopathology has been understudied, especially with respect to Axis I disorders (Hodgins, Cote, & Toupin, 1998; Tengstrom, 2000). The association between Axis II disorders and psychopathy has focused predominantly on antisocial personality disorder (Darke, Kaye, & Finlay-Jones, 1998); with much less attention to other Axis II disorders. The available research on Axis I disorders raises important concerns about how their presence may interfere with the accurate assessment of psychopathy. This dissertation examines in detail the relationship between Axis I symptoms (i.e., depression, anxiety, and psychoses) and psychopathy.

DEVELOPMENTAL MODELS OF PSYCHOPATHY

Several theoretical models (Harris, Rice, & Quinsey, 1994; Lynam, 1996, 1998; Frick, 1998) have been advanced to describe the development of psychopathy. This section is organized into two distinct parts. The first examines research related to current pathways of psychopathy in children and adolescents, while the second discusses the etiology of psychopathy and antisocial behavior.

Developmental Correlates of Psychopathy

Developmental models of psychopathy received considerable attention in an attempt to pinpoint the mechanisms leading to the development of antisocial behavior. Several studies (Harris et al., 1997; Rogers, Johansen, Chang, & Salekin, 1997; Vitacco

& Rogers, 2001; Vitelli, 1998) have studied developmental correlates of psychopathy. Harris et al. (1994) concluded that psychopathy, due to its early development, forms a unique clinical disorder. Using retrospective file information, the researchers rated items on the PCL-R on a sample of 653 patients in a maximum-security facility. They found the most compelling evidence for psychopathy was its origin in childhood behavioral problems including aggression, suspensions, and poor educational achievement.

Harris et al. (1994) also conducted analyses on differences between behavioral and personality-based dimensions of psychopathy. They found F₂ characteristics (e.g., childhood externalizing behaviors) were better predictors of adult psychopathy than F₁ traits (e.g., callous personality). This finding varies from other research (Frick, 2000; Vitacco, Rogers, & Neumann, 2002) that suggests personality traits, not behaviors, differentiate psychopathic from nonpsychopathic youth. A critical limitation of Harris et al. (1994) study was their reliance on retrospective file information, and not clinical interviews, when making PCL-R ratings. Clinical interviews may be the most effective way at assessing the glibness and superficiality that are prominent features of psychopathy (Hare, 1993). Additionally, no attempt was undertaken to obtain information regarding the prisoner's childhood personality. Finally, the retrospective design increases the possibility of criterion contamination confounding their PCL-R ratings.

Research (Klinterberg, 1996; Rogers, et al., 1997; Vitelli, 1998) has used the presence of externalizing disorders and impulsivity to predict psychopathy in youth. In a study of 81 dually-diagnosed adolescents residing in a state hospital, Rogers et al. (1997) examined how conduct disorder (CD) symptoms (i.e., aggression, deceit, ODD, and

serious infractions) contributed to scores on the PCL-R. However, when all CD symptoms clusters were combined, only aggressive behavior remained a robust predictor ($\Delta R^2 = .37$) of psychopathy. Vitelli (1998) used retrospective diagnoses in 118 maximum-security inmates and found the presence of externalizing symptoms in childhood predicted the presence of psychopathy in adulthood. Impulsivity is also a critical factor in developmental models of psychopathy. Using incarcerated adolescents, Stanford, Ebner, Patton, and Williams (1994) found the presence of three or more impulsive behaviors predicted higher scores on the PCL-R. Moreover, Klinteberg (1996) found psychopathic individuals have difficulties, beginning at an early age with impulsivity, concentration, hyperactivity, motor restlessness, and aggression. He hypothesized biological deficits underscored these problems. The combined results of these studies suggest early indicators of poor behavioral controls are predictors of potential antisocial behavior in adulthood. Efforts to integrate these and other precursors of psychopathy have led to etiological models of psychopathy.

Developmental Models of Psychopathy

Developmental models regarding the etiology of psychopathy have proposed behavioral dysregulation and dispositional determinants as key facets in the development of psychopathy. Two separate developmental pathway models are discussed (i.e., Frick, 1998; Lynam 1996, 1998) explaining the etiology of psychopathy.

Lynam (1998, p. 573) proposed a model, which describes a constellation of symptoms defined as “the fledgling psychopath.” The fledgling psychopath has hyperactivity, impulsivity, and attentional problems in conjunction with serious conduct

problems (HIA-CP). According to Lynam (1996), HIA-CP forms the developmental basis for psychopathy as children with HIA-CP resemble adult psychopaths and pose a high risk for continued offending into adulthood.

Lynam (1998) tested his HIA-CP model with an initial sample of 508 males (*M* age = 10.2 years), but due to attrition, his final sample consisted of 430 males. Using the Childhood Psychopathy Scale (CPS; Lynam, 1997), males with high scores demonstrated greater neuropsychological deficits (e.g., slower time on Trail-Making test), and exhibited problems with response modulation (e.g., poor performance on the Delay of Gratification task). Lynam (1998) proposed these deficits substantiated the underlying HIA-CP model.

A limitation of the HIA-CP model is its neglect of psychopathology as a possible confound. Angold, Costello, and Erkanli (1999) concluded comorbidity is a critical factor in evaluating childhood disorders, especially those involving disturbances in conduct. Lynam (1998) screened out children with comorbid psychopathology from his sample because they have (a) poorer developmental histories, (b) greater impairment in functioning, and (c) poorer prognoses. Therefore, Lynam (1996, 1998) conclusions concerning HIA-CP model of childhood psychopathy are lacking a critical component, namely the investigation of children and adolescents manifesting severe psychopathology. Quite possibly, children with psychiatric diagnoses (e.g., bipolar disorder) would show even greater impairments on the neuropsychological measures. This potential confound constrains the validity of the HIA-CP because the observed

impairments on neuropsychological measures could be found with other clinical conditions.

In testing the viability of the HIA-CP model, Vitacco and Rogers (2001) evaluated 79 adolescents in a maximum-security facility. They found that impulsivity and conduct problems, two components of the HIA-CP model, were useful predictors in adolescent psychopathy. In contrast, attention difficulties and hyperactivity failed to predict psychopathy. Vitacco and Rogers (2001) did not discount the HIA-CP model but instead proposed a two-stage model of psychopathy. Their model proposed impulsiveness leads to severe conduct problems in the first stage, which contributes to psychopathy in the second stage (Vitacco & Rogers, 2001). While adolescents with mental disorders were included, the researchers did not perform analyses examining the relationship between psychopathy and Axis I disorders, thus limiting its usefulness for comorbidity.

Frick (1998) CU model proposed the presence of callous/unemotional (C/U) traits to explain the development of psychopathy in children, and ultimately, severe criminal behavior. Frick (1998) proposed a two-phase “Psychopathic Conduct Problems Pathway.” In the first phase, low behavioral inhibition contributes to the development of callous/unemotional (CU) traits. The second phase results in the presence of CU traits solidifying antisocial conduct with the emergence of psychopathy in children. The model has similar components to Hare’s (1991) model of psychopathy. Frick’s model includes both personality (callous/unemotional) and behavioral (conduct problem/impulsivity) criteria but emphasizes personality factors in the development of psychopathy.

In testing their pathway model, Frick and his colleagues have conducted programmatic research validating the two-factor model in children. Frick, O'Brien, Wootton, and McBurnett, (1994) demonstrated that a two-factor model of psychopathy was viable in children. Based on the Antisocial Process Screening Device (APSD; Frick & Hare, 2001), two factors emerged in a sample of 92 young children (*M* age = 8.5) from an outpatient clinic: Impulsivity/Conduct Problems (I/CP) and Callous/Unemotional (C/U) traits. Recently, a three-factor model of the APSD has been proposed with the addition of a Narcissism factor (Frick, Bodin, & Barry, 2000). Frick et al. (1994, 2000) concluded the factors on the APSD are analogous to adult psychopathy. Children high on both I/CP and C/U had more police contacts, suspensions and expulsions from school, and symptoms of conduct disorder than clinic-referred controls (Christian, Frick, Hill, Tyler, & Frazer, 1997). Similar to Lynam's HIA-CP model, Frick's model proposed a developmental pathway for psychopathy with an early onset and chronic course into adulthood.

In validating the two-factor model, Frick (1998) investigated Axis I comorbidity for severe conduct disorders and psychopathy. Frick (1998) reported high levels of anxiety, depression, and substance use in children with conduct disorders (CD). However, he also predicted the presence of C/U traits act to suppress anxiety in psychopathic children. Frick (1998) conclusions are indirectly buttressed by a seminal study on CD comorbidity. In a five-year longitudinal study of 984 children from outpatient treatment facilities, Lambert et al. (2001) found children with CD were more likely to (a) have a comorbid mood or anxiety disorder, (b) have inpatient psychiatric

hospitalization, and (c) been in extended treatment when compared to children without CD. These findings suggest a possible relationship between psychopathy and Axis I symptoms, although it was not directly investigated.

Developmental models of psychopathy have generated interesting theoretical research and practical research on the etiology and pathogenesis of psychopathy. While no theory predominates current thinking, several models have made important contributions to research on psychopathy. Table 1 provides a summary of pathway models for child and adolescent psychopathy.

Table 1

Developmental Pathway Models in Psychopathic Behavior

Developmental Model	Researcher(s)	Research Design	Summary of Findings
HIA-CP	Lynam (1996, 1998)	Cross-sectional and longitudinal	Children with hyperactivity, impulsivity, and attentional problems in combination with conduct problems resemble psychopathic adults.
Callous/Unemotional	Frick (1998)	Cross-sectional	Research on C/U traits can be extended downward to predict conduct problems in children.
CD symptoms	Rogers et al. (1997)	Cross-sectional	Aggressive behavior subtype of CD predicted psychopathy.
CD symptoms	Vitelli (1998)	Retrospective	Found reports of ADHD and conduct disorder predicted psychopathy.

In addition to general developmental models (Frick, 1998; Lynam 1996), researchers have proposed specific etiological causes and antecedents of psychopathy. Lower intellectual functioning (Frick, 1998; Lykken, 1995), problems learning from experience (Scerbo, 1995), and child abuse (Weiler & Widom, 1996) have each been discussed in relation to the development of psychopathy.

Alternative Models of Psychopathy

Intelligence and Learning Difficulties

Lykken (1995) found individuals previously incarcerated (M IQ = 92) have lower intellectual functioning than those never incarcerated (M IQ = 102); however, though significantly different, both groups would be classified in the Average range. Moreover, psychopathy predicted violence, but only those with lower IQ (Lykken, 1995). This result may be more indicative of the amount of school missed by incarcerated individuals than any true intellectual differences. However, lower IQ may override behavioral controls, leading to greater impulsivity and ultimately, illegal activities.

Frick (1998) hypothesized intellectual deficits can lead to the development of severe behavioral problems in adolescents. Frick found individuals with childhood onset of conduct problems had lower scores on tests of verbal intelligence and lengthier criminal histories. In contrast to his “Primary Pathway,” lower intelligence is proposed as a secondary mechanism leading to criminal behavior (Frick, 1998). With contrary findings, Loney et al. (1998) found the presence of C/U traits, independent of intellectual functioning, is the true impetus of conduct problems. Loney et al. (1998) found no differences on Verbal scales on the Wechsler Intelligence Scale for Children-Revised

(WISC-R; Wechsler, 1991) between clinic-referred controls and children high on CU traits on the APSD. However, children with low CU traits but with conduct problems had significantly lower Verbal, Performance, and Full Scale IQ scores than controls. Clearly, lower IQ scores are present in children with severe conduct problems when compared with controls. Nonetheless, other factors (e.g., comorbidity of other psychiatric problems, and time spent in school) must be considered prior to concluding a direct relationship between lower IQ and psychopathy.

Learning and Reinforcement

Impulsivity, or failure to inhibit responses, has long been considered a defining characteristic of psychopathy (Hart & Dempster, 1997; Lynam, 1998). Psychopaths are described as “hyperresponsive” to obtaining reinforcement and frequently fail to alter behavior when faced with punishment (Newman, Patterson, & Kosson, 1987). O’Brien, Frick, and Lyman (1994) found male children (M age = 11.2) with conduct disorders predicted playing a larger number of reward dominance tasks (i.e., a computer game with decreasing rewards and increasing punishments in comparison to nondisordered children). However, this result only applied to children with low levels of anxiety. Frick (1998) extended this concept to suggest the presence of anxiety in children with disturbances in conduct acts as a protective factor against the development of C/U.

Adult psychopaths have also demonstrated information deficits and a failure to change behavior when confronted with diminishing returns. Similar to reward dominance tasks, adult psychopaths have intellectual deficits and fail to learn from previous experience. Newman (1998) proposed that an inability to process information is critical

deficit in psychopaths. In support of this hypothesis, Newman and Patterson (1993) found that once a psychopath is rewarded for behavior, it is much more difficult to extinguish the behavior. Even after punishment, psychopaths are less likely to alter behavior (Newman, Patterson, & Kosson, 1987). Psychopaths tend to over-focus on the attainment of rewards. On this point, Schmauk (1971) tested 90 individuals in an avoidance-learning paradigm with three distinct groups (anxious criminals, nonanxious criminals, and normal controls). Individuals with psychopathic traits tend to allot more attention to the attainment of rewards, but salient punishment does alter behavior (Schmauk, 1971). It suggests that individuals with psychopathy can alter their behavior; however, finding relevant behavioral modifiers is a challenging task.

Poor Parenting and Child Abuse

Impoverished backgrounds and abusive environments have been shown related to the onset of criminal behavior. Researchers (Frick, 1998; Lykken, 1995; Weiler & Widom, 1996) propose that environmental conditions contribute to the development of child and adolescent psychopathy. Hypotheses on environmental causes of psychopathy have primarily focused on abusive and neglectful parenting, and poor socialization in childhood. The next paragraphs will highlight these alternative developmental models of psychopathy.

In addition to the “primary pathway” for conduct problems, Frick (1998) theorized an “alternative pathway” could lead to the development of conduct problems. As previously noted, the “alternative pathway” consists of low intelligence and poor parental socialization as critical factors in the development of conduct problems in

children (Frick, 1998). Using 136 clinic-referred children and 30 controls, Wootton, Frick, Shelton, and Silverthorn (1997) found ineffective parenting (i.e., poor parental supervision, $R^2 = .18$), negative parenting (i.e., excessive use of punishment, $R^2 = .20$), and lack of supportive parents ($R^2 = .18$) were all significantly related to conduct problems in children. These findings only applied to youth with low levels of callousness, as children with high levels of C/U exhibited disturbances in conduct independent of the type of parenting received. Frick (1998) proposed exposure to impoverished environments is typically associated with an adolescent onset to offending and not a life-persistent course (see also Moffitt, 1993; Moffitt, Caspi, Harrington, & Milne, 2002).

Two important studies (Luntz & Widom, 1994; Widom, 1991) have contributed to our understanding of child abuse and psychopathy. Luntz and Widom (1994), found adults reporting previous history of abuse were 1.75 times ($p < .05$) more likely than others to have a current diagnosis of APD. Weiler and Widom (1996) expanded this research to psychopathic behaviors yielding similar results. Utilizing 997 adults, the same researchers found a slightly higher prevalence of abuse in inmates with psychopathy (1.10 times, $p < .05$). Luntz and Widom (1994) hypothesized abusive environments can lead to the development of callousness, insensitivity to anxiety, and violence against others. However, Widom (1991) also believed protective factors (i.e., positive role models and prosocial behavior) could mediate against previous violence and militate against the development of criminal offending.

Marshall and Cooke (1999) found strong evidence between negative childhood experiences and the development of psychopathy in a sample of 105 inmates. They found six predictors of psychopathy: poor discipline techniques (corporal punishment), parents not caring about child, poor parental supervision, psychological abuse, negative school performance, and child's indifference toward parents. These six predictors were divided into two distinct factors: family and society. Consistent with previous environmental models, the current study buttresses the notion that abusive childhood experiences are precipitators for the development of psychopathy.

Multiple factors (e.g., abusive environments, lack of anxiety, and lower IQ) contribute to the development of psychopathy. Quite likely, each etiological component may play a role in the development of an aspect of psychopathy. Specifically, lower IQ may be a key component in impulsive behavior, and consistent abuse may form the basis for mistrust and callousness toward others. Table 2 summarizes the salient findings concerning etiological factors in criminal behavior.

Table 2

Summary of Research Regarding Etiological Factors on Criminal Behavior

Etiological factor	Researcher(s)	Summary of Findings
Intelligence	Frick (1998)	Low verbal IQ is associated with longer criminal histories.
	Lykken (1995)	Nonincarcerated individuals have higher intellectual functioning than incarcerated individuals.
Deficits in Learning	Schmauk (1971) Newman (1998)	Difficulty in finding rewards modify psychopaths' behavior on learning tasks.
	O'Brien, Frick, and Lyman (1994)	Behaviorally disordered children with low anxiety have difficulty modifying behavior on reward task, when controlling for anxiety.
Poor Parenting and Child Abuse	Weiler and Widom (1996)	Incarcerated individuals with histories of abuse have higher levels of psychopathy.
	Frick (1998)	Poor parental socialization leads to the development of psychopathy.
	Wootton et al. (1997)	Poor parenting skills (i.e., corporal punishment and disinterest) can lead to development of conduct problems in clinic-referred children.
	Marshall and Cooke (1999)	Poor parenting and environment associated with the development of psychopathy.

DIMENSIONS OF PSYCHOPATHY

Since the first systematic description (Cleckley, 1941) psychopathy has been viewed as having two separate, but related components (e.g., antisocial behavior and poorly integrated personality). Recently, new analyses have suggested fundamental changes in the underpinnings of psychopathy. The new models emphasize maladaptive personality characteristics over criminal characteristics.

In the classic description of psychopathy, Cleckley (1941) employed a psychodynamic formulation to describe a subset of criminals who manifested good intelligence, absence of delusions, and lack of anxiety (see Appendix A for complete list). The lack of mental disorders was viewed as a central feature of psychopathy (Cleckley, 1941) and set the stage for future researchers to overlook comorbidity between psychopathy and psychopathology.

An important contribution of the Clecklian approach was its inclusion of both personality and behavioral characteristics in the conceptualization of psychopathy. This integrated approach has led to psychopaths being described as “social predators who charm and manipulate their way through life” (Hare, 1993, p. xi). Hare (1996) concluded psychopathy has gained unique status in the social sciences, impacting both clinical psychology and criminal justice, mainly due to its integration of personality and behavioral characteristics. Moreover, he emphasized the importance of psychopathy to current psychological discussions of criminality and valid predictions of risk.

The integration of personality and behavioral characteristics forms the foundation for the two-factor model utilized in various forms of the Psychopathy Checklists (PCL, PCL-R, PCL:SV; Hare, Hart, & Harpur, 1991; Rogers et al., 2000). The two-factor model has been demonstrated across a wide variety of samples (i.e., adult prisoners, incarcerated adolescents and mentally disordered offenders; see Hare, Hart, & Harpur, 1991; Rogers, 2000). Harpur and Hare (1991) described the two-factors of the PCL as (a) Factor 1, core personality traits (e.g., callous, unemotional, and manipulativeness) and (b) Factor 2 (antisocial behavior). Factor 1 and Factor 2 evidenced 30% overlap, indicating that each factor, although related, contributed uniquely to the construct of psychopathy (Harpur, 1989).

The initial construct validity of the PCL-R was established through a common factor analysis with oblique rotation in a sample of 925 prisoners and 356 forensic inpatients (Hare, Harpur, et al., 1990). Result from a factor analysis with oblique rotation found a two-factor solution for the PCL-R, similar to the original PCL. These factors consisted of callous and manipulative personality (F_1) and chronic antisocial behavior (F_2).

In further evaluating the underlying dimensions of psychopathy, Rogers et al. (2000) utilized a unique approach to the analysis, specifically a Principal Axis Factor analysis at the subcriterion level. Subcriteria are specific behavioral and personality factors that contribute to each individual rating on the PCL:SV. Rogers et al. (2000) found subcriteria for both factors of psychopathy specific to both Factor 1 (personality variables) and Factor 2 (behavioral aspects) providing evidence, with few modifications,

of construct and criterion-related validity. Specifically, Factor 1 exhibited stronger loadings ($M = .67$) than Factor 2 ($M = .58$). However, Deceitfulness typically associated with Factor 1 loaded on Factor 2.

The debate regarding the underlying dimensions of psychopathy recently has intensified due to the re-analyses of existing data sets. Cooke and Michie (2001) used Confirmatory Factor Analysis with 2,067 individuals obtained from forensic and criminal settings in both North American and Canada. They concluded the data did not evidence good fit with the existing two-factor model (Normed Fit Index = .77 and Non-Normed Fit Index = .75).

Given the discouraging results for the two-factor model, Cooke and Michie (2001) attempted to build a better fitting model for the PCL-R through the use of testlets. Testlets are designed to counteract local dependence. Local dependence occurs “when two or more items are more highly associated than can be explained by their underlying latent trait.” (Steinberg & Thissen, 1996, as cited in Cooke & Michie, 2001, p. 175). Therefore, the creation of testlets involves combining several individual items measuring a theoretically similar construct into a single rating. For example, superficial charm and grandiose sense of self worth are combined to create a single rating. The resulting changes produced a 13-item, three-factor model with an excellent fit (Normed Fit Index = .95 and Non-Normed Fit Index = .94). Their three-factor PCL-R model was composed of three factors: Arrogant and Deceitful Interpersonal Style (ADI), Deficient Affective Experience (DAE), and Impulsive and Irresponsible Lifestyle (IIL).

The factor model of Cooke and Michie (2001) place an increased emphasis on the personality aspects of psychopathy. As previously noted, Blackburn (1998) has suggested psychopathy should fall under the rubric of personality-based pathology and believed too much emphasis has been placed on behavior. Likewise, Lilienfeld (1998) hypothesized that overt psychopathic behaviors stem from core personality traits, and therefore, could be expressed in a variety ways. Cooke and Michie (2001) three-factor model views psychopathy as personality-driven with antisocial behavior following. Developmentally, this hypothesis is consistent with Frick's (1998) C/U pathway as the core facet of psychopathy.

External Validity of Psychopathy: Behavioral and Emotional Correlates

Research has linked psychopathy with important correlates such as violence, recidivism, and poor treatment outcomes. This section focuses on external correlates related to Factors 1 and 2 of psychopathy. Two meta-analyses (Hemphill et al., 1998; Salekin et al., 1996) of psychopathy have played a crucial role in the establishment of a connection between the PCL/PCL-R and violence.

Recidivism and Dangerousness.

In a review of measures of psychopathy (PCL and PCL-R), Salekin et al. (1996) completed a meta-analysis of 18 studies examining the relationship between recidivism and psychopathy. The researchers found a moderate effect size for violence (M Cohen's $d = .79$) but a modest effect size for overall recidivism (M Cohen's $d = .55$). Despite these mixed results, they concluded that the PCL/PCL-R is "unparalleled as a measure for making risk assessments" (p. 211). Given the modest to moderate effect sizes, this

endorsement may have been overstated. In addition, the authors acknowledged further research is needed to validate the measures on adolescents as well as with individuals with mental disorders.

Hemphill et al. (1998) reviewed seven separate studies focusing on the PCL-R and recidivism. Three important findings emerged from this meta analysis. First, PCL-R and types of recidivism were significantly correlated but at a very modest magnitude ($M r = .27$), with a limited range from .10 to .39. When only focusing on violent recidivism, correlations were equally modest ($M r = .27$, with a range from .06 to .34). Factor 2 ($M r = .30$) demonstrated a comparably stronger relationship than Factor 1 ($M r = .13$) for general recidivism. However, Factor 2 ($M r = .18$) and Factor 1 ($M r = .13$) were similar in regard to violent recidivism. Hemphill et al. (1998) concluded the PCL-R is an important actuarial tool, across a range of correctional settings, in the determination of potential violence. The limitation of this study was the majority of the participants were white males, thereby restricting the generalizability to other clinical populations.

Taken together, the two meta-analyses indicate clinical utility for psychopathy in the prediction of violence and recidivism. Unfortunately, both studies tend to overstate the magnitude of their findings, and subsequent endorsement of the PCL-R. An important difference between the studies was on inclusion criteria for consideration in the meta-analysis. Salekin, et al. (1996) included all studies related to violence and recidivism while Hemphill et al. (1998) used only studies with prospective designs. However, both studies demonstrated found only modest to moderate relationships between the PCL-R and violence.

A qualitative difference also exists in the criminal behavior committed by psychopaths vs. nonpsychopaths (Cornell et al., 1996). Inmates with higher PCL-R scores committed more violence for personal gain (e.g., robbery) when compared to nonpsychopaths. In contrast, psychopaths and nonpsychopaths engaged in similar amounts of violence when feeling threatened. While many individuals in jail tended to exhibit impulsive antisocial behavior, psychopaths also engaged in thoughtful and volitional antisocial behavior.

In summary, psychopathy has proven to be one of the most influential variables in the prediction of violence and dangerousness. Studies have demonstrated both a quantitative (Hemphill et al., 1998; Salekin, et al., 1996) and qualitative (Cornell et al., 1996) differences in violence committed by individuals with high PCL-R scores. Despite these positive results, several cautions regarding psychopathy have been discussed in the literature.

Critiques and Cautions of Psychopathy

As discussed in the aforementioned studies, psychopathy has demonstrated significant relationships with criminal recidivism and violent behavior. However, potential misuses of psychopathy are readily apparent, and scholars (Edens, 2001; Hart, 1998b) advocate caution in the interpretation of psychopathy scores.

Hart (1998b), cautioned against simplistic interpretations of the PCL-R. He proffered three primary points regarding psychopathy and violence. First, psychopathy should be evaluated when determining the probability of violence. Second, the presence of psychopathy should lead to a conclusion that an individual is a high risk to commit

violence. Third, failure to receive a high PCL-R does not automatically suggest the person is a low risk for violence.

Hart's (1998b) analysis provides a thoughtful critique of the clinical interpretation of psychopathy. Nonetheless, his reasoning appears flawed in one aspect. I would suggest that, while it is possible for an individual obtaining a low score on the PCL-R to remain at risk for violence, it is probable some individuals with a high score on the PCL-R could not be at risk for future violence. Clearly, protective factors exist (e.g., family support) that militate against violence, even in individuals with profiles suggesting potential criminal behavior (Vitacco, Neumann, Robertson, & Durrant, 2002). Rogers (2000) eloquent article on risk assessment underscores this very point; assessment of risk must be balanced, including both risk and protective factors.

The misuse of cut scores for the PCL-R has potential for grave consequences. Hare (1998) discussed three common mistakes made when interpreting the PCL-R: (a) use of the PCL-R as the only indicator of potential violence, (b) failing to differentiate between psychopathy and APD, and (c) using a cut score of "30" as a certain indication of dangerousness. Edens (2001) provided two separate case examples regarding egregious uses of the PCL-R. First, the PCL-R was used to express a certainty that a defendant, in a capital trial, would engage in dangerous behavior if released. Second, the PCL-R was used to indicate an individual was unlikely to be a sex offender. Edens (2001) underscored the importance of not making unsupported statements based on PCL-R scores. He felt appropriate training in the applications of the PCL-R may decrease these types of errors.

In addition to clinical misuse, theoretical concerns regarding psychopathy have also been addressed. Shipley and Arrigo (2001) feel statements regarding psychopathy's association with poor prognosis and social condemnations are unwarranted. Moreover, they felt these statements produce unnecessary stigma and social exile for individuals with high PCL-R scores (Shipley & Arrigo, 2001). Recently, empirical studies of treatment question earlier statements concerning the untreatability of psychopaths.

In addressing treatment considerations, Salekin (2001) completed a meta-analysis of psychopathy related treatment. He concluded there is no current evidence supporting the untreatability of psychopaths. One of his main criticisms is the lack of specific treatment programs geared toward the treatment of psychopathy. In fact, recent evidence suggests that if individuals with moderate levels of psychopathic traits receive as few as seven treatments they are less likely to be violent 10 weeks after discharge from a hospital (Skeem, Monahan, & Mulvey, in press).

Due to psychopathy's downward extension to children and adolescents, increasing criticisms have been levied against researchers and clinicians who apply the term *psychopathy* to youth (Edens, Skeem, Cruise, & Caufmann, 2001; Seagrave & Grisso, 2002). Edens et al. (2001) believed the concept of psychopathy has not been adequately established in adolescence to make long-term placement decisions. Moreover, they suggest the data does not support the assumption of a life-long course. Seagrave and Grisso (2002) proposed that many of the characteristics of psychopathy are developmentally appropriate in adolescents (e.g., superficiality) and therefore, cannot be considered maladaptive. However, both Frick (2002) and Lynam (2002) argue that

psychopathy in youth can be differentiated from normal development on the basis of unique behaviors (e.g., callousness). The determination of the term psychopathy being used in the classification of children and adolescent offenders will continue to generate research and debate.

Several problems, ranging from developmental appropriateness (Edens et al., 2001; Seagrave & Grisso, 2002) to inappropriate clinical use of the PCL-R (Edens, 2001) have been raised with psychopathy. These critiques of psychopathy clearly indicate the need for specific research focusing on treatment amenability and the temporal stability of the classification in children and adolescents. As research continues to explore the underlying dimensions of psychopathy in various samples and symptom-specific interventions, our knowledge base may allow us to address these concerns in a more systematic and effective manner.

ASSESSMENT INSTRUMENTS OF PSYCHOPATHY

Given its strong relationship to violence and recidivism, psychopathy plays a critical role in risk assessment among offender populations (Serin & Amos, 1995). However, miscategorizing an individual as psychopathic (i.e., false positive) has potentially devastating consequences, especially in a forensic context (Rogers, 2000). This section focuses on various measures used to systematically assess psychopathy. Most relevant to this study will be the use of structured interviews (e.g., PCL-R). In the most comprehensive analysis of structured interviews to date, Rogers (2001) provided a balanced review of the PCL-R. Strengths of the PCL-R include extensive validation and the integration of collateral data to corroborate criminal history. Rogers (2001) reported

that one of the recent areas of improvement of the PCL-R is the expansion of its application to females and African Americans.

PCL-R

Inter-rater reliability and internal consistency of the PCL-R has been studied with numerous samples and can be considered a reliable measure (Rogers, 2001). Hare (1991) utilized six samples of Canadian prisoners in his initial study of inter-rater reliability. The results demonstrated moderate intraclass coefficients (i.e., median ICC for individual ratings of .59 F_1 and .80 F_2 , respectively).

The original reliability of the PCL-R (Hare, 1991) used 11 samples, primarily consisting of Canadian prisoners. A median alpha coefficient of .87 was found for total PCL-R score in a sample of 119 male inmates. Using the same sample, Hart, Forth, and Hare (1991) found Factor 1 of the PCL-R had a lower ICC (.75) than Factor 2 (.92). Likewise, Grann et al (1998) studied ratings of psychopathy based only on file information in 40 adult offenders incarcerated in a Sweden prison found high agreement ($r = .85$) between raters on PCL-R total score. Darke, Kaye, Finlay-Jones (1999) found superb inter-rater reliability (i.e., 1.0) in a sample of methadone patients. Reliability studies have found acceptable interrater reliability for both PCL-R total and factor scores (Rogers, 2001).

Test-retest reliability of the PCL-R has received considerably less attention. Rutherford et al. (1999) examined 200 men and 25 women methadone patients with a dichotomous classification (i.e., psychopath vs. not psychopath) based on a cut score of PCL-R ≥ 25 . Kappa coefficient was modest (.48) for men but a higher (.67) for women.

Using total PCL-R scores, the results found moderate reliability estimates for both men ($r = .60$) and women ($r = .65$). However, a limitation of this study was its reliance of a non-standard cut-score of ≥ 25 . Decreasing the score needed to be classified as psychopathic (a) increases the probability of receiving a psychopathy classification, (b) subsequently increases false positive rates of psychopathy, and (c) substantially improves the overall kappa. Using a cut-score of ≥ 25 also limit its applicability to clinical practice. Hare (1991) recommends the use of ≥ 30 for classifying psychopathy, because lower scores (e.g., ≥ 25) inflates the base-rate of psychopathy.

In summary, results from several studies indicate the PCL-R is a reliable measure in assessing psychopathy. Unfortunately, the available research on test-retest reliability has not used the traditional cut-score (PCL-R ≥ 30), thus inflating kappa coefficients and limiting its applicability to clinical practice. The next section addresses the validation of the PCL-R with females and African Americans.

Generalizability

The research of Rogers and his colleagues (Jackson, Rogers, Neumann, & Lambert, 2002; Salekin, Rogers, & Sewell, 1997) has expanded the validation of the PCL-R to female offenders. Salekin et al. (1997) found a two-factor structure of the PCL-R in female offenders in an urban jail. However, several fundamental differences were manifested in the factor structure between male and female offenders. First, several items cross-loaded (i.e., impulsivity, lack of realistic goals, and poor behavior control), indicating a significant amount of shared variance between the two factors. Second,

promiscuous sexual behavior and criminal versatility were indicators of psychopathic behavior in female, but not male offenders.

Jackson et al. (2002) found that neither Hare's (1991) or Salekin's et al (1997) factor models demonstrated adequate fit with a sample of female offenders in an urban jail. In contrast, Jackson et al. (2002) used Cooke and Michie (2001) CFA factor model with testlets and demonstrated an excellent model fit (RCFI = .98). These studies suggest that the presentation of psychopathy in females is different than males, specifically with regard to individual item loadings (e.g., promiscuous sexual behavior). Low findings of psychopathy in female offenders leads to questions whether (a) psychopathy is less prevalent in females or (b) that the PCL-R fails to adequately assess psychopathy in females (Vitale, Smith, Brinkley, & Newman, 2002).

The generalizability of PCL measures to African Americans has received increasing attention since the publication of the PCL-R (Hare, 1985). Kosson, Smith, and Newman (1990) evaluated the construct validity and reliability of the original PCL in a sample of 232 European American and 124 African American inmates. Adequate internal consistency was demonstrated for European Americans ($\alpha = .86$) and African Americans ($\alpha = .81$). African American inmates had small but significantly higher PCL scores (28.04) than their European American counterparts (25.74, $X^2 = 12.14$, $p < .01$). This study concluded the PCL is a reliable and valid instrument in the assessment of psychopathy with African American inmates.

Confirmatory factor analysis has been used to study PCL-R dimensions with African Americans. The three-factor model was replicated separately for 359 European

Americans and 356 African Americans (Cooke, Kosson, & Michie, 2001). Despite small differences in loadings, the underlying factor dimensions of the PCL-R remained the same between the different ethnic groups. No differences on external validity were examined, which makes it difficult to evaluate the effectiveness of the PCL-R in African Americans.

In summary, research regarding the underlying dimensions of psychopathy has now been expanded to females and African Americans (Cooke et al. 2001; Jackson et al. 2002; Salekin et al. 1997). The individual item loadings continue to show subtle, yet important differences. Moreover, African Americans have generated higher scores than European Americans. Research on external correlates has also not generated enough attention for these understudied groups. Clearly, the underlying dimensions of psychopathy in female and African American offenders remains an important area of research requiring additional studies of validation and external validity.

Self-Report Measures

Given the time-intensive nature of interview-based assessment of psychopathy, self-report instruments have taken on greater importance as cost-effective alternative methods for assessment. Two self-report instruments are receiving the most attention in the literature concerning the assessment of psychopathy: The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) and the Self-Report of Psychopathy-2nd Edition (SRP II; Hare, 1991).

PPI

Lilienfeld and Andrews (1996) developed the PPI as a self-report instrument for the assessment of psychopathy. The PPI is intended to measure personality characteristics associated with psychopathy. The psychometric properties of the PPI are evaluated in several studies. Lilienfeld and Andrews (1996) found very good internal consistency for the PPI total score in a community sample ($\alpha = .91$); however, the individual scales were much more variable and ranged from .67 (coldheartedness) to .86 (fearlessness). Poythress, Edens, and Lilienfeld, (1998) found similar results for a sample of 55 young offenders, with total PPI ($\alpha = .91$) and individual scales ranging from .72 to .91. To date, no studies have addressed the test-retest reliability of the PPI or evaluated its usefulness with mentally disordered offenders.

In assessing the convergent validity of the PPI, Poythress, Edens, and Lilienfeld (1998) compared it with the PCL-R in a sample of 55 prison inmates. Significant correlations were found (see Table 3) between Machiavellian Egocentricity and PCL-R total scores ($r = .57$) and Factor 1 ($r = .56$), providing modest evidence of convergent validity. However, other scales purported to measure personality characteristics related to psychopathy yielded negligible to very modest correlations.

Table 3

Correlations between the PPI and PCL-R

PPI Scale	PCL-R total	Factor 1	Factor 2
Machiavellian Egocentricity	.57***	.56***	.44**
Social Potency	.33*	.37**	.20
Coldheartedness	.33*	.37**	.21
Impulsive Nonconformity	.28*	.31*	.23
Fearlessness	.21	.22	.17
Blame Externalization	.12	.05	.16
Carefree Nonplanfulness	.24	.23	.24
Stress Immunity	.04	.12	-.08

* $p < .05$, ** $p < .01$, *** $p < .001$. Results are distilled from Poythress, Edens, and Lilienfeld (1998).

The PPI's construct validity has also been examined with the Personality Assessment Inventory (PAI; Morey, 1991). Sandoval et al. (2000) with a sample of 100 male inmates evaluated total PPI score with PAI scales Empathy ($r = -.45$), Aggression ($r = .60$), and Borderline ($r = .45$). Similarly, Edens, Poythress, and Watkins (2001) evaluated the PPI in a sample of 60 male offenders in relation to the PAI. The total score of the PPI was highly correlated with PAI scales of Aggression ($r = .68$) and modestly with PAI scales Borderline ($r = .39$) and Dominant ($r = .38$). The results confirmed the

researchers' expectations regarding the relationship of the PPI to lack of empathy, behavioral dysregulation, and unstable personality.

The results from studies (Edens et al., 2001; Sandoval et al., 2000) indicate the PPI has utility in assessing youthful offenders. However, when directly compared to the PCL-R, only Machiavellian Egocentricity of the PPI evidenced moderate correlation ($r = .57$) with the PCL-R total score. The results indicate the PPI has not been adequately validated for use as a stand-alone indicator of psychopathy.

SRP-II

The Self-Report of Psychopathy-Second Edition (SRP-II, Hare, 1991) was also designed as a self-report measure of psychopathy. The SRP-II is modeled after the traditional two-factor structure of the PCL measures, including personality and behavioral dimensions. The SRP-II correlates moderately with the PCL-R (Forth et al., 1996; Harpur et al., 1989). Using a male forensic sample, Hare (1991) found moderate correlations between the SRP-II and the PCL-R (Factor 1 $r = .50$, Factor 2 $r = .44$, and total PCL $r = .54$). Other research has used university students in their validation studies. As evidence of concurrent validity, Forth, Brown, Hart, and Hare (1996) used the SRP-II in a sample of 150 university students, and found moderate correlations for total scores the SRP-II and the PCL:SV scores ($r = .55$ for females and $r = .62$ for males). In addition, Salekin, Trobst, and Krioukova (2001) utilized the SRP-II in a sample of 326 university students. The SRP-II exhibited convergent validity with other measures of psychopathy (Antisocial scale from the PAI, $M r = .43$) and with schizotypal personality

traits in females ($r = .29$). Notably, a negative correlation was found between the SRP-II and dependency for males and females ($r = -.23$ and $-.18$, respectively).

In summary, the initial results for the SRP-II appear to hold some promise for it as a screen for psychopathy; especially given it measures both personality and behavioral aspects. However, its reliability has not been adequately established. Also, its failure to consider response styles hinders its clinical applicability in assessing criminal offenders, given their propensity to engage in deception (Rogers & Cruise, 2000). Specific to this study, no research has evaluated the SRP-II with mentally disordered samples. Other self-report measures, not specific to psychopathy (e.g., MMPI-2 and PAI) have also generated research with the goal of assessing psychopathy.

Multiscale Inventories

Research on MMPI-2 scales provides insight into the utility of multiscale inventories to assess psychopathy (Lilienfeld, 1996, 1998; Rogers & Bagby, 1994). Based on separate Principal Component Analysis, two primary factors were found for the ANT scale: delinquency and dishonesty (Rogers & Bagby, 1994). These two dimensions did not correspond with the traditional two PCL-R factors. Instead, delinquency and dishonesty appear to relate more with antisocial behavior than any type of psychopathic personality characteristics. Lilienfeld (1996, 1998) administered the MMPI-2 with several measures self-report measures of psychopathy. The measures included the PPI, Personality Disorder Questionnaire-Revised (Hyler & Rieder, 1987), Structured Clinical Interview for DSM-III-R (SCID; Spitzer, Williams, & Gibbon, 1987), Cleckley criteria, Self-Report Psychopathy Scale-Revised (SRP-II; Hare 1991), and the Cleckley

Psychopathy Scale (CPS; Levenson, 1990). The results demonstrated that the Pd scale added incremental validity to the ASP scale. Lilienfeld (1999) found that each Pd subscale (i.e., 1 – 4) contribute uniquely to the determination of psychopathy, but Pd2 (i.e., Authority Problems) contributed most to the assessment of psychopathy through its relationship with authority conflicts.

The PAI (Morey, 1991) has generated research on its relationship with psychopathy. Edens et al. (2000) found the PAI adequately measured criminal behavior in sex offenders and inpatient forensic commitments but failed to capture personality-based aspects of psychopathy.

Likewise, Salekin et al. (2001) found support for the PAI to measure antisocial traits in undergraduate, but not callous and manipulative personality traits. However, unique to the PAI are scales measuring treatment potential (i.e., Warmth and Dominance) that may encompass callousness and the inability to empathize. Inclusion of these scales in researching the PAI and psychopathy constitutes the next logical step in attempting to measure psychopathic personality with the PAI.

Results from the MCMI are disappointing for the evaluation of psychopathy. Piotrowski, Tusel, Sees, Banys, and Hall (1998) found significant correlations between Factor 2 of the PCL-R and Antisocial Personality Disorder scale of the Millon Clinical Multiaxial Inventory - 2nd Edition (MCMI-II, Millon 1987). Likewise, Hart, Forth, and Hare (1992) studied psychopathy in 119 male inmates and concluded that the MCMI-II is adequate for measuring antisocial personality traits but not core personality traits (i.e., Factor 1) associated with psychopathy.

Conclusions for self-report instruments measuring psychopathy

The results from several studies (Hart et al., 1992; Piotrowski et al., 1998; Salekin et al., 2001) indicate multiscale inventories have utility in assessing behavioral criteria of psychopathy (e.g., antisocial behavior). Scales from the PAI, MMPI-2, and MCMI-III have all demonstrated moderate correlations with behavioral criteria from Antisocial and Borderline Personality Disorders constituting behavioral dysregulation and impulsivity.

Despite promising results for behavioral aspects of psychopathy, self-report and multiscale instruments failed to adequately assess the callousness associated with psychopathy (Edens, 2001; Piotrowski et al., 1998). Especially noteworthy is the PPI, an instrument designed to measure personality aspects of psychopathy has only 1 scale, Machiavellian Egocentricity, which demonstrates an adequate relationship with F₁ of the PCL-R. The current research does not support the use of these instruments to assess psychopathy. However, a potentially exciting area of research concerns the PAI; it demonstrated moderate correlations with F₂ and would appear to have scales potentially related to F₁ (i.e., Warmth).

PSYCHOPATHY AND COMORBID DIAGNOSES

One of the most understudied areas of psychopathy is its relationship with mental disorders. Multiple studies (Blackburn & Coid, 1997; Darke, Kaye, & Finlay-Jones, 1998; Hare, 1993; Hodgins, Cote, & Toupin, 1998) have studied Axis II pathology and psychopathy, especially Antisocial Personality Disorder. In contrast, the research

focusing on symptoms of Axis I disorders and psychopathy is less clear and more focused research about comorbidity is warranted.

Given the use of the PCL-R in forensic mental health centers, the manifestations of psychopathy in mentally disordered offenders are an important area of study. If symptoms of mental disorders substantially overlap with characteristics of psychopathy, the possibility of misclassifying an individual increases dramatically. The consequences of misclassification are far ranging. For example misclassification could lead to a loss of civil liberties (e.g., commitment to a hospital) or placement in a more secure housing unit within a correctional setting.

Axis I Pathology

The assessment of psychopathy in offenders with Axis I disorders represents a difficult challenge to clinicians due to the potential overlap of symptoms between psychopathy and mental disorders (Nedopil et al., 1998). Further clouding the issue are developmental issues concerning the expression of mental disorders and subsequent disturbances in conduct (Frick, 1998; Kasen et al., 2001; Schmitt & Newman, 1999). Axis I disorders and psychopathy constitutes one of the most understudied areas of research and is the focus of the current study.

Psychosis and Substance Abuse

A critical issue in the accurate assessment of psychopathy in individuals with psychotic disorders is symptom overlap. To that end, Nedopil et al. (1998) conducted a content analysis comparing schizophrenic symptoms and psychopathic criteria. Similarities included (a) restricted affect and disinhibition, (b) impulsivity, (c) lack of

empathy, (d) lack of remorse/guilt, and (e) absence of long-term goals. Key dissimilarities were positive psychotic symptoms (e.g., hallucinations, delusions, and disorganized behavior) and certain negative symptoms (e.g., avolition). However, very low comorbidity between schizophrenia and psychopathy was observed with only 7% of individuals diagnosed with schizophrenia warranting a classification of psychopathy (Nedopil et al., 1998).

In further delineating the relationship between Axis I disorders and psychopathy, research (Nolan, Volavka, Mohr, & Czobor, 1999; Skeem & Mulvey, 2001) found psychopathy to be a strong predictor of violence, but not mental disorders. Nolan et al. (1999) studied psychopathy in relation to psychotic disorders (i.e., schizophrenia and schizoaffective disorders) in 51 inpatients. As hypothesized, both Factor 1 and Factor 2 of the PCL:SV were correlated with violent offenses in schizophrenic patients; however, active symptoms of psychoses were not related to PCL:SV scores. Similarly, Skeem and Mulvey (2001) studied psychopathy, using the PCL:SV, in a sample of 1,136 individuals who presented to emergency rooms with mental health services across three research sites. The researchers found the PCL:SV to be a moderate predictor of violence in individuals with mental disorders; however, no relationship between psychoses and psychopathy was found.

Substance abuse diagnoses should have a prominent role when considering the relationship between Axis I disorders and psychopathy. Specifically, the use of alcohol and illicit substances decreases the ability to control behavior, leading to impulsiveness, and a higher propensity for violence (Helzer & Pryzbeck, 1988). In evaluating

schizophrenia, substance abuse, and psychopathy, Tengstrom et al. (2000) prospectively studied the relationship of PCL-R scores and violence in 202 male offenders with schizophrenia. At a 51-month follow-up, mentally disordered offenders with comorbid psychopathy recidivated at 48.0%, approximately four times greater than nonpsychopaths. An interesting finding was substance-abusing nonpsychopaths had the same likelihood of recidivism as psychopaths. This suggests there are several causes to violence.

In summary, the content analysis provided by Nedopil et al. (1998) provides the strongest support for carefully evaluating comorbid psychotic disorders when evaluating psychopathy. However, the results from Skeem and Mulvey (2001) and Nolan et al. (1999) appear to suggest there is no relationship between mental disorders and psychopathy, but a strong relationship between psychopathy and dangerousness in individuals with mental disorders. Notably, similar results were found for substance abusers (Tengstrom et al., 2000).

Depression and Anxiety

Depression, although virtually ignored in the assessment of psychopathy, has produced interesting results, especially from a developmental perspective. Lovelace and Gannon (1999) found inverse relationship between depression and psychopathy in a sample of 231 outpatient clients. However, their methodology was flawed as they used the original Antisocial scale from the MCMI as their indicator of psychopathy.

While not specific to psychopathy, two studies (Kasen et al., 2001; Zoccolillo, 1992) have approached the relationship between depression and personality disorders

from a developmental perspective. In a longitudinal design using 551 participants, Kasen et al. (2001) explored the relationship between depressive symptoms and adult personality disorders. The participants were evaluated at three different times (M ages = 12.7, 15.2, and 21.1, respectively). They found youth with recurrent and chronic major depression were at substantially higher risk for antisocial, histrionic, and dependent personality disorders in young adulthood. Again, although not related to psychopathy, the results from these two studies provide strong longitudinal evidence that early deficits in affect can have substantial consequences later. Moreover, these results could be extrapolated as a basis for the beginnings of both affective and behavioral dysregulation that is a key component in psychopathy (Lynam, 1998; Vitacco & Rogers, 2001).

Tackling the developmental issue from a different perspective, Zoccolillo (1992) evaluated 40 publications focusing on mental disorders in youth. He found the presence of CD in childhood and adolescence predicted depressive and anxiety disorders in adulthood. He further hypothesized that emerging conduct disorder is present in many depressed children. These results suggest that childhood conduct problems have a causal effect on a multitude of disorders. Specifically, Lambert, Wahler, Andrade, and Bickman, (2001) in a sample of 1,040 children from Fort Bragg, North Carolina found conduct disordered youth have significantly more internalizing disorders, hospitalizations, and outpatient treatment than nonconduct disordered children. Again, these literature reviews suggest that early emotional problems may lay the initial groundwork for several later problems.

The comorbidity of anxiety and psychopathy has been reviewed in both children and adults with discrepant findings. In children, Frick and his colleagues (Frick, 1998; Frick et al., 1999) found a positive relationship between the presence of conduct problems as measured by the APSD and anxiety in a sample of 143 clinic-referred children. In contrast, trait anxiety was suppressed with children with high C/U traits of psychopathy. In adults, Schmitt and Newman (1998, 1999) evaluated these constructs with 217 incarcerated men using the PCL-R and a task of passive avoidance. They found no differences between psychopaths and nonpsychopaths and hypothesized that psychopathy and anxiety were unrelated constructs. Lorenz and Newman (2002) found low-anxious psychopaths equal to controls in reading emotional cues and proposed no relationship is present between psychopathy and anxiety in male offenders. Differences in the presentation of psychopathy between inmates and community-based children may explain the contradictory results and further analyses of only F₁ may yield different results as the analyses would mirror those of Frick et al (1999) by determining if analyzing callous personality

Axis II Pathology

Antisocial personality disorder (APD) has long been associated, if not equated with psychopathy. Given this lengthy association, APD's relationship with psychopathy has received the most attention (Cunningham & Reidy, 1998; Darke, Kaye, & Finlay-Jones, 1998; Hare, Hart, & Harpur, 1991; Zagon, 1995). Other research (Blackburn & Coid, 1997; Nedopil et al., 1998) has examined additional Cluster B disorders (e.g.,

Histrionic Personality Disorder) and psychopathy. This next section focuses on studies outlining the relationship between Axis II disorders and psychopathy.

The literature has shown psychopathy and APD to represent two distinct disorders, although substantial overlap between F_2 of psychopathy and APD is present. For instance, Hare (1983) found APD was present in 50.0% of a forensic population compared to a rate of 20.0% for psychopathy. Along similar lines, Meloy (1988) found only 33.0% of inmates meeting criteria for APD also could be classified as psychopaths. Moreover, research (Darke, Kaye, & Finlay-Jones, 1998) has expanded this concept to substance abusers. In a study of 200 inmates enrolled in a methadone treatment program, they found 30 out of 32 (93.8%) participants scoring ≥ 30 on the PCL-R also met the criteria for APD. However, only 11.0% of individuals with APD also met the classification of psychopathy. These results demonstrate important differences in the base-rates between psychopathy and APD.

The reason for the differences between APD and psychopathy has generated interesting discussion. Zagon (1995) proposed a simple reason for the large discrepancy between APD and psychopathy, the inclusion of personality characteristics in the classification of psychopathy, as compared to the behavioral-based APD. Taking a different perspective, Cunningham and Reidy (1998) proposed that the discrepancy results from the overdiagnosing of APD by clinicians who fail to consider contextual factors (e.g., trauma) when assessing criminals. Moreover, they suggest that the diagnosis of APD has several inherent problems including (a) absence of symptom weighting, (b) temporal instability, and (c) not differentiating between substance abuse

and APD. They believe these problems weaken the diagnostic validity of APD. In contrast, they find strong evidence for increased criminality and violence associated with psychopathy and not APD.

Several studies (Hare, Hart, & Harpur, 1991; Nedopil et al., 1998) have analyzed psychopathy in relation to APD and other personality disorders. Beyond the conclusions by Cunningham and Reidy (1998), psychopathy has its own challenges with symptom overlap weakening its diagnostic validity. Hare et al. (1991) found comorbidity between criteria of psychopathy and Histrionic and Antisocial Personality Disorders. Moreover, Nedopil et al. (1998), based on a content analysis, found psychopathy had substantial symptom overlap with Antisocial Personality, Narcissistic, and Histrionic Disorders. The researchers found key symptoms common to each diagnosis and psychopathy including (a) grandiosity, (b) superficiality, (c) impulsiveness, and (d) shallow affect. In further support of psychopathy's overlap with personality disorders, Raine (1992) analyzed schizotypal and borderline personality disorders in relation to psychopathy. He found evidence that criminals with moderate scores on schizotypal and borderline traits had psychopathic-like features: inappropriate affect, poor planning, and impulsiveness.

The substantial overlap with symptoms of both Axis I and II disorders weakens the diagnostic utility of psychopathy. Despite this, psychopathy has proven to be primarily independent of psychotic disorders (Nolan, Volavka, Mohr, & Czobor, 1999; Skeem & Mulvey, 2001), but related to behavioral aspects of several Axis II disorders (Raine, 1992; Zagon, 1995). However, psychopathy proves to have a specific ability to

predict violence and criminal behavior (Cunningham & Reidy, 1998; Skeem & Mulvey, 2001) in individuals with and without mental disorders.

Rationale for Current Study

The PCL-R was primarily validated male prisoners, forensic patients, and adolescent offenders. Recently, female and African American offenders have also received substantial attention in the literature. Across samples, individuals with high levels of psychopathy are more likely to be violent and have a greater likelihood of recidivism (Hemphill et al., 1998; Salekin et al., 1996). Despite these advances, the underlying dimensions of the PCL-R are not established in mentally disordered offenders. The two-factor model (Hare, 1991) has received the most attention, but recently, a three-factor model for the PCL-R has been proposed (Cooke & Michie, 2001). The current research evaluates the construct validity of psychopathy in a sample of mentally disordered offenders by comparing the two and three-factor solutions of the PCL-R.

The overlap of PCL-R criteria with symptoms from both Axis I and II mental disorders (see Nedopil et al., 1998) raises questions about the diagnostic validity of psychopathy. Methodologically, a Multitrait-Multimethod (MTMM) with convergent and discriminant validity (Campbell & Fiske, 1959) can evaluate the relationships between psychopathy and clusters of Axis I symptoms. Table 4 provides the primary terms for the traditional MTMM design. The assessment of construct validity can further be enhanced through use of a Confirmatory Factor Analysis (Bagozzi & Yi, 1991; Dunn, Everitt, & Pickles, 1993). Strong factor loadings on predicted models provide evidence

of construct validity. On the contrary, failure to find these loadings indicates dissimilar constructs.

Clinically, the accurate assessment of psychopathy requires substantial amount of professional resources. Self-report measures (e.g., SRP-II and PPI) have not been evaluated on mentally disordered offenders and could prove to be useful clinical screens. However, before able to be used effectively, they must show good psychometric properties (e.g., internal consistency and convergent validity) with mentally disordered offenders.

Table 4

Multitrait-Multimethod Matrix Terminology

Terms	Definitions
Convergent^a	It is the validation of similar constructs through the combination of independent methods.
Monotrait-Monomethod ^a	It is the internal consistency as measured by Cronbach's Alpha Coefficients.
Monotrait-Heteromethod ^a	It assesses the relative strength (e.g., correlations) via scales measuring the same trait with different measures.
Discriminant^a	It is the validation of constructs through differences among dissimilar measures.
Heterotrait-Monomethod ^a	It examines different traits within the same measure on separate scales (i.e., interscale correlations).
Heterotrait-Heteromethod ^a	It examines the relationship between different traits on multiple measures.
Comparison Violations ^b	It is the proportion of case when heterotrait-monomethod and heterotrait-heteromethod correlations exceed monotrait-monomethod correlations.
Method Effects ^{ab}	It evaluates each measures usefulness in terms of convergent and discriminant validity.

Note. ^aTerms adapted from Campbell and Fiske (1959); ^bterms adapted from Bagozzi and Yi (1991).

Research Questions and Hypotheses

The research questions and hypotheses are presented below:

Research Question #1 The PCL-R's construct validity will be investigated with mentally disordered offenders.

Hypothesis 1. Convergent correlations (i.e., monotrait-heteromethod) of psychopathy will be higher than discriminant correlations (i.e., heterotrait-monomethod and heterotrait-heteromethod).

Hypothesis 2. The small percentage of comparison violations will demonstrate adequate discriminant validity.

Research Question #2. This study will test the relative fit of the PCL-R two-factor (Hare, 1995) and three-factor (Cooke and Michie, 2001) models of the PCL-R with mentally disordered offenders.

Hypothesis 3. Two-factor model of psychopathy (Hare, 1985) will evidence a good fit via indices of a Confirmatory Factor Analysis.

Hypothesis 4. Three-factor model of psychopathy (Cooke & Michie, 2001) will evidence a good fit via indices of a Confirmatory Factor Analysis.

Research Question #3. The convergent validity between the PCL-R and self-report measures (i.e., SRP-II and PPI) will be evaluated.

Hypothesis 5. The SRP-II will have moderate correlations ($r_s > .50$) with the PCL-R.

Hypothesis 6. As hypothesized by Lilienfeld (1996), the PPI will have moderate correlations ($r_s > .50$) with the PCL-R, especially with Factor 1.

Research Question #4. Based on recent research (Frick et al., 1999; Schmitt & Newman, 1999), the relationship between anxiety and psychopathy in mentally disordered offenders will be investigated.

Hypothesis #7. This study will support Frick et al's. (1999) finding of an inverse relationship between anxiety and Factor 1 of the PCL-R.

Hypothesis #8. This study support Schmitt and Newman's (1999) finding that individuals with high scores on the PCL-R will exhibit similar levels of anxiety level as individuals with low PCL-R scores.

Chapter II

METHOD

Design

The current study utilizes a cross-sectional design for the evaluation of psychopathy and mental disorders. According to Bordens and Abbott (1991), an advantage of the cross-sectional design is its ability to collect data in a relatively short period of time with a large number of participants. Bordens and Abbott (1991) acknowledged that disadvantages to cross-sectional designs are potential threats to internal validity by failing to account for changes in maturation and differences in age across the sample. Relevant to the current study, a cross-sectional design appears most suited to sampling a large number of incarcerated individuals with mental disorders.

A Confirmatory Factor Analysis was utilized due its strength as a statistical model in assessing construct validity (Dunn et al., 1993). This model enables the researcher to (a) make predictions based on which indicators will load on specific factors (e.g., which items on the PCL-R will load on F_1 , (b) test a theory by using multiple indicators as evidence of a latent variable, and (c) produce the most straightforward description of data (Dunn et al., 1993).

Bagozzi and Yi (1991) list several advantages to the use of CFA: (a) measures of overall fit are provided (e.g., NFI and RCFI), (b) useful information is provided on convergent and discriminant validity, (c) results are provided allowing the researcher specific indices of trait, methods, and error. Overall, they believe the CFA provides more accurate and precise information about symptom validity than correlational designs.

The use of a correlational MTMM design, especially with clinical data, provides additional information due to the interaction of clinical traits and methods. The correlational design provides concurrent elevations of the latent construct (i.e., psychopathy) with multiple clinical measures (Cronbach & Meehl, 1955). Therefore, the current study, uses both a traditional correlational and CFA MTMM designs.

Participants

The sample is composed of 96 male inmates detained at the Tarrant County Jail in Fort Worth, Texas. All participants resided on the Mental Health Pod, which is designed for inmates manifesting obvious signs of psychopathology. This pod provides mental health treatment and medication management. The sample ranges in age from 18 to 66 ($M = 37.99$, $SD = 10.40$). The average level of education is high school graduate ($M = 12.05$ years), ranging from 8th grade to completion of medical school. The majority of the sample is European American ($n = 72$ or 75.0%) with 18 African Americans (18.8%), three Hispanic Americans (3.1%), and three classified as biracial (3.1%).

Measures

Psychopathy Checklist-Revised (PCL-R). The PCL-R (Hare, 1991) is an extensive semistructured interview designed to assess for psychopathy. Interview and collateral

data, (e.g., correctional records), are scored on 20 PCL-R ratings. Traditionally, the PCL-R consists of two related factors: core personality traits (e.g., callous, unemotional, and manipulativeness) and antisocial behavior. Ratings are recorded on a three-point scale: “0” for trait that cannot be detected, “1” for present but not to a substantial degree, and “2” for present to a substantial degree. The PCL-R is considered a reliable and valid instrument for the assessment of psychopathy (Rogers, 2001; for more complete psychometric properties please see Chapter 1, pages 25-27).

Self-Report-Psychopathy 2nd Edition (SRP-II). Hare (1991) developed the SRP-II as a self-report measure of psychopathy. The SRP-II consists of 60 items with two factors corresponding to the PCL-R. The items are rated on a 7-point Likert-type scale ranging from “disagree strongly” to “agree strongly.” Cruise (2000) reported the SRP-II has a Flesch-Kincaid reading grade level of 3.70. While demonstrating moderate concurrent validity, studies have overlooked the reliability of the SRP-II (Zagon & Jackson, 1994).

Psychopathic Personality Inventory (PPI). The PPI (Lilienfeld & Andrews, 1996) is a 187-item multiscale inventory for the assessment of psychopathy. It consists of eight scales designed to measure constructs related to psychopathy: Machiavellian Egocentricity (ME; 30 items), Social Potency (SP; 24 items), Coldheartedness (CH; 21 items), Carefree Nonplanfulness (CN; 21 items), Fearlessness (FL; 19 items), Blame Externalization (BE; 18 items), Impulsive Nonconformity (IN; 17 items), and Stress Immunity (SI; 11 items). The PPI also includes three scales designed to measure response styles: Unlikely Virtues, Deviant Responding, and Variable Response Inconsistency. Lilienfeld and Andrews (1996) found good internal consistency with

alpha coefficients ranging from .67 to .91. The PPI moderately predicted various forms of nonviolent and physically aggressive disciplinary infractions (point biserial correlations ranging from .26 to .37; Edens, Poythress, & Watkins, 2001).

Beck Depression Inventory-2nd Edition (BDI-II). The BDI-II (Beck, 1996) is a 21-item screen with a fourth grade reading level designed to assess depression. Beck and Beamesderfer (1974) found moderate to high test-retest reliability for nonpsychiatric individuals (*rs* ranging from .60 to .90). Beck (1996) reported that the content of the BDI represented the diagnostic criteria in the DSM. However, it is intended to assess severity of depression rather than render a formal diagnosis (Beck, 1996).

Schedule of Affective Disorders and Schizophrenia-Change Version (SADS-C). The SADS-C (Spitzer & Edicott, 1978) is a semi-structured interview designed to assess key Axis I symptoms. The SADS-C focuses on salient symptoms of schizophrenia, anxiety, and mood disorders. The SADS-C measures symptom severity typically on 5 or 6 gradations: 0 = “no information,” 1 = “not at all,” 2 = “slight,” 3 = “mild,” 4 = “moderate,” 5 = “severe,” and 6 = “extreme severity.” The SADS-C Global Assessment Scale (GAS) scale, analogous to the GAF, provides an overall rating of impairment.

Rogers (2001) reported the SADS-C has psychometric advantages over other structured interviews including strong interrater reliability and measurement of symptom severity.

State-Trait Anxiety Inventory (STAI Form Y). The STAI is a self-report instrument measuring two aspects of anxiety via two scales: (a) State Anxiety and (b) Trait Anxiety. The STAI was initially validated on 6,000 high school and college students. It has a reading comprehension estimated at the fourth grade level. Alpha coefficients, measuring

internal consistency, were found to be above .90. The STAI has labeled as a reliable and valid instrument used to study chronic (trait) anxiety and transient (state) anxiety in criminal populations (Harpur, Hare, & Hakstian, 1989).

Procedure

The Institutional Review Board at the University of North Texas, with a full review, gave official approval on April 11, 2002. Once approval was obtained, participant recruitment commenced.

Recruitment and Participation.

Participants were recruited through signs posted on the mental health pod and individual contact with the researchers. Once a participant expressed an interest in potential participation, they were approached by one of two researchers. The informed consent was explained to them, with a focus on the voluntary nature of the research and their ability to stop at any point during the research without any penalty. Additionally, potential participants were cautioned about limits of confidentiality (i.e., records being subpoenaed, ongoing or potential harm to a child, and suicidal ideation) at the time of the informed consent. Potential participants were also informed of the study's second phase and were encouraged to complete both phases. The consent form (see Appendix D) was reviewed with them. Those consenting to the research were provided an option to receive a copy of the signed consent.

Four criteria were required for inclusion in the study. First, participants must reside on the Mental Health Pod. Second, florid psychotic symptoms must be absent because they would prevent the participant from following the lengthy research protocol.

Third, participants needed adequate reading skills to complete the self-report measures. Finally, no inmate designated for release within a week was able to be included because it may have prevented his participation from Phase 2. Participants were asked to read the consent form out loud as an informal measure of reading comprehension. No individuals were excluded for these criteria; however, one participant was unable to complete the PCL-R due to his highly atypical responses. That participant was thanked for his time and his data was excluded from any analyses.

Test Administration

The first phase of the research study focused on the assessment of psychopathy. The order of administration in the first phase always commenced with the PCL-R. As an interview, the PCL-R was used to establish rapport. The SRP-II and PPI were then administered in a counterbalanced order to control for any potential ordering effects for the self-report instruments.

The second phase focused on the evaluation of selected Axis I symptoms. As with Phase 1, the SADS-C was administered first to establish rapport followed by administration of the self-report instruments in a counterbalanced order to control for potential order effects.

Two researchers administered all psychological measures. The primary researcher, a fourth-year doctoral student with advanced training in diagnostic interviewing, administered 88 complete protocols (i.e., Phases I and II). The second researcher, a first year doctoral student under the supervision of the primary researcher,

completed an additional 8 protocols. In addition, both researchers assessed inter-rater reliability on eight cases.

Interrater Reliability.

Interrater reliability estimates were excellent for PCL-R total score ($r = .93$), F_1 ($r = .86$), F_2 ($r = .96$), and F_3 ($r = .88$). Likewise, reliability scores on the SADS-C were excellent for all four scales: Psychosis ($r = .82$), Depression ($r = .94$), Mania ($r = .86$), and Anxiety ($r = .90$). Further, interrater reliability on the GAS was also adequate ($r = .81$),

Data Analysis

Research Question #1. The first research question focuses on the convergent validity of psychopathy in mentally disordered participants. Convergent validity is assessed with correlational MTMM. Cases when heterotrait-monomethod and heterotrait-heteromethod exceed correlations of monotrait-monomethod are categorized as comparison violations.

In addition, a Correlated-Traits Correlated-Methods (CTCU) Confirmatory Factor Analysis was used to assess method effects and convergent validity. The CTCU, combines two scales assessing the same trait with different method to assess which is a better indicator of that trait. Further, it combines anxiety, depression, and psychopathy to determine if a good fitting model could be developed.

Research Question #2. The second research question focuses on the underlying dimensions of the PCL-R with mentally disordered offenders. A Confirmatory Factor Analysis evaluates both the traditional two-factor and new, three-factor model. The

current study uses the nonnormed fit index (NNFI; Bentler & Bonett, 1980) and the comparative fit index (CFI; Bentler, 1991), both are useful with clinical data. The CFI and NNFI index avoids underestimation of fit and sampling variability associated with other fit indices. Fit index values close to .95 and up to 1.0 are indicative of good fit (Hu & Bentler, 1998, 1999). The root mean square error of approximation (RMSEA; Steiger, 1990) and a standardized version of the root mean squared residual (SRMR; Joreskog & Sorbom, 1981) also assess model fit between models. RMSEA values at approximately .06 or less, and SRMR values near .08 or less are also indicative of good fit (Hu & Bentler, 1998, 1999). If indices are not consistent, an AIC analysis determines the best fit (Cooke & Michie, 2001). Using these fit indices, the study investigates the two and three-factor solutions of the PCL-R.

Research Question #3. This research questioned examined whether the PPI and SRP-II will demonstrate adequate convergent validity with the more established PCL-R. Pearson Product Correlations for total and factor scores of the SRP-II and PPI are analyzed; Z_r transformations are used to compare whether the correlations are statistically significant in magnitude.

Research Question #4. In determining the effect of anxiety on psychopathy, Pearson Product Correlations are analyzed for the total score of the PCL-R, Factor 1, and Factor 2 with both total STAI and anxiety symptoms on the SADS-C. As part of supplementary analyzes, a hierarchical multiple regression is analyzed with the dependent variable PCL-R regressing unto the STAI and SADS-C anxiety.

Chapter III

RESULTS

Preliminary Analyses

Male offenders for the entire sample demonstrated a moderate level of psychopathy ($M = 18.36$, $SD = 7.30$) Total scores for psychopathy were normally distributed ranging from 3 to 35, with only six individuals (6.25%) meeting the criteria for psychopathy.

As measured by the SADS-C, male offenders on the mental health pod demonstrated low levels for clusters of psychosis ($M = 17.11$, $SD = 4.30$; range from 9 to 28), mania ($M = 10.43$, $SD = 4.46$; ranging from 5 to 24), and anxiety ($M = 11.32$, $SD = 3.80$; range from 5 to 19). In contrast, the sample evidenced a high level of depressive symptoms on the unit ($M = 24.03$, $SD = 7.39$; range from 12 to 41).

Descriptive and Sociodemographic Data

The mean age of the participants was late 30s ($M = 37.99$, $SD = 10.40$) range from 18 to 66. Regarding criminal charges, most participants were incarcerated for nonviolent minor crimes (e.g., misdemeanors). Only 8 individuals were incarcerated for a current violent crime, and none for murder.

Sociodemographic findings for age and ethnicity were examined prior to addressing the formal hypotheses. Insufficient numbers of Hispanic American and Biracial groups prevented analyses of these groups. All demographic information is examined with the traditional two-factor model of psychopathy so that direct comparisons can be made with previous research.

An inverse relationship was observed between behavioral aspects of psychopathy and age (i.e., traditional PCL F₂, $r = -.25$), with a small magnitude ($r_z = .26$). Likewise, a small negative correlation between SRP total score and age was evidenced ($r = -.20$) with a small magnitude ($r_z = .20$). The result from this cross sectional sample suggest as individual age their impulsivity and antisocial lifestyle diminish. Surprisingly, none of the eight scales of the PPI reached significance ($r_s = -.08$ to $.19$), although its focus is on personality traits of psychopathy and not antisocial behavior.

In assessing the relationship between age and psychopathology, no significant correlations were found between age and clusters of Axis I syndromes (i.e., scales on the SADS-C, BDI, STAI; r_s between $-.15$ and $.10$). In this sample, age and clusters of Axis I symptoms appear relatively independent.

Differences between African Americans and European Americans on measures of psychopathy are summarized in Table 5. African Americans scored higher on all factors and total score on the PCL-R with moderate effect sizes (d_s ranging from $.76$ to $.90$). In contrast to the PCL-R negligible ethnic differences were manifested for psychopathy on the self-report SRP-II.

Differences between African Americans and European Americans on clusters of Axis I symptoms are also evaluated (see Table 5). African Americans endorsed higher symptoms on the SADS-C Psychotic and State Anxiety. However, European Americans had higher scores on the SADS-C Mania scale. These three scales yielded only moderate effect sizes (d_s ranging from 0.63 to 0.71).

Table 5

Differences between African American and European American Mentally Disordered Offenders on Clinical Scales

<u>Scale</u>	<u>African Americans</u>		<u>European Americans</u>		<i>F</i>	<i>p</i>	<i>d</i>
	Mean	SD	Mean	SD			
PCL-R F1	9.78	2.05	6.93	3.92	8.83	.004	.78
PCL-R F2	11.56	3.79	8.93	3.38	8.28	.005	.76
PCL-R Tot	23.77	4.04	17.79	7.13	11.69	.001	.90
SRP-II F1	29.22	6.62	30.42	6.29	.51	.48	.19
SRP-II F2	40.39	10.48	39.43	10.86	.11	.74	.01
SADSC-P	21.78	15.03	17.03	4.12	5.67	.02	.63
SADSC-M	7.94	2.21	10.90	4.53	7.20	.009	.71
SADSC-D	22.78	5.63	25.01	7.64	1.35	.25	.31
SADSC-A	12.11	2.72	11.44	3.95	.46	.50	.12
BDI-II	23.39	11.44	21.69	13.85	.23	.63	.13
STAI State	53.06	6.70	49.22	5.93	5.71	.02	.63
STAI Trait	54.28	8.10	52.71	6.76	.72	.40	.22

Note. For SADS-C subscales, SADSC-P = SADS-C Psychotic; SADSC-M = SADS-C Mania; SADSC-D = SADS-C Depression; SADSC-A = SADS-C Anxiety. *d* = Cohen's *d*.

Results Addressing Research Questions of the PCL-R in Mentally Disordered Offenders
Internal Consistency.

A correlational MTMM assessed the relationships between psychopathy and clusters of Axis I symptoms (i.e., psychosis, mania, depression, and anxiety). However, prior to assessing for construct validity, the internal consistency of each measure of psychopathy and psychopathology were evaluated via Chronbach's Alphas (see Table 9).

The PCL-R possessed good internal consistency for both Factor 1 (alpha = .85), Factor 2 (alpha = .79), and for PCL-R total score (alpha = .86). However, the alpha for Factor 1 of the SRP-II was very disappointing (alpha = .44). In contrast, Factor 2 of the SRP-II demonstrated adequate internal consistency (alpha = .70). The poor results for F₁ of the SRP-II undermines its utility as a reliable measure of callous and manipulative aspects of psychopathy and renders the scale useless for future analyses.

As summarized in Table 6 both the self-report (i.e., BDI-II and STAI) and structured interview (SADS-C) scales assessing clusters of Axis I symptoms demonstrated adequate internal consistency (alphas .71 to .94). All of these scale can be included in subsequent analyses.

Construct Validity via MTMM Designs

The construct validity of psychopathy was evaluated via the correlational MTMM design. As reviewed in Table 6, the presence of an elevated mood is inversely related to callous and manipulative traits of psychopathy. In regard to Factor 2 of psychopathy, several relevant findings are also demonstrated in Table 6. A slightly negative relationship was demonstrated between SADS-C Mania and F₂ of the PCL-R ($r = -.20$, r_z

= .19), indicating the presence of elevated mood is associated with lower levels of antisocial behavior. Consistent with Frick (1998), anxiety, as measured by the SADS-C, was significantly related to antisocial behavior.

The MTMM design appears to contradict the hypothesis that the presence of callousness suppresses anxiety. To test this notion, the sample was divided into those at the lowest and highest quartiles on callous/manipulative personality (PCL-R F_1). Those in the higher quartile (PCL-R $F_1 > 10$) of callous traits evidenced similar levels of anxiety ($M = 11.84$, $SD = 3.38$) than those in the lowest quartile (PCL-R $F_1 < 4$) of these traits ($M = 10.08$, $SD = 3.91$, $p > .05$).

Table 6

Correlational MTMM Matrix with Psychopathy and Psychopathology

	PCL-R		SRP-II		SADS-C				BDI-II
	F ₁	F ₂	F ₁	F ₂	P	D	M	A	D
PCL-R									
F ₁	(.85)								
F ₂	.44	(.79)							
SRP-II									
F ₁	.19	[.15]	(.44)						
F ₂	.12	.50**	[.33**]	(.70)					
SADS-C									
P	<u>.15</u>	<u>.04</u>	[.27**]	.13	(.65)				
D	<u>.06</u>	<u>.25*</u>	[.21*]	.28**	<u>.29**</u>	(.80)			
M	<u>.27**</u>	<u>-.20*</u>	[.04]	-.13	<u>-.02</u>	<u>-.03</u>	(.71)		
A	<u>.15</u>	<u>.27**</u>	[.03]	.26	<u>.21*</u>	<u>.20*</u>	-.03	(.79)	
BDI-II									
D	<i>-.003</i>	<i>.17</i>	[<i>-.16</i>]	<i>.07</i>	<i>.08</i>	.64**	<i>-.11</i>	.56**	(.94)
STAI									
S	.29**	.40**	[.06]	.27**	.15	.36**	-.47**	.44**	.29**
T	.24*	.35**	[.20]	.20	.16	.38**	-.38**	.46**	.23

Note. Monotrait-Heteromethod correlations are bolded; Heterotrait-Monomethod correlations are underlined; Heterotrait-Heteromethod correlations are italicized; Alpha coefficients are in parentheses; SADSC-D = SADS-C Depression; SADSC-M = SADS-C Mania; SADSC-A = SADS-C Anxiety; SADSC-P = SADS-C Psychotic. * $p < .05$, ** $p < .001$. The brackets indicate non-interpretable correlations due to a poor alpha.

To further examine the construct validity of psychopathy with psychopathology, a CFA Correlated Traits-Correlated Uniqueness (CTCU) model provides additional evidence as to which method were better indicators of the latent trait. Further, it provides additional evidence of the construct validity of the PCL-R. As presented in Table 7, the overall model demonstrated acceptable fit (CFI = .98, RCFI = .98) indicating a model integrating psychopathy with clusters of Axis I symptoms. However, the correlations between psychopathy and depression and anxiety were only correlated modestly ($r_s = .30$ and $.23$, respectively) providing further evidence that the latent variable of psychopathy is relatively independent from clusters of Axis I disorders.

Table 7

CFA Correlated Traits-Correlated Uniqueness Model Fit Indices

	N	X^2	df	NFI	NNFI	CFI	RCFI	GFI	AGFI	RMSEA
Model	96	8.83	5	.95	.93	.98	.98	.97	.88	0.09

Note. NFI = Normed fit index; NNFI = Nonnormed fit index; CFI = Comparative fit index; RCFI = Robust comparative fit index; GFI = Goodness of fit index; AGFI = Goodness of fit index; RMSEA = Root mean square error approximation.

The most salient findings (see Table 8) from the CFA CTCU individual model loadings indicate interview-based measures more accurately assess the constructs of psychopathology (i.e., depression and anxiety) and psychopathy than corresponding self-reports. The higher loadings and less error for the interviews indicate they are stronger indicators of their respective variables. For example, the error for the SRP-II was extremely high (.97), when compared to its model loading (.23). In direct contrast, the PCL-R had a stronger clinical loading (.77) than its error (.64). Similar results were found for anxiety and depression. The results strongly suggest that in order to assess clinical symptoms of psychopathy, depression, and anxiety, structured interviews more accurately assess psychopathology than their self-report counterparts.

Table 8

*Factor Loadings and Error Variance for Correlated Traits-Correlated Uniqueness**Model*

Factor	Loading	Error
Psychopathy		
PCL-R Total	.77	.64
SRP-II	.23	.97
Depression		
SADS-C Depression	.93	.37
BDI-II	.70	.72
Anxiety		
SADS-C Anxiety	.91	.43
STAI Total	.52	.87

Factor Structure of the PCL-R in Mentally Disordered Offenders

Cooke and Michie (2001) challenged the traditional two-factor PCL-R model and proposed an alternative three-factor model. Prior to conducting the Confirmatory Factor Analyses, the data was evaluated for normalcy. Both the skew (ranging from -.44 to .34) and kurtosis (ranging from -1.20 to -.25) were appropriate to proceed with the CFAs.

The comparative fit of three models was tested with a Confirmatory Factor Analysis: the Hare (1991) two-factor model, and two variations of the Cooke and Michie (2001) three-factor model both with and without testlets. As presented in Table 9, Hare's two-factor model was a poor fit for the current data with mentally disordered offenders. Both the CFI and RCFI were substantially below .90, and none of the fit indices approached the "gold" standard. The Cooke and Michie (2001) three-factor model of psychopathy without testlets was also tested via CFA. Similar to the Hare two-factor model, the CFA produced a poor fit with CFI and RCFI substantially below .90.

Cooke and Michie (2001) believed local dependence on the PCL-R was a primary reason for their poor results with traditional factor models. Local dependence occurs when individual items share information; therefore, the "true score" is actually between the two item ratings (Cooke & Michie, 2001). Due to the possibility of local dependency, six testlets combining PCL-R items were utilized in a CFA: T1 combines PCL-R items 1 and 2, T2 combines PCL-R items 3 and 5, T3 combines PCL-R items 7 and 8, T4 combines PCL-R items 6 and 16, T5 combines PCL-R items 13, 14, and 15, and items 4 and 9 create the final testlet. The overall model achieved an excellent fit (RCFI = 1.00).

Table 9

Models of Psychopathy and Fit Indices for the PCL-R

	N	X^2	df	NFI	NNFI	CFI	RCFI	GFI	AGFI	RMSEA
Hare two-factor	96	354.92	118	.57	.60	.65	.64	.70	.61	.15
Cooke and Michie three-factor without testlets	96	178.92	62	.68	.70	.76	.75	.77	.67	.14
Cooke and Michie three-factor model with testlets	96	154.54	56	.73	.72	.80	1.00	.81	.70	.13

Note. NFI = Normed fit index; NNFI = Nonnormed fit index; CFI = Comparative fit index; RCFI = Robust comparative fit index; GFI = Goodness of fit index; AGFI = Goodness of fit index; RMSEA = Root mean square error approximation.

These results were consistent with Cooke and Michie (2001) three-factor model of the PCL-R (see Table 10). The three factors, demonstrated similar factor loadings as Cooke and Michie (2001) three-factor model. The relationship between ADI and DAE was strong ($r = .83$) with moderate correlations between ADI and IIL ($r = .50$) and DAE and IIL ($r = .56$).

Table 10

*Standardized Estimates from Confirmatory Factor Analysis for the Cooke and Michie
Three-Factor PCL-R Testlet Model*

<u>Term</u>	<u>Testlets</u>						<u>Factors</u>			<u>Error/Disturbance</u>
	t1	t2	t3	t4	t5	t6	ADI	DAE	IIL	
<u>PCL-R Items¹</u>										
1	.68									.74
2	.80									.60
3		.48								.88
5		.58								.81
7			.73							.69
8			.92							.40
6				.97						.25
16				.78						.62
13					.46					.89
14					.89					.44
15					.56					.83
9						.57				.82
4						.68				.83
<u>Testlet loadings</u>										
t1							1.00			.00
t2							.74			.67
t3								.83		.55
t4								.94		.35
t5									.75	.66
t6									1.00	.00

Note. Substantial loadings ($\geq .60$) presented in bold; ADI = Arrogant and Deceitful Interpersonal Style; DAE = Deficient Affective Experience; IIL = Impulsive and Irresponsible Lifestyle.
Convergent Validity of SRP-II and PPI

The goal of this research question was to evaluate the relationships between self-report measures (i.e., SRP-II and PPI) with the PCL-R. The SRP-II correlations for Factor 1 were negative (see Table 11) when compared to all factors and total score of the PCL-R; these correlations are further confounded by its unacceptable internal consistency ($\alpha = .44$). Combined, the alphas and correlations the SRP-II F_1 should not be used to assess any aspect of psychopathy. The SRP-II F_2 demonstrated stronger results showing a modest correlation with Impulsive and Irresponsible Behavior Style of the PCL-R. This result is consistent with previous research suggesting that self-report instruments can measure antisocial behavior but not callous/manipulative personality (Hart, Forth, and Hare, 1992; Salekin et al, 2001).

Table 11

Correlations between PCL-R and SRP-II

SRP-II Scales	PCL-R Scales			PCL-R total
	ADI	DAE	IIL	
SRP-II F_1	-.10	-.27**	-.28**	-.26**
SRP-II F_2	.21*	.03	.47**	.39**
SRP-II Total	.21*	.05	.33**	.32**

Note. * $p < .05$; ** $p < .001$. Correlations for convergent validity are presented in bold.

ADI = Arrogant and Deceitful Interpersonal Style; DAE = Deficient Affective

Experience; IIL = Impulsive and Irresponsible Lifestyle.

The PPI is a self-report measure designed to measure personality characteristics associated with psychopathy. As evidenced in Table 12, only Machiavellian Egocentricity had moderate convergent validity with Arrogant and Deceitful Interpersonal Style of the PCL-R. The results are similar to those described in Poythress et al. (1998). Not unexpectedly, the PPI had poor convergence with IIL of the PCL-R as the PPI purports to only assess personality characteristics associated with psychopathy. Additionally, other scales also failed to demonstrate appropriate convergent validity with the PCL-R. Only Machiavellian Egocentricity demonstrated a moderate relationship with psychopathic personality, as measured by the PCL-R. Similar to the SRP-II, the results from the PPI indicate it is not an appropriate measure to assess psychopathy in mentally disordered offenders.

Table 12

Correlations between the PCL-R Three Factor Model and the PPI

PPI Scale	ADI	DAE	IIL	PCL-R Total
Machiavellian Egocentricity	.52**	.48**	.36*	.49**
Social Potency	.19*	.29*	.25*	.27*
Coldhearted	.29*	.33*	.14	.31*
Impulsive	.08	.09	.14	.09
Fearlessness	.18	.11	.06	.12
Blame Externalization	-.04	.10	.17	.06
Carefree Nonplanfulness	.22*	.22*	.07	.19
Stress Immunity	-.06	-.01	.12	.03

Note. * $p < .05$; ** $p < .01$. ADI = Arrogant and Deceitful Interpersonal Style; DAE = Deficient Affective Experience; IIL = Impulsive and Irresponsible Lifestyle.

Supplementary Analyses

The results of the Confirmatory Factor Analysis found strong empirical evidence for a three-factor model of the PCL-R (Cooke & Michie, 2001). Therefore, analyses of its three factors with clusters of Axis I symptoms are warranted. As shown in Table 13, mania symptoms were negatively correlated with DAE and IIL. The other correlations were very modest ($r_s < .25$), for dimensions of psychopathy.

Table 13

Correlations Between the PCL-R Three-Factor Model and Clusters of Axis I Symptoms

PCL-R Scales	ADI	DAE	IIL	Total Score
SADSC-P	.08	.18	.12	.26*
SADSC-M	-.09	-.37**	-.27**	-.32**
SADSC-D	.07	.04	.22*	.14
SADSC-A	.13	.14	.20*	.20

Note. * $p < .05$; ** $p < .01$; ADI = Arrogant and Deceitful Interpersonal Style; DAE = Deficient Affective Experience; IIL = Impulsive and Irresponsible Lifestyle; SADSC-P = SADS-C Psychotic; SADSC-M = SADS-C Mania; SADSC-D = SADS-C Depression; SADSC-A = SADS-C Anxiety; Total score is based on 13 items that load into new three factor model.

To explore the predictive power of Axis I symptom clusters in relation to psychopathy, three commonality analyses were performed. A commonality analyses is a series of hierarchical multiple regressions that attempts to find the most parsimonious solution for the data. The commonality analyses were performed between clusters of axis I symptoms and dimensions of psychopathy (i.e., ADI, DAE, and IIL).

The first hierarchical regression attempted to predict Arrogant and Deceitful Interpersonal Style (ADI) from Axis I symptom clusters of psychoses, mania, depression,

and anxiety. The first commonality analyses accounted for very little variance ($R^2 = .036$, see Table 14). Further, no individual variable of psychopathology was significant in the prediction of psychopathy.

Table 14

Hierarchical Multiple Regression for the Prediction of Arrogant and Deceitful Interpersonal Style with Symptoms of Psychoses, Mania, Depression, and Anxiety

Predictor Variable	R	R^2	Adj R^2	$Beta$	p
Psychoses	.14	.02	.009	.14	.18
Anxiety	.16	.005	.004	.083	.31
Mania	.17	.005	-.002	-.07	.43
Depression	.19	.006	-.007	-.14	.51

The second hierarchical commonality analysis predicted Deficient Affective Experience (DAE) from Axis I symptom clusters of psychoses, mania, depression, and anxiety. A modest amount of variance was accounted for ($R^2 = .17$, see Table 15). Symptoms of mania accounted for the most variance ($R^2 = .13$). No other Axis I symptom cluster added significantly to the prediction.

Table 15

Hierarchical Multiple Regression for the Prediction of Deficient Affective Experience with Symptoms of Psychoses, Mania, Depression, and Anxiety

Predictor Variable	<i>R</i>	<i>R</i> ²	<i>AdjR</i> ²	<i>Beta</i>	<i>p</i>
Mania	.37	.13	.12	-.37	.001
Psychoses	.40	.03	.14	.16	.08
Depression	.41	.008	.14	-.11	.34
Anxiety	.42	.005	.14	.11	.45

The final hierarchical commonality analysis predicted Impulsive and Irresponsible Lifestyle (IIL) from Axis I symptom clusters of psychoses, mania, depression, and anxiety. A modest amount of variance was accounted for ($R^2 = .15$, see Table 16). Symptoms of mania ($R^2 = .07$) and depression ($R^2 = .05$) were both significant predictors of IIL, yet accounted for only a small proportion ($R^2 = .12$) of the overall variance.

Table 16

Hierarchical Multiple Regression for the Prediction of Impulsive and Irresponsible Lifestyle with Symptoms of Psychoses, Mania, Depression, and Anxiety

Predictor Variable	<i>R</i>	<i>R</i> ²	<i>AdjR</i> ²	<i>Beta</i>	<i>p</i>
Mania	.26	.07	.06	-.26	.01
Depression	.34	.05	.10	.22	.03
Psychoses	.39	.03	.12	.23	.06
Anxiety	.39	.01	.11	-.03	.86

Chapter IV

DISCUSSION

The accurate prediction of psychopathy is critical in the evaluation of dangerousness in both criminals and forensic patients. As discussed in the Introduction, research regarding psychopathy and dangerousness has seen an exponential rise in the literature in recent years. Clearly, psychopathy is theoretically relevant to clinical practice and applied research. However, the underlying dimensions of psychopathy have not been clearly established. The current research attempts to expand the knowledge base by testing dimensions of psychopathy on offenders with Axis I disorders.

Moving to the forefront of research is a new three-factor structure of psychopathy proposed by Cooke and Michie (2001). The new three-factor model places an emphasis on personality-related aspects of psychopathy with less consideration given to antisocial behavior. Items related to juvenile delinquency and adult antisocial behavior have been dropped from the three-factor model. However, items of impulsivity and irresponsibility have remained as behavioral-based criteria for psychopathy. To date, limited research has addressed theoretical and practice-based issues with the new three-factor model.

The discussion is organized into five major sections focusing on theory and assessment of psychopathy. First, this chapter compares current models of psychopathy with a focus on implications of the two- vs. three-factor model. This section also highlights analyses between research assessing the three-factor model of the PCL-R. Second, in reviewing convergent validity, the results of the relationship between psychopathy and clusters of Axis I symptoms are summarized. Third, effective treatment

programs are proposed to treat psychopathy with an emphasis on early interventions. Treatment programs focusing on building social skills and prevention of early mood disorders are outlined. Fourth, this chapter focuses on generalizability and the meaning of higher scores on the PCL-R in African American mentally disordered offenders. Further, the negative relationship between age and antisocial behavior is described. Finally, limitations of the current study and suggestions for future research are put forth.

Comparison of Current Factor Models of the PCL-R

In their seminal article, Cooke and Michie (2001) described a new model for the PCL-R consisting of three factors: Arrogant and Deceitful Interpersonal Style (ADI), Deficient Affective Experience (DAE), and Impulsive and Irresponsible Lifestyle (IIL). Notably, their factor structure is almost exclusively personality-based, a marked departure from an emphasis on early behavioral indicators (Harris et al., 1994) and adult antisocial behavior (Hemphill, Hare, & Wong, 1998). A major goal of this discussion is to examine both the traditional two-factor model (Hare et al., 1990) and Cooke and Michie's (2001) three-factor solution.

The two-factor model (Hare, et al., 1990) has generated the most research on psychopathy. Hare, et al. (1990) proposed that psychopathy consists of two equally important dimensions: Callous/Manipulative Personality and Chronic Antisocial Behavior. In one of the earliest CFAs using the PCL-R, Brandt et al. (1997) tested the two-factor structure in a sample of 130 male adolescent offenders. The authors reported the traditional two-factor structure was an adequate fit ($CFI = .83$). However, there were several limitations not described in their study. First, they only reported one fit index,

which did not reach the generally accepted standard of .90. Second, no alternative factor models were tested. Finally, the raters used only file information to score the PCL-R, and omitted the interview. Consistent with Brandt et al. (1997) subsequent CFAs have challenged the two-factor model.

Cooke and Michie (2001) reanalyzed Hare's original normative sample using the PCL-R but preferred a three-factor model of psychopathy emphasizing personality traits. They proposed a three-factor solution with only 13 items remaining from the original 20 items (see Appendix B). However, their first attempt to test a three-factor PCL-R model was not successful due to highly related items within the 20 PCL-R criteria (i.e., local dependence). Cooke and Michie (2001) then used testlets to create a three-factor PCL-R model, which achieved an excellent fit. As previously described, the three-factors are: Arrogant and Deceitful Interpersonal Style (ADI), Deficient Affective Experience (DAE), and Impulsive and Irresponsible Lifestyle (IIL).

PCL-R CFAs have recently tested the factor models with female offenders with interesting results. Like Cooke and Michie (2001), Jackson et al. (in press) found little support via CFAs for the traditional two-factor model of the or for the three-factor PCL-R model without testlets. However, excellent fit was demonstrated for the Cooke and Michie (2001) three-factor model with testlets. Interestingly, the CFA model replicated the Cooke and Michie (2001) model found with male offenders but were unable to confirm the Salekin et al. (1997) model.

The current study provides a unique contribution to the literature by testing models of the PCL-R via multiple CFAs with mentally disordered offenders. The fit

indices for the nontestlet two and three-factor models each demonstrated poor fit. Given the poor fit, the same testlets utilized by Cooke and Michie (2001) were employed and an excellent fit was achieved. The relationship between personality facets (i.e., ADI and DAE) demonstrated a high correlation ($r = .69$). This finding offers some support for Hare's (1993) thesis that psychopathic personality characteristics form one general factor. Not surprisingly, modest relationships were evidenced between ADI and IIL ($r = .25$) and DAE and IIL ($r = .32$).

The major conceptual shift occurring in the new factor structure of the PCL-R is a refinement from traditional Factor 1 as two separate components (i.e., Arrogant and Deceitful Interpersonal Style and Deficient Affective Experience). The current results are highly consistent with recent CFAs of the PCL-R (Cooke & Michie, 2001; Jackson et al., in press) placing psychopathy within the realm of personality-based psychopathology. Several items reflecting behavioral disturbances fail to load on the three-factor testlet model (e.g., adult antisocial behavior, early behavioral problems, and poor behavioral controls). Continued validation of the three-factor testlet model, may lead to early indicators of callous/unemotional personality as the most salient predictors of future psychopathy (see Frick, 1998; Vitacco, Rogers, & Neumann, 2002), and less on overt antisocial behavior and symptoms of conduct disorder (Harris et al., 1994).

Comparisons between the Current Data and Cooke and Michie (2001) Three-Factor Model

In examining the three-factor model with testlets, factor loadings were compared for Cooke and Michie (2001) and the current data. In both models, DAE had the highest

loading on the total PCL-R; it achieved a robust .96 loading for the current data, which is similar to Cooke and Michie (2001) .88. Moreover, the personality facets of psychopathy predominated in both samples indicating that a callous and unemotional personality style is the most important aspect in the presentation of psychopathy. This result is consistent with developmental research postulating that callous personality is the driving force in psychopathy, separating it from antisocial behavior (Frick, 1998; Vitacco et al., 2002).

Although personality aspects of psychopathy are stronger indicators of psychopathy in both Cooke and Michie (2001) and the current study, poor behavioral controls continued to make important contributions to the overall conceptualization of psychopathy. In both CFAs, five items loaded on the Impulsive and Irresponsible Lifestyle (IIL) factor. Specifically, impulsivity has long been considered a cardinal component in psychopathy (Hart & Dempster, 1997) and continues to contribute to the conceptualization of psychopathy as shown by the third factor, with loadings from items measuring impulsivity and irresponsibility.

Despite several similarities, important differences are also manifested between the models. As summarized in Table 18, one of the more salient differences are modest differences in testlet loadings. For example, Glibness and Grandiose Sense of Worth better represented Arrogant and Deceitful Interpersonal Style in the current sample of mentally disordered, while Need for Stimulation and Manipulativeness were stronger indicators in the Cooke and Michie (2001) article. These subtle differences do not change the overall factor structure of the PCL-R, they strongly suggest minor differences in latent indicators for PCL-R factors. The study of the three-factor model with

additional samples will aid in determining if these differences in testlet loadings are sample dependent.

Table 17

Testlet Comparisons between Current Data and Cooke and Michie (2001) CFA of the PCL-R

	Current Study	Cooke and Michie (2001)
Testlet 1	1.00	0.81
Testlet 2	0.73	1.00
Testlet 3	0.83	1.00
Testlet 4	0.94	0.84
Testlet 5	0.75	0.92
Testlet 6	1.00	0.82

Note. Testlets 1 and 2 form ADI; Testlets 3 and 4 form DAE; and Testlets 5 and 6 form IIL.

Cooke, and Michie (2001) reported that one of the primary reasons items failed to load on their CFA was interrelationship between items measuring similar constructs (i.e., local dependence). For example, need for stimulation and impulsivity, both measure a

similar substrate of behavioral dysregulation. An interesting question is whether local dependence extends beyond the PCL-R to the PCL:SV. In a comparative review, see Table 19, studies (Hill et al., 2002; Jackson et al., in press) have found adequate fitting models for the PCL:SV without the use of testlets.

Cooke and Michie (2001) evaluated their three-factor model in the PCL:SV with the original standardization sample (Hart, Cox, & Hare, 1995). They found the three-factor model, initially developed on the PCL-R, demonstrated excellent fit with the PCL:SV (NNFI = .99, CFI = .99). Likewise, Hill, Neumann, and Rogers (2002) analyzed the factor structure of the PCL:SV and found a good fit for both the traditional two-factor (CFI = .94, RMSEA = .05) and three-factor model (CFI = .94, RMSEA = .05) of the PCL:SV. The PCL:SV appears to have less content overlap and does not require the use of testlets.

Table 18

Comparison of CFA Models of the PCL-R and PCL:SV

Model	Author	Version	X^2	df	NFI	NNFI	CFI	RCFI	RMSEA	Fit
2-Factor	Vitacco	PCL-R	354.92	118	.57	.60	.65	.64	.15	Poor
2-factor	Hill ^a	PCL:SV	72.39	53			.94		.05	Good
2-factor	Jackson ^b	PCL-R	269.29	58		.66	.70	.73	.11	Poor
3-Factor	Vitacco	PCL-R	178.92	62	.68	.70	.76	.75	.14	Poor
3-Testlet	Vitacco	PCL-R	154.54	56	.73	.72	.80	1.00	.13	Good
3-Testlet	Jackson	PCL-R	334.30	63	.18	.85	.89	.98	.08	Good
3-factor	Hill	PCL:SV	49.18	32			.95		.06	Good

Note. Not all studies reported identical fit indices. a = Hill, C. D., Neumann, C. S., & Rogers, R; b = Jackson, R., Rogers, R., Neumann, C. S., & Lambert, P. L.

Despite their criticisms of the underlying factor structure, Cooke and Michie (2001) continue to advocate use of the PCL-R in the assessment of risk. Given current controversies over the underlying dimensions, clinicians may want to rely only on the PCL-R total score, and give less weight to individual factors. Psychopathy remains one of the strongest predictors of violence and recidivism (Hemphill et al., 1998; Salekin et al., 1996) despite questions regarding its dimensions.

Cooke and Michie (2001) reported the PCL-R should undergo a major revision to reflect the fundamental changes in their underlying model. These changes would reflect the idea of psychopathy as primarily a personality-based construct, with a much greater

emphasis on personality than antisocial characteristics. Notwithstanding the need for changes, the current three-factor model continues to emphasize impulsivity and failure to take responsibility. This finding is noteworthy because impulsivity has been considered the primary component in theories on predicting delinquency (Ellis & Walsh, 1999) and consistent with prefrontal cortex deficits (see Raine, 1992). However, it is possible that chronic antisocial behavior is reflective of a callous personality (Frick et al., 1999), and it is these traits, which are most salient in understanding psychopathy.

Implications of the Three-Factor Model

The idea of psychopathy as personality-based psychopathology is a major change resulting from the new three-factor CFA. The addition of CFA to items previously analyzed only with traditional factor analysis is the primary reason for the change in model structure. The three-factor model is consistent, however, with the Clecklian tradition (Cleckley, 1941) that theorizes the presence of psychopathy can be found in those lacking a well-defined history of antisocial behavior. Despite this, only eight of the 13 items on the three-factor model are consistent with Cleckley's (1941) original conceptualization (see Appendix A) of psychopathy. Notably, six of the eight items would be classified within the two-factors measuring personality aspects.

Personality traits may be the driving force behind chronic antisocial behavior. The current data are highly consistent with the developmental model proposed by Frick and his colleagues (Frick, 1996, 1998; Frick & Ellis, 1998) who found the presence of callous traits in children and adolescents forms the developmental basis for psychopathy. Moreover, Vitacco et al. (2002) found no difference in self-report impulsivity between

adolescents incarcerated in a maximum-security facility and a local juvenile detention center. However, significant differences were evidenced in callous personality between the two samples. Likewise, Frick et al. (1994) found only children with the presence of callous/unemotional personality traits had higher levels of police contacts. The presence of callousness and deficient affect appear to represent a substrate of individuals who are more likely to engage in chronic antisocial behavior. To that end, the newly developed three-factor PCL-R is more accurate at assessing psychopathic personality.

Mental Disorders and Psychopathy

The unique aspect of this study was the analysis of Axis I symptom clusters with mentally disordered offenders. Specifically, this study evaluated the PCL-R in relation to symptoms of psychoses, mania, depression, and anxiety. The current research focuses on assessing the construct of psychopathy by demonstrating its relatedness to Axis I symptom clusters.

Anxiety has generated the most interesting research concerning psychopathy with two competing models: (a) callous traits act to suppress anxiety (Frick, 1998; Lykken, 1995) and (b) a lack of relationship between anxiety and psychopathy (Schmitt & Newman, 1999). From the classic conception of psychopathy, the lack of anxiety has been seen as a core feature of the disorder. Cleckley (1941) hypothesized a central characteristic of psychopaths is the lack of nervousness in situations when it would be expected. Further, Lykken (1995), proposed psychopaths have inherent fearlessness and tend to seek novel and stimulating experiences.

The idea of psychopaths lacking anxiety is also entrenched in developmental theory. Frick and his colleagues, using cross-sectional research (Frick, 1998; Frick, Lilienfeld, Ellis, et al., 1999), reported the presence of callous/unemotional traits limits the expression of anxiety; however, anxiety is present in children with disturbances in conduct and not callousness.

In a competing model focusing on adult offenders, Newman and his colleagues (Lorenz & Newman, 2002; Schmitt & Newman, 1999) found PCL-R scores and anxiety disorders are independent in samples of adult male offenders. Further, they identified low-anxious psychopaths and found they appraised emotional cues as well as controls.

The current study evaluated the relationship between psychopathy and anxiety, and based on the SADS-C, the constructs of anxiety and psychopathy were found to be independent from the personality-based substrates of psychopathy, Arrogant and Deceitful Interpersonal Style ($r = .13$) and Deficient Affective Experience ($r = .14$). However, a small, but significant relationship was demonstrated between Impulsive and Irresponsible Lifestyle and anxiety ($r = .20$). Further, anxiety did not significantly predict any of the three dimensions of psychopathy (i.e., ADI, DAE, and IIL). In fact, inmates having higher amounts of F_1 of psychopathy actually had higher levels of anxiety, although not significantly more. The presence of personality traits related to psychopathy in this sample of mentally disordered offenders does not appear to suppress anxiety-related symptoms, and provides indirect support the research of Newman and colleagues (Lorenz & Newman, 2002; Schmitt & Newman, 1999). This result has a potentially

important implication because treatment programs could use the presence of anxiety as a catalyst for attempting to decrease one's callousness regarding their criminal behavior.

The relationship between psychopathy and depression has not been well addressed in the literature. According to Kasen et al. (2001), youth who experience major depression are at much higher risk for personality disorders during adulthood. Weiss, Davis, Hedlund, and Cho (1983) described a subset of individuals manifesting psychopathy who are dysphoric. Further, they reported anxiety and depression are relatively common in psychopaths who enter psychiatric hospitals.

The current research found low convergence between personality aspects of psychopathy and depression. Specifically, no relationship was found for depression with either ADI ($r = .07$) or DAE ($r = .04$). However, similar to the results with anxiety, symptoms of depression exhibited a small, but significant relationship with IIL ($r = .22$) and accounted for limited variance in the multiple regression. Taken together, the results indicate a small relationship between internalizing disorders (e.g., anxiety and depression) in mentally disordered offenders located in the Tarrant County Jail. It is possible mentally disordered offenders exhibit anxiety and depression due to their current incarceration status (Boothby & Durham, 1999).

Methodological differences also are critical in explaining different results. Longitudinal research demonstrated childhood depression is highly correlated to disturbances in adult personality (Kasen et al., 2001; Zoccolilo, 1992). However, the current cross-sectional design with adult mentally disordered offenders failed to replicate these findings, potentially due to the lack of information regarding childhood mental

disorders. The most interesting results stem from a longitudinal study of children who have experienced symptoms of depression.

Symptoms of psychoses have received substantial attention in relation to psychopathy (Nolan et al., 1999; Tengstrom et al., 2000) and violence (Monahan, Steadman, Silver et al., 2001). Inconsistent with my initial hypotheses, no relationship was found between psychoses and dimensions of psychopathy: ADI ($r = .08$), DAE ($r = .18$), and IIL ($r = .12$). Not surprisingly, symptoms of psychosis failed to predict any dimensions of psychopathy. However, the total score with the revised 13-items was modestly correlated ($r = .26$) with psychopathy. Notably, the overall level of psychopathy was low, and stronger results may be present in individuals with more established histories of schizophrenia as there may be overlap of symptoms.

The presence of psychopathy in individuals with mental disorders significantly increases the risk for future violence (Skeem & Mulvey, 2001). However, this risk is related to psychopathy and not the formal diagnoses of Axis I mental disorders. Nolan et al. (1999) found individuals with schizophrenia with comorbid psychopathy were more violent. Monahan, Steadman, and Silver et al. (2001) found active symptoms of schizophrenia (i.e., hallucinations or delusions) to have no association with violence at either 20 weeks or one-year follow-up. However, scores on the PCL:SV were strongly associated with violence in some patients at both periods.

An unanticipated finding of the current study was the negative relationship between mania and all dimensions of psychopathy: ADI = $-.09$, DAE = $-.37$, and IIL = $-.27$. This finding contrasts previous MMPI-2 research, which has found significant

relationships between hypomanic symptoms and criminality (Greene, 2002; Megargee, 1979). As demonstrated by the multiple regression, the lack of mania modestly predicted the Deficient Affective Experience of the PCL-R ($R^2 = .13$). Elucidating the relationship further, absence of elevated mood on the SADS-C was the only predictor ($R^2 = .11$) of psychopathy, and appears to negate deficient affective experience. The presence of elevated mood and goal-directed activity appears to decrease the probability of Deficient Affective Experience on the PCL-R.

A second unanticipated finding from this research is the modest negative relationship between impulsive lifestyle and mania ($r = -.27$). This negative result is the opposite of expectations and does not appear to reflect behavioral dysregulation, which is a primary description of episodes of mania as described by the Diagnostic and Statistical Manual (American Psychiatric Association, 2000). Many of these individuals were assessed many months after their offense and received extensive mental health treatment. Subsequently, their manic symptoms have remitted. An alternative hypothesis is the presence of psychoses and/or mania serves as a slight protective factor in individuals with psychopathy and comorbid mental illness (Arango, Barba, Salvador, & Ordonez, 1999).

Potentially, psychopathic personality traits may be initially suppressed by manic or psychotic symptoms; however, once the Axis I disorder remits, the risk of committing violence increases for an individual with underlying psychopathic personality. A contrasting hypothesis is that significant mood elevations lead to more disorganized behavior and less likelihood of criminal offending. However, Solomon and Draine (1999) found lifetime psychiatric hospitalizations and occurrences of mania diagnosis

explained lengthier histories of arrests. The conflicting results appear to be best explained by time spent in treatment and in a controlled environment.

Treatment Implications

The treatability of psychopathy warrants discussion given several possibilities for the development of effective treatment programs. Keys to the development of successful treatment programs would appear to hinge on two critical facets: early intervention and treatment focusing on both personality and behavioral manifestations of psychopathy. The intractability of psychopathy has been assumed since the first description of the classification (Cleckley, 1941). The generic treatments offered to individuals with psychopathy have not led to an improvement of their symptoms of psychopathy. Gacono, Nieberding, Owen, Rubel, and Boldholdt (1997) posit that psychology has no treatments available to assist the psychopath. Even more insidious was by Harris, Rice, and Cormier (1992) that psychopaths who participate in treatment become worse. The overarching belief that individuals with psychopathy are untreatable may lead to less effort to provide treatment. Psychopaths have documented high rates of attrition, low levels of motivation, and increased reconviction, which interfere with effective treatment (Gacono et al. 1997).

A further impediment to treatment is the strongly-held belief that psychopathy is a chronic condition with an early onset. Forth and Burke (1998) refer to psychopathy as having an early onset with life-long persistence. Further, Lynam (1998) proposes the “fledgling psychopaths” are children who have a combination of impulsiveness with comorbid conduct disturbances. Frick et al. (2000) found signs of callous/unemotional

personality in children as young as five years of age. Clearly, psychopathy has its roots in youth, however, there is no evidence to suggest this limits its response to treatment.

Recent research questions the untreatability of psychopathy. Salekin (2002) reviewed 42 studies on the treatment of psychopathy and found the tenet that psychopathy cannot be treated is not supported in the literature. He found significant oversights with previous treatment studies due to lack of effort in developing empirically-based treatments. In fact, he found significant treatment success for a multitude of therapeutic interventions (e.g., cognitive behavioral and psychodynamic) when provided to psychopathic individuals. He proposed this evidence substantially weakens the argument that psychopaths do not respond to treatment.

A very recent study by Skeem, Monahan, and Mulvey (in press) strongly challenges past beliefs about the untreatability of psychopathy. They found that individuals with high level of psychopathy, as measured by the PCL:SV, within the community respond to treatment when they receive seven or more sessions. Results indicate that individuals with scores in the “potential psychopath” range on the PCL:SV who received 0-6 sessions of therapy were 3.5 times more likely to engage in violence than those who received at least seven sessions. Treatment compliance was the variable most associated with decrease in violence, outperforming variables of substance abuse and psychopathy. This result needs to be cross validated in other populations including chronic and more serious offenders.

Current research (Salekin, 2002; Skeem et al., in press) questions the long assumed belief that psychopaths are unable to respond to treatment. Given that impulsivity and

callousness are prominent features of psychopathy, specific modalities aimed at the symptoms would appear to generate the greatest treatment benefit for psychopaths. Skeem et al. (in press) remind us that treatment must be of sufficient length for change to occur. I propose two models of treatment intervention that appear to have promise in the treatment of psychopathy: (a) components of social skills training with youth and (b) modified Dialectical Behavior Therapy.

Importance of Early Interventions

The most effective way to prevent the development of psychopathy may be interventions designed to disrupt the pathways leading to the development of psychopathy. Specifically, preventing child abuse (Luntz & Widom, 1994) or participating in training designed to lessen impulsivity (Lynam, 1998) may disrupt the etiology of psychopathy. Specifically, as shown by Kasen et al. (2001), there are long-term consequences of early mood disorders. Effective treatments in childhood and adolescence will need a focus on psychiatric disturbances as well as antisocial behavior.

The following section will delineate current treatment programs designed to treat severe conduct problems in children (Henggeler & Borduin, 1990) and proposed programs (Linehan, 1993) that may be effective to change psychopathic personality and behavior. Psychopathy, regardless of its personality characteristics, behaviorally manifests as impulsive and irresponsible behavior (Hare, 1993) with increased violence and recidivism (Salekin et al., 1996). Addressing developmental precursors, as described below, may provide effective intervention for psychopathy. However, no long-term studies have been completed studying effectiveness of early treatment programs.

Early disturbances in affect have been shown to be strong predictors of future antisocial behavior. Researchers (Kasen et al., 2001; Meller & Borchardt, 1996; Renouf, Kovacs, & Protol, 1996; Zoccolillo, 1992) have found a relationship between disturbances in conduct in childhood and adolescence associated with an increase in depression and anxiety. Kasen et al. (2001), in a longitudinal design with 551 adolescents, found depression was an antecedent to Antisocial Personality Disorder. While not directly connected to psychopathy, it may also be a forerunner to Factor 3, namely Impulsive and Irresponsible Lifestyle. Kasen et al. (2001) hypothesized that interpersonal conflicts and poor coping skills manifested by adolescents with Major Depressive Disorder may lead to greater conflict with authority, which becomes more severe over time. In fact, depressive disorder was a better predictor than disruptive behavior of subsequent Antisocial Personality Disorder. The goal of individuals treating children at risk for developing severe conduct problems should focus not only on the treatment of obvious conduct problems, but also on depression and poor socialization skills.

In creating effective interventions with youth, several targeted strategies deserve mention. The next section will focus on three well-established approaches: social skills training (Miller, DuPaul, & Lutz, 2002; Asarnow, Rosenbaum, Scott, & Mintz, 2002), multisystemic therapy (Cunningham, & Henggeler, 2002; Henggeler & Boudin, 1990), and Parent Management Training (Frick, 1996). The treatments involve not only working with the identified youth, but assist in making the youth's environment more conducive to positive behaviors.

Social skills training provides an important component of treatment to youth with conduct disturbances and mental disorders. Social skills programs that teach problem resolution and communication skills appear to be very beneficial (Asarnow et al., 2002) for a many disturbances. Asarnow et al. (2002) found a combination of cognitive behavioral treatment and family therapy effective in the treatment of childhood depression. Similarly, Lutz et al. (2002) developed school-based programs consisting of individual therapy and social skills group, which have proven efficacious in decreasing childhood depression. More specific to conduct problems, clinicians (Bierman & Greenberg, 1996; Lochman & Wells, 1996) used cognitive-behavioral skills groups to decrease impulsivity.

Frick (1998) suggests Parent Management Training (PMT) is a promising approach to the treatment of conduct problems. PMT is a behavioral approach that is implemented within the identified patient's home. The parents learn to reinforce appropriate behavior and extinguish poor conduct. Moreover, it is proposed that changing the child's behavior also changes the parent's behavior and improves the overall functioning within the home. Even more specific to conduct disorders in children is a treatment is multisystemic therapy (MST; Henggeler & Borduin, 1990).

Henggeler and his colleagues (Cunningham, & Henggeler, 2002; Henggeler & Borduin, 1990; Kashani, Jones, Bumby, Thomas, Letourneau, 2001) developed MST as a treatment for youth with severe conduct problems. Early intervention, generalizable to several environments is a critical aspect of multisystemic therapy (Cunningham, & Henggeler, 2002; Kashani et al., 2001 Henggeler & Borduin, 1990). Further, MST

involves the family in treatment so the adolescent is supported during the change process. MST provides several advantages over traditional psychological treatment of conduct-disordered youth (Henggeler & Borduin, 1990). The therapy requires family participation, so acquired skills may generalize to the home. Similar to PMT, the child with behavioral problems is viewed as part of a larger familial system that is not working efficiently. However, motivating family to work within the MST system may prove challenging. Farrington (2000) and Paris (2000) document the link between antisocial parents and children. I propose that parents with personality disorders may be less likely to conform to the requirements of MST without further attention to positive incentives.

In summary, effective interventions beginning at an early age appear to hold promise as treatments for psychopathy. Longitudinal research with at-risk youth may determine if these treatments will work to lessen the development of psychopathy. Early results seem promising. Additionally, treatment programs need to be developed that will treat psychopathy in adulthood. To the end, dialectical behavior therapy (DBT; Linehan, 1993) appears to have the necessary components to treat psychopathy.

Dialectical Behavior Therapy

Several basic strategies need to be included in a treatment program designed to treat psychopathic individuals. Doren (1996) recommends setting firm boundaries when attempting to treat the psychopath due to them having a limited “behavioral repertoire.” A critical aspect of successful treatment is actively engaging psychopaths in the therapeutic process (Dolan, 1998). DBT has been successfully employed in correctional (Ivanoff & Hayes, 2001) and forensic hospitals (McCann, Ball, & Ivanoff, 2000).

The implementation of DBT with prisoners has shown potential to decrease behaviors that interrupt the functioning of a correctional institution including suicidal and aggressive behavior (Ivanoff & Hayes, 2001; McCann et al., 2000). The DBT model in correctional settings focuses on the treatment of individuals with antisocial and borderline personality disorders (McCann et al., 2000). The DBT model targets both maladaptive personality and behaviors through a combination of individual and skills groups (Linehan, 1993). A new aspect of DBT, developed specifically for individuals in prison is a module referred to as “Crime Review” (McCann et al., 2000). Crime Review is a module designed to provide insight into how inappropriate emotions played a contributory role in illegal activities.

DBT has potential in the treatment of psychopathy due to intensive individual treatment and skills groups (Linehan, 1993). The skills training groups are ideal to challenge maladaptive behavior engaged in by the psychopath (McCann et al., 2000). DBT is an intensive treatment consisting of multiple sessions with total treatment lasting up to two years (see Skeem et al., in press). Although not formally tested, DBT appears to offer specific interventions that could be adapted to treat psychopathy.

In summary, DBT consists of specific modules designed to counteract maladaptive behavior (Linehan, 1993). The most important aspect of DBT for psychopathy may be its flexibility; which enhances the ability to create treatment components based on facility needs and offender characteristics. DBT based treatment for psychopathy will require field trials before any substantive statement can be made in

regard to its effectiveness. It is unclear whether the time-intensive nature of DBT will actually hinder the ability of psychopaths to complete the treatment module.

Assessment of Psychopathy

The assessment of psychopathy remains critically important due to high amounts of violence and recidivism related to the construct. The current study evaluated two-self report (i.e, SRP-II and PPI) instruments. However, both instruments demonstrated substantial limitations, and should not be used to screen for psychopathy. The next sections highlight the mostly negative findings for the SRP-II and PPI.

SRP-II

The SRP-II (Hare, 1991) was used in this study to establish its potential as a screen for psychopathy in mentally disordered offenders. Unfortunately, it demonstrated poor psychometric properties, which rendered it ineffective as an assessment instrument for psychopathy.

The most troubling aspect of SRP-II F_1 subscale was its unacceptable internal consistency ($\text{Alpha} = .44$). The items did not hold together to produce a homogenous scale. This limitation renders additional results practically meaningless. However, if interpreted, convergent validity was also poor with both factors measuring personality on the PCL-R: ADI ($r = -.10$) and DAE ($r = -.27$). Results from the CFA MTMM found negative loadings, in that a low score on SRP-II F_1 subscale indicated the presence of psychopathy. These results conflict with the generally positive results reported by Hare (1991). Hare (1991) found moderate correlations between the SRP-II and the PCL-R in prisoners and by Forth et al (1996) with university students.

The SRP-II F₂ subscale produced adequate results in the evaluation of impulsive and irresponsible behavior (F₃ of the PCL-R). First, it demonstrated moderate internal consistency ($\alpha = .70$). In addition, modest convergent validity was demonstrated with IIL of the PCL-R ($r = .47$), yet still only accounts for 22% of the variance of the IIL. The SRP-II in its current format has its strongest clinical utility in the assessment of antisocial behavior. This is consistent with the work of Edens et al. (2001) and Salekin et al. (2001) who demonstrated that self-report measures have more utility at assessing antisocial behavior than callous/unemotional personality. However, given the poor psychometric properties of Factor 1, the SRP-II should not be used in the assessment of psychopathy.

PPI

Personality dimensions of psychopathy have taken on greater importance with the recent development of the PCL-R three-factor model (Cooke & Michie, 2001). To that end, the focus of the PPI is the assessment of personality characteristics associated with psychopathy (Poythress, Edens, & Lilienfeld, 1998). Similar to the SRP-II, the PPI was unable to demonstrate appropriate psychometric properties that would enable it to be used as a screen for psychopathy.

In measuring personality characteristics, the internal consistency for PPI scales range from good (Machiavellian Egocentricity, $\alpha = .78$) to extremely poor (Stress Immunity, $\alpha = .16$). In the evaluation of convergent validity, only Machiavellian Egocentricity demonstrated moderate relationships with the PCL-R ($r = .52$). The other seven primary scales failed to reach a suitable level of convergence with the established

PCL-R. These results are in contrast to Poythress et al. (1998) who found the PPI to have appropriate convergent validity with the PCL-R. At this time, I posit it is not an appropriate stand-alone measure of psychopathy and is in need of further validation.

The results strongly suggest the PPI is not sufficiently reliable or valid to accurately assess psychopathy in mentally disordered offenders. One possible explanation is that participants had an easier time responding defensively on the self-report measures (Rogers, Vitacco, Jackson et al., 2002).

Demographic Differences in the Current Study

Important differences between African American and European American mentally disordered offenders were found in the current study. Especially noteworthy are the higher scores manifested by African American participants on the PCL-R. Also described in this section, are findings consistent with other research, of a decrease in antisocial behavior in older individuals.

The application of the PCL-R to African Americans has been discussed in the literature since 1990. The current results revealed that African Americans exhibited higher scores on all PCL-R factors, with moderate to large effect sizes (Cohen's *d* range from .76 to .98). These results are consistent with Hicks, Rogers, and Cashel (2000) who recommended caution when using PCL-R measures with other than Caucasians.

In contrast, Cooke et al. (1999) found the PCL-R to measure the same dimensions in both African Americans and European Americans. Likewise, Kosson, Smith, and Newman (1990) demonstrated the applicability of psychopathy to African American

inmates, but found personality facets (F₁ and F₂ of the PCL-R) to play a less prominent role in PCL-R ratings for African Americans.

Ethnic differences in mentally disordered offenders represent a unique challenge to assessing psychopathy. This research suggests that caution should be taken when using the PCL-R with African Americans and future research should continue to generate empirical support in African Americans, with a special emphasis on the underlying dimensions.

Research (Harpur & Hare, 1994; Porter, Birt, & Boer, 2001) has found a gradual diminishment of psychopathy with age. Using a longitudinal design, Porter et al. (2001) found a decrease in criminal behavior with age in individuals with high scores on the PCL-R. The largest drop occurred after 40 years of age. Likewise, Harpur and Hare (1994) studied 899 male inmates with a cross-sectional design. Similar to the results of the current study, they found Factor 1 of psychopathy was not affected by age. However, Factor 2 demonstrated a steady decline, with the largest drop occurring after 45 years of age. The current results concerning age and psychopathy are consistent with previous research. A small but significant relationship was found between the traditional Factor 2 and age ($r = -.25$) and less so with Impulsive/Irresponsible Lifestyle ($r = -.18$). Criminal behavior appears to slow as the individual ages. As expected, no relationship was found between psychopathic personality characteristics and age.

In summary, ethnicity and age appear to exert small yet important differences in the expression of psychopathy. These variables should be considered when interpreting psychopathy. For example, individuals may become less of a risk to engage in dangerous

behavior as they age. Further, the underlying dimensions of psychopathy between ethnic groups warrant additional study.

Limitations of the Current Study

The current study, despite producing interesting results regarding the factor structure of the PCL-R and the comorbidity between clusters of Axis I psychopathy has several inherent limitations. This section will discuss limitations resulting from sampling procedures and design that weaken the clinical and research conclusions of the study.

Psychopathy has shown to be related to various types of Axis II psychopathology (see Hare et al., 1991). Due to the lengthy protocol used in data collection, the evaluation of Axis II disorders was not undertaken. However, this inclusion would have made this study a more comprehensive evaluation of psychopathy and provided interesting theoretical comparisons between Axis I and II disorders. Further, a more thorough examination of psychopathy's construct validity would have been achieved through the inclusion of Axis II disorders.

Use of collateral records was limited by administrative policy only allowing for review of the instant offense. Psychopathy has proven to be predictive of institutional infractions (Hare & McPherson, 1984) and to create a special challenge to treatment programs (Seto & Barbaree, 1999; Ogloff, Wong, & Greenwood, 1990). Studying institutional infractions would allow predictive comparisons between psychopathy and Axis I disorders. An interesting finding would have resulted if Axis I disorders were more predictive of infractions than psychopathy.

Inmates from the general population were not assessed. A unit, directly adjacent to the Mental Health Pod, houses inmates who have acted out while incarcerated in the Tarrant County Jail. This unit would have provided a useful comparison group for both mental health symptoms and levels of psychopathy. It is likely individuals on this unit would have produced higher scores on the PCL-R than inmates on the Mental Health Pod. The use of a multiple samples allows for cross-validation of PCL-R models.

Future Directions for the Study of Psychopathy

Several exciting lines of research are suggested by the current study. The next stages of research should continue to expand on developmental theories and the accurate assessment of psychopathy. Specific areas include further comparisons of adolescent and adult offender samples. Further, longitudinal studies of youth manifesting symptoms of depression will assist in developing additional models regarding the etiology of antisocial behavior.

Interview methods of depression and anxiety evidenced strong factor trait loading in the MTMM CFA. Kasen et al (2001) found support for youth with symptoms of depression manifesting personality disorders later in life. This may hold for psychopathy as well, yet no research has evaluated this relationship longitudinally. It may be, as suggested by Angold et al. (1999) that conduct problems represent a spectrum of problems not specific to antisocial behavior. Studies examining the potential development of psychopathy in children with emotional disorders is an important area of future research.

Developmental models exploring the dimensions of psychopathy could provide data that determine the etiology of psychopathy in youth. Data from Frick, (1998) and Vitacco et al., (2002) suggests the presence of callousness differentiates children with antisocial behavior from psychopathic children. Directly comparing youth with different security designations may provide important insights into the development of psychopathy. I propose they may exhibit similar levels of impulsivity with the primary difference occurring in personality characteristics (Vitacco et al., 2002). Comparative research would also assist in driving treatment models focusing on specific target symptoms unique to psychopathy.

The three-factor model with testlets of the PCL-R exhibited excellent model fit. Additional research is needed to compare this model with the two-factor model. Specifically, attempting to develop a viable two-factor model of psychopathy with testlets would call into question the superiority of the new three-factor PCL-R model (Cooke & Michie, 2001). This goal could be accomplished through the reanalyses of existing databases (e.g., MacArthur Violence Risk Assessment Study).

The analyses of both Axis I and Axis II disorders and psychopathy would provide the most comprehensive study of comorbidity. Most research, including the current study typically focuses on either a single cluster of symptoms or diagnostic category. Expanding this research to include additional DSM-IV TR diagnoses would provide further detail on the overlap of clinical symptoms and psychopathy. In fact, to date, no published empirical study has simultaneously reviewed both Axis I and Axis II diagnoses to psychopathy. I recommend interviews that provide clear diagnostic data (i.e, SCID for

Axis I and SIPD-IV for Axis II) be used with a large sample of mentally disordered offenders. This study would systematically examine the relative contribution of both Axis I and Axis II disorders.

Treatment programs focusing specifically on psychopathy warrant much more consideration. The current results suggest early intervention programs may eliminate the development of future antisocial behavior. A modified form of DBT also appears to have promise as a targeted treatment program for maladaptive behaviors in prison and in the community. However, as of yet, these strategies have not been tried in the treatment of psychopathy.

In conclusion, the current study systematically evaluated the role of Axis I disorders in psychopathy. The underlying dimensions of psychopathy require further evaluation in samples mentally disordered offenders and more attempts to establish its construct validity.

Moreover, further research is needed to determine what role psychopathy has in prediction of recidivism and criminality in individuals with active Axis I disorders. The role of mental disorders in psychopathy is an exciting area of research that needs greater attention.

APPENDIX

Cleckley's 1941 Conceptualization of Psychopathy

1. Superficial Charm and good intelligence
2. Absence of delusions and irrational thinking
3. Absence of nervousness
4. Unreliability
5. Untruthfulness and insincerity
6. Lack of remorse or shame
7. Inadequately motivated antisocial behavior
8. Failure to learn from experience (poor judgment)
9. Egocentricity and incapacity for love
10. General poverty in major affective reactions
11. Specific loss of insight
12. Unresponsiveness in interpersonal relationships
13. Fantastic and uninviting behavior with drink (sometimes without)
14. Threats of suicide rarely carried out
15. Sex life is impersonal, trivial, and poorly integrated
16. Failure to follow any life plan

Model of Psychopathy (PCL-R)

<u>Construct</u>	<u>Factor loading</u>	<u>M</u>
1. Glibness/Superficial Charm*	Factor 1	.79
2. Grandiose Sense of Self Worth*	Factor 1	.85
3. Need for Stimulation*	Factor 2	1.39
4. Pathological Lying*	Factor 1	.96
5. Conning/Manipulative*	Factor 1	1.02
6. Lack of Remorse or Guilt*	Factor 1	1.45
7. Shallow Affect*	Factor 1	1.15
8. Callous/Lack of Empathy*	Factor 1	1.25
9. Parasitic Lifestyle*	Factor 2	1.11
10. Poor Behavioral Controls	Factor 2	1.23
11. Promiscuous Sexual Behavior	No Factor loading	1.12
12. Early Behavioral Problems	Factor 2	.99
13. Lack of Realistic, Long-term Goals*	Factor 2	1.28
14. Impulsivity*	Factor 2	1.52
15. Irresponsibility*	Factor 2	1.41
16. Failure to Accept Responsibility*	Factor 1	1.17
17. Many Short-term Marital Relationships	No Factor loading	.67
18. Juvenile Delinquency	Factor 2	1.12
19. Revocation of Conditional Release	Factor 2	1.31
20. Criminal Versatility	No Factor loading	.92

Note. * Denotes items used in the Cooke and Michie (2001) three-factor model

Behavioral Criteria for Antisocial Personality Disorder

Based on the DSM-IV

1. Failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest
2. Deceitfulness, as indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure.
3. Impulsivity or failure to plan ahead
4. Irritability and aggressiveness, as indicated by repeated physical fights or assaults
5. Reckless disregard for the safety of self or others
6. Consistent irresponsibility, as indicated by repeated failure to sustain consistent work behavior or honor financial obligations
7. Lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from others

Informed Consent

Personality Traits in Males at Tarrant County Jail

Research has shown that personality traits are important variables in determining adjustment in jail settings. Participation in this project will assist researchers in determining what variables are associated with positive and negative outcomes for individuals' adjustment in jail.

I understand that I will be asked to complete three brief measures and an interview. Additionally, I'll be asked to complete a second phase of the study, which also consists of an interview and two brief measures. I also understand that the clinician will review my criminal charges. All results will be coded without my name or any other identifying information. All records will be kept confidential within the limits allowed by law. I understand that if I inform the examiner of child abuse that is current or my intent to commit suicide, the clinician will be required to report that. I also understand that under extraordinary circumstances, the research records may be subpoenaed.

I understand that this is a research project and my participation is entirely voluntary. I can withdraw from the study at any time and for any reason without penalty. I understand that the information gathered from this study will not affect my legal case or my status at Tarrant County Jail. I also understand that Michael J. Vitacco, a graduate student in clinical psychology at the University of North Texas, is conducting this research as part of the requirements for an advanced degree in psychology. Although participation time varies from person to person, the whole process should take about 2 hours for the first part and one hour for the second. If I have any questions regarding this study, I can contact Michael Vitacco or Dr. Richard Rogers at (940) 565-2671.

I agree to and accept the above conditions.

Signature

Date

Witness

Date

REFERENCES

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed.-Text Revision). Washington, DC: Author.
- Andersen, H. S., Sestoft, D., Lillebaek, T., Mortensen. E. L., & Kramp, P. (1999). Psychopathy and psychopathological profiles in prisoners on remand. *Acta Psychiatrica Scandinavica*, *99*, 33 - 39.
- Angold, A. E., Costello, J., & Erkanli, A. (1999). Comorbidity. *Journal of Child Psychology and Psychiatry*, *40*, 57 - 87.
- Arrango, C., Calcedo, B., Gonzalez-Salvador, T. Violence in inpatients with schizophrenia: A prospective study. *Schizophrenia Bulletin*, *25*, 493 - 503.
- Arrigo, B. A., & Shipley, S. (2001). The confusion over psychopathy (I): Historical considerations. *International Journal of Offender Therapy*, *45*, 325 - 344.
- Asarnow, J., Rosenblaum, S., Scott, C., & Mintz, J. (2002). A combined cognitive-behavioral family education intervention for depression in children: A treatment development study. *Cognitive Therapy and Research*, *26*, 221 - 229.
- Bagozzi, R., & Yi, Y. Multitrait-multimethod matrices in consumer research. *Journal of Consumer Psychology*, *2*, 143 - 170.
- Beck, A. T. & Steer, R. A. (1987). *Manual for the Beck Depression Inventory*. San Antonio, TX: The Psychological Corporation.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression*

- Inventory--II*. San Antonio, TX: The Psychological Corporation.
- Belmore, M. F., & Quinsey, V. L. (1994). Correlates of psychopathy in a noninstitutional sample. *Journal of Interpersonal Violence, 9*, 339 - 349.
- Bentler, P. M. (1980). Multivariate analysis with latent variables: Causal modeling. *Annual Review of Psychology, 31*, 419 - 456.
- Bentler, P. M. (1995). *EQS structural equations program manual*. Encino, CA: Multivariate Software, Inc.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and the goodness-of-fit in the analysis of covariance structures. *Psychological Bulletin, 88*, 588 - 606.
- Berenbaum, H., & Fujita, F. (1994). Schizophrenia and personality: Exploring the boundaries between vulnerability and outcome. *Journal of Abnormal Psychology, 103*, 148 - 158.
- Bierman, K. L., & Greenberg, M. T. (1996). Social skills training in the Fast Track Program. In R. Peters, & R. McMahon (Eds.), *Preventing childhood disorders, substance abuse, and delinquency* (pp. 65 - 89). Thousand Oaks, CA: Sage Publications.
- Blackburn, R. (1998). Psychopathy and the contribution of personality to violence. In T. Millon, E. Simonsen, M. Birket-Smith, & R. Davis (Eds.), (pp. 50 - 68). *Psychopathy: Antisocial, criminal, and violent behavior*. New York: The Guilford Press.
- Blackburn, R. (1995). Psychopathy and personality disorders: Implications of

- interpersonal theory. *Issues in Criminological and Legal Psychology*, 24, 18 - 23.
- Blackburn, R. (1983). Psychopathy, delinquency, and crime. In R. Blackburn (Ed.). *Physiological Correlates of Human Behaviour* (pp. 187 - 205). London: Academic Press Inc.
- Blackburn, R., & Coid, J. W. (1997). Psychopathy and dimensions of personality disorders in violent offenders. *Personality and Individual Differences*, 25, 129 - 145.
- Bordens, J., & Abbott, C. (1991). *Essentials of behavioral research: Methods and data analysis*. New York: McGraw-Hill.
- Brandt, J. R., Kennedy, W. A., Patrick, C. J., & Curtin, J. J. (1997). Assessment of psychopathy in a population of incarcerated adolescent offenders. *Psychological Assessment*, 9, 429 - 435.
- Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validity by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81 - 105.
- Cleckley, H. (1941). *The mask of sanity*. St. Louis, MO: Mosby.
- Cooke, D. J., & Michie, C. (1997). An item response theory analysis of the Hare Psychopathy Checklist-Revised. *Psychological Assessment*, 9, 3 - 14.
- Cooke, D. J., & Michie, C. (2001). Refining the concept of psychopathy: Towards a hierarchical model. *Psychological Assessment*, 13, 171 - 188.
- Cornell, D. G., Warren, J., Hawk, G. (1996). Psychopathy in instrumental and reactive violent offenders. *Journal of Consulting and Clinical Psychology*, 64, 783 - 790.
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests.

Psychological Bulletin, 52, 281 - 302.

- Cunningham, M. D., & Reidy, T. J. (1998). Antisocial personality disorder and psychopathy: Diagnostic dilemmas in classifying patterns of antisocial behavior in sentencing evaluations. *Behavioral Sciences and the Law*, 16, 333 - 351.
- Darke, S., Kaye, S., & Finlay-Jones, R. (1998). Antisocial personality disorder, psychopathy, and injecting heroin use. *Drug and Alcohol Dependence*, 52, 63 – 69.
- Doren, D. (1987). *Understanding and treating the psychopath*. Oxford, England: John Wiley & Sons.
- Edens, J. F. (2001). Misuses of the Hare Psychopathy Checklist-Revised in court: Two case examples. *Journal of Interpersonal Violence*, 16, 1082 - 1093.
- Edens, J. F., Skeem, J. L., Cruise, K. R., & Caufmann, E. (2001). Assessment of “juvenile psychopathy” and its association with violence: A critical review. *Behavioral Sciences and the Law*, 19, 53 - 80.
- Edens, J. F., Poythress, N. G., & Watkins, M. M. (2001). Further validation of the Psychopathic Personality Inventory among offenders: Personality and behavioral correlates. *Journal of Personality Disorders*, 15, 403 - 415.
- Endicott, J., & Spitzer, R. (1978). A diagnostic interview: The schedule for affective disorders and schizophrenia. *Archive of General Psychiatry*, 35, 837 – 844.
- Eronen, M., Tiihonen, J., & Hakola, P. (1996). Schizophrenia and homicidal behavior. *Schizophrenia Bulletin*, 22, 83 - 89.

- Farrington, D. P. (2000). Adolescent violence: Findings and implications from the Cambridge study. In G. Boswell (Ed.), *Violent children and adolescents: Asking the question why*. (pp. 19 - 35). London: England: Whurr Publishers.
- Forth, A. E., Brown, S. L., Hart, S. D., & Hare, R. D. (1996). The assessment of psychopathy in male and female noncriminals: Reliability and validity. *Personality and Individual Differences, 20*, 531 - 543.
- Forth, A. E., & Burke, H. C. (1998). Psychopathy in adolescence: Assessment, violence, and developmental precursors. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research, and implications for society* (pp. 205 - 229). Dordrecht, The Netherlands: Kluwer.
- Frick, P. J. (1996). Callous-unemotional traits and conduct problems: A two-factor model of psychopathy in children. In D. J. Cooke, A. E. Forth, J. P. Newman, & R. D. Hare (Eds.), *Issues in Criminological and Legal Psychology: No. 24, International perspectives on psychopathy* (pp. 47 - 51). Leicester, UK: British Psychological Society.
- Frick, P. J. (1998). Callous-unemotional traits and conduct problems: Applying the two-factor model of psychopathy to children. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research, and implications for society* (pp. 161 - 187). Dordrecht, The Netherlands: Kluwer.
- Frick, P. J. (2002). Juvenile psychopathy from a developmental perspective: Implications for construct development and use in forensic assessments. *Law and*

Human Behavior, 26, 247 - 253.

Frick, P. J., Bodin, D. S., & Barry, C. T. (2000). Psychopathic traits and conduct problems in community and clinic-referred samples of children: Further development of the Psychopathy Screening Device. *Psychological Assessment*, 12, 382 - 393.

Frick, P. J., & Ellis, M. (1999). Callous-unemotional traits and subtypes of conduct disorder. *Clinical Child and Family Psychology Review*, 2, 149 - 168.

Frick, P. J., & Hare, R. D. (2001). *The Antisocial Process Screening Device*. Toronto, Ontario: Multi-Health Systems.

Frick, P.J., Lilienfeld, S. O., Ellis, M., Loney, B., & Silverthorn, P. (1999). The association between anxiety and psychopathy dimensions in children. *Journal of Abnormal Child Psychology*, 27, 383 - 392.

Frick, P. J., O'Brien, B., Wootton, J., & McBurnett, K. (1994). Psychopathy and conduct problems in children. *Journal of Abnormal Psychology*, 103, 700 - 707.

Gacono, C. B., & Hutton, H. E. (1994). Suggestions for the clinical and forensic use of the Hare Psychopathy Checklist-Revised. *International Journal of Law and Psychiatry*, 17, 303 - 317.

Gacono, C. B., Nieberding, R. J., Owen, A., Rubel, J., & Bodholdt, R. (2001). Treating conduct disorder, antisocial, and psychopathic personalities. In J. Ashford and B. Sales (Eds.), *Treating adult and juvenile offenders with special needs* (pp. 99 – 129). Washington, DC: American Psychological Association.

Grann, M., Tengström, A., Långström, N., & Stålenheim, E. G. (1998). Reliability of file-

- based retrospective ratings of psychopathy with the PCL-R. *Journal of Personality Assessment*, 70, 416 - 426.
- Grann, M., Langstroem, N., Tengstroem, A., & Kullgren, G. (1999). Psychopathy (PCL-R) predicts violent recidivism among criminal offenders with personality disorders in Sweden. *Law and Human Behavior*, 23, 205 - 217.
- Greene, R. (2000). *MMPI-2: An interpretative manual (2nd Edition)*. Needham Heights, MA: Allyn and Bacon.
- Hare, R. D. (1985). *The Hare Psychopathy Checklist*. Toronto, Ontario: Multi-Health Systems.
- Hare, R. D. (1991). *Self-Report of Psychopathy-2nd Edition*. Toronto, Ontario: Multi-Health Systems.
- Hare, R. D. (1991). *The Hare Psychopathy Checklist - Revised*. Toronto, Ontario: Multi-Health Systems.
- Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us*. New York, NY: Pocket Books.
- Hare, R. D. (1995). Psychopathy: Theory, research, and implications for society. An introduction. *Issues in Criminological and Legal Psychology*, 24, 4 - 5.
- Hare, R. D. (1996). Psychopathy: A clinical construct whose time has come. *Criminal Justice and Behavior*, 23, 25 - 54.
- Hare, R. D. (1998a). Psychopaths and their nature: Implications for mental health and criminal justice systems. In T. Millon and E. Simonsen (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 188 - 214). New York: The

Guilford Press.

- Hare, R. D. (1998b). The Hare PCL-R: Some issues concerning its use and misuse. *Legal and Criminological Psychology, 3*, 99 - 119.
- Hare, R. D. (1999). Psychopathy as a risk factor for violence. *Psychiatric Quarterly, 70*, 181 - 197.
- Hare, R. D., Harpur, T. J., Hakstian, A., & Forth, A. E. (1990). The revised Psychopathy Checklist: Reliability and factor structure. *Psychological Assessment, 2*, 338 – 341.
- Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology, 100*, 391 – 398.
- Hare, R. D., & Jutai, J. W. (1983). Criminal history of the male psychopath: Some preliminary data. In K. T. Van Dusen & S. A. Mednick (Eds.), *Prospective studies of crime and delinquency* (pp. 65 - 79). Boston: Kluwer Academic Publishing.
- Hare, R. D., & McPherson, L. M. (1984). Violent and aggressive behavior by criminal psychopaths. *International Journal of Law and Psychiatry, 7*, 35 - 50.
- Harpur, T. J., & Hare, R. D. (1995). Assessment of psychopathy as a function of age. *Journal of Abnormal Psychology, 103*, 604 - 609.
- Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment, 1*, 6 - 17.

- Hart, S. D. (1995). Psychopathy and risk assessment. *Issues in Criminological and Legal Psychology*, 24, 63 - 67.
- Hart, S. D. (1998a). The role of psychopathy in assessing risk for violence: Conceptual and methodological issues. *Legal and Criminological Psychology*, 3, 121 - 137.
- Hart, S. D. (1998b). Psychopathy as a risk for violence. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research, and implications for society* (pp. 355 - 373). London: Kulwer Academic Publishers.
- Hart, S. D., Cox, D. N., & Hare, R. D. (1995). *The Hare Psychopathy Checklist: Screening Version*. North Tonowanda, NY: Multi Health Systems.
- Hart, S. D. & Dempster, R. J. (1997). Impulsivity and psychopathy. In C. D. Webster & M. A. Jackson (Eds.), *Impulsivity: Theory, assessment, and treatment* (pp. 212 – 232). New York: The Guilford Press.
- Hart, S. D., & Hare, R. D. (1997). Psychopathy: Assessment and association with criminal conduct. In D. Stoff, & J. Breiling (Eds.), *Handbook of antisocial behavior* (pp.74 - 93). New York: John Wiley & Sons.
- Hart, S. D., Forth, A. E., & Hare, R. D. (1991). The MCMI-III and psychopathy. *Journal of Personality Disorders*, 5, 318 - 327.
- Harris, G. T., Rice, M. E., & Quinsey, V. L. (1994). Psychopathy as a taxon: Evidence that psychopaths are a discrete class. *Journal of Consulting and Clinical Psychology*, 62, 387 - 397.
- Heilbrun, A. B. (1979). Psychopathy and violent crime. *Journal of Consulting and Clinical Psychology*, 47, 509 - 516.

- Heilbrun, K., Hart, S. D., Hare, R. D., Gustafson, D., Nunez, C., & White, A. J. (1998). Inpatient and postcharge aggression in mentally disordered offenders: The role of psychopathy. *Journal of Interpersonal Violence, 13*, 514 - 527.
- Helzer, J. E., & Pryzbeck, T. R. (1988). The co-occurrence of alcoholism with other psychiatric disorders in the general population and its impact on treatment. *Journal of Studies on Alcohol, 49*, 219 - 224.
- Hemphill, J. F., & Hare, R. D. (1995). Psychopathy checklist factor scores and recidivism. *Issues in Criminological and Legal Psychology, 24*, 68 - 73.
- Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Issues in Criminological and Legal Psychology, 3*, 139 - 170.
- Henggeler, S. W., & Borduin, C. M. (1996). A multisystemic approach to the treatment of serious delinquent behavior. In R. Peters, & R. McMahon (Eds.), *Preventing childhood disorders, substance abuse, and delinquency* (pp. 63 - 80). Thousand Oaks, CA: Sage Publications.
- Hicks, M., Rogers, R., & Cashel, M. L. (2000). Predictions of violent and total infractions among institutionalized male offenders. *Journal of the American Academy of Psychiatry and Law, 28*, 183 - 190.
- Hill, C. D., Neumann, C. S., & Rogers, R. (in preparation). *Confirmatory factor analysis of the Psychopathy Checklist: Screening Version in offenders with Axis I disorders*.
- Hill, C. D., Rogers, R., & Bickford, M. (1996). Predicting aggressive and socially

- disruptive behavior in a maximum-security forensic psychiatric hospital. *Journal of Forensic Sciences*, 41, 56 - 59.
- Hodgins, S., Côté, G., & Toupin, J. (1998). Major mental disorders and crime: An etiological hypothesis. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research, and implications for society* (pp. 231 - 256). Dordrecht, The Netherlands: Kluwer.
- Holt, S. E., Meloy, J. R., & Strack, S. (1999). Sadism and psychopathy in violent and sexually violent offenders. *Journal of the American Academy of Psychiatry and the Law*, 27, 23 - 32.
- Howard, R. C. (1990). Psychopathy Checklist scores in mentally abnormal offenders: A reexamination. *Personality and Individual Differences*, 11, 1087 - 1091.
- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, 3, 424 - 453.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1 - 55.
- Ivanhof, A., & Hayes, L. (2001). Preventing, managing, and treating suicidal actions in high-risk offenders. In J. Ashford and B. Sales (Eds.), *Treating adult and juvenile offenders with special needs* (pp. 313 - 331). Washington, DC: American Psychological Association.
- Joreskog, K. G., & Sorbom, D. (1981). LISREL V: *Analysis of linear structural*

relationships by the method of maximum likelihood. Chicago: National Education Resources.

Jackson, R., Rogers, R., Neumann, C. S., & Lambert, P. L. (in press). *Psychopathy in female Offenders: An investigation of its underlying dimensions.* Criminal Justice and Behavior.

Kasen, S., Cohen, P., Skodol, A. E., Johnson, J. G., Smailes, E., & Brook, J. S. (2001). Childhood depression and adult personality disorder: Alternative pathways of continuity. *Archives of General Psychiatry*, 58, 231 - 236.

Kashani, J. H., Jones, M. R., Bumby, K. M., & Thomas, L. A. (2001). Youth violence: Psychosocial risk factors, treatment, prevention, and recommendations. In H. M. Walker and M. H. Epstein (Eds.), *Making schools safer and violence free: Critical issues, solutions, and recommended practices* (pp. 39 - 49). Austin, TX: PRO-ED.

Klinterberg, B. (1996). The psychopathic personality in a longitudinal perspective. *European Child and Adolescent Psychiatry*, 5, 57 - 63.

Klinterberg, B., Humble, K., & Schalling, D. (1992). Personality and psychopathy of males with a history of early criminal behaviour. *European Journal of Personality*, 6, 245 - 266.

Kosson, D. S., Steuerwald, B. L., Forth, A. E., & Kirkhart, K. J. (1997). A new method for assessing the interpersonal behavior of psychopathic individuals: Preliminary validation studies. *Psychological Assessment*, 9, 89 - 101.

Kosson, D. S., Smith, S. S., Newman, J. P. (1990) Evaluating the construct validity of

- psychopathy in black and white male inmates: Three preliminary studies. *Journal of Abnormal Psychology*, 9, 250 - 259.
- Lambert, E. W., Wahler, R. G., Andrade, A. R., & Bickman, L. (2001). Looking for the Disorder in Conduct Disorder. *Journal of Abnormal Psychology*, 110, 110 - 123.
- Levenson, M. R. (1995). Psychopathy and conscience. *Issues in Criminological and Legal Psychology*, 24, 94 - 99.
- Levenson, M. R. (1992). Rethinking psychopathy. *Theory and Psychology*, 2, 51 - 71.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutional population. *Journal of Personality and Social Psychology*, 68, 151 - 158.
- Lilienfeld, S. O. (1994). Conceptual problems in the assessment of psychopathy. *Clinical Psychology Review*, 14, 17 - 38.
- Lilienfeld, S. O. (1996). The MMPI-2 Antisocial Practices Content Scale: Construct validity and comparison with the Psychopathic Deviate Scale. *Psychological Assessment*, 8, 281 - 293.
- Lilienfeld, S. O. (1998). Methodological advances and developments in the assessment of psychopathy. *Behaviour Research and Therapy*, 36, 99 - 125.
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic traits in noncriminal populations. *Journal of Personality Assessment*, 66, 488 - 524.
- Linehan, M. M. (1993). *Cognitive behavioral therapy of borderline personality disorder*. New York: Guilford.

- Lochman, J. E. & Wells, K. (1996). A social cognitive intervention with aggressive children: Prevention effects and contextual information issues. In R. Peters, & R. McMahon (Eds.), *Preventing childhood disorders, substance abuse, and delinquency* (pp. 111 - 143). Thousand Oaks, CA: Sage Publications.
- Loney, B. R., Frick, P. J., Ellis, M., & McCoy, M. G. (1998). Intelligence, callous-unemotional traits, and antisocial behavior. *Journal of Psychopathology and Behavioral Assessment, 20*, 231 - 247.
- Lorenz, A. R., & Newman, J. P. (2002). Utilization of emotion cues in male and female offenders with antisocial personality disorder: Results from a lexicon decision task. *Journal of Abnormal Psychology, 111*, 513 - 516.
- Lovelace, L., & Gannon, L. (1999). Psychopathy and depression: Mutually exclusive constructs? *Journal of Behavior Therapy and Experimental Psychiatry, 30*, 169 – 176.
- Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *Journal of Abnormal and Social Psychology, 55*, 6 - 10.
- Lykken, D. T. (1995). *The Antisocial Personalities*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Lynam, D. R. (1996). Early identification of chronic offenders: Who is the fledgling psychopath? *Psychological Bulletin, 120*, 209 - 234.
- Lynam, D. R. (1998). Early identification of the fledging psychopath: Locating the psychopathic child in the current nomenclature. *Journal of Abnormal*

- Psychology*, 107, 566 - 575.
- Lynam, D. R. (2002). Fledgling psychopathy: A view from personality theory. *Law and Human Behavior*, 26, 255 - 259.
- Lynam, D. R., Whiteside, S., & Jones, S. (1999). Self-reported psychopathy: A validation study. *Journal of Personality Assessment*, 73, 110 - 132.
- Marshall, L. A. & Cooke, D. J. (1999). The childhood experiences of psychopaths: A retrospective study of familial and societal factors. *Journal of Personality Disorders*, 13, 211 - 225.
- Marshall, L., & Cooke, D. J. (1995). The role of childhood experiences in the etiology of psychopathy. *Issues in Criminological and Legal Psychology*, 24, 107 - 108.
- McCann, R. A., Ball, E. M., & Ivanoff, I. (2000). DBT with an inpatient forensic population: The CMHIP forensic model. *Cognitive and Behavioral Practice*, 7, 447 - 456.
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology*, 74, 192 - 210.
- Megargee, E. I. (1976). The prediction of dangerous behavior. *Criminal Justice and Behavior*, 3, 3 - 22.
- Meller, W. H., & Borchardt, C. M. (1996). Comorbidity of major depression and conduct disorder. *Journal of Affective Disorders*, 39, 123 - 126.
- Meloy, J. R. (1988). *Psychopathic mind: Origins, dynamics, and treatment*. Northvale, NJ: Aronson.
- Menzies, R. J., Webster, C. D. & Sepejak, D. S. (1985). Evaluating the accuracy of

- psychometric predictions of violence among forensic patients. *Law and Human Behavior*, 9, 49 - 70.
- Miller, D. N., DuPaul, G. J., & Lutz, G. (2002). School-based psychosocial interventions for depression: Acceptability of treatments among school psychologists. *School Psychology Quarterly*, 17, 78 - 99.
- Millon T., & Davis, R. D. (1998). Ten subtypes of psychopathy. In T. Millon and E. Simonsen (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 103 - 116). New York: The Guilford Press.
- Moffitt, T. E. (1993). Adolescence-limited and life course persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674 - 701.
- Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on the life-course persistent and adolescence-limited antisocial pathways: Follow-up at age 26 years. *Development and Psychopathology*, 14, 179 - 207.
- Mueser, K. T., Drake, R. E., Alterman, A. I., Miles, K. M., & Noordsy, D. L. (1997). Antisocial personality disorder, conduct disorder, and substance abuse in schizophrenia. *Journal of Abnormal Psychology*, 106, 473 - 477.
- Nedophil, N., Hollweg, M., Hartmann, J., & Jaser, R. (1995). Comorbidity of psychopathy with major mental disorders. *Issues in Criminological and Legal Psychology*, 24, 115 - 118.
- Newman, J. P. (1998). Psychopathic behavior: An information processing perspective. In D. J. Cooke, A. E. Forth, & R. D. Hare (Eds.), *Psychopathy: Theory, research, and implications for society* (pp. 81 - 104). Dordrecht, The Netherlands: Kluwer.

- Newman, J. P., Patterson, C. M., & Kosson, D. S. (1987). Response perseveration in psychopaths. *Journal of Abnormal Psychology, 96*, 145 - 148.
- Newman, J. P., & Schmitt, W. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology, 107*, 527 - 532.
- Nolan, K. A., Volavka, J., Mohr, P., & Czobor, P. (1999). Psychopathy and violent behavior among patients with schizophrenia or schizoaffective disorder. *Psychiatric Services, 50*, 787 - 792.
- O'Brien, B. S., & Frick, P. J. (1996). Reward dominance: Associations with anxiety, conduct problems, and psychopathy in children. *Journal of Abnormal Child Psychology, 24*, 223 - 240.
- O'Brien, B. S., Frick, P. J., & Lyman, R. D. (1994). Reward dominance among children with disruptive behavior disorders. *Journal of Psychopathology and Behavioral Assessment, 16*, 131 - 145.
- Ogloff, J. R. (1995). Legal issues associated with the concept of psychopathy. *Criminological and Legal Psychology, 24*, 119 - 122.
- Paris, J. (1998). A biopsychosocial model of psychopathy. In T. Millon and E. Simonsen (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 277 - 290). New York: The Guilford Press.
- Paris, J. (2000). Childhood precursors of borderline personality disorder. *Psychiatric Clinics of North America, 23*, 77 - 88.
- Patterson, M. C., & Newman, J. P. Reflectivity and learning from aversive events: Toward a psychological mechanism for the syndromes of disinhibition.

Psychological Review, 100, 716 - 733.

- Piotrowski, N. A., Tusel, D. J., Sees, K. L., Reilly, P. M., Banys, P., Meek, P. H., & Sharon, M. (1999). Contingency contracting with monetary reinforcers for abstinence from multiple drugs in a methadone program. *Experimental and Clinical Psychopharmacology*, 7, 399 - 411.
- Porter, S., Birt, A., & Boer, D. P. (2001). Investigation of the criminal and conditional release profiles of Canadian federal offenders as a function of psychopathy and age. *Law and Human Behavior*, 25, 647 - 661.
- Poythress, N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion related validity of the Psychopathic Personality Inventory in a prison sample. *Psychological Assessment*, 10, 426 - 430.
- Quinsey, V. L. (1995). The prediction and explanation of criminal violence. *International Journal of Law and Psychiatry*, 18, 117 - 127.
- Raine, A. (1992). Schizotypal and borderline features in psychopathic criminals. *Journal of Personality & Individual Differences*, 13, 717 - 721.
- Rasmussen, K., & Levander, S. (1996). Crime and violence among psychiatric patients in a maximum security psychiatric population. *Criminal Justice and Behavior*, 23, 455 - 471.
- Reiss, D., Grubin, D., & Clive, M. (1999). Institutional performance of male psychopaths in a high security hospital. *Journal of Forensic Psychiatry*, 10, 290 - 299.
- Renouf, A. G., Kovacs, M., & Protap, M. (1997). Relationship of depressive, conduct,

- and comorbid disorders and social functioning in childhood. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 998 - 1004.
- Rice, M. E. (1997). Violent offender research and implications for the criminal justice system. *American Psychologist*, 52, 414 - 423.
- Rice, M. E., & Harris, G. T. (1995). Psychopathy, schizophrenia, alcohol abuse, and violent recidivism. *International Journal of Law and Psychiatry*, 18, 333 - 342.
- Rice, M. E., & Harris, G. T. (1992). A comparison of criminal recidivism among schizophrenic and nonschizophrenic offenders. *International Journal of Law and Psychiatry*, 15, 397 - 408.
- Rice, M. E., Harris, G. T., & Cormier, C. A. (1992). An evaluation of a maximum-security therapeutic community for psychopaths and other mentally disordered offenders. *Law and Human Behavior*, 16, 399 - 412.
- Rogers, R. (2000). The uncritical acceptance of risk assessments in forensic practice. *Law and Human Behavior*, 24, 595 - 605.
- Rogers, R. (2001). *Handbook of diagnostic and structured interviewing*. New York: Guilford Publications.
- Rogers, R., & Bagby, M. R. (1994). Dimensions of psychopathy: A factor analytic study of the MMPI Antisocial Personality Disorder Scale. *International Journal of Offender Therapy and Comparative Criminology*, 38, 297 - 307.
- Rogers, R., & Cruise, K. R. (2000). Malingering and deception among psychopaths. In C. B. Gacono (Ed.), *The clinical and forensic assessment of psychopathy: A practitioner's guide*. (pp. 269 - 284). New York: LEA.

- Rogers, R., & Cunnien, A. J. (1986). Multiple schedule of affective disorders and schizophrenia (SADS) in the assessment of criminal defendants. *Journal of Forensic Sciences, 31*, 222 - 230.
- Rogers, R., Duncan, J. C., Lynett, E., & Sewell, K. W. (1994). Prototypical analysis of antisocial personality disorder: DSM-IV and beyond. *Law and Human Behavior, 18*, 471 - 484.
- Rogers, R., Johansen, J., Chang, J., & Salekin, R. T. (1997). Predictors of adolescent Psychopathy: Oppositional and conduct-disordered symptoms. *Journal of the American Academy of Psychiatry and the Law, 25*, 261 - 271.
- Rogers, R., Nussbaum, D., & Gillis, R. (1988). Command hallucinations and criminality: A clinical quandry. *Bulletin of the American Academy of Psychiatry and Law, 16*, 251 - 258.
- Rogers, R., Salekin, R. T., Hill, C., Sewell, K. W., Murdock, M. E., & Neumann, C. S. (2000). The Psychopathy Checklist: Screening Version: An examination of criteria and subcriteria in three forensic samples. *Assessment, 7*, 1 - 15.
- Rogers, R., Sewell, K. W., Ross, M., Ustad, K. & Williams, A. (1995). Determinations of dangerousness in forensic patients: An archival study. *Journal of Forensic Sciences, 40*, 74 - 77.
- Rogers, R., Vitacco, M. J., Jackson, R., Martin, M., Collins, M., & Sewell, K. (2002). Faking Psychopathy: An examination of response styles with antisocial youth. *Journal of Personality Assessment, 78*, 87 - 103.
- Rutherford, M. J., Cacciola, J. S., Alterman, A. I., McKay, J. R., & Cook, T. G. (1999).

- Two-year test-retest reliability of the Psychopathy Checklist - Revised in methadone patients. *Assessment*, 6, 285 - 291.
- Sandoval, A. R., Hancock, D., Poythress, N. (2000). Construct validity of the Psychopathic Personality Inventory in a correctional sample. *Journal of Personality Assessment*, 74, 262 - 281.
- Salekin, R. T. (2002). Psychopathy and therapeutic pessimism: Clinical lore or clinical reality? *Clinical Psychology Review*, 22, 79 - 112.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist-Revised. *Clinical Psychology: Science and Practice*, 3, 203 - 215.
- Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). Construct validity of psychopathy in a female offender sample: A multitrait-multimethod evaluation. *Journal of Abnormal Psychology*, 106, 576 - 585.
- Salekin, R. T., Trobst, K. K., & Krioukova, M. (2001). Construct validity of psychopathy in a community sample: A nomological net approach. *Journal of Personality Disorders*, 15, 425 - 441.
- Schmauk (1970). Punishment, arousal, and avoidance learning in sociopaths. *Journal of Abnormal Psychology*, 76, 325 - 335.
- Schmitt, W. A., & Newman, J. P. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology*, 107, 527 - 532.
- Schmitt, W. A., & Newman, J. P. (1999). Are all psychopathic individuals low anxious?

- Journal of Abnormal Psychology*, 108, 353 - 358.
- Seagrave, D., & Grisso, T. (2002). Adolescent development and the measurement of juvenile psychopathy. *Law and Human Behavior*, 26, 219 - 239.
- Serin, R. C. (1991). Psychopathy and violence in criminals. *Journal of Interpersonal Violence*, 6, 423 - 431.
- Serin, R. C. (1992). The clinical applications of the Psychopathy Checklist-Revised (PCL-R) in a prison population. *Journal of Clinical Psychology*, 48, 637 - 642.
- Serin, R. C., & Amos, N. L. (1995). The role of psychopathy in the assessment of dangerousness. *International Journal of Law and Psychiatry*, 18, 231 - 238.
- Serin, R. C., Peters, R. D., & Barbaree, H. E. (1991). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment*, 2, 419 – 422.
- Seto, M. C., & Barbaree, H. E. (1999). Psychopathy, treatment behavior, and sex offender recidivism. *Journal of Interpersonal Violence*, 14, 1235 - 1248.
- ShIPLEY, S., & Arrigo, B. A. (2001). The confusion over psychopathy (II): Historical considerations. *International Journal of Offender Therapy*, 45, 407 - 420.
- Skinner, N. F. (1988). Personality correlates of machiavellianism and the psychopath. *Social Behavior and Personality*, 16, 33 - 37.
- Skeem, J., Monahan, J., & Mulvey, E. (in press). Psychopathy, treatment involvement, and subsequent violence among civil psychiatric patients. *Law and Human Behavior*.
- Skeem, J. L., & Mulvey, E. P. (2001). Psychopathy and community violence among

- civil psychiatric patients: Results from the MacArthur Violence Risk Assessment Study. *Journal of Consulting and Clinical Psychology*, 69, 358 - 374.
- Spielberger, C. D. (1983). *Manual for the State-Trait anxiety Inventory*. Palo Alto, CA: Consulting Press Inc.
- Stalenheim, E. G., & von-Knorrning, L. (1998). Personality traits and psychopathy in a forensic psychiatric population. *European Journal of Psychiatry*, 12, 83 - 94.
- Stalenheim, E. G., & von-Knorrning, L. (1996). Psychopathy and axis I and axis II psychiatric disorders in a forensic psychiatric population in Sweden. *Acta Psychiatrica Scandinavica*, 94, 217 - 223.
- Stanford, M. S., Ebner, D., Patton, J. H., & Williams, J. (1994). Multi-impulsivity within an adolescent psychiatric population. *Journal of Personality and Individual Differences*, 16, 395 - 402.
- Teles, C. B. (1995). Psychopathy and antisocial personality disorder: Violent crime and sexual homicide. *Issues in Criminological and Legal Psychology*, 24, 142 - 147.
- Templeman, R., & Wong, S. (1994). Determining the factor structure of the Psychopathy Checklist: A converging approach. *Multivariate Experimental Clinical Research*, 10, 157 - 166.
- Tengstrom, A., Grann, M., Langstrom, N., & Kullgren, G. (2000). Psychopathy (PCL-R) as a predictor of violent recidivism among criminal offenders with schizophrenia. *Law and Human Behavior*, 24, 45 - 58.
- Thomas-Peter, B. A. (1992). The classification of psychopathy: A review of the Hare vs

- Blackburn debate. *Personality and Individual Differences*, 13, 337 - 342.
- Toch, H. (1998). Psychopathy or antisocial personality in forensic settings. In T. Millon and E. Simonsen (Eds.) *Psychopathy: Antisocial, criminal, and violent behavior*. (pp. 144 - 160). New York: The Guilford Press.
- Vitacco, M. J., Neumann, C. S., Robertson, A. A., & Durrant, S. L. (2002). Contributions of impulsivity and callousness in the assessment of adjudicated adolescent males: A prospective study. *Journal of Personality Assessment*, 78, 87 - 103.
- Vitacco, M. J., & Rogers, R. (2001). Predictors of adolescent psychopathy: The role of impulsivity, hyperactivity, and sensation seeking. *Journal of the American Academy of Psychiatry and the Law*, 29, 374 - 382.
- Vitacco, M. J., Rogers, R., & Neumann, C. S. (submitted). The Antisocial Process Screening Device: An examination of its construct and convergent validity. *Assessment*.
- Vitelli, R. (1998). Childhood disruptive behavior disorders and adult psychopathy. *American Journal of Forensic Psychology*, 16, 29 - 37.
- Weiler-Luntz, B., & Widom-Spatz, C. (1994). Antisocial personality disorder in abused children grown up. *American Journal of Psychiatry*, 151, 670 - 674.
- Weiler-Luntz, B., & Widom-Spatz, C. (1996). Psychopathy and violent behaviour in abused and neglected young adults. *Criminal Behaviour and Mental Health*, 6, 253-271.

- Wechsler, D. (1991). *Manual for the Wechsler Intelligence Scale for Children-3rd Edition*. San Antonio, TX: Psychological Corporation.
- Widiger, T. (1998). Psychopathy and normal personality. *Issues in Criminological and Legal Psychology, 24*, 146.
- Windle, M. (1999). Psychopathy and antisocial personality disorder among alcoholic inpatients. *Journal of Studies on Alcohol, 3*, 330 - 336.
- Wong, S. (1998). Recidivism and criminal career profiles of psychopaths: A longitudinal study. *Issues in Criminological and Legal Psychology, 24*, 147 – 152.
- Wootton, J. M., Frick, P. J., Shelton, K., & Silverthorn, P. (1997). Ineffective parenting and childhood conduct problems: The moderating role of callous-unemotional traits. *Journal of Consulting and Clinical Psychology, 65*, 301 - 308.
- Zagon, I. K. (1995). Psychopathy: A viable alternative to antisocial personality disorder. *Australian Psychologist, 30*, 11 - 16.
- Zagon, I. K., & Jackson, H. J. (1994). Construct validity of a psychopathy measure. *Personality and Individual Differences, 17*, 125 - 135.
- Zamble, E., & Palmer, W. (1995). Prediction of recidivism using psychopathy and other psychologically meaningful variables. *Issues in Criminological and Legal Psychology, 24*, 153 - 156.
- Zoccolillo, M. (1992). Co-occurrence of conduct disorder and its adult outcomes with depressive and anxiety disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 547- 555.

Zuckerman, M. (1991). *Psychobiology of Personality*. Cambridge University Press:
New York, NY.