PSYCHOPATHY AND ANTISOCIAL PERSONALITY DISORDER: GENDER DIFFERENCES IN EMPATHY AND ALEXITHYMIA

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Traditional conceptualizations of psychopathy highlight the importance of affective features of the syndrome in perpetuating social deviance. However, little research has directly investigated the callousness that psychopathic offenders display toward society and their victims. The current study investigated the roles of empathy and alexithymia in psychopathy among male and female incarcerated offenders, particularly in distinguishing psychopathy from antisocial personality disorder. Gender differences were also investigated. Regarding empathy, as predicted, group differences were largest between psychopathic and non-psychopathic offenders; no reliable differences emerged between psychopathic and APD-only offenders. In contrast, alexithymia robustly distinguished between offenders with prominent psychopathic traits, those with only APD, and those with neither condition. Psychopathic females unexpectedly exhibited slightly *higher* levels of alexithymia than their male counterparts, while empathic deficits were relatively consistent across genders. These findings are discussed in terms of improving assessment methods for the accurate identification and treatment of offenders with prominent psychopathic features.

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CHAPTER 1

INTRODUCTION

Psychopathy: An Overview

Psychopathy as a clinical construct is characterized by a distinct constellation of personality and behavioral anomalies. Specifically, psychopathic individuals are described as possessing a malignant personality in which they are capable of presenting as interpersonally charming but in reality are affectively shallow (e.g., Cleckley, 1941; Hare, 2003). They are further characterized by an impulsive, parasitic lifestyle and are prone to commit a wide array of antisocial acts. They are generally viewed as feeling no empathy for their victims and no remorse or guilt for their crimes against other people. Some researchers and clinicians (e.g., Blair, 1995; Hare, 1996; Lykken, 1995) argue that marked deficits in affective experience among psychopathic individuals predispose them to commit particularly vicious and heinous crimes.

This introduction is organized into four sections that address various issues of the assessment of psychopathy and associated affective features.[1] First, I discuss current conceptualizations of psychopathy and its influence in legal contexts, including the use of psychopathy in predicting antisocial conduct and violence. Second, I describe the differences between psychopathy and antisocial personality disorder and examine the literature documenting gender differences in psychopathic offenders. Third, I elaborate on such gender differences in the context of affective deficits associated with psychopathy, particularly emotion processing, empathy, and alexithymia. Fourth, I introduce the current study that was designed to evaluate gender differences in these affective features across diagnostic groups.

Conceptualization of Psychopathy

Hervey Cleckley (1941) described the first set of criteria to typify the prototypic psychopath in his seminal work, *The Mask of Sanity*. In his book, Cleckley described case studies from his clinical practice that served as examples of individuals who exemplified the psychopathic personality. Based on these case studies, he presented 16 criteria that focused on a number of personality and behavioral features of the syndrome, placing particular emphasis on the personality features of the disorder as core to the deviant characteristics his clients displayed. Table 1 presents Cleckley's 16 criteria that produce his clinical profile of a psychopath.

Table 1

Cleckley's (1941) Clinical Profile of a Psychopath

Superficial charm and good "intelligence"
Absence of delusions and other signs of irrational thinking
Absence of "nervousness" or psychoneurotic manifestations
Unreliability
Untruthfulness and insincerity
Lack of remorse or shame
Inadequately motivated antisocial behavior
Poor judgment and failure to learn by experience
Pathological egocentricity and incapacity for love
General poverty in major affective reactions
Specific loss of insight
Unresponsiveness in general interpersonal relations
Fantastic and uninviting behavior with drink and sometimes without
Suicide rarely carried out
Sex life impersonal, trivial, and poorly integrated
Failure to follow any life plan

In line with Cleckley's influential portrayal of psychopathic individuals, researchers have attempted to produce measures of psychopathy that adequately capture the essence of Cleckley's description. Of these assessment tools, Hare (1985, 1991, 2003) operationalized a portion of Cleckley's criteria and created what is currently considered the "state of the art" measure for

psychopathy assessment (Fulero, 1995). The Psychopathy Checklist – Revised (PCL-R^{TM}; Hare, 2003) has demonstrated good reliability and validity in a variety of forensic settings and across diverse samples. Assessment of psychopathy using the PCL-R identifies key characteristics of the psychopathic syndrome, including interpersonal and affective features of the individual's personality as well as evidence of a socially deviant lifestyle.

Psychopathy, as measured by the PCL-R, is conceptualized as having two or more underlying dimensions. Hare and colleagues (1990) proposed two crucial dimensions to typify the construct: (a) interpersonal and affective personality features, and (b) antisocial behavior and social deviance (Harpur, Hakstian, & Hare, 1988). This two-dimensional model has demonstrated good construct and predictive validity. For the second dimension, a recent meta-analysis by Leistico, Salekin, DeCoster, and Rogers (2008) highlighted the ability of social deviance to predict antisocial conduct. More recently, the two dimensions have been expanded to include four essential facets. The personality dimension was split into interpersonal and affective components, while the behaviorally based social deviance dimension included both lifestyle and antisocial facets (Hare, 2003; Hare & Neumann, 2006). The PCL-R provides an operationalization for these dimensions by proposed factor structures that comprehensively capture the latent psychopathy construct. Table 2 presents the 2-factor, 4-facet model and corresponding items. This conceptualization in particular emphasizes the relatively equal importance of each facet in providing a complete clinical picture of a psychopath.

As an alternative to Hare's model, Cooke and Michie (2001b) have proposed a different conceptualization for the latent structure of psychopathy. They argued that a model that de-emphasizes antisocial features is more in line with Cleckley's original depiction of psychopathy. According to this model, a psychopathic individual displays an arrogant and deceitful

interpersonal style, deficient affective experience, and an impulsive and irresponsible behavioral style.

Table 2

Two-Factor, Four-Facet Structure Conceptualization of the Psychopathy Checklist – Revised (PCL-R)

Factor 1: Interpersonal/Affective		Factor 2: Lifestyle/Antisocial	
Interpersonal facet	Affective facet	Lifestyle facet	Antisocial facet
Glibness/superficial charm	Lack of remorse or guilt	Need for stimulation/ proneness to boredom	Poor behavioral controls
Grandiose sense of self worth	Shallow affect	Parasitic lifestyle	Early behavior problems
Pathological lying	Callous/lack of empathy	Lack of realistic, long-term goals	Juvenile delinquency
Conning/manipulative	Failure to accept responsibility	Impulsivity	Revocation of conditional release
		Irresponsibility	Criminal versatility

Note. Factor 2 of the PCL-R also includes two items that do not correspond to any of the four facets. These items are "promiscuous sexual behavior" and "many short-term marital relationships."

Unlike the original 2-factor and more contemporary 2-factor, 4-facet models, Cooke and Michie's conceptualization emphasizes the importance of personality dimensions and suggests that antisociality is a consequence, rather than a defining characteristic, of psychopathy. However, subsequent research has suggested that antisocial aspects remain an important feature of psychopathy in both offenders (Hill, Neumann, & Rogers, 2004) and psychiatric patients (Vitacco, Neumann, & Jackson, 2005), particularly when evaluating individuals' propensity for violence.

Psychopathy and Antisocial Conduct

Researchers, clinicians, and the general community tend to emphasize psychopathic individuals' proclivity to engage in violent crimes that shock and disturb both their specific victims as well as the public in general. As an extreme example, the majority of serial killers meets the criteria to be classified as psychopathic (Hare, 1993), representing the most heinous,

serious form of violent offending. Although not all violent crime is committed by psychopathic individuals, research has indicated that they are more prone than other offenders to commit a disproportionate number of violent offenses.

The very nature of psychopathy and its associated characteristics seem to dispose these individuals toward more serious, violent crime. In their influential study of criminal psychopaths, Hare and McPherson (1984) found that psychopathic offenders are much more likely to engage in violent and aggressive behavior than are criminals in general. Other research with male correctional samples has generally supported this conclusion. For instance, Quinsey (1995) found that psychopathic group membership is associated with dangerousness in serious criminal offenders perhaps by virtue of their "constellation of predatory, exploitative, and impulsive characteristics" (p. 123) that manifest through violent actions.

Psychopathy tends to predict violence in criminal offenders (Kosson, Lorenz, & Newman, 2006) and psychiatric patients (Skeem & Mulvey, 2001). In their meta-analytic review of violence and psychopathy as measured by the PCL-R, Salekin, Rogers, and Sewell (1996) asserted that the PCL-R's conceptualization of psychopathy is "unparalleled" and "unprecedented" in its ability to predict dangerousness, suggesting that psychopathy as a construct has wide applicability to forensic issues and, as such, should be considered as an important factor within the context of the criminal justice system. The social deviance factor of psychopathy (Factor 2 of the PCL-R) has demonstrated particular usefulness in predicting both general recidivism and violent recidivism when compared to the interpersonal and affective factor (i.e., PCL-R Factor 1; Walters, 2003). Specifically, Leistico and colleagues (2008) in a recent meta-analysis corroborated the ability of Factor 2 to account for some differences (*M d* =

.60) in risk for antisocial conduct in a diverse sample of 15,826 psychopaths and non-psychopaths.

Although research has generally supported the ability of psychopathy to predict violence and aggression, the nature of this relationship varies across populations. The majority of this research has focused on European American male offenders with the predictive validity of psychopathy measured by the PCL-R. However, moderator variables like race, gender, institutional setting (e.g., psychiatric or correctional), and assessment method for psychopathy (e.g., interview-based or file review) substantially influence the utility of social deviance when assessing risk for violence and criminal conduct (Leistico et al., 2008). For instance, Leistico and colleagues (2008) concluded that interpersonal and affective features of psychopathy appear to play a larger role in explaining criminal behavior in females than in males. Similarly, psychopathic offenders' likelihood to commit violent crimes may be moderated by cognitive factors, such as intelligence (Heilbrun, 1982). On this point, Porter and Woodworth (2006) suggest that individuals with higher levels of intelligence may be able to devise nonviolent actions, while psychopaths with lower levels of intelligence are particularly prone to impulsive violent displays. Similar to findings with violence, research has demonstrated psychopathy's integral role in risk assessment for sex offenses and general recidivism in offender populations.

Sex offenses. Several studies have established the prevalence of psychopathy in sex offenders, particularly sexually violent offenders, who seem to pose a particular risk for the general public and problems as well for the criminal justice system (e.g., Brown & Forth, 1997; Quinsey, Rice, & Harris, 1995) regarding recidivism and placement considerations. As a rule, child molesters tend to have much lower prevalence rates of psychopathy (approximately 10-15%) than rapists or "mixed" sex offenders whose victims are both children and adults

(approximately 40-50%). However, psychopathic sex offenders' crimes tend to be more violent and sadistic than those of non-psychopathic sex offenders (Brown & Forth, 1997; Porter et al., 2000). In particular, psychopathy combined with deviant sexual arousal seems to be the most predictive combination when assessing sex offenders' propensity for violent, sadistic sexual crimes (Rice & Harris, 1995).

Recidivism. Psychopathic offenders display an increased risk for recidivism after conditional release from incarceration compared to their non-psychopathic counterparts. In their study of 231 Canadian, white, male criminals released from prison on either parole or mandatory supervision, Hart, Kropp, and Hare (1988) discovered that offenders with high levels of psychopathy (65.2%) were likely to recidivate more often than offenders with medium (48.9%) or low (23.5%) levels of psychopathy. Additionally, highly psychopathic offenders had the lowest probability of remaining in the community on conditional release for a one-year period. In fact, psychopathy was more predictive of conditional release violation than key background variables including age, release type, and criminal history. Likewise, Hemphill, Hare, and Wong (1998) demonstrated in a meta-analytic review of the literature that psychopathy was consistently among the best predictors of recidivism across an array of inmate samples. Psychopathy has consistently been associated with both general and violent recidivism in both adult (Hemphill, Hare, & Wong, 1998) and youth offenders (Edens, Campbell, & Weir, 2007). Walters (2003) demonstrated in a recent meta-analysis that Factor 2 scores on the PCL-R in particular moderately account for differences between psychopathic and non-psychopathic offenders for both general (d = .68) and violent (d = .54) recidivism.

In light of the empirical evidence for increased risk of violence and recidivism, psychopathy classification constitutes an influential factor in deciding the fate of offenders in the

criminal justice system. Categorizing an offender as "psychopathic" may result in loss of liberty and, for some, prolonged or indefinite civil commitment (*Kansas v. Hendricks*, 1997). Therefore, it is imperative that psychopathic offenders are correctly classified and the designation of psychopathy is not inappropriately applied to the much larger, heterogeneous population of offenders with only antisocial personality disorder (Hare, 1999). In the next section, I highlight and evaluate the current controversies in the classification of psychopathy, specifically its application to offenders with antisocial personality disorder and the generalization of research with psychopathic males to female offenders.

Psychopathy and Antisocial Personality Disorder

Antisocial personality disorder (APD) is the Axis II diagnosis most commonly associated with psychopathy among personality disorders recognized by the text revision to the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV-TR*; American Psychiatric Association [APA], 2000). In fact, the *DSM-IV-TR* uses the two terms interchangeably as part of the same construct, stating that the pattern of behaviors that typifies APD "has also been referred to as psychopathy, sociopathy, or dissocial personality disorder" (APA, 2000, p. 702). A number of clinicians and researchers (e.g., Hare, 1996) have criticized the readiness to equate these two constructs when evidence indicates that the constructs are, in fact, very different.

Historically, the formulation of the diagnosis of APD was supposed to capture the same superficial and exploitative personality typified by Cleckley's (1941) classical description of the prototypic psychopath. The second edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-II*; APA, 1968) achieved this objective as it described persons exhibiting an antisocial personality as unsocialized, selfish, impulsive, remorseless, and callous individuals

whose rationalization of their antisocial behavior precluded their ability to learn from experience (Hare, 1996). However, *DSM-II*'s lack of explicit diagnostic criteria led to a call for a revision that produced more behaviorally-specific criteria to facilitate enhanced reliability for assessment and diagnosis (Spitzer, Endicott, & Robins, 1975).

The third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-III*; APA, 1980) was published to alleviate such concerns by introducing an explicit list of criteria for the diagnosis of APD. To facilitate reliability, the criteria focused almost exclusively upon behavioral indicators of APD and omitted personality features of psychopathy, historically viewed as central to the disorder. This "construct drift" resulted in behavioral indicators that failed to capture the construct of psychopathy, the syndrome with which APD was originally intended to be closely aligned (Hare, 1996). Conceptualizations of APD in *DSM-III* and its subsequent revisions have produced interrater reliability estimates ranging from adequate to good in research and clinical practice (Mellsop, Varghese, Joshua, & Hicks, 1982; Widiger et al., 1996). However, Hare (1996) described APD as a reliable diagnosis with "dubious validity, a category that lacked congruence with traditional conceptions of psychopathy" (p. 29).

To date, the general consensus suggested the consistent failure of APD to achieve the same predictive and clinical utility embodied by the psychopathy construct in forensic populations. However, recent research by Rogers and Rogstad (2010) calls into question this assumption, highlighting the literature's consistent failure to consider competing hypotheses with regards to APD and psychopathy when investigating antisocial conduct. This omission is particularly salient in light of the intuitive similarities between an APD diagnosis and PCL-R Factor 2's reliance on more observable behavioral indicators of antisociality. Not surprisingly, with APD's de-emphasis of central affective features, its diagnosis in forensic populations has

consistently failed to achieve the same predictive and clinical utility embodied by the psychopathy construct. Notably, it appears that the interpersonal and affective features of Factor 1 of psychopathy are particularly discriminating with respect to psychopathic individuals' limited amenability to treatment as well as emotion and information-processing deficits (Blair, 1995; Hare, 1996; Hare, Hart, & Harpur, 1991; Vanman, Mejia, Dawson, Schell, & Raine, 2003). McDermott and colleagues (2000) further suggest that the personality features included in the construct of psychopathy predispose these individuals to engage in antisocial behavior. However, the criteria for APD do not include the majority of these discriminating core features.

Criticisms of *DSM-III* and *DSM-III-R*'s overreliance upon explicit behavioral criteria to diagnose APD led researchers of the American Psychiatric Association Axis II Work Group to perform extensive field trials in an attempt to bring APD more in line with traditional conceptualizations of psychopathy (Widiger et al., 1996). For the *DSM-IV*, the field trials included alternative sets for potential APD criteria administered via semi-structured interviews: (a) behaviorally based criteria from *DSM-III-R*, (b) personality and behavioral criteria borrowed from the tenth edition of the *International Classification of Diseases* (*ICD-10*), and (c) 10 PCL-R items. Results of the field trial indicated that the interpersonal and affective features presented for inclusion by the *ICD-10* and modified PCL-R diagnostic sets achieved similar reliabilities to the *DSM-III-R* behavioral indicators. Reliability estimates for all three measures varied markedly (Widiger et al., 1996), with estimates for APD exhibiting the widest range (.37 to 1.00; APA, 1987), compared to estimates for the *ICD-10* (.50 to .95; World Health Organization, 1990) and the modified PCL-R (.51 to .79; Widiger et al., 1996). Hare (1996) concluded that the inclusion of *ICD-10* and PCL-R personality items in the criteria set for *DSM-IV* APD would have increased construct validity of the APD diagnosis and brought it back in line with traditional

conceptualizations of psychopathy without sacrificing reliability. However, Widiger and colleagues (1996) claimed that interpersonal features could not be assessed reliably by clinicians in everyday practice without explicit guidelines provided by structured interviews; therefore, they opted to again exclude personality features from *DSM-IV*. However, affective and interpersonal components of psychopathy remain the most discriminating characteristics of offenders for potential diagnosis for clinical interviewers (Widiger et al., 1996), forensic experts (Rogers, Duncan, Lynett, & Sewell, 1994; Rogers, Salekin, Sewell, & Cruise, 2000), and members of the general community population (Rogers, Dion, & Lynett, 1992).

Little overlap is found between the criteria for psychopathy and APD (see Appendix A for a comparison of criteria for *DSM-IV-TR* APD and PCL-R psychopathy). As a result of APD's focus on social deviance and omission of personality dimensions, diagnostic criteria remain paradoxically both too narrow and too broad; they account for narrowly defined, behaviorally specific criteria while introducing virtually innumerable potential variations in criteria for committing such antisocial behaviors (Hare, 1996). In fact, Rogers and colleagues (2000) estimated that *DSM-IV* criteria for APD introduces approximately 3.2 million possible variations of symptom combinations qualifying for its diagnosis. In this respect, the construct drift between traditional conceptualizations of psychopathy and current diagnosis of APD has not been rectified but remains firmly in place (Hare & Neumann, 2009).

An asymmetrical relationship is observed for criminal offenders between APD and psychopathy. That is, a large proportion of offenders are diagnosed with APD (estimates range from 50-75% of inmates), while only a minority of offenders (approximately 15-25%) are classified as psychopathic (Hare, 1996, 2003). Additionally, virtually all psychopathic offenders qualify for APD while only a small proportion of offenders with APD are considered

psychopathic (Hart & Hare, 1989). Stated otherwise, psychopathy classification is highly predictive of APD; however, APD is not particularly useful in predicting psychopathy.

This asymmetrical relationship appears to be partly an artifact of differential cut scores required for psychopathy classification and APD diagnosis (Rogers & Rogstad, 2010) in addition to their differential emphasis on personality and behavioral variables (Hart & Hare, 1989). For instance, standard practice stipulates that PCL-R scores $\geq$ 30 of 40 (75.0%) are indicative of psychopathy, while the *DSM-IV-TR* requires merely the presence of at least 3 of 7 (42.9%) adult and 3 of 15 (20.0%) childhood criteria (or 27.3% of combined symptoms) for APD diagnosis. Taking note of these strikingly disparate diagnostic requirements, Rogers and Rogstad (2010) recently used data from the MacArthur Violence Risk Assessment Study to demonstrate higher similarity in prevalence rates between psychopathy and *DSM-III-R* APD among non-forensic patients when equalizing cut scores required for classification. In particular, the asymmetry in comorbidity diminished dramatically when using roughly equivalent cut scores of 40% for both constructs, with most (82.7%) "psychopaths" meeting adult criteria for APD and the clear majority (59.2%) of patients qualifying for adult APD being concurrently categorized as "psychopaths." The remaining asymmetry may result from the correlation between current conceptualizations of APD and Factor 2 but not Factor 1 of the PCL-R (Hart & Hare, 1989). APD and its emphasis on behavioral criteria is highly related to antisocial and lifestyle elements of psychopathy (Hare, 2003; Hart & Hare, 1989). As such, Hart and Hare (1989) concluded that APD de-emphasizes core personality traits and omits roughly half the criteria included in the PCL-R with a concomitant loss in predictive utility.

In line with this research, Ogloff (2006) cautioned against the extrapolation of findings from psychopathy research to individuals diagnosed with APD only. As previously mentioned,

psychopathic offenders are more likely than their non-psychopathic counterparts to commit violent acts (Hare & McPherson, 1984) and to recidivate nonviolently and violently when released from prison (Leistico et al., 2008; Salekin et al., 1996; Walters, 2003). Existing research investigating the role of these factors in APD has been equivocal. On the positive side, Bovasso and colleagues (2002) suggest that *DSM-III-R* APD may be a risk factor for violent and nonviolent crimes and Wormith et al. (2007) found a link between *DSM-III* APD and violent recidivism. However, other research has failed to replicate these findings (Ogloff, 2006) and little research has directly compared the predictive validity of *DSM-IV* APD to the PCL-R. Using data from the MacArthur Violence Risk Assessment Study, Rogers and Rogstad (2010) recently demonstrated that psychopathy and *DSM-III-R* APD were equally poor in predicting violence among non-forensic patients. Although not using a forensic sample per se, 42.5% of participants had repeated contacts with the criminal justice system, which suggests at least some generalizability to offender populations. However, considering psychopathy's aggravating status in legal matters, defendants with APD clearly should not be held to the same standard as psychopathic offenders unless future research demonstrates similar clinical utility.

Gender Differences in Psychopathy

Although volumes of research examine the nature of psychopathy, most studies have almost exclusively focused on male offenders. Research has only shifted its focus to include female psychopathy in the last ten years. Both Cleckley (1941, 1976) and Hare (1993) have described case studies of female psychopaths that illustrate the construct's applicability to women in general. However, it is unclear whether the construct merits refinement or psychopathy measures must be modified when applied to female offenders (Nicholls & Petrila, 2005).

Forouzan and Cooke (2005) suggest that evidence indicates gender differences in the "core traits and characteristic expressions of psychopathic traits" (p. 768). They theorize four key differences in manifestations of psychopathy by gender: (a) differential expressions of psychopathic behavior between genders, (b) dissimilarities in interpersonal characteristics, (c) different psychological meanings underpinning indicators of psychopathy by gender, and (d) potential bias in the assessment of psychopathy according to social norms. First, they suggest that behavioral manifestations vary by gender both interpersonally and behaviorally. For instance, deceitful men are more likely to be conning while women are more likely to act flirtatiously. Behaviorally, impulsivity and conduct disorder are typified by violent behavior in psychopathic males; however, female psychopaths usually engage in less aggressive outlets, such as running away, self harming behaviors, manipulation of others, and property crimes (e.g., theft or fraud). Second, the interpersonal features of psychopathy are attenuated in women, who do not usually appear glib, superficially charming, or grandiose unless they possess an extreme form of the syndrome. Third, Forouzan and Cooke (2005) theorize that classic indicators of psychopathy have different motivations in psychopathic males and females. For example, female psychopaths may engage in promiscuous sexual behavior because of a drive to exploit their partners and potentially gain financial or social rewards. In contrast, male psychopaths may be driven by their proneness for sensation seeking or sexual activity (Quinsey, 2002). Finally, Forouzan and Cooke (2005) suggest that social norms may predispose an uneven application of certain criteria across genders. For instance, financial dependence on a spouse or significant other may be judged socially acceptable in women but parasitic in men. The combination of these factors suggest the existence of gender differences in psychopathy classification; however, it remains unclear whether true differences between psychopathic men and women exist or

gender bias in psychopathy assessment produces these differences.

Few studies have taken on the task of validating psychopathy in female offenders, resulting in a sparse literature (Verona & Vitale, 2006). Existing studies have chronicled clear gender differences in various populations exhibiting psychopathic traits. In addition, research has demonstrated marked gender differences in the construct and predictive validity of psychopathy. The next sections discuss these gender differences, specifically: (a) the lower prevalence and severity of psychopathy in females and (b) the differential functioning of PCL-R items and factor structure based on gender.

Gender Differences in APD

Traditionally, research (Giordano & Cerkovich, 1997) has established that women commit fewer crimes than men. However, this trend appears to be changing as the number of adult women coming into contact with the criminal justice system is rising steadily (Weizmann-Henelius, Viemerö, & Eronen, 2004a). The reason for this trend remains elusive. However, Nicholls and Petrila (2005) suggest that one potential explanation for female antisocial behavior is the presence of personality disorders, particularly APD.

More men qualify for a diagnosis of APD than women, with prevalence rates estimated at 3% in males and 1% in females in community samples with even higher estimates in substance abuse and correctional settings (APA, 2000). Robins, Tipp, and Przybeck (1991), using the results of the Epidemiological Catchment Area study, found that men were seven times more likely to meet diagnostic criteria for APD than women. However, lower prevalence rates of the diagnosis in females is likely a reflection of women's lower offending rates in general compared to men, considering APD's reliance on explicit behavioral indicators of antisociality (Maden, 2002). More specifically, a recent review of the literature (Dolan & Völlm, 2009) suggests that

the diagnostic requirement of childhood symptoms of conduct disorder may account for an underrepresentation in prevalence rates of antisocial women. For instance, conduct disorder's emphasis on overt physical aggression in adolescence as opposed to other expressions of adult behavior (e.g., sexual activity or substance abuse) may bias prevalence rates toward males. On this point, Rutherford et al. (1995) examined the *DSM-III* and *DSM-III-R* criteria for APD in a sample of 94 substance abusers and found that women displayed fewer instances than men of violent or aggressive behavior during childhood.

In light of the recognized relationship between male psychopathy and APD, researchers have recently investigated differences between these two conditions in women. Warren and South (2006) investigated the comorbidity of APD and psychopathy in 137 incarcerated women. Using a lowered PCL-R cut score of 25, they divided the women into four diagnostic groups: APD only (23 or 16.8%), psychopathy only (21 or 15.3%), APD and psychopathy (44 women; 32.1%), and those with neither condition (49 women; 35.8%). Unexpectedly, the authors were able to identify a sizable group of female offenders with psychopathy alone (i.e., no comorbid APD diagnosis). This finding may have resulted from the lowered cut score and the use of inmates at a maximum-security facility where psychopathy is likely to be prevalent. Interestingly, APD was more associated with impulsivity, aggression, and irresponsible behavior. Psychopathy, on the other hand, was more associated with higher rates of property crimes, previous incarcerations, and evidence of remorselessness.

Prevalence of Female Psychopathy

Various studies have established that the prevalence of psychopathy in correctional settings (Salekin, Rogers, & Sewell, 1997) and forensic hospitals (Weizmann-Henelius et al., 2004a) is lower for females than for males using standard cut scores. As previously discussed,

Hare (1991, 2003) established that a cut score of 30 (out of a possible 40) be used to classify psychopathic individuals, which has been standard practice in most research studies. However, females are not likely to be characterized as psychopathic using this cut score. For instance, Salekin, Rogers, and Sewell (1997) found only 16.0% of female jail inmates were classified as psychopathic. Likewise, Warren et al. (2003) could classify 17.4% of 138 female prison inmates as psychopathic. This gender pattern seems to be evident across cultures. For instance, in a study of 58 violent female offenders from multiple settings in Finland, only 8.6% of prisoners met this cut score while none of the offenders from the hospital sample were classified as psychopathic (Weizmann-Henelius et al., 2004b). Similarly, Grann (2000) found that only 11.0% of violent female offenders under psychiatric evaluation in Sweden met these criteria versus 31.0% of their violent male counterparts. Clearly, even in diverse correctional samples, fewer females are being categorized as psychopathic using Hare's (1991, 2003) recommended cut scores developed with psychopathic males. Underscoring this apparent gender disparity, the first extensive investigation into prevalence rates classified only 9.0% of 528 non-psychotic female offenders as psychopathic; Vitale, Smith, Brinkley, and Newman (2002) attributed this finding to either a genuinely lower base rate of female psychopathy or an inability of the PCL-R to adequately assess the construct in women.

The more recent edition of the PCL-R manual (Hare, 2003) suggests alternate methods to classify psychopathic offenders than using a single standard cut score across samples. For instance, Hare includes a range of scores that would classify offenders according to dimensional "levels" of psychopathy (e.g., 17-24 constitutes a "moderate" level of psychopathy, 25-32 signifies "high" psychopathy, and 33-40 is considered "very high"). Alternatively, Hare suggests using *T*-score conversions to select appropriate cut scores when classifying psychopathic

offenders. *T*-score conversions attempt to address the different prevalence rates across gender by lowering the cut score needed to classify a psychopathic female instead of having one standard cut score across genders. For example, the typical cut score of 30 for male psychopaths corresponds to a *T*-score of 60. Use of the 60 *T*-score would decrease the cut score for female psychopaths to 26. As an example, Weizmann-Henelius and colleagues (Weizmann-Henelius, Putkonen, Grönroos, Lindberg, Eronen, & Häkkänen-Nyholm, 2010) recently demonstrated low prevalence rates of psychopathy (9.3%) using a PCL-R cut score of $\geq$ 30 in a Finnish sample of 97 female offenders convicted of homicide. However, lowering this cut score to $\geq$ 25 produced prevalence estimates (21.6%) more consistent with those reported among male offenders (i.e., 15-25%; Hare, 1996). Although lowering the cut score would undoubtedly align prevalence rates between genders, it remains unclear whether this practice clarifies or further confounds gender differences in the correct classification of psychopathic offenders (Hazelwood, 2006).

Severity of Female Psychopathy

Research has consistently established that females exhibit lower levels of psychopathy than males in both offender and college samples. For a large sample of female offenders (n = 1218), Hare (2003) reported a mean total score of 19.0 for female offenders (SD = 7.5) versus 22.1 for 5408 male offenders (SD = 7.9). Using an item response theory (IRT) analysis with a sample from Hare's dataset, Bolt, Hare, Vitale, and Newman (2004) found the mean for the latent construct of psychopathy to be nearly a half standard deviation lower for female offenders than male offenders, indicating lower levels of psychopathy. This pattern is found in offender and undergraduate samples, using both interview-based (Forth, Brown, Hart, & Hare, 1996) and self-report measures (Zágon & Jackson, 1994).

Beyond correctional samples, women also score significantly lower on the PCL-R factor

measures of psychopathy. Female samples score consistently lower on both Factor 1 and Factor 2 than men in a variety of populations. For instance, Rutherford et al. (1998) found that female substance abusers received lower Factor 1 (d = .43) and Factor 2 (d = .59) scores than their male counterparts (d = .54). Likewise, Forth et al. (1996) observed this same pattern in a college sample using the PCL Screening Version (PCL:SV™; Hart, Cox, & Hare, 1997); the effect sizes were large on both Part 1 (d = .96) and Part 2 (d = .74).

Measurement Bias

Some scholars have raised the issue of a potential gender bias in the PCL-R measurement of psychopathy. As previously noted, the norms established for the PCL-R were based on a predominantly male sample (Hare, 1991, 2003) but not systematically researched in women. For this reason, the generalizability of the PCL-R to women has come into question (Forouzan & Cooke, 2005). Recently, studies utilizing IRT analyses among adult offenders have investigated potential gender bias in the PCL-R's application to women. Cooke and Michie (2001a) observed via IRT analyses of the PCL:SV standardization sample that, even at the same level of the latent construct of psychopathy, women scored 1.8 points lower (out of a total score of 24) than men on the PCL:SV. More specifically, in the Bolt et al. (2004) study, the authors found that items from the lifestyle and antisocial facets of the PCL-R provide less information for women than for men and contribute most to differential item functioning on the PCL-R. They concluded that items assessing social deviance contribute to gender bias in the measure, with these facets less associated with the latent trait of psychopathy in women than men. Even Hare (2003) concedes that PCL-R Factor 1 items are more discriminating of psychopathy characteristics than Factor 2 items based on standard administration (i.e., interview and file review) procedures in multiple groups (i.e., male offenders, male forensic psychiatric patients, female offenders); however, he

continues to assert that PCL-R total score is most effective in the interpretation of a PCL-R protocol. Obviously, this practice may inaccurately depict female psychopaths, who are less likely than their male counterparts to engage in social deviance as defined by the PCL-R.

Moreover, PCL-R behavioral items have consistently been problematic in classifying female psychopaths. In a Swedish sample of 72 violent offenders, Grann (2000) found that incarcerated women scored significantly lower on "juvenile delinquency" and significantly higher on "promiscuous sexual behavior" relative to their male counterparts. Additionally, items related to promiscuity, numerous marital relationships, and criminal versatility may be particularly indicative of psychopathy in women; however, their importance in relation to the underlying latent psychopathy construct remains unclear (Salekin, Rogers, & Sewell, 1997; Warren et al., 2003). Despite increasing evidence that items of the PCL-R tend to function differentially by gender, Hare (2003) maintains that the PCL-R is appropriate for use with female offender, while acknowledging that further investigation is needed.

Construct Validity and Factor Structure

Recent research has examined gender differences in the factor structure of the PCL-R as a means to assess its construct validity in women. Specifically, researchers have investigated the applicability of the established PCL-R factor structures, found in male samples, to corresponding female samples.

Addressing construct validity of psychopathy in women, Salekin and colleagues (1997) found a two-factor solution based on their sample of 103 female jail inmates. However, they discovered that PCL-R items loaded differentially into the factors in their sample compared to established two-factor loadings in males (Hare, 1991). In this study, Factor 1 was best depicted by lack of empathy or guilt, interpersonal deception, proneness to boredom, and sensation

seeking, while Factor 2 was characterized by early behavioral problems, promiscuity, and adult antisocial behavior. Of particular interest, Factor 1 represented a substantial departure from primarily personality features that best characterized male psychopaths.

Subsequent research with female samples has failed to replicate the two-factor, four-facet model established by Hare (2003) with male offenders. In a prototypical analysis including Cluster B personality disorders and psychopathy, Hazelwood and Rogers (2008) observed a 2-factor solution for females that was more interpretable than either 3- or 4-factor structures. Factor 1 was composed of features of APD as well as the social deviance items from the PCL-R (Facets 3 and 4). Conversely, Factor 2 included interpersonal features of psychopathy (PCL-R Facet 1) as well as characteristics of narcissistic personality disorder, histrionic personality disorder, and borderline personality disorder.

Three studies have found a good fit with a 3-factor PCL-R solution with female samples. Jackson, Rogers, Neumann, and Lambert (2002) used a sample of 119 female jail inmates to examine the fit of three models using a confirmatory factor analysis (CFA) procedure. Both previously reported 2-factor models (Hare, 1991; Salekin et al., 1997) reflected a poor fit to the Jackson et al. data. However, the Cooke and Michie (2001b) 3-factor model that de-emphasizes antisocial behavior provided the best fit. Specifically, affective features of psychopathy appeared to be particularly salient, indicating that characteristics like callousness and lacking empathy are especially important in distinguishing psychopathic and non-psychopathic females. Similarly, Warren et al. (2003) tested these models as well as Hare's (2003) 2-factor, 4-facet model in a sample of 138 incarcerated women. Using a violent Finnish sample of 97 female homicidal offenders, Weizmann-Henelius and colleagues (2010) also compared 3-factor and 2-factor, 4-facet models. Like Jackson et al. (2002), both studies found that Cooke and Michie's (2001b)

three-factor model represented the best fit to the data. All three studies highlight gender differences in the understanding of psychopathy and suggest that criminal conduct is not essential to the conceptualization of psychopathy in women.

Violent and Nonviolent Recidivism in Female Psychopathy

Research has linked crime, recidivism, and poor institutional adjustment to male psychopathy; however, the nature of these relationships in females remains obscure, with mixed results summarized in this and the next paragraph. Regarding significant results, high levels of psychopathy in female samples have been associated with more prior violent (Louth, Hare, & Linden, 1998) and nonviolent criminal behavior (Strachan, 1993; Vitale et al., 2002) as well as more prior convictions for both nonviolent and violent offenses (Strachan, 1993; Vitale et al., 2002). In general, recent reviews of studies (Dolan & Völlm, 2009; Nicholls, Ogloff, Brink, & Spidel, 2005) investigating female psychopathy and recidivism indicate a moderate to strong relationship between high PCL-R scores and risk for reoffending. In a female sample of 280 African Americans and 248 European American offenders, Vitale et al. (2002) found that PCL-R scores correlated positively for both ethnic groups with criminal versatility (African Americans: $r = .51$; European Americans: $r = .53$), number of violent crimes (rs = .38 and .26, respectively), and number of nonviolent crimes (rs = .34 and .37, respectively).[2] Although correlational results were significant, the magnitude of the association between criminal conduct and psychopathy in females was comparatively lower than that documented in psychopathic males.

Several studies have failed to find a relationship between female psychopathy and violent or general recidivism. Warren et al. (2005) found that PCL-R scores correlated with crimes usually associated with women (i.e., property crimes, forgery, and prostitution) while more violent offenses did not. Salekin, Rogers, Ustad, and Sewell (1998) concluded that

psychopathy's ability to predict recidivism was only moderately in female offenders; 89.0% of recidivists in this study were non-psychopathic when using standard cut scores on the PCL-R. In contrast to male research, only Factor 1 scores and not Factor 2 scores were a significant predictor of recidivism. Similar to these findings, Salekin, Rogers, and Sewell (1997) found that PCL-R scores were not useful in predicting correctional officers' ratings of female offenders' violent behavior, verbal aggression, and institutional noncompliance. Clearly, in light of this conflicting evidence, more research is needed to clarify the issue of the PCL-R's predictive validity in female offenders.

Affective Features of Psychopathy

As previously noted, affective deficits are often viewed as the core characteristics of psychopathy and are associated with criminal, often violent, behaviors (e.g., Blair, 1995; Blair, 2009; Kirsch & Becker, 2007; Lykken, 1995; Shirtcliff et al., 2009). Affective features are operationalized with four PCL-R items: (a) lack of remorse or guilt, (b) shallow affect, (c) callousness and lack of empathy, and (d) failure to accept responsibility for their actions. These four items characterize deficiencies displayed by psychopathic individuals with respect to their emotions. As subsequently discussed, these deficits likely arise from difficulties in processing emotional information.

Emotion Processing Deficits

Evidence of psychopaths' deficient emotion processing can be found in numerous studies across a variety of research paradigms (e.g., Blair, Mitchell, Peschardt, et al., 2004; Day & Wong, 1996; Levenston, Patrick, Bradley, & Lang, 2000; Lorenz & Newman, 2002a; Lykken, 1957; Patrick, Bradley, & Lang, 1993; Patrick, Cuthbert, & Lang, 1994; Stevens, Charman, & Blair, 2001; Verona, Patrick, Curtin, et al., 2004; Williamson, Harpur, & Hare, 1991). In

comparison to non-psychopathic controls, psychopathic offenders manifest weaker psychophysiological reactions to emotional stimuli (Levenston et al., 2000; Patrick, Bradley, & Lang, 1993, Patrick, Cuthbert, & Lang, 1994), poor passive avoidance learning (Lykken, 1957; Newman & Kosson, 1986; Newman, Patterson, Howland, & Nichols, 1990; Newman, Patterson, & Kosson, 1987), and less emotional facilitation on lexical decision tasks (Kosson, Lorenz, & Newman, 2006; Lorenz & Newman, 2002a; Williamson, Harpur, & Hare, 1991). The seminal study of fear processing deficits in psychopathy (Lykken, 1957) found that psychopathic individuals failed to inhibit certain punished responses when threatened with a latent shock contingency during a mental maze task. Later, using a startle paradigm, Patrick et al. (1993) found that psychopathic offenders showed abnormally low startle responses compared to non-psychopathic controls while viewing negatively valenced slides. Moreover, psychopathic individuals' emotional deficits, namely their relative inability to recognize fear, often attributed to their callousness and propensity to engage in social deviance, is not limited to manifestations of criminal behavior (Iria & Barbosa, 2009).

Researchers (Lorenz & Newman, 2002a; Williamson et al., 1991) have demonstrated using a lexical decision (LD) paradigm that, unlike other offenders, psychopathic offenders do not respond faster to emotion words than neutral words. The LD task presents a series of letter strings to each participant, who must indicate whether these letters form a word or not. Consistently, healthy controls are quicker to respond and indicate that strings are words when they are emotionally valenced; this process is called *emotional facilitation*. Emotion theorists generally agree that emotions are innate biological phenomena (e.g., Davidson, 2003; Taylor, 1994) which immediately and involuntarily capture people's attention; hence, emotion facilitates attentional focus. However, empirical research has demonstrated that while non-psychopathic

offenders and offenders with APD (Lorenz & Newman, 2002b) display this emotional facilitation, psychopathic individuals do not (Kosson et al., 2006; Lorenz & Newman, 2002a; Williamson et al., 1991). Therefore, psychopathic individuals do not appear to benefit from the emotional connotation of the presented words, further supporting their deficient emotion processing. Recently, in a study of 472 European American prisoners, Kosson and colleagues (2006) reported that psychopathic offenders showed little emotional facilitation relative to offenders with and without APD. Additionally, psychopathic offenders' level of emotional facilitation was useful in predicting both nonviolent crime and criminal versatility. Hare (1996) has demonstrated that deficient emotion processing is relatively specific to PCL-R Factor 1, or interpersonal and affective features. This finding accounts for the apparent lack of association between the more behaviorally-based APD diagnosis and deficient emotion facilitation (Kosson et al., 2006; Lorenz & Newman, 2002b), likely resulting from APD's minimization of interpersonal and affective features.

A related measure of emotion processing is emotional memory facilitation (i.e., enhanced recall for emotionally valenced over neutral stimuli; for reviews see Christianson, 1992; Hamann, 2001; Reisberg & Hertel, 2004). LaBar & Cabeza (2006) found associations between emotional content and memory are evident across all stages of emotion processing from initial encoding to retrieval phases. As a result, emotion processing and emotional memory are virtually inseparable constructs. However, emotional memory remains relatively uninvestigated in psychopathy with only four studies involving psychopathic offenders. Moreover, their findings have been contradictory. For instance, three studies have established, similar to other aspects of emotion processing (e.g., LD tasks), that psychopathic offenders do not exhibit emotional facilitation in memory when compared to other offenders (Christianson et al., 1996; Kiehl et al.,

2001) and noncriminal non-psychopaths (Dolan & Fullam, 2005; Kiehl et al., 2001). In contrast, Glass and Newman (2009) documented psychopathic offenders' ability to preferentially recall emotional information. Furthermore, none of these studies included female offenders.

Emotion Processing in Female Psychopathy

Very little research on emotion processing has included female psychopaths or female offenders, more generally. Only three studies investigate emotion processing in psychopathic females. Furthermore, only one of these studies examines emotional facilitation and none investigate emotional memory facilitation. Additionally, no studies make direct gender comparisons using psychopathy in offender samples.

Prior to the consideration of female psychopaths, a brief review of findings with male psychopaths is helpful. Previous studies have established that psychopathic males display poor passive avoidance of punishment (Newman & Kosson, 1986; Newman et al., 1990) and response perseveration (Newman et al., 1987) during laboratory tasks requiring participants to shift their responses to avoid punishment. Such passive avoidance errors and perseverations represent an inability to inhibit maladaptive behavior (Gorenstein & Newman, 1980). However, Vitale and Newman's (2001) attempt to replicate this classic finding in psychopathic women was not successful. Contrary to predictions, female psychopaths committed slightly *fewer* passive avoidance errors than non-psychopathic female offenders (d = .14). This study indicates that measures of emotion-processing deficits, such as passive avoidance learning, may not generalize to female psychopaths.

One study found evidence of emotion-processing deficits in female psychopathy. Sutton, Vitale, and Newman (2002) replicated in female offenders the abnormal emotion processing typically found in male psychopaths (e.g., Patrick, Bradley, & Lang, 1993). Using a startle

paradigm with 528 incarcerated women, Sutton and colleagues (2002) demonstrated that female psychopaths exhibit a moderately attenuated startle reflex while viewing unpleasant pictures. This study provided the first evidence of emotion processing deficits in psychopathic females. However, it remains unclear whether (a) these deficits are limited to physiological responses or (b) they would be replicated. Clearly, more research is needed about the nature of emotion processing deficits in female psychopaths and any links to maladaptive, dysregulated behavior.

Future research should utilize behaviorally based laboratory tasks in addition to physiological indices to assess emotion processing in psychopathic females. For instance, Lorenz and Newman (2002b), focusing on APD, utilized a LD paradigm with 237 male and 172 female correctional inmates. Contrary to findings for males with APD, females with APD exhibited more emotion facilitation to both positive and negative words than female offender controls. In direct contrast, some evidence (Reidy, Zeichner, & Foster, 2009) suggests a negative association between personality features of psychopathy and emotion processing of sad affect in women. Specifically, Reidy and colleagues (2009) manipulated the affective state of 88 undergraduate females by presenting them with either violent (i.e., negative) or positive images before completing an LD task. Reidy et al. found an appreciable negative relationship (r = -.44) between psychopathy's interpersonal and affective features and facilitation to sadness words on the LD task after viewing violent images that was not present among those viewing pleasant images. In other words, interpersonal/affective deficits were associated with reduced emotional facilitation of sad affect after viewing violent, empathy-generating images. Although interesting, the correlational nature of the results precludes definitive conclusions. For instance, the precise role of empathy (a) among the undergraduate sample and (b) the manipulation of sad affect and its

effect on emotional facilitation remain uninvestigated. Moreover, it is unclear whether these findings would generalize to offenders.

Beyond psychopathy, emotional facilitation appears to have utility in predicting violence in more generally antisocial women. As emotional facilitation during an LD task increased, Lorenz and Newman (2002b) found that women diagnosed with APD perpetrated more violent crimes than female controls without APD. Based on these findings, it appears that level of emotional facilitation may have predictive utility toward risk assessment of violence in antisocial women who meet criteria for APD diagnosis.

However, existing research on emotional facilitation and aggression among women has yielded variable results on the nature of this relationship. Specifically, it is unclear (a) whether emotional facilitation's utility in predicting violence would generalize to psychopaths, particularly female psychopaths, and (b) whether reduced or enhanced emotional facilitation would be indicative of violence risk. On the first point, existing studies only include female offenders with APD (Lorenz & Newman, 2002) and female college students (Reidy et al., 2009). On the second point, while increased level of emotional facilitation predicted more violence among antisocial women (Lorenz & Newman, 2002b), data suggest different outcomes with undergraduate females (Reidy et al., 2009). Research investigating emotional facilitation in female psychopaths is needed.

Empathy and Psychopathy

The PCL-R affective component of psychopathy includes an item related to callousness and a demonstrable lack of empathy. Some researchers (Blair, 1995, 2005, 2009; Blair, Jones, Clark, & Smith, 1997; Hare, 1993; Lykken, 1995) have posited that deficient empathy precludes development of conscience in psychopathic individuals; thus, disposing them to lives marked by

remorseless use of others and violent, antisocial behavior. As empathy and its development are considered to be essential to moral development and prosocial behavior (Jolliffe & Farrington, 2006), a logical extension would suggest that empathy deficiencies, exemplified by psychopathic individuals, should contribute to dysfunctional moral development. This dysfunction, in turn, would lead to their apparent lack of conscience and guilt when committing repeatedly violent, heinous crimes (Woodworth & Porter, 2002). Although intuitively appealing, empirical research has not established the specific role of empathy in adult psychopathy.

General empathy, as a construct, is defined as "the ability to understand and share in another's emotional state or context" (Cohen & Strayer, 1996, p. 988). Researchers have reached a broad consensus that general empathy consists of both an affective and cognitive elements. Affective empathy is described as the capacity to experience the emotions of another, while cognitive empathy is defined as the ability to comprehend and understand the emotions and emotional experiences of another (Jolliffe & Farrington, 2004, 2006). Individuals high in empathy exhibit more prosocial behaviors than those with lower levels (Ireland, 1999; Jolliffe & Farrington, 2006). Of the various forms, empathy toward victims of crimes may be of particular interest in psychopathy.

Psychopathy has exhibited negative associations with self-report measures of general empathy in offenders (Hare, 2003) and affective empathy in a community sample (Mullins-Nelson, Salekin, & Leistico, 2006). Not surprisingly, interpersonal and affective features of psychopathy appear particularly associated with deficient empathy in adults (Hare, 2003). In addition, affective features are related to aggression in adolescents (Penney & Moretti, 2007) and adults (Reidy et al., 2009). However, competing hypotheses have not investigated whether deficient empathy is associated with psychopathy, APD, or both. Additionally, victim empathy

has not been investigated and may have important implications for individuals who engage in callous, violent crime.

Gender Differences in Empathy

Research in the general population has consistently demonstrated that females tend to display higher levels of general empathy than males (Davis, 1983; Eisenberg & Strayer, 1987; Zágon & Jackson, 1994). This trend is also apparent in offending populations. For instance, Ireland (1999) found in a study of 309 adult and young offenders that female offenders scored slightly higher on measures of perspective taking (d = .33) and substantially higher for empathic concern (d = .57) when compared to their male counterparts.

Jackson and colleagues (2002) posited that affective features of psychopathy, including deficient empathy, are particularly salient when distinguishing between psychopathic and non-psychopathic females. However, few studies have investigated the nature of empathy in female psychopaths. In a community sample, Mullins-Nelson and colleagues (2006) found that females displayed substantially higher levels of general empathy (d = .63) and empathic concern (d = .59) compared to males, but no moderating effects of gender on the relationship between psychopathy and empathy emerged. Moreover, the authors conceded that this finding could have been the result of a small male sample.

Strachan (1995) conducted the only study of gender differences on empathy with psychopathic offenders. She compared a female offender sample to the all-male PCL-R standardization sample (Hare, 1991) via correlational analyses. Hare (1991) had reported that PCL-R Factor 1 was negatively associated in male offenders with perspective-taking, empathic concern, and personal distress (i.e., sympathy). Interestingly, Strachan's (1995) all-female sample displayed negative associations between Factor 2 (i.e., lifestyle and antisocial elements)

and perspective-taking (r = -.36) but positive correlations with sympathy (r = .27). Likely accounted for by sample differences, these results conflict with findings from college (Zágon & Jackson, 1994) and community samples (Mullins-Nelson et al., 2006). As a correlational study, no direct gender comparisons were made and, as a result, the practical applications of empathy levels in female psychopathy remain uninvestigated.

Victim Empathy and Psychopathy

Victim empathy assesses the extent to which individuals identify and empathize with crime victims. Measures of victim empathy also indirectly assess the level of blame attributed to different kinds of victims (Clements, Brannen, Kirkley, Gordon, & Church, 2006). In offender studies, victim empathy often evaluates perpetrators' empathic concern and perspective-taking for their victims. They typically focus on particular crimes, such as rape victims, bullying victims, and child abuse victims (e.g., Ireland, 1999; Smith & Frieze, 2003; White & Robinson-Kurpius, 1999). Therefore, little research investigates offenders' empathy in general toward more diverse crime victims.

Previous research indicates that antisocial behavior is related to poor victim empathy. For instance, Woodworth and Porter (2002) speculated that psychopathic offenders' increased tendency toward instrumental homicide stems from their callousness and deficient empathy toward their victims; however, no empirical data support this claim. As a less extreme example, Ireland (1999) found offenders who engaged in bullying behavior in prison exhibited lower levels of pro-victim attitudes as compared to non-bullying inmates (d = .68). This finding was consistent across both adult and young offender samples, although it was more pronounced in juveniles. Additionally, offenders who bullied other inmates displayed lower levels of both perspective taking (d = .98) and empathic concern (d = .71) compared to offenders who were

victims of bullying in prison but who never bullied others. Consistent with findings for general empathy, pro-victim attitudes and victim empathy tend to be predictive of prosocial behavior and may provide a protective factor against antisocial conduct.

Only one empirical study has examined the relationship between victim empathy and psychopathy in adults. In a small sample of 27 rapists and 27 non-sexual offenders, Fernandez and Marshall (2003) investigated the ability of psychopathy to predict empathy for rape victims. Surprisingly, the authors found for both groups that psychopathy was not predictive of total empathy for rape victims or any scores on rape empathy subscales (i.e., accident victims, sexual assault victims, and rapists' own victims). However, higher PCL-R Factor 1 scores evidenced a non-significant association with lower levels of victim empathy for rapists' own victims (r = -.32). The study has limited generalizability, and its results may have been influenced by the low prevalence of psychopathy (Fernandez & Marshall, 2003). Research needs to evaluate the relationship between psychopathy and empathy toward crime victims, particularly in light of recent evidence that psychopathic individuals are adept at identifying the vulnerability of potential victims (Wheeler, Book, & Costello, 2009).

Regarding gender differences, women exhibit higher levels of victim empathy than men. Most research has focused on victims of specific crimes, such as sex offenses. For instance, women in the general public are more empathic toward rape victims, whereas their male counterparts tend to display more negative attitudes toward these victims (White & Robinson-Kurpius, 1999). A similar pattern emerged in studies investigating bullying behavior among offenders (Ireland, 1999). However, to the author's knowledge, no research has investigated the precise role of victim empathy in female psychopaths.

Clearly, a conceptual link between psychopathy, victim empathy, and violent crime

exists. Investigation into specific empathic deficiencies (e.g., cognitive, affective, and victim) would further clarify these relationships in adult psychopathic offenders, particularly as they compare to the larger group of offenders with APD. Moreover, elaboration of affective features of psychopathy, both broad and specific, may aid assessment of offenders, specifically when distinguishing between male and female psychopaths. The next section further discusses psychopathy and its potential relationship to a relatively uninvestigated broad deficit of emotional expression, alexithymia.

Alexithymia and Psychopathy

Alexithymia is a personality construct that emerged in the 1970s to describe a constellation of cognitive and affective features evident in psychosomatic patients (Sifneos, 1973). These patients displayed particular difficulty in both recognizing and describing their feelings. Subsequent research demonstrated that alexithymia is commonly found among a variety of mental disorders as well as healthy controls (Sifneos, 1988) and is considered a disorder of emotion regulation (Taylor, 1994). Given the intuitive similarities in affective features between the construct and psychopathy, alexithymia has the potential to clarify emotional differences between psychopathic males and females.

The alexithymia construct was further refined via the influential work of Taylor and colleagues (1985) in the development of the 20-item Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994). The TAS-20 is the contemporary "gold standard" assessment tool measuring alexithymia via three factors: difficulty identifying feelings, difficulty describing feelings to others, and externally-oriented thinking (i.e., the tendency to approach decisions and problem-solving with logic as opposed to emotion). The measure has demonstrated good reliability and validity in mentally disordered populations (Parker, Bagby, Taylor, & Acklin,

1993; Taylor, 1994; Taylor, Bagby, & Parker, 1997), community populations (Parker, Taylor, & Bagby, 2003), and cross-cultural samples (Taylor, Bagby, & Parker, 2003).

Subsequent studies investigating alexithymia have drawn conclusions that parallel findings from the literature on psychopathy. While psychopathic individuals are recognized for their careless disregard for the rights and feelings of others and shallow emotion (Cleckley, 1941; Hare, 2003), alexithymic individuals tend to score low on measures that assess their awareness and use of emotional information in guiding their communication and behavior (Taylor, 1994). Individuals with prototypic alexithymic and psychopathic traits also lack empathy and insight and tend not to use introspection (Haviland, Sonne, & Kowert, 2004).

Both alexithymia and psychopathy can be characterized as syndromes of deficient emotion regulation (see Lorenz & Newman, 2002a; Parker, Taylor, & Bagby, 1993; Patrick, 1994; Patrick et al., 1993; Taylor, 1994). Similar to psychopathy (e.g., Blair et al., 2004; Blair et al., 2002; Deeley et al., 2006), Parker and colleagues (2005) found that participants who had difficulty describing feelings on the TAS-20 were less able to detect rapid displays of negative emotional expressions. Their diminished ability at facial recognition was not influenced by participants' level of positive or negative affectivity. These findings are consistent with previous research highlighting alexithymic individuals' diminished ability to recognize facial expressions across a range of both positive and negative emotions, including fear and distress (Parker, Taylor, & Bagby, 1993).

Considerable research has investigated information-processing deficits in both psychopathic and alexithymic populations, particularly the transfer of information between both hemispheres of the brain. Studies have demonstrated information-processing deficits in psychopathic offenders during tasks involving differential activation of brain hemispheres (e.g.,

Hiatt & Newman, 2007; Lopez, Kosson, Weissman, & Banich, 2007). For instance, Kosson (1996, 1998) posited that psychopaths' antisocial behavior and other behavioral impairments in self-regulation is partly the result of information-processing deficits that occur when their left hemisphere is taxed. In conjunction with this hypothesis, other researchers have observed abnormalities in psychopathic individuals in interhemispheric integration of information using various laboratory paradigms (Hiatt & Newman, 2007; Raine et al., 2003). Deficient interhemispheric integration has also been observed in alexithymic individuals. Similar to results with psychopathic offenders, alexithymic undergraduates displayed less efficient transfer of information between cerebral hemispheres compared to non-alexithymic individuals (Parker, Keightley, Smith, & Taylor, 1999).

Another similarity between psychopathy and alexithymia is gender differences in prevalence rates. Similar to the psychopathy literature, research has consistently demonstrated gender differences in the prevalence rates of alexithymia both in college samples (Parker, Taylor, & Bagby, 1993) and the general population (Mattila et al., 2006; Salminen et al., 1999).

The combination of research findings with respect to emotion processing, interhemispheric transfer of information, and gender differences suggest that psychopathy may be similar to alexithymia in a number of ways. However, only a handful of studies have actually investigated the relationship between psychopathy and alexithymia and these include inconsistencies in the operationalization of alexithymia or methodological flaws that make drawing firm conclusions from the literature difficult. The next section will discuss the findings from these studies.

Research indicates that the interpersonal and affective facets of Factor 1 of the PCL-R are related to alexithymia. In an analysis of political leaders with prototypic alexithymic and

psychopathic characteristics, Haviland, Sonne, and Kowert (2004) discovered that individuals possessing high levels of both constructs lacked empathy and insight and failed to use introspection as a means to regulate behavior. Similar to these findings, an interpersonal style marked with Machiavellian egocentricity and deceitfulness was significantly associated in a sample of undergraduates with alexithymia and was less related to feelings of guilt (Wastell & Booth, 2003).

Kroner and Forth (1995) examined the applicability of alexithymia to incarcerated male offenders. In contrast to the usual 3-factor structure of the TAS-20, a 2-factor solution to the TAS-20 provided the best fit to the data from their sample[3] of 104 male prison inmates: Emotional Understanding Deficit and Importance of Emotions. Unexpectedly, total levels of PCL-R psychopathy were moderately and negatively correlated with TAS-20 Emotional Understanding Deficits and total alexithymia. In other words, higher levels of psychopathy were associated with fewer emotional understanding deficits and lower levels of alexithymia. The same trend was observed for interpersonal and affective (PCL-R Factor 1) facets of psychopathy. Kroner and Forth (1995) speculated that these unexpected observations may have resulted from psychopathic offenders' unwillingness to endorse items that could be viewed as unfavorable as a result of their grandiosity and deceitfulness. However, this conjecture remains to be tested; given the gender differences on interpersonal features of psychopathy, it is unclear whether this pattern would persist among female psychopaths.

Antisocial behavior may have a different relationship to alexithymia than psychopathy. Kroner and Forth (1995) found that social deviance and total level of psychopathy were both slightly positively correlated with the TAS-20 Importance of Emotions factor, suggesting that importance of emotions may be associated with higher levels of social deviance in offending

populations. Similarly, Sayar, Ebrinc, and Ak (2001) demonstrated that Turkish military hospital patients with APD exhibited much higher levels of alexithymia (d = 1.74) on the Toronto Alexithymia Scale – Revised (TAS-R; Taylor, Bagby, & Parker, 1992) when compared to non-patient control soldiers. However, these findings may not generalize to a diverse offending population, given (a) the differential patient status of the study's groups and (b) the uniqueness of the sample. Based on these two studies, the relationship between antisocial behavior and alexithymia has yet to be established.

Regarding gender differences, preliminary evidence suggests that antisocial behavior may also be related to alexithymia in women. In a sample of female prison inmates, Louth, Hare, and Linden (1998) demonstrated a moderate correlation between PCL-R Factor 2 and lower ability to distinguish or describe feelings (r = .38). Additionally, their correlational analyses revealed that violence was moderately correlated to individuals' inability to identify and describe feelings (Factor 1 of the TAS-R, r = .36) and externally-oriented thinking (r = .48). However, methodological limitations of this study preclude definitive conclusions about alexithymia's relation to violence and antisocial conduct in female offenders. First, using the now-obsolete TAS-R, its factor scores are no longer considered germane to the alexithymia construct. Additionally, the study collapsed two of the factors from the TAS-R considered separate factors on both the TAS-R as well as the more current TAS-20. As such, it remains unclear whether the social deviance factor of the PCL-R and violence are associated significantly with subjects' inability to recognize feelings or their inability to describe these feelings. Specific alexithymic deficits in psychopathic offenders may clarify documented emotion deficits in psychopathy as well as these deficits' relationship to antisocial conduct.

No studies investigating alexithymia in correctional settings directly compare genders.

Gender differences are documented in psychopathy (e.g., Cale & Lillienfeld, 2002; Rogstad & Rogers, 2008; Salekin, Rogers, & Sewell, 1997), antisocial behavior (e.g., Giordano & Cernkovich, 1997), and alexithymia (e.g., Matilla et al., 2006; Parker, Taylor, & Bagby, 1993; Salminnen et al., 1999). Moreover, making comparisons between the diverse samples described in the psychopathy-alexithymia literature seems unwise considering the discussed inconsistencies in alexithymia operationalization and measurement. Future studies may benefit from making direct gender comparisons on alexithymia levels with psychopathic and antisocial populations, particularly to investigate alexithymia's role in discriminating between the two conditions (Rogstad & Rogers, 2008).

Current Study

The purpose of the present study was to investigate differences in affective features between psychopathy and APD. Furthermore, gender differences for psychopathy were also examined. Because most psychopathic offenders also qualify for diagnosis of APD (Hare, 1996), participants were divided into two groups:[4] offenders with psychopathy and APD (psychopathy-APD) and APD offenders without psychopathy (APD-only). Previous research (Kosson et al., 2006) has successfully used this practice to isolate the effects of psychopathy in comparison to APD and controls. Additionally, psychopathic offenders were subdivided by gender to investigate gender differences in emotion processing and affective features of psychopathy. Affective constructs in the present study included general empathy (e.g., cognitive and affective empathy), victim empathy for various types of offenses, and alexithymia (e.g., difficulty identifying feelings, difficulty describing feelings, and externally-oriented thinking). Emotion processing was assessed via memory for emotionally valenced words.

Research Questions and Hypotheses

Research Question 1: Are there differences in emotion processing and affective deficits between psychopathy-APD and APD-only groups?

Research has consistently demonstrated emotion-processing deficits evident in psychopathic offenders (e.g., Lorenz & Newman, 2002a; Williamson, Harpur, & Hare, 1991). However, little research has directly examined core characteristics of psychopathy (e.g., affective features) between psychopathy and APD.

Hypothesis 1: The psychopathy-APD group will exhibit lower levels of both general empathy and victim empathy than the APD-only group.

Hypothesis 2: The psychopathy-APD group will evidence higher levels of alexithymia than the APD-only group.[5]

Hypothesis 3: The psychopathy-APD group will exhibit lower levels of emotional memory facilitation than the APD-only group.

Research Question 2: Are there differences in emotion processing and affective deficits of psychopathy between genders?

Research demonstrating psychopathic offenders' deficient emotion processing has been limited to males (e.g., Kosson et al., 2006; Stevens, Charman, & Blair, 2001). Given documented gender differences for affective features like empathy in the general population (e.g., Eisenberg & Strayer, 1987) and the importance of such features to the psychopathy construct, research is needed to evaluate the role of affective features in the assessment of female psychopathy.

Hypothesis 4: Female psychopaths will exhibit higher levels of both general empathy and victim empathy than male psychopaths.

Hypothesis 5: Female psychopaths will evidence lower levels of alexithymia than male psychopaths.

Hypothesis 6: Female psychopaths will show higher levels of emotional memory facilitation than male psychopaths.

Research Question 3: Are differences in the prevalence rates of psychopathy-APD and APD-only an artifact of different cut scores?

Psychopaths must meet 75.0% (30 of 40) of the possible PCL-R total score to merit classification. In stark contrast, individuals with APD need only meet 27.3% (3 of 7 adult criteria and 3 of 15 childhood conduct symptoms) of the total criteria for this diagnosis. As a result, Rogers and Rogstad (2010) suggested the asymmetrical relationship documented between psychopathy and APD (e.g., Hare, 1996, 2003; Patrick, 2007) may simply reflect the differential proportion of symptoms needed for each classification. I will compare prevalence rates of psychopathy to APD groups created using (a) standard cut scores and (b) equivalent cut scores reflecting approximately 27% (i.e., PCL-R total scores $\geq$ 11) of criteria in this offender sample.

CHAPTER 2

METHOD

Design

The current study used a primarily between-groups design with classification group and gender as independent variables. This categorization resulted in the following groups: offenders with psychopathy and antisocial personality disorder (psychopathy-APD), APD-only, and non-APD offenders. The psychopathy-APD group was further subdivided for gender-specific analyses into male psychopathy-APD and female psychopathy-APD[6] groups. Levels of general empathy, victim empathy, alexithymia, and emotional memory facilitation were assessed as dependent variables. This design allows for examination of rival hypotheses regarding the construct validity of psychopathy and APD. It also provides an opportunity to make direct comparisons between genders on core, affective features of psychopathy to aid in the assessment of the syndrome in female offenders.

Participants

A total of 103 offenders were recruited from general population at Tarrant County Jail in Fort Worth, Texas. For inclusion in the study, male and female inmates had to (a) be free of recently violent behavior that would endanger the safety of the examiner, (b) be fluent in English, (c) demonstrate adequate ability to comprehend and summarize their rights as research participants, (d) earn at least a fourth-grade reading level equivalent on an administered achievement test, and (e) be free of any current diagnosis of a psychotic disorder.

Research and Administrative Approval

The current research project was jointly approved by the University of North Texas Institutional Review Board and the administration at Tarrant County Jail.

Materials

Psychopathy Checklist – Revised

The Psychopathy Checklist – Revised (PCL-R; Hare, 2003) consists of 20 items scored after a 60- to 90-minute semi-structured interview and a collateral review of inmates' file information. Each item is scored 0 (not present), 1 (maybe present), or 2 (definitely present). Resulting scores range from 0 to 40, with 40 representing the prototypic psychopath.

The PCL-R has demonstrated good reliability and validity in European American samples (Hare, 1996; Hare et al., 1990; Kosson, Smith, & Newman, 1990; Lorenz & Newman, 2002a) and is considered the "gold standard" for psychopathy assessment (Fulero, 1995). Hare (2003) reported good total PCL-R score internal consistency ($\alpha = .84$) and interrater reliability (ICC = .87) estimates for a pooled sample of male offenders, female offenders, and male forensic psychiatric patients. For male offenders, interrater reliabilities of PCL-R factor (Factor 1: ICC = .75; Factor 2: ICC = .85) and facet (Interpersonal: ICC = .71; Affective: ICC = .67; Lifestyle: ICC = .75; Antisocial: ICC = .84) scores were similarly high. Likewise, female offenders produced similar and even slightly higher reliability estimates for factor (Factor 1: ICC = .86; Factor 2: ICC = .92) and facet (Interpersonal: ICC = .84; Affective: ICC = .73; Lifestyle: ICC = .87; Antisocial: ICC = .89) scores.

Structured Interview for DSM-IV Personality

APD-specific criteria were used from the modular version of the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl, Blum, & Zimmerman, 1995). The SIDP-IV is a semi-structured interview designed to assess for the presence of *DSM-IV* Axis II disorders. The interview employs a "50% rule;" that is, the symptom has been present more often than not to meet this criterion.

APD items are rated on a 4-point scale: 0 (not present), 1 (subthreshold), 2 (present), or 3 (strongly present). Consistent with the *DSM-IV-TR*, APD diagnosis was met with three or more of seven adult criteria and three or more of 15 criteria for conduct disorder. The complete SIDP-IV has demonstrated good construct validity and diagnostic reliability, with median reliability estimates ranging from moderate to moderately high (.66 to .80; Rogers, 2001). Moreover, APD-specific criteria evidence similarly high estimates (Zimmerman & Coryell, 1990).

Self Report Measures

Interpersonal Reactivity Index. The Interpersonal Reactivity Index (IRI; Davis, 1980) consists of 28 items rated on a 5-point Likert-type scale (0 = *does not describe me very well* to 4 = *describes me very well*). The IRI is one of the most widely used tools to measure general empathy in current research (Jolliffe & Farrington, 2004). Two of the IRI's four factors are frequenty utilized to measure the basic components of general empathy: affective empathy via the Empathic Concern (EC) factor (e.g., "I often have tender, concerned feelings for people less fortunate than me.") and cognitive empathy through the Perspective Taking (PT) factor (e.g., "I try to look at everybody's side of a disagreement before I make a decision."). The IRI has demonstrated satisfactory internal consistency (ranging from .71 to .77) and adequate test-retest reliability estimates (.62 to .71; Davis, 1980).

Basic Empathy Scale. The Basic Empathy Scale (BES; Jolliffe & Farrington, 2006) consists of 20 items rated on a 5-point Likert-type scale (ranging from *strongly disagree* to *strongly agree*). The BES is divided into two factors corresponding to facets of general empathy: Cognitive Empathy, measuring comprehension of others' emotional states (e.g., "I find it hard to know when my friends are frightened."), and Affective Empathy, assessing the extent of an individual's experience of others' emotional states (e.g., "My friends' emotions don't affect me

much."). Although a relatively new measure, the BES was designed to refine the operationalization of cognitive and affective empathy. For reliability, its internal consistency estimates range from .79 for BES Cognitive Empathy to .85 for Affective Empathy (Jolliffe & Farrington, 2006). Its initial validation has demonstrated adequate construct and predictive validity.

Victim Concern Scale – 22. Participants' level of victim empathy will be assessed via the Victim Concern Scale – 22 (VCS-22; Clements, Brannen, Kirkley, Gordon, & Church, 2006), a 22-item, abbreviated self-report version of the 54-item Victim Concern Scale (VCS; Clements et al., 2006). The VCS-22 assesses empathy toward different types of hypothetical crime victims using four separate factors of empathy: General Concern (e.g., "female victims"), Concern for Vulnerable or Violent Crime Victims (e.g., "victims of child molestation"), Concern for Property Crime Victims (e.g., "victims of car theft"), and Concern for "Culpable" Victims (e.g., "victims who are gang members"). Items are rated on a 5-point Likert-type scale indicating their level of concern toward each hypothetical victim (ranging from *not concerned* to *extremely concerned*). The VCS-22 is the only measure that assesses empathy toward a variety of crime victims rather than one kind of victim (e.g., rape victims). The measure has exhibited excellent internal consistency ($\alpha = .94$; Clements et al., 2006). Moreover, the VCS-22 has demonstrated construct validity across diverse samples as well as convergent and discriminant validity compared to measures of general empathy (Clements et al., 2006).

Toronto Alexithymia Scale – 20. The Toronto Alexithymia Scale – 20 (TAS-20; Bagby, Parker, & Taylor, 1994) is a 20-item self-report scale divided into three factors: Difficulty Identifying Feelings (e.g., "I am often confused about what emotion I am feeling."), Difficulty Describing Feelings (e.g., "It is difficult for me to find the right words for my feelings."), and

Externally-Oriented Thinking (e.g., "I prefer to analyze problems rather than just describe them."). Reliability estimates are adequate, with internal consistencies ranging from .70 to .86 (Parker, Taylor, & Bagby, 2003). The TAS-20 has demonstrated construct validity across diverse clinical and nonclinical populations (Parker et al., 1993) as well as convergent validity via predicted negative relationships with measures of affective orientation (Bagby, Taylor, & Parker, 1993; Taylor, 1994).

Paulhus Deception Scales. The Paulhus Deception Scales (PDS; Paulhus, 1999) consist of 40 items using a 5-point Likert-type scale, ranging from 1 (*not true*) to 5 (*very true*). The PDS measures two major forms of socially desirable responding: Impression Management (IM) and Self-Deceptive Enhancement (SDE). The IM scale provides information on the tendency of some respondents to consciously respond to items in an attempt to make themselves appear favorably (e.g., "I am always courteous, even to people who are disagreeable."). The SDE scale provides information on the tendency of some respondents to provide agreeable self-profiles due to an overly confident, inaccurate self-regard (e.g., "I never regret my decisions."). The PDS has shown adequate (α_{SDE} = .72) to excellent (α_{IM} = .84 and α_{Total} = .86) reliability in offender samples and its scales have amply demonstrated convergent and discriminant validity (Paulhus, 1999).

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) is a brief, 20-item self-report questionnaire that measures trait emotions on a 5-point Likert-type scale (ranging from *very slightly or not at all* to *extremely*). Ten items correspond to a Positive Affect (PA) scale (e.g., "excited" and "proud"), while ten items relate to the Negative Affect (NA) scale (e.g., "scared" and "guilty"). The scales have demonstrated high reliability, with internal consistency estimates ranging from .86 to .90

for the PA scale and .84 to .87 for the NA scale. Furthermore, the PANAS has sufficiently evidenced convergent validity with related construct measures, including general psychological distress and, more specifically, depression and state anxiety (Watson et al., 1988). Beyond investigating potential group differences for general emotionality, the PANAS was administered to control for potential associations between affect and memory for emotionally valenced material (e.g., Bower & Forgas, 2001; Eich & Macaulay, 2000) presented in the emotion processing task.

Emotion processing task. Emotion processing was assessed via participants' performance on an emotional memory task. Task stimuli consisted of 48 words of varying emotional valence (12 positive words, 12 negative words, and 24 neutral words) that were pre-matched on frequency, length, concreteness, syllabic complexity, ease of pronunciation, and imagery (Lorenz & Newman, 2002a; see Appendix B for a list of the words included in the task). The current paradigm, modeled after that developed by Grühn, Smith, and Baltes (2005), presented the words serially. Each word was shown individually in black 64-point Arial font on a uniform white index card for one second, with a blank white index card presented between each word for one second. Words were presented in blocks of 3 emotional (positive or negative) words or 6 neutral words in the following order: positive, negative, neutral, neutral, negative, positive, neutral, negative, positive, neutral, positive, negative.[7] After all 48 words were introduced, participants were asked to recall in writing as many words as they could remember from the previously presented list. Consistent with standard practice, the first two ("dove" and "custom") and last two ("bowl" and "perjury") words of the list were not included in subsequent analyses to avoid primacy and recency memory effects.

Procedure

Inclusion and Exclusion Criteria

Participants were recruited in the day room settings of general population at Tarrant County Jail on a strictly voluntary basis. Any female or male detainee at the facility was eligible to participate in the study provided they (a) had not displayed recently violent behavior that would place the researcher at immediate risk and (b) were fluent in English. Each potential recruit was approached at random by the examiner, given a brief synopsis of the study, and asked for their participation. If the detainee agreed, they moved to an individual testing area in the day room that afforded the participant adequate privacy while simultaneously fulfilling the facility's supervision and safety requirements.

Prior to the initiation of any testing procedures, the examiner explained the consent form to each potential participant and subsequently asked them to paraphrase their rights as research participants. Any misconceptions were further clarified by the examiner and recruits were again asked to summarize their rights as they understood them. Failure to accurately restate these rights resulted in immediate excusal from participation with the examiner's thanks. However, those detainees who demonstrated adequate comprehension of their research rights completed a written consent form.

Further exclusionary criteria were implemented by the administration of two screening measures prior to primary testing procedures. First, participants were administered a brief screening measure of reading comprehension to ensure that they could adequately comprehend material presented in self-report measures. The reading subtest of the Wide Range Achievement Test – 4th Edition (WRAT-4) was used for this purpose. Consistent with previous studies,

detainees who failed to achieve a fourth-grade reading level equivalency were excused from subsequent participation.

Second, prior research (e.g., Glass & Newman, 2009) investigating aspects of emotion processing in psychopathic offenders underscores the importance of excluding individuals with comorbid psychotic disorders. Specifically, this exclusion minimizes the potential for shared symptoms between disorders (e.g., lack of insight, blunted affect) that could confound results of affective deficits being examined. Participating detainees were therefore evaluated for the presence of psychotic symptoms using the Mini International Neuropsychiatric Interview (MINI), a brief, semi-structured diagnostic interview used to quickly screen for 17 Axis I disorders. For the purposes of the current study, only the module assessing for psychotic disorders and mood disorder with psychotic features was administered.

Primary Research Procedures

Participants that met the inclusion criteria were then administered the research measures. Interviews (PCL-R and the SIDP-IV APD module) were administered first, their order being counterbalanced across participants. The interviews were used to (a) build rapport and (b) ensure that detainees' portrayal of affective features (e.g., callousness, remorse) during interviews were not unduly influenced by related self-report items (e.g., victim empathy). Next, each participant completed the emotion processing task before individually completing self-report questionnaires to avoid any priming effects of emotional content included in self-report items. Finally, self-report questionnaires were administered in a quasi-random order to minimize any ordering effects of material presentation between participants. Specifically, general empathy and victim empathy measures were separated by alexithymia (i.e., TAS-20), general emotionality (i.e., PANAS), and response style (i.e., PDS) procedures. Moreover, general empathy measures were

kept most separate to reduce carry-over effects, resulting in two orders: (a) BES, TAS-20, VCS-22, PANAS, IRI, and PDS and (b) IRI, PDS, VCS-22, TAS-20, BES, and PANAS.

At the conclusion of testing, inmates were debriefed by the examiner. Debriefing included a broad description of the aims of the study and general purpose of each testing procedure. Participants were also given ample time to inquire about the study and further clarify the purposes of each individual measure. Once participants indicated that the examiner had sufficiently answered any questions, each individual was thanked for their participation and asked not to share any information about the study with other potential recruits.

Prior to data analysis, certain scoring procedures for the PCL-R were implemented to enhance internal validity. First, because institutional files were not available, PCL-R items (i.e., "Juvenile Delinquency" and "Criminal Versatility") could not always be reliably scored based only on interview information using scoring instructions (e.g., denial of a juvenile arrest record). Therefore, total PCL-R scores for these cases were prorated according to Hare's (2003) recommendations, and individual prorated scores were then assigned to these items to allow for PCL-R facet examination. Furthermore, Hare's (2003) dimensional approach was subsequently utilized for group classification for female offenders whereby scores in the moderate (17-24), high (25-32) and very high (33-40) ranges were categorized *psychopathic* and female offenders with scores in the very low (0-8) and low (9-16) ranges were considered *non-psychopathic*. Moreover, when categorizing psychopathy between genders, Hare (2003) recommends the use of *T*-score conversions to delineate group cut scores. As a result, for male inmates, psychopathy classification cut scores were similarly adjusted to correspond to female groups (i.e., psychopathic: moderate to very high; non-psychopathic: very low to low), with raw total PCL-R scores ≥ 20 being categorized as male psychopaths and < 20 delineating male non-psychopaths.[8]

CHAPTER 3

RESULTS

Refinement of the Sample

In all, 103 male and female detainees completed participation in the study. One additional female detainee was excused from further participation after the administration of screening measures because she failed to achieve a fourth-grade reading level equivalence on the Wide Range Achievement Test – 4th Edition (WRAT-4) as the result of a prior traumatic brain injury. Of these 103 detainees, five participants (4.9%) were excluded from subsequent analyses because, according to results from the Mini International Neuropsychiatric Interview (MINI), at the time of testing they displayed acute psychotic symptoms that could confound conclusions for affective features under investigation.

Demographic Data

The final sample consisted of 39 (39.8%) male and 59 (60.2%) female offenders ranging in age from 17 to 61 (M = 31.18, SD = 10.01) years. Participants' self-reported ethnicities varied, approximately half comprised of European American offenders (51; 52.0%). Minority offenders were represented by African American (24; 24.5%), Hispanic American (14; 14.3%), and bi-racial (9; 9.2%) individuals. Participating offenders' level of education ranged considerably, from middle school to post-bachelor levels, with an average education of near completion of high school (M = 11.54, SD = 2.60). In comparison to more stable prison populations, samples of jail detainees tend to be more transient in nature. Despite a wide range in duration of incarceration (i.e., 1 to 653 days), the current sample's average detention was close to three weeks (Mdn = 22.00 days). Nearly all (89.8%) participants had been detained for more than three days, giving them adequate time to emotionally adjust to their institutional surroundings.

Male and female offenders in the current sample were relatively similar in terms of demographic and clinical variables. Interestingly, despite the tendency for antisocial personality disorder (APD) to occur more frequently in men than women in the general population, the diagnosis provides more of an "equal opportunity" in the current jail sample. For instance, female offenders (57.6%) were diagnosed with APD only slightly less than their male counterparts (69.2%). This difference stands in direct contrast to the threefold gender difference in prevalence rates among community samples (i.e., 1% and 3%, respectively). The current percentages are not surprising, however, considering the correctional setting of the current sample. Table 3 further summarizes these findings.

Table 3

A Comparison of Male and Female Offenders on Demographic and Clinical Variables

	Male (n = 39)		Female (n = 59)			
	M	*SD*	*M*	*SD*	*F*	*d*
Age	30.36	11.00	31.73	9.35	.44	.14
Education	11.91	2.36	11.30	2.73	1.32	-.24
Incarceration length (days)	57.82	84.60	73.93	130.41	.47	.14
Prior arrests[a]	9.08	7.35	9.48	15.84	.02	.03
PCL-R psychopathy	17.30	7.70	14.75	7.70	2.58	-.33
Interpersonal facet	2.54	2.35	2.10	1.85	1.05	-.21
Affective facet	2.95	2.24	1.85	1.83	7.13**	-.55
Lifestyle facet	4.56	2.33	4.59	2.71	.003	.01
Antisocial facet	4.92	2.27	3.88	2.46	4.40*	-.43
Adult APD symptoms	3.44	2.04	3.27	1.95	.16	-.08

For F ratios, *$p < .05$, **$p \leq .01$.

[a]One female participant who reported 1000 prior arrests was excluded from this analysis because this information seemed unlikely and records were not available for independent verification.

The design of the current research project allowed for direct gender comparisons to be made with respect to specific psychopathy features. Interestingly, female offenders received significantly lower scores on affective (d = -.55) and antisocial (d = -.43) components of psychopathy compared to their male counterparts. Consistent with previous research (e.g.,

Ireland, 1999), the lower scores on the Affective facet indicate a higher level of emotionality for female than male offenders in general. More specific gender trends will be explored further in a future section detailing primary analyses.

Unexpectedly, male offenders received only slightly higher (d = -.33) total Psychopathy Checklist – Revised (PCL-R) scores compared to their female counterparts. Although the magnitude of this difference (i.e., 2.55 points) is relatively consistent with the gender differences noted by Hare (2003) in the PCL-R offender standardization sample, both male (d = .61) and female (d = .57) offenders in the current sample scored substantially lower than Hare's normative offender samples for their respective gender. For instance, while female offenders in the standardization sample averaged a score of 19.0, placing them firmly in the "moderate" psychopathy classification, female psychopathy levels in the current sample were generally "low." The distribution of PCL-R levels by gender are illustrated in Table 4.

Table 4

Descriptive Categorization of PCL-R Psychopathy Total Scores by Gender

	Male (%)	Female (%)
Very high (33-40)	5.1	1.7
High (25-32)	7.7	8.5
Moderate (17-24)	33.3	27.1
Low (9-16)	43.6	35.6
Very low (0-8)	10.3	27.1

This relative attenuation in very high scores is likely an artifact of the differences in data collection sites. Hare's (2003) pooled sample of female offenders included prison correctional facilities, many of which likely housed more severely violent women. In contrast, the current data were collected from a generally less severely antisocial population housed in jail facilities.

The current findings are consistent with previous research (Rogers, Jordan, & Harrison, 2007) utilizing general jail samples with "more typical" offenders. As an illustrative example, total PCL-R scores (M = 15.77, SD = 7.76) were relatively consistent with those documented by Rogers and colleagues (2007; M = 13.52, SD = 7.04, d = -.30) among jail detainees.

Furthermore, reported index offenses in the current sample were decidedly non-violent in nature. Also consistent with Rogers et al. (2007), offenders in the current sample were only rarely (7.1%) detained for violent crimes, of which the majority (57.1%) constituted simple assaults. Rather, offenders were being detained mostly for drug-related (35.7%), theft (12.2%) fraud or forgery (9.2% and 7.1%, respectively), or DUI (7.1%) charges. Approximately one-tenth (10.2%) of offenders' primary offenses were for minor, miscellaneous (e.g., probation violation) charges. Interestingly, when applying narrow criteria from the FBI's Uniform Crime Report categorization of violent crimes (i.e., murder/non-negligent manslaughter, forcible rape, robbery, and aggravated assault; U.S. Department of Justice – Federal Bureau of Investigations, 2005), male offenders (2.6%) were no more likely than female offenders (1.7%) to be held on violent crimes (χ^2 [1, N = 98] = 0.00, p = 1.00), likely a result of the low overall incidence of these offenses (2.0%) in the current sample.[9]

Scale Properties

The PCL-R has been lauded for its ability to reliably capture the psychopathy construct. Total PCL-R (ICC = .86) and facet (Interpersonal: ICC = .75; Affective: ICC = .85; Lifestyle: ICC = .74) scores produced similarly good interrater reliability in the current study. The reliability of Facet 4 could not be determined because two items from this facet (i.e., "Juvenile Delinquency" and "Criminal Versatility") were routinely prorated as a result of the unavailability of files to corroborate participant report.

The current study provides the first attempt to establish interrater reliability estimates for the modular version of the Structured Interview for *DSM-IV* Personality Disorders (SIDP-IV) using only APD-specific criteria. As previously described, reviews (Rogers, 2001) have documented moderate to moderately high (.66 to .80) diagnostic reliability for the SIDP, with even higher estimates for APD alone (Zimmerman & Coryell, 1990). Reliability estimates for APD-specific criteria from the current study were similarly acceptable ($\kappa_{diagnosis}$ = .78) to good ($M\ r_{symptoms}$ = .84).

Internal consistency estimates for self-report measures are presented in Table 5. With a few notable exceptions, reliabilities were acceptable to excellent, and generally consistent with previously reported estimates of internal consistency for individual measures.

Table 5

Reliability Estimates for Self-Report Measures

	Measure	Items (*n*)	α	*M* inter-item *r*
General Empathy	IRI Perspective Taking	7	.40[a]	.26
	IRI Empathic Concern	7	.78	.35
	BES Empathy	20	.78	.14
	BES Cognitive Empathy	9	.71	.22
	BES Affective Empathy	11	.83	.31
Victim Empathy	VCS-22 Victim empathy	22	.94	.40
	Factor 1: General Concern	8	.91	.55
	Factor 2: Vulnerable or Violent Crime Victims	6	.68	.27
	Factor 3: Property Theft Victims	4	.91	.71
	Factor 4: "Culpable" Victims	4	.87	.64
Alexithymia	TAS-20 Alexithymia	20	.83	.19
	Factor 1: Difficulty Identifying Feelings	7	.79	.34
	Factor 2: Difficulty Describing Feelings	5	.77	.41
	Factor 3: Externally-Oriented Thinking	8	.31	.05
General Affectivity	PANAS Positive Affect	10	.89	.45
	PANAS Negative Affect	10	.89	.46

[a]One scale item ("I sometimes try to understand my friends better by imagining how things look from their perspective") was removed to produce a more acceptable scale reliability estimate (α = .74).

As presented in Table 5, two scales lacked adequate internal consistency: Interpersonal Reactivity Index (IRI) Perspective Taking (α = .40) and Toronto Alexithymia Scale – 20 (TAS-20) Externally-Oriented Thinking (α = .31). With regard to IRI Perspective Taking, closer examination of inter-item correlations (*M r* = .10) revealed that one particular item ("I sometimes try to understand my friends better by imagining how things look from their perspective.") was drastically lowering internal consistency estimates. With its removal, scale reliability of IRI Perspective Taking (α = .74) rose to an acceptable level. As a result, this item was excluded from this scale in subsequent analyses.

All scale items were retained for TAS-20 Externally-Oriented Thinking to facilitate interpretation of the scale and ensure consistency with established construct conceptualizations. In the current study, deletion of specific items did not substantially improve reliability estimates for the scale. Moreover, previous research (e.g., Cleland et al., 2005; Thorberg et al., 2010) with substance users has similarly documented lower reliabilities for this TAS-20 factor. Thorberg and colleagues (2010) assert that TAS-20 Externally-Oriented Thinking provides meaningful content coverage of the alexithymia construct that compensates for resulting low alpha estimates. From their perspective, such low reliability estimates do not necessarily invalidate the scale.

Descriptive Data

A critically important first step in the current investigation was to examine relationships between psychopathy features and conceptually relevant affective constructs (see Table 6). Interestingly, with respect to empathy, the PCL-R Affective facet was only modestly associated with victim empathy (*M r* = -.30) and measures of general empathy (*M r* = -.28). Beyond empathic deficits, items from the PCL-R Affective facet also include remorselessness, failure to accept responsibility for actions, and emotional shallowness.

Table 6

Relationships Between Psychopathy Facets, Empathy, and Alexithymia Among Jail Detainees

Measure	Adult APD *r*	PCL-R total *r*	Interpersonal *r*	Affective *r*	Lifestyle *r*	Antisocial *r*
			General empathy			
IRI Perspective Taking	-.41***	-.42***	-.15	-.37***	-.39***	-.38***
IRI Empathic Concern	-.38***	-.42***	-.26**	-.30**	-.31**	-.41***
BES Empathy	-.25*	-.30**	-.12	-.31**	-.12	-.34**
BES Cognitive Empathy	-.15	-.18	.02	-.08	-.11	-.30**
BES Affective Empathy	-.21*	-.25*	-.16	-.32**	-.08	-.23*
M	*-.28*	*-.31*	*-.13*	*-.28*	*-.20*	*-.33*
			Victim empathy			
VCS-22 Victim empathy	-.30**	-.37***	-.32**	-.34**	-.24*	-.26**
General Concern	-.23*	-.31**	-.24*	-.30**	-.19	-.24*
Vulnerable or Violent Crime Victims	-.32**	-.40***	-.35**	-.38***	-.26**	-.28**
Property Theft Victims	-.30**	-.32**	-.22*	-.29**	-.27**	-.21*
"Culpable" Victims	-.21*	-.26**	-.32**	-.20	-.13	-.18
M	*-.27*	*-.33*	*-.29*	*-.30*	*-.22*	*-.23*
			Alexithymia			
TAS-20 Alexithymia	.46***	.48***	.22*	.30**	.47***	.48***
Difficulty Identifying Feelings	.40***	.42***	.24*	.24*	.40***	.37***
Difficulty Describing Feelings	.40***	.40***	.13	.27**	.44***	.39***
Externally-Oriented Thinking	.33**	.38***	.16	.25*	.32**	.43***
M	*.40*	*.42*	*.19*	*.27*	*.41*	*.42*
			General affectivity			
PANAS Positive Affect	-.11	.002	.21	.07	-.08	-.15
PANAS Negative Affect	.45***	.38***	.10	.18	.43***	.40***

Note. IRI = Interpersonal Reactivity Index; BES = Basic Empathy Scale; VCS-22 = Victim Concern Scale – 22; TAS-20 = Toronto Alexithymia Scale – 20; PANAS = Positive and Negative Affect Scale. To balance Type I and Type II error concerns, conclusions will be drawn based primarily on correlations significant at the .01 level.

*$p < .05$; **$p \leq .01$, ***$p < .0005$.

The slightly higher association between the PCL-R Affective facet and more specific measures of victim empathy over general measures of empathy suggest that considerations of callousness and remorse when assessing PCL-R psychopathy might be better directed toward the examinee's victims, particularly when such victims are "vulnerable" or crimes are violent in nature.

Table 6 highlights the importance of behavioral elements of psychopathy, particularly antisociality, in relationship to affective constructs. In particular, both PCL-R Lifestyle (*M r* = .41) and Antisocial (*M r* = .42) facets are moderately associated with alexithymia, while relationships to more traditionally "core" personality traits of psychopathy proved more modest among male and female offenders in the current sample. Interestingly, this relationship is also evident with the behaviorally-based adult criteria of APD (*M r* = .40). These patterns of results potentially implicate affective deficits' more complex role in general criminality as opposed to psychopathy (and, even more specifically, interpersonal or affective features of PCL-R Factor 1) per se, particularly with respect to negative trait emotionality (*r*s = .43 and .40, respectively). These relationships will be further investigated via competing hypotheses utilizing psychopathy-APD and APD-only offender groups in the following section.

Primary Data Analysis

Emotion in Psychopathy and APD

Hypotheses 1 and 2 examined whether offenders with psychopathy-APD exhibited greater general and specific emotion deficits than offenders with only APD. Unexpectedly, a sufficient number of offenders who did not qualify for psychopathy or APD classification were available for analysis. This group is designated as "non-APD" offenders. As a result, these hypotheses were expanded with the expectation that fewer emotion deficits would emerge among this non-APD group.

Table 7

General Empathy Deficits Across Psychopathy and APD Groups

	Psychopathy-APD (n = 31)		APD-only (n = 30)		Non-APD (n = 36)			Cohen's d effect size		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	d_1	d_2	d_3
IRI Perspective Taking	12.65_a	5.10	14.43_a	5.46	17.19_b	3.21	8.17**	-.34	-1.09	-.63
IRI Empathic Concern	18.40_a	5.95	20.81_{ab}	5.37	22.80_b	3.92	6.15**	-.43	-.89	-.43
BES Empathy	71.11	9.79	71.66	8.83	75.68	7.74	2.63	-.06	-.52	-.49
Cognitive Empathy	34.96	5.19	35.66	3.93	36.24	3.40	.74	-.15	-.29	-.16
Affective Empathy	36.15	9.21	36.00	6.73	39.44	6.28	2.21	.02	-.42	-.53
M d								*-.19*	*-.64*	*-.49*

Note. Psychopathy groups were created using *T*-score transformations by gender; Games-Howell post-hoc tests were performed instead of Ryan tests for IRI Perspective Taking after preliminary analyses revealed that the assumption of homogeneity of variances was violated (Levene Statistic = 4.44, p = .01); Subscripts denote significantly different groups; d_1 = Effect size between psychopathy-APD and APD-only groups, d_2 = Effect size between psychopathy-APD and non-APD groups, d_3 = Effect size between APD-only and non-APD groups.
For *F* ratios, **$p \leq .01$.

Findings within each emotional domain (i.e., general empathy, victim empathy, alexithymia, and emotional memory) are presented in the following sections.

General empathy. Previous research (e.g., Hare, 2003) has documented the inverse relationship between psychopathy and measures of empathy. However, few studies directly investigated differences between psychopathy and APD. Contrary to predictions, only slight differences emerged between psychopathy-APD and APD-only groups with respect to general empathy (*M d* = -.19; see Table 7). Interestingly, psychopaths seem to display lower levels of empathic concern (i.e., IRI Empathic Concern; *d* = -.43) than perspective taking (i.e., IRI Perspective Taking; *d* = -.34) abilities compared to their APD-only counterparts. The indication that psychopaths may be distinguished from the more heterogeneous APD population by particular deficiencies in concern for unfortunate others is not surprising given other affective deficits (i.e., shallow affect) specific to the syndrome.

Predictably, the largest differences in empathy levels were observed between psychopathic and non-APD offenders, further supporting the utility of psychopathy over "nothing" (Vitacco et al., 2009) in correctional samples. Psychopathy-APD offenders displayed moderately attenuated levels of empathy (*M d* = -.64) compared to their non-APD counterparts (see Table 7), with the largest differences occurring in perspective-taking ability.

However, psychopathy-APD and APD-only groups evidenced similar levels of general empathy. For instance, psychopathy-APD and APD-only offenders differed by less than two points, but APD-only offenders scored nearly three points lower than their non-APD counterparts on a well-validated measure of perspective-taking ability (i.e., the IRI Perspective Taking scale). Consistent with the significant relationships between antisociality and general empathy (*M r* = -.33) presented previously (see Table 6), these results suggest that general

deficiencies in empathy may be related to an antisocial lifestyle rather than psychopathy per se.

Low levels of sympathy may be more distinguishing of psychopathy than empathy. Jolliffe and Farrington (2006) recently criticized the IRI for its implicit failure to disentangle sympathy (i.e., one's own feelings about the emotions of others; Eisenberg & Strayer, 1987) from affective empathy (i.e., simultaneous sharing of another's affective state). Although a subtle distinction, this criticism describes a key variation between the IRI Empathic Concern scale and the BES Affective Empathy scale. As seen in the effect sizes provided in Table 7, psychopathy-APD offenders displayed moderately lower (d = -.43) IRI Empathic Concern than their APD-only counterparts, while differences for BES Affective Empathy (d = .02) were negligible. An essential component of understanding the affective features of psychopathy is providing precise definitions of these deficits. As such, the current results suggest that psychopathy may be more associated with a lack of concern for others than dysfunction in shared emotional experiences.

Victim empathy. Social desirability was assessed by the Paulhus Deception Scales (PDS) as a precautionary measure because victim empathy may be susceptible to this response style. Using the Impression Management (IM) scale to approximate social desirability (see Paulhus, 1999), Paulhus' recommended cut score (i.e., > 12) was used to delineate valid from socially desirable responding. No group differences for response style emerged (χ^2 [2, N = 95] = 5.47, p = .07; see Table 8 for percentages).

Table 8

Impression Management and Social Desirability Among Psychopathy and APD Groups

	Psychopathy-APD (%)	APD-only (%)	Non-APD (%)
Valid Responding	96.7	96.7	82.9
Social Desirability	3.3	3.3	17.1

Higher percentages of IM scores for non-APD than psychopathy-APD offenders were completely unexpected because of the interpersonal features intrinsic to the psychopathy construct (i.e., deceitfulness and a tendency to present oneself in a good light; Hare, 2003). However, non-APD offenders were over 10% more likely to engage in socially desirable responding than their psychopathy-APD and APD-only counterparts. Surprisingly, interpersonal features (e.g., glibness, grandiosity, deceitfulness) were only weakly and *negatively* (r = -.24) related to impression management. Across all facets, higher levels of psychopathy indicated a *lower* likelihood to deliberately conceal shortcomings and appear socially acceptable (see Table 9). However, the non-APD group's attempts to appear socially desirable suggest some degree of insight into the negative aspects of one's character that require minimization. In contrast, psychopaths' unrestricted disclosure of such unfavorable traits may be the result of (a) indifference toward other's perceptions of them, or (b) lack of insight into the effects of their behavior on others.

Table 9

Relationships Among Psychopathy Facets and PDS Response Style Scales

	IM	SDE
	r	*r*
Total PCL-R psychopathy	-.42***	-.03
Interpersonal facet	-.24*	.07
Affective facet	-.11	.16
Lifestyle facet	-.47***	-.15
Antisocial facet	-.39***	-.08

For F ratios, *$p < .05$, **$p \leq .01$, ***$p < .001$.

Social desirability appears to be at least modestly associated with endorsed victim empathy toward specific crime victims on the VCS-22. Unlike general empathy measures, the functioning of the VCS-22 independent of social desirability has not yet been demonstrated (see

Clements et al., 2006). Social desirability was modestly related to total victim empathy (r = .25, p = .02) as well as concern for vulnerable victims or victims of violent crimes (r = .24, p = .02) and property theft victims (r = .33, p = .001). Given these relationships, a one-way ANCOVA was performed between psychopathy and APD groups, with the PDS IM scale as the covariate.

Offenders with psychopathy-APD displayed the lowest levels of empathy for crime victims (see Table 10). Consistent with findings for general empathy, psychopathy-APD was more indicative of deficient general concern for victims than the non-APD group. Unexpectedly, deficits for specific crime victims were non-significant and only slight in comparison to offenders with APD-only (M d = -.28). Even more surprisingly, only moderate differences emerged between psychopathy-APD and non-APD offenders (M d = -.64). The effects of detention could provide an explanation;[10] it is possible that (a) incarceration uniformly diminishes offenders' willingness to convey victim concern (i.e., retain a "tough guy" image), regardless of their psychopathy level, or (b) offenders have limited insight into the nuances of their views toward victims.

Expressed victim empathy among these offenders in general was surprisingly high, likely a reflection of the non-extreme (i.e., jail vs. maximum security prison) nature of this sample. For instance, a "perfect" score (i.e., rating *extremely concerned* for all 22 victim types) on the VCS-22 would result in a total score of 110. Even assigning a fairly conservative benchmark of 80% (i.e., $\geq$ 88) to denote high concern resulted in over half (53.6%) the sample being considered empathic toward victims. Psychopathy-APD and APD-only groups were 15-20% lower in victim empathy than non-APD offenders, χ^2 (2, N = 96) = 3.10, p = .21 (see Table 11 for percentages).

Table 10

Victim Empathy Deficits in Offender Groups with Psychopathy and APD

	Psychopathy-APD (n = 31)		APD-only (n = 30)		Non-APD (n = 35)			Cohen's d effect size		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	d_1	d_2	d_3
Victim empathy[1]	82.23	18.37	87.73	14.31	93.70	12.51	2.36	-.35	-.73	-.38
General Concern[2]	30.42_a	7.80	32.83_{ab}	6.63	34.57_b	5.69	3.15*	-.33	-.61	-.28
Vulnerable or Violent Victims[1]	26.13	3.84	27.17	3.04	28.49	2.20	2.55	-.33	-.75	-.42
Property Theft Victims[1]	13.30	4.82	14.17	3.88	16.05	3.55	1.04	-.20	-.65	-.44
"Culpable" Victims[2]	12.65	4.47	13.57	4.50	14.60	3.75	1.76	-.21	-.48	-.25
M d								*-.28*	*-.64*	*-.35*

Note. Subscripts denote significantly different groups; d_1 = Effect size between psychopathy-APD and APD-only groups, d_2 = Effect size between psychopathy-APD and non-APD groups, d_3 = Effect size between APD-only and non-APD groups.
For *F* ratios, **p* < .05.
[1]For ANCOVAs, multiple comparisons were made by way of Sidak post-hoc tests.
[2]For ANOVAs, multiple comparisons were performed via Ryan tests.

Table 11

High Victim Empathy in Offender Groups with Psychopathy and APD

	Psychopathy-APD (%)	APD-only (%)	Non-APD (%)
High victim empathy	45.2	50.0	65.7

Alexithymia. This study's multidimensional approach toward the evaluation of affective deficits allows for exploration of relationships between constructs for these detained offenders (see Table 12). Not surprisingly, alexithymia (i.e., a general affective deficit) is more highly associated with negative trait affectivity than victim empathy. Regarding general empathy, difficulty describing feelings and externally-oriented thinking are most indicative of deficits in perspective taking (*r*s = -.43 and -.46, respectively) and empathic concern (*r*s = -.43 and -.52, respectively) for unfortunate others.

Table 12

Relationships Among General and Specific Affective Deficits in Offenders

Measures	TAS-20 Alexithymia	Difficulty Identifying Feelings	Difficulty Describing Feelings	Externally-Oriented Thinking
	r	*r*	*r*	*r*
		General empathy		
IRI Perspective Taking	-.50***	-.38***	-.43***	-.46***
IRI Empathic Concern	-.48***	-.31**	-.43***	-.52***
BES Empathy	-.40***	-.23*	-.44***	-.37***
Cognitive Empathy	-.43***	-.37***	-.29**	-.42***
Affective Empathy	-.23*	-.06	-.35***	-.19
M	*-.41*	*-.27*	*-.39*	*-.39*
		Victim empathy		
VCS-22 Victim empathy	-.23*	-.20	-.22*	-.15
General Concern	-.21*	-.21*	-.18	-.13
Vulnerable or Violent Victims	-.29**	-.25*	-.25*	-.22*
Property Theft Victims	-.15	-.10	-.18	-.10
"Culpable" Victims	-.15	-.11	-.15	-.10
M	*-.21*	*-.17*	*-.20*	*-.14*
		General affectivity		
PANAS Positive Affect	-.34**	-.32**	-.24*	-.28**
PANAS Negative Affect	.59***	.64***	.38***	.41***

*$p < .05$, **$p \leq .01$, ***$p < .0005$.

Relatively little research has investigated the relationship between psychopathy and alexithymia despite their notable conceptual similarities. From a dimensional perspective, alexithymia exhibited moderately high associations with psychopathy in general (r = .48) as well as behavioral (r = .47) and antisocial (r = .48) elements (see Table 6 for these correlations). While these data suggest that alexithymia may play a role in a generally criminal lifestyle, the next paragraphs present the incremental gains achieved when also considering the "core" personality features of psychopathy.

As predicted, psychopathy-APD offenders displayed higher levels of TAS-20 alexithymia than APD-only (d = .53) and non-APD (d = 1.20) offenders. Moreover, APD-only offenders were more alexithymic than their non-APD (d = .65) counterparts. The TAS-20 cut scores recommended by Taylor and colleagues (1992) to delineate high ($\geq$ 61) and low ($\leq$ 51) alexithymia was applied with significant results, χ^2 (2, n = 73) = 15.15, p = .001. Over half (56.5%) of psychopathy-APD individuals were classified as alexithymic, as compared to 33.3% of APD-only and only 6.9% of non-APD offenders. These findings suggest theoretically relevant differences in emotional expression between psychopathy and APD.

Further investigation of specific facets of TAS-20 alexithymia produced different patterns. The psychopathy-APD and APD-only offenders displayed similarly higher levels of difficulty describing their feelings compared to non-APD offenders; however, the opposite was true with respect to externally-oriented thinking. As seen in Table 13, psychopathy-APD offenders displayed more externally-oriented thinking than their APD-only counterparts (d = .65). These findings suggest a greater tendency for psychopaths to rely upon a more logical as opposed to emotional approach to decision-making and problem-solving.

Table 13

Differences in Alexithymia in Psychopathy and APD Groups

	Psychopathy-APD (n = 31)		APD-only (n = 30)		Non-APD (n = 36)			Cohen's d effect size		
	M	SD	M	SD	M	SD	F	d_1	d_2	d_3
TAS-20 Alexithymia	58.17_a	12.45	51.66_b	12.01	44.39_c	10.57	11.73***	.53	1.20	.65
Difficulty Identifying Feelings	19.85_a	6.79	17.30_{ab}	6.28	14.40_b	4.86	6.98**	.39	.93	.52
Difficulty Describing Feelings	16.58_a	5.17	15.00_a	5.00	11.97_b	4.04	8.30***	.31	1.00	.67
Externally-Oriented Thinking	21.74_a	3.93	19.35_b	3.37	18.02_b	4.03	8.08**	.65	.93	.36

Note. Subscripts denote significantly different groups; d_1 = Effect size between psychopathy-APD and APD-only groups, d_2 = Effect size between psychopathy-APD and non-APD groups, d_3 = Effect size between APD-only and non-APD groups.
For F ratios, *$p < .05$; **$p \leq .01$, ***$p < .0005$.

Table 14

Differences in General Affectivity in Psychopathy and APD Groups

	Psychopathy-APD (n = 27)		APD-only (n = 28)		Non-APD (n = 33)			Cohen's d effect size		
	M	SD	M	SD	M	SD	F	d_1	d_2	d_3
Positive Affect	37.59	8.56	33.71	8.12	37.27	7.86	1.98	.47	.04	-.45
Negative Affect	29.30_a	11.05	26.11_a	8.04	20.85_b	7.16	7.12**	.33	.93	.69
Cohen's d effect size	.84		.94		2.18					

Note. A small subset (n = 10) of participants did not receive the PANAS as a result of administrator error; Because initial analyses revealed a violation of the homogeneity of variances assumption (Levene Statistic = 3.91, p = .02) for the PANAS Negative Affect scale, multiple comparisons were made by way of Games-Howell post-hoc tests; Subscripts denote significantly different groups; d_1 = Effect size between psychopathy-APD and APD-only groups, d_2 = Effect size between psychopathy-APD and non-APD groups, d_3 = Effect size between APD-only and non-APD groups.
**$p \leq .01$.

Emotion processing. The Positive and Negative Affect Scale (PANAS) was included as an exploratory investigation of potential general emotionality deficits among offending groups. Interestingly, psychopaths exhibited the least difference between positive and negative trait affect. Moreover, psychopathy-APD and APD-only offenders reported higher levels of characteristically negative emotions than non-APD offenders (*d*s = .93 and .69, respectively). Table 14 highlights these effects.

On a more fundamental level, emotion processing deficits were investigated in the current study via emotional memory facilitation. To ensure consistency with Glass and Newman (2009), emotional memory facilitation was measured by an emotional facilitation "hit rate." Specifically, emotional (i.e., positive and negative) and neutral hit rates were calculated by dividing the number of words recalled from each category by the number of total possible words (i.e., 22). Emotional facilitation hit rate estimates range from -1.00 (i.e., increased recall for neutral over emotional information) to +1.00 (i.e., increased recall for emotional over neutral information), with positive scores indicating emotional memory facilitation.

As seen in Table 15, offenders with psychopathy-APD inexplicably displayed moderately *higher* levels of emotional memory facilitation (d = .47) than their non-APD counterparts, but performed similarly (d = -.10) to APD-only offenders. In further examining these unexpected findings, correlational analyses revealed negligible relationships between emotional memory facilitation and PCL-R total (r = .18) and facet (all rs < .20) scores. However, offenders with APD-only evidenced emotional memory facilitation more consistent with previous findings with antisocial offenders (Lorenz & Newman, 2002b). APD-only offenders exhibited higher levels of both emotional memory facilitation (d = .53) and recall for negatively valenced stimuli (d = .65) than non-APD participants.

Table 15

Differences in Emotional Memory Facilitation in Psychopathy and APD Groups

	Psychopathy-APD (n = 31)		APD-only (n = 29)		Non-APD (n = 34)			Cohen's d effect size		
	M	*SD*	*M*	*SD*	*M*	*SD*	*F*	d_1	d_2	d_3
					Number of words recalled					
Positive	2.23	1.36	2.24	1.48	2.24	1.48	.001	-.01	-.01	.00
Negative	2.23_{ab}	1.28	2.48_{a}	1.40	1.65_{b}	1.15	3.59*	-.19	.48	.65
					Hit rate					
Emotional memory facilitation	.15	.09	.16	.11	.11	.08	2.56	-.10	.47	.53

Note. Established practices for hit rate (i.e., Glass & Newman, 2009) exclude scores exceeding 2.5 standard deviations above or below the mean; however, no outliers were identified in the current study. Subscripts denote significantly different groups; d_1 = Effect size between psychopathy-APD and APD-only groups, d_2 = Effect size between psychopathy-APD and non-APD groups, d_3 = Effect size between APD-only and non-APD groups.
*$p < .05$.

Lorenz and Newman (2002b) documented an association between emotional facilitation and risk for violence in antisocial women. The current findings suggest that an association between antisociality more generally with (a) emotional facilitation and (b) negative recall bias may exist in both male and female offenders. Gender differences in emotional facilitation will be explored in the following section.

Gender Differences in Emotion

Hypotheses 4 and 5 explored the effect of gender on general and specific emotion deficits of psychopathy. Since these emotion deficits are relatively specific to the conceptualization of the psychopathy construct, hypotheses targeted gender differences within the psychopathy-APD group only. These results must be considered, however, in the context of the small sizes of these gender groups. Findings are divided into four sections corresponding to each emotional domain of interest.

A critical question is whether psychopathic offenders actually display "deficits" compared to normative affective levels. Prior to primary gender analyses, gender-specific levels of general empathy (i.e., IRI, BES) and alexithymia (i.e., TAS-20) were compared to normative data provided in the validation of each measure. Appendix C clearly demonstrates that male[11] and female psychopathic offenders do, in fact, display affective deficits compared to gender-specific normative levels. Interestingly, these differences were most pronounced among females, suggesting that affective deficits like difficulty comprehending another's emotions (i.e., IRI Perspective Taking, d = -1.13) and difficulty identifying one's feelings (i.e., TAS-20 Difficulty Identifying Feelings, d = 1.58) may be particularly useful in identifying psychopathic female offenders.

General empathy. No significant gender differences in general empathy emerged within the psychopathy-APD group (see Table 16). Lack of power from small group sizes (power estimates ranging from .06 to .30) likely contributed to non-significant results. However, psychopathic females did evidence moderately higher BES Affective Empathy (d = .55) and unexpectedly *lower* BES Cognitive Empathy (d = -.31) levels than their male counterparts. Further examination of the BES revealed that female psychopaths scored over four points higher on affective than cognitive (d = .49) empathy, while the opposite trend was evident in male psychopaths (d = -.44). Pending further research, these results suggest that psychopathic females may be more adept at sharing another's emotional experience but are slightly *less* able to comprehend such emotions than their male counterparts.

Table 16

Gender Differences in General Empathy in Offenders with Psychopathy and APD

	Male (n = 14)		Female (n = 17)			
	M	*SD*	*M*	*SD*	*F*	*d*
IRI Perspective Taking	12.86	4.61	12.47	5.64	.04	-.07
IRI Empathic Concern	17.79	6.09	18.94	5.96	.27	.19
BES Total Empathy	69.28	7.28	72.62	11.46	.89	.34
Cognitive Empathy	35.85	4.08	34.24	5.97	.74	-.31
Affective Empathy	33.43	6.70	38.39	10.52	2.33	.55

The relationship between psychopathy and empathy was further investigated via gender-specific correlational analyses. As indicated by Table 17, the most striking gender differences in general empathy emerged for cognitive empathy. For female offenders, high PCL-R total scores were moderately indicative of BES Cognitive Empathy deficits (r = -.32) at a trend level, whereas this association in male offenders was negligible and in the opposite direction (r = .09).

Table 17

Gender-Specific Relationships between Psychopathy, APD, and General Empathy in Offenders

Measure	Adult APD	Total PCL-R Psychopathy	Interpersonal	Affective	Lifestyle	Antisocial
	r	*r*	*r*	*r*	*r*	*r*
			Male (*n* = 39)			
IRI Perspective Taking	-.30	-.31	**.11**	-.28	-.42**	-.34*
IRI Empathic Concern	-.26	-.33*	-.18	-.17	-.28	-.37*
BES Total Empathy	-.12	-.08	.07	-.02	-.10	-.22
Cognitive Empathy	.11	**.09**	**.29**	.07	.07	-.15
Affective Empathy	-.22	-.16	-.09	-.07	-.17	-.17
M	*-.16*	*-.16*	*.04*	*-.09*	*-.18*	*-.25*
			Female (*n* = 59)			
IRI Perspective Taking	-.48***	-.48***	**-.33***	-.44**	-.38**	-.40**
IRI Empathic Concern	-.45***	-.44**	-.30*	-.34**	-.34**	-.40**
BES Total Empathy	-.33*	-.35**	-.20	-.38**	-.15	-.33*
Cognitive Empathy	-.29*	**-.32***	**-.15**	-.17	-.19	-.37**
Affective Empathy	-.21	-.23	-.15	-.35**	-.07	-.18
M	*-.35*	*-.36*	*-.23*	*-.34*	*-.23*	*-.34*

Note. Fisher *r*-to-*Z* transformation evaluated the significance between correlation coefficients; Significantly different correlations ($p < .05$) between genders are listed in bold-face type; To balance Type I and Type II error concerns, correlations significant at the .05 level will be interpreted as trends, with significance attributed to $p \leq .01$.
*$p < .05$; **$p \leq .01$, ***$p < .0005$.

Interpersonal features like grandiosity and deceitfulness have markedly different relationships across genders to general empathy facets. For IRI Perspective Taking, females evidenced a moderate negative association ($r = -.33$) with the PCL-R Interpersonal facet, whereas males displayed a slight positive relationship ($r = .11$). A similar gender trend was observed for BES Cognitive Empathy (see Table 17). In other words, high levels of glibness and manipulativeness in male offenders are *more* indicative of perspective taking ability and

comprehension of others' emotions, but not simultaneously experiencing their emotions (e.g., BES Affective Empathy r = -.09). These findings further support Cleckley's (1976) supposition that male psychopaths' aptitude in imitating emotions stems from an abstract understanding, though not necessarily experiencing, of them that may not generalize to psychopathic females.

Victim empathy. The current study explored the effect of social desirability (i.e., PDS Impression Management) on victim empathy within the psychopathy-APD group. Using the same recommended benchmark (i.e., > 12) to delineate socially desirable responding, no significant effect of gender emerged, χ^2 (1, n = 30) = .01, p = .95.[12] No females and only one (7.1%) male from this group produced any elevations. Moreover, correlational analyses yielded no significant relationships between victim empathy dimensions and socially desirable responding (all rs < .35, all ps > .05) among offenders with psychopathy-APD. As a result, social desirability was not included as a covariate in subsequent gender-specific analyses of victim empathy.

Specific facets of victim empathy do not appear to reliably distinguish psychopathic males from psychopathic females. Although female psychopaths endorsed slightly higher levels across all categories of victim empathy (see Table 18), differences were only slight.

Interestingly, endorsed levels of victim empathy were relatively high, even in the psychopathy-APD subsample. Using 80% (i.e., total VCS-22 score $\geq$ 88) as a conservative benchmark revealed a gender-specific trend (χ^2 [1, n = 31] = 2.84, p = .09), resulting in over half (58.8%) of female psychopaths and less than one-third (28.6%) of male psychopaths being categorized as highly concerned for victims. With larger samples, high levels of concern for victims may differentiate between female and male psychopaths.

Table 18

Gender Differences in Victim Empathy in Offenders with Psychopathy and APD

	Male (n = 14)		Female (n = 17)			
	M	*SD*	*M*	*SD*	*F*	*d*
VCS-22 Victim empathy	80.07	14.58	85.12	21.17	.57	.27
General Concern	29.86	6.32	30.88	9.01	.13	.13
Vulnerable or Violent Victims	25.79	3.47	26.65	4.18	.38	.22
Property Theft Victims	12.57	4.09	14.29	5.46	.95	.35
"Culpable" Victims	11.86	3.92	13.29	4.90	.79	.32

Dimensional relationships between victim empathy and psychopathy facets were examined separately for gender. Total PCL-R psychopathy was significantly associated with victim empathy in female (r = -.41) but not male (r = -.22) offenders (see Table 19). As expected, psychopathy dimensions representing personality features (i.e., Interpersonal and Affective facets) were moderately related to victim empathy dimensions in female offenders (Interpersonal: *M r* = -.43; Affective: *M r* = -.36), but virtually unrelated in male offenders (*M r*s = -.07 and -.10, respectively). While no unexpectedly positive correlations emerged between victim empathy and psychopathy among male offenders, the notion that victim concern is unrelated to male psychopathy is surprising.

Viewed dimensionally, certain components of psychopathy are more associated with victim empathy in female than male offenders. In particular, relationships were significantly more robust in female offenders compared to their male counterparts between (a) interpersonal elements and overall victim empathy as well as concern for property theft victims and (b) affective features and concern for vulnerable victims or victims of violent crimes (see Table 19).

.

Table 19

Gender-Specific Relationships between Psychopathy, APD, and Victim Empathy in Offenders

Measure	Adult APD *r*	Total PCL-R Psychopathy *r*	Interpersonal *r*	Affective *r*	Lifestyle *r*	Antisocial *r*
			Male (*n* = 39)			
VCS-22 Victim empathy	-.27	-.22	**-.08**	-.12	-.28	-.12
General Concern	-.23	-.17	-.07	-.13	-.23	-.09
Vulnerable or Violent Victims	-.18	-.22	-.13	**-.08**	-.17	-.21
Property Theft Victims	-.30	-.24	**.04**	-.20	-.36*	-.17
"Culpable" Victims	-.19	-.11	-.13	.03	-.18	.02
M	*-.23*	*-.19*	*-.07*	*-.10*	*-.24*	*-.11*
			Female (*n* = 59)			
VCS-22 Victim empathy	-.32*	-.41**	**-.47*****	-.41**	-.24	-.27*
General Concern	-.23	-.35**	-.35**	-.37**	-.18	-.27*
Vulnerable or Violent Victims	-.41**	-.47***	-.49***	**-.50*****	-.32*	-.24
Property Theft Victims	-.30*	-.32*	**-.39****	-.28*	-.23	-.17
"Culpable" Victims	-.22	-.29*	-.44**	-.26*	-.11	-.22
M	*-.30*	*-.37*	*-.43*	*-.36*	*-.22*	*-.23*

Note. Fisher *r*-to-*Z* transformation evaluated the significance between correlation coefficients; Significantly different correlations ($p < .05$) between genders are listed in bold-face type; To balance Type I and Type II error concerns, correlations significant at the .05 level will be interpreted as trends, with significance attributed to $p \leq .01$.*$p < .05$; **$p \leq .01$, ***$p < .0005$.

Table 20

Gender-Specific Correlations Among General and Specific Affective Deficits in Male and Female Offenders

	TAS-20 Alexithymia		Diff Ident Feelings		Diff Describ Feelings		Ext-Oriented Thinking	
	r		*r*		*r*		*r*	
Measure	Male	Female	Male	Female	Male	Female	Male	Female
				General empathy				
IRI Perspective Taking	-.48**	-.51***	-.28	-.44**	-.39*	-.45***	-.51**	-.42**
IRI Empathic Concern	-.46**	-.50***	-.25	-.38**	-.33*	-.47***	-.56***	-.48***
BES Empathy	-.52**	-.36**	-.39*	-.21	-.49**	-.40**	-.35*	-.37**
Cognitive Empathy	-.52**	-.39**	-.47**	-.33*	-.32*	-.28*	-.44**	-.42**
Affective Empathy	-.30	-.20	-.18	-.06	-.39*	-.32*	-.14	-.19
M	*-.46*	*-.39*	*-.31*	*-.28*	*-.38*	*-.38*	*-.40*	*-.38*
				Victim empathy				
VCS-22 Victim empathy	-.05	-.31*	-.09	-.28*	**.08**	**-.34****	-.12	-.14
General Concern	-.08	-.26*	-.12	-.27*	.05	-.27*	-.14	-.10
Vulnerable or Violent Victims	-.11	-.38**	-.15	-.35**	**.08**	**-.40****	-.21	-.19
Property Theft Victims	.002	-.21	-.03	-.15	.01	-.25	.04	-.15
"Culpable" Victims	.04	-.22	.00	-.19	**.15**	**-.28***	-.08	-.08
M	*-.04*	*-.28*	*-.08*	*-.25*	*.07*	*-.31*	*-.10*	*-.13*
				General affectivity				
Positive Affect	-.49**	-.27	-.51**	-.21	-.33*	-.23	-.32	-.30*
Negative Affect	.68***	.58***	.66***	.64***	.53**	.34*	.39*	.49***

Note. Diff Ident Feelings = Difficulty Identifying Feelings; Diff Describ Feelings = Difficulty Describing Feelings; Ext-Oriented Thinking = Externally-Oriented Thinking; Fisher *r*-to-*Z* transformation evaluated the significance between correlation coefficients; Significantly different correlations ($p < .05$) between genders are listed in bold-face type; To balance Type I and Type II error concerns, correlations significant at the .05 level will be interpreted as trends, with significance attributed to $p \leq .01$.

*$p < .05$, **$p \leq .01$, ***$p < .0005$.

These gender-specific relationships within PCL-R Factor 1 are suggestive of the salience of personality features in the psychopathic syndrome for women over men, at least with respect to concern for victims.

Alexithymia. The current study's design allows for a thorough examination of gender-specific relationships between emotion facets. Table 20 clearly demonstrates the integral role gender plays in the relationships between alexithymia and victim empathy in offenders. In particular, difficulty describing one's feelings is moderately associated with decrements in (a) victim empathy (r = -.34), (b) concern for vulnerable or violent crime victims (r = -.40), and, at a trend level, (c) concern for "culpable" victims (r = -.28). However, these associations among male offenders were largely negligible and in the opposite direction (rs ranging from .08 to .15). These findings suggest that in female offenders, inability to describe one's own emotions may serve as a risk factor for deficits in empathy for crime victims.

In community samples, women tend to score slightly lower on measures of alexithymia compared to men (d = -.28; Parker, Taylor, & Bagby, 2003); however, the current study cautions against extrapolation of these findings to offender samples (see Table 21). Using the standard alexithymia cut scores recommended by Taylor and colleagues (1992), psychopathic female offenders (69.2%) were significantly more likely than non-psychopathic female offenders (14.7%) to receive a concomitant alexithymia classification, χ^2 (1, n = 47) = 10.89, p = .001.[13] In contrast, comorbidity rates were similar between psychopathic (45.5%) and non-psychopathic (33.3%) male offenders, χ^2 (1, n = 27) = .48, p = .49.[14]

Surprisingly, and in direct contrast to non-offending samples, psychopathy-APD females were *less* able to identify their emotions than their male counterparts (d = .94; see Table 21). The magnitude of this gender difference is underscored by the lower PCL-R cut scores (i.e.,

moderate) used to denote psychopathy classification; logic dictates that alexithymia levels would be further separated at more extreme levels of psychopathy.

Table 21

Gender Differences in Alexithymia in Offenders with Psychopathy and APD

	Male (n = 14)		Female (n = 17)			
	M	*SD*	*M*	*SD*	*F*	*d*
TAS-20 Alexithymia	55.36	14.42	60.49	10.45	1.32	.41
Difficulty Identifying Feelings	16.64	7.40	22.49	5.05	6.80**	.94
Difficulty Describing Feelings	16.79	5.90	16.41	4.66	.04	-.07
Externally-Oriented Thinking	21.93	4.25	21.59	3.78	.06	-.09

For *F* ratios, $^{**}p \leq .01$.

These results provide further support for a potential affective deficit specific to female psychopaths. As previously discussed, female psychopaths in the current study unexpectedly displayed slightly lower levels of BES Cognitive Empathy (d = -.31, see Table 16) than male psychopaths. In this context, these combined findings suggest that female psychopaths, compared to their male counterparts, possess a pronounced inability to identify and comprehend emotions both in others and themselves.

Further investigation revealed strikingly different patterns across genders in the relationships between psychopathy, APD, and alexithymia facets. Both psychopathy and adult APD symptoms demonstrated stronger associations across all alexithymia facets for female (M rs = .53 and .50, respectively) than male (M rs = .25 and .24, respectively) offenders. Table 22 illustrates these effects.

Table 22

Gender-Specific Relationships between Psychopathy, APD, and Alexithymia Features

Measure	Adult APD *r*	Total PCL-R Psychopathy *r*	Interpersonal *r*	Affective *r*	Lifestyle *r*	Antisocial *r*
			Male (*n* = 39)			
TAS-20 Alexithymia	.28	.29	**-.02**	.13	.30	.52**
Difficulty Identifying Feelings	.20	**.19**	**-.03**	.11	.20	.32*
Difficulty Describing Feelings	.28	.25	-.07	.13	.34*	.49**
Externally-Oriented Thinking	.18	.25	.08	.08	.16	.46**
M	*.24*	*.25*	*-.01*	*.11*	*.25*	*.48*
			Female (*n* = 59)			
TAS-20 Alexithymia	.56***	.59***	**.39****	.42**	.55***	.45***
Difficulty Identifying Feelings	.52***	**.57*****	**.46*****	.38**	.49***	.44**
Difficulty Describing Feelings	.47***	.48***	.26*	.36**	.43**	.40**
Externally-Oriented Thinking	.44***	.46***	.21	.36**	.43**	.40**
M	*.50*	*.53*	*.33*	*.38*	*.48*	*.42*

Note. Fisher *r*-to-*Z* transformation evaluated the significance between correlation coefficients; *p* indicates significance level; Significantly different correlations ($p < .05$) between genders are listed in bold-face type; To balance Type I and Type II error concerns, correlations significant at the .05 level will be interpreted as trends, with significance attributed to $p \leq .01$.
*$p < .05$; **$p \leq .01$, ***$p < .0005$.

Alexithymia facets appear promising at providing a theoretical distinction between male and female psychopaths, particularly with respect to interpersonal features. Female offenders produced moderate correlations between the PCL-R Interpersonal facet and alexithymia ($r = .39$) as well as difficulty identifying one's feelings ($r = .46$; see Table 22). However, these

associations were negligible in male offenders (*r*s = -.02 and -.03, respectively). Consistent with Forouzan and Cooke's (2005) hypothesized gender-specific interpersonal dissimilarities, the current findings suggest that female offenders who are particularly superficial, arrogant, and manipulative similarly display profound deficits in aspects of their own emotional awareness, while their male counterparts do not.

Emotional memory. Contrary to expectations, male and female psychopaths exhibited relatively consistent levels of emotional memory facilitation. As seen in Table 23, psychopathic females displayed only slightly more (d = .27) emotional memory facilitation than their male counterparts. On a dimensional level, however, correlational analyses were mildly indicative of gender differences in psychopathy's relationship to emotional facilitation. No appreciable associations between emotional memory facilitation and PCL-R total (r = .23, p = .44) or facet (all *r*s < $\left|.25\right|$) scores emerged in psychopathic males; however, high Interpersonal facet scores were related to *increased* emotional memory facilitation (r = .49, p = .04) in female psychopaths. These findings suggest that features like glibness, grandiosity, and deceitfulness may play an implicit role in memory bias for emotional information in psychopathic females.

Table 23

Gender Differences in Emotional Memory Facilitation in Offenders with Psychopathy-APD

	Male (n = 14)		Female (n = 17)			
	M	*SD*	*M*	*SD*	*F*	*d*
			Number of words recalled			
Positive	1.79	.70	2.59	1.66	2.84	.61
Negative	2.00	1.04	2.41	1.46	.79	.32
			Hit rate			
Emotional memory facilitation	.14	.06	.16	.11	.56	.27

Beyond emotion processing, gender differences in trait emotionality were explored among psychopathic offenders. Interestingly, Table 24 provides preliminary support to women's propensity to display higher levels of emotion than men (e.g., Eisenberg & Strayer, 1987) generalizing to psychopathic offenders, at least with respect to negative emotionality (d = .73) levels. In comparison, trait positive affect was more consistent between genders.

Table 24

Gender Differences in General Affectivity in Offenders with Psychopathy-APD

	Male (n = 14)		Female (n = 13)			
	M	*SD*	*M*	*SD*	*F*	*d*
Positive Affect	38.93	8.90	36.15	8.30	.70	-.32
Negative Affect	25.57	11.32	33.31	9.60	3.64	.73

Note. A small subset (n = 4) of psychopathic females did not complete the PANAS as the result of an administrative error.

Discriminant Validity of Psychopathy and APD

A third research question sought to examine whether differential prevalence rates between psychopathy and APD were a direct result of differing cut scores required for classification. To achieve this goal, prevalence rates were examined using (a) standard cut scores and (b) cut scores that corresponded to an equivalent proportion of criteria met across classification instruments.

Marked differences exist in the proportion of criteria required for psychopathy classification and APD diagnosis. Specifically, psychopathy utilizes a relatively stringent benchmark (75.0%) for PCL-R categorization, while one must meet only a small proportion (27.3%) of combined childhood conduct disorder (i.e., 3 of 15) and adult antisocial (i.e., 3 of 7) symptoms to receive an APD diagnosis. Using these standard cut scores, the characteristic, asymmetrical relationship consistent with previous studies (e.g., Hare, 1996, 2003; Patrick, 2007) emerged between psychopathy and APD. Interestingly, all (100.0%) psychopaths in the

current sample received a concurrent APD diagnosis, while only 8.2% of offenders with APD were also psychopaths, reflecting a considerable (i.e., over 90%) difference in prevalence rates.

Prevalence rates were strikingly more similar when PCL-R cut scores (i.e., 11 of 40; 27.5%) were lowered to reflect the proportion of combined childhood and adult criteria required for APD diagnosis. With this lower benchmark, 84.3% of "psychopaths" qualified for diagnosis of APD, while nearly all (96.7%) of offenders with APD were classified as "psychopathic." Notably, this considerably less stringent "psychopathy" cut score resulted in a dramatic increase (i.e., 8.2% to 96.7%, or an increase of 88.5%) in the number of APD offenders receiving a concomitant "psychopathy" categorization. Moreover, requiring fewer criteria for psychopathy classification markedly diminished the difference (i.e., 12.4%) in prevalence rates between groups. Similar to findings with non-forensic patients (Rogers & Rogstad, 2010), differential cut scores appear to account for most of the asymmetrical relationship between psychopathy and APD in this sample of jail detainees.

CHAPTER 4

DISCUSSION

Psychopathy as a clinical construct has gained widespread notoriety because of its robust association with antisocial conduct, violence, and recidivism (Leistico et al., 2008; Salekin et al., 1996; Walters, 2003). In the public's mind and even within the professional community, the categorization of an offender as "psychopathic" may connote particularly negative images of callous, remorseless individuals who are predisposed to antisocial behavior and are incapable of rehabilitation because they (a) fail to learn from punishment and (b) are less amenable to treatment than non-psychopathic offenders. Despite recent, compelling criticism of this stigma (e.g., Salekin, 2002, 2010), psychopathy classification continues to serve as an aggravating factor in the criminal justice system, promoting longer sentencing recommendations and heightened perceptions of dangerousness (e.g., Cunningham & Reidy, 1998; Edens, Desforges, Fernandez, & Palac, 2004). However, most studies of psychopathy fail to account for competing hypotheses, limiting conclusions to establish only that psychopathy is "better than nothing" at making such forensic predictions (Rogers & Rogstad, 2010; Vitacco, Salekin, & Rogers, 2009). Moreover, the construct is readily applied to female offenders with a "one size fits all" mentality despite (a) notable gender differences in both personality (Forouzan & Cooke, 2005; Rutherford et al., 1998) and antisocial (Dolan & Völlm, 2009; Rutherford et al., 1995, 1998) domains and (b) the use of primarily male samples in the development and validation of the Psychopathy Checklist – Revised (PCL-R; Hare, 1991, 2003), widely considered the "gold standard" of psychopathy measurement.

Affective deficits, including a shallow emotional experience, lack of remorse, and failure to accept responsibility for one's actions, are commonly considered the hallmark of the

psychopathic syndrome. Perhaps most notably, prototypic psychopaths display a callous disregard for the emotional experience of others, arguably disposing them to commit particularly violent, incomprehensible crimes (Blair, 1995, 2007). However, it is unclear whether such affective and empathic deficits are specific to psychopathy or are present among the heterogeneous group of antisocial offenders more generally.

The current study sought to further examine psychopathy's affective deficiency by investigating both general and victim empathy among offenders with psychopathy in comparison to antisocial personality disorder (APD)-only and non-APD offenders. The expectation was that psychopaths would display the highest levels of emotion deficits. Additional affective variables of interest included alexithymia and a measure of emotion processing. Considering females' tendency to display higher levels of emotion compared to men in both general (Davis, 1983; Eisenberg & Strayer, 1987; Zágon & Jackson, 1994) and offending (Ireland, 1999) populations, it was further predicted that similar gender patterns would emerge within the context of psychopathy.

General and Victim Empathy

Surprisingly, little empirical research to date has comprehensively investigated the nature of empathy in psychopathy despite its inclusion as a defining characteristic of the syndrome (Hare, 2003). Contemporary conceptualizations of general empathy include two specific facets: cognitive empathy is the capacity to comprehend another's emotions, while affective empathy indicates one's ability to experience the emotions of another (Jolliffe & Farrington, 2006). Additionally, empathy was further operationalized in the current study to include concern toward crime victims in light of psychopaths' tendency to engage in parasitic, violent acts (e.g., Hare,

2003; Hare & McPherson, 1984). The following section discusses these findings in terms of (a) psychopathy versus APD and (b) male and female psychopaths.

Rogers and Rogstad (2010) recently highlighted the limitations common to risk assessment studies including only single predictors (e.g., psychopathy presence vs. absence) when evaluating outcomes. The current findings further underscore the need for near-neighbor comparisons when investigating correlates of psychopathy in offender samples. Effect sizes across empathy domains were markedly attenuated between psychopathy-APD and APD-only offenders as compared to those between more traditionally constructed psychopathy and control (i.e., non-APD) groups. While psychopathy has long been lauded as "the most important and useful psychological construct yet discovered for criminal justice policies" (Harris, Skilling, & Rice, 2001, p. 231), its relative contributions when subjected to more rigorous scrutiny were unknown. Findings from the current study suggest that prominent distinctions in affective features like empathy exist between psychopathic and non-psychopathic offenders; however, these features less clearly distinguish the majority of offenders with APD from their psychopathic counterparts.

Current findings begin to clarify the existing evidence of psychopathy's association with decrements in affective, but not cognitive, empathy (Blair, 2005, 2007b; Smith, 2006). Specifically, psychopaths' propensity for violence purportedly reflects an inability to regulate behavior that harms others. Properly socialized, non-psychopathic individuals suspend aggressive behavior by virtue of affective empathy; that is, when they vicariously experience the induced negative emotions (e.g., fear, distress) of another (Blair, 1995, 2005). Consistent with this hypothesis, psychopathy-APD offenders in the current study displayed substantially lower

levels of empathic concern (d = -.89) than non-APD offenders; however, the role of APD in these differences was inconclusive.

Contrastingly, marked group differences emerged with respect to cognitive empathy. Psychopathic (d = -1.09) and APD-only (d = -.63) offenders were drastically less able to adopt another's psychological perspective than their non-APD counterparts. In this context, APD diagnosis was as useful as psychopathy for predicting perspective-taking ability deficiencies. Farrington (1998) postulates that deficits in perspective taking among offenders may reflect their misinterpretation of others' intentions. However, a recent meta-analytic review (Jolliffe & Farrington, 2004) produced inconclusive results with respect to this aspect of cognitive empathy, with slightly more than half (52.4%) of the included studies failing to find evidence of group differences between offenders and non-offenders. In contrast, the current study's findings lend preliminary support to a link between antisociality and perspective-taking ability among offenders. Moreover, deficits in this cognitive aspect of empathy reflect a broader, chronically antisocial lifestyle than the constellation of interpersonal, affective, and antisocial traits seen in psychopathy.

Differences in perspective-taking ability and empathic concern between psychopathic offenders and their APD-only counterparts partially support theories of empathy's role in psychopathic violence. For instance, Smith[15] (2006) contends that an abstract, cognitive appreciation of others' emotions (i.e., cognitive empathy) coupled with absence of affective empathy could actually give psychopaths a competitive edge and *promote* violent behavior. In particular, this combination would allow psychopaths to benefit from accurately predicting emotional responses without the burden of simultaneously experiencing them. In the present study, while antisocial offenders displayed perspective-taking deficits in general, decrements in

empathic concern for others were specific to psychopathic offenders. Contrary to Smith (2006), however, the current pattern suggests that psychopaths are not necessarily *proficient* at appreciating the emotions of others. Rather, psychopaths' violent tendencies likely reflect an imbalance in empathic deficiencies slightly favoring cognitive over affective capacities that is not present in other offenders.

On this point, the current study indicates that psychopathic offenders are indeed *deficient* in affective features (e.g., empathy) commonly attributed to them. For example, when compared to their gender-specific normative samples, both male (d = -.83) and female (d = -1.13) psychopathic offenders exhibited marked deficits in the ability to comprehend others' emotions (see Appendix C). Moreover, female psychopathic offenders displayed markedly higher (d = 1.58) difficulty identifying their feelings compared to a sample of community females. These findings are inconsistent with hypothesized affective proficiencies among psychopaths (e.g., Cleckley, 1976; Smith, 2006). Results instead support the importance of affective deficits in psychopathy measurement (e.g., Blair, 1995; Hare, 2003; Lykken, 1995); however, they also suggest that such deficits may be particularly discriminating of female psychopathic offenders.

Therapeutic initiatives targeting psychopaths' deficits in empathic concern may be particularly effective. As previously emphasized, psychopathic individuals' failure to experience the negative emotions of another (i.e., affective empathy) is thought to promote violent behavior (Blair, 1995, 2005). Harris and Rice (2006) summarize prior treatment studies with psychopathic individuals designed to counteract such deficits by fostering empathy that were often ineffective, or even counterproductive, resulting in higher rates of recidivism following treatment. However, the current findings suggest that an absence of the actual vicarious *experience* of these emotions may not be a risk factor for violence, but rather psychopaths' own lack of *concern* for

unfortunate others. Specifically, psychopathy-APD offenders displayed lower levels of empathic concern (d = -.89) than affective empathy (d = -.42) compared to their non-APD counterparts. Empathic concern is a broader construct than affective empathy, including one's own feelings about others' emotions (i.e., sympathy; Jolliffe & Farrington, 2006). On this point, Salekin (2002, 2010) recently criticized the therapeutic pessimism surrounding psychopathy, particularly the absence of empirical evidence to support such broad, negative generalizations. In line with this view, it is possible that a slight shift in therapeutic focus from the emotions of others (e.g., victims) to the affect experienced by psychopathic offenders in response to others may prove more promising therapeutically. Researchers must systematically evaluate the effectiveness of these and other potential alterations to standard therapeutic practices with psychopathic offenders before resorting to the "nothing works" perspective (e.g., Cleckley, 1941; Harris & Rice, 2006; Rice, Harris, & Cormier, 1992).

Women tend to score higher in measures of empathy in community (e.g., Mullins-Nelson et al., 2006) and offending (e.g., Ireland, 1999) samples. Contrary to predictions, this pattern did not generalize in the current study to psychopathic females and males for general ($M\ d$ = .14) or victim (d = .27) empathy, likely the result of substantially smaller gender groups. Viewed dimensionally, however, gender does appear to moderate the relationship between general empathy and psychopathy among offenders, particularly with respect to interpersonal features like glibness, manipulativeness, and deceitfulness. Specifically, these interpersonal traits were predictably associated with deficient cognitive empathy and perspective-taking ability in female offenders, but unexpectedly indicated slightly *higher* levels in male offenders. These findings support Blair's (2007b) assertion that psychopathic offenders do not possess pronounced deficits in cognitive empathy, but only for male psychopaths. Indeed, male psychopaths who are adept at

deceit and conning may be particularly skilled at taking the perspective of their victims (e.g., Smith, 2006). However, this advantage is not evident among female psychopaths, whose increased glibness and deceitfulness is associated with slightly less ability to comprehend the emotions of others. In his seminal work, *The Mask of Sanity*, Cleckley (1976) hypothesized that psychopaths' proficiency at imitating emotions is derived from an abstract understanding rather than direct experience of them. Cleckley's conclusion may not generalize to female psychopaths. Rather, the current findings suggest that male psychopaths may engage in conning behavior for deliberate external gain regardless of the effects on their victims, while deceit from female psychopaths may reflect a more passive lack of awareness of harmful effects. Furthermore, the gender-specific interplay between interpersonal and affective traits questions the construct validity of key psychopathy symptoms across genders (Forouzan & Cooke, 2005).

Psychopathic offenders, particularly female psychopaths, should not be denied access to emerging therapeutic techniques on the basis of widespread, though unsupported, therapeutic pessimism (e.g., D'Silva, Duggan, & McCarthy, 2004; Salekin, 2002). Only one study has investigated the relationship between psychopathy and treatment response in female offenders. In this research, Richards, Casey, and Lucente (2003) found that higher PCL:SV and PCL-R scores were indicative of poor treatment outcome (e.g., program retention, removal for serious noncompliance, violent and disruptive rule violations, avoidance of urinalysis testing, treatment module attendance, and therapist ratings) among 404 incarcerated female substance abusers. However, some positive responses to treatment were noted: institutional infractions were reduced after treatment, even among more psychopathic women. For psychopathic males, Seto and Barbaree (1999) posited that negative treatment responses could reflect (a) social adeptness and the ability to deceive their assessors, or (b) manipulation and other skills learned in treatment that

increased, rather than attenuated, their recidivism. However, generalizations to female psychopaths appear misguided in light of current evidence for two reasons. First, female offenders did not display proficiencies in cognitive empathy to the extent of their male counterparts that might allow them to exploit others, even when they were high in deceitfulness and manipulativeness. Furthermore, a balanced evaluation of risk must consider protective factors in addition to risk factors (Rogers, 2000). Female psychopaths in the current study displayed moderately higher (d = .55) levels of affective empathy than their male counterparts. Such relatively higher levels of affective empathy may serve as a positive prognostic indicator of change and must be considered in future studies of female psychopaths' amenability to treatment (Rogstad & Rogers, 2008).

With one notable exception, a wholly unexpected finding was the apparent lack of association between psychopathy and victim empathy. Not surprisingly, PCL-R Factor 1 traits were moderately indicative of lower levels of victim empathy in female offenders, while these features were virtually unrelated among male offenders. On this point, findings provide tentative support to Jackson and colleagues (2002), who found that affective features of psychopathy were particularly salient in female psychopaths. However, deficient concern for victims was not limited to the Affective facet of the PCL-R; rather, interpersonal features like glibness, grandiosity, and deceitfulness were moderately related to victim empathy among females in the current study. This association suggests that a comprehensive consideration of both interpersonal and affective personality traits may be integral in understanding the callousness with which female psychopaths approach crime victims, and may provide a pathway for intervention regarding treatment potential during incarceration and recidivism reduction following release.

Inexplicably, the relationship between psychopathy and victim empathy among male offenders was virtually nonexistent (all *r*s < ⎪.25⎪). However, this surprising pattern does not necessarily indicate that male psychopaths do not display deficits in their concern for crime victims. For instance, Blair (2007b) underscores the importance of measuring physiological indices when evaluating empathy in psychopathic individuals. The current study assessed victim empathy only via self-report as a result of jail regulations regarding research equipment permitted in the facility. In this way, endorsed victim empathy may still be subject to an unknown level of (purposeful or non-purposeful) response distortion despite the use of PDS validity indices to control for potential response styles. Supporting this point, the level of victim empathy endorsed by the current sample of offenders was quite high, likely a result of the jail, as opposed to prison (i.e., less extreme; e.g., Rogers et al., 2007), population sampled. As a result, future studies must evaluate the association between objective measures and endorsed levels of victim empathy among offenders before its role in male psychopathy can be clarified. Moreover, concerns for crime victims could provide a promising avenue for the accurate identification and treatment of psychopathic offenders considering (a) psychopathy's robust association with crime and recidivism (e.g., Leistico et al., 2008) and (b) empathy's potential to serve as a protective factor for future offending, particularly among female psychopaths (Rogstad & Rogers, 2008).

Alexithymia

Researchers have yet to thoroughly investigate the potential link between psychopathy and alexithymia despite notable conceptual similarities between both conditions. For instance, both psychopathic (Cleckley, 1941; Hare, 2003) and alexithymic (Taylor, 1994) individuals display shallow emotions. Furthermore, alexithymia is conceptualized as a constellation of cognitive and affective personality features that is identified by an individual's difficulty

identifying their feelings, difficulty describing their feelings to others, and externally-oriented thinking (i.e., a problem-solving strategy that employs logic and reason over affect). Results from the current study indicate that alexithymia may be particularly useful in making distinctions among psychopathic offenders. These findings and their potential implications for assessment and treatment of psychopathy and its correlates are discussed in the following sections.

Alexithymia in Psychopathy and APD

Alexithymia's unique associations with psychopathy specifically and antisociality more broadly are useful in discriminating psychopathic offenders from the heterogeneous majority of offenders with APD as well as non-APD offenders. For example, psychopathic offenders' levels of alexithymia were moderately higher than their APD-only counterparts but markedly higher than non-APD offenders. Likewise, APD-only offenders displayed moderately higher levels of alexithymia than non-APD offenders. Results, consistent with previous associations between APD and alexithymia (e.g., Sayar et al., 2001), further underscore the incremental gains achieved in construct validity when simultaneously considering interpersonal and affective features in addition to more behaviorally-based indicators like antisociality. Psychopathy's incremental validity with alexithymia over APD alone is not entirely surprising. Beyond conceptual similarities, both alexithymia (e.g., Wastell & Booth, 2003) and psychopathy (e.g., Blackburn, 2007; Coid & Ullrich, 2010) have been linked to narcissism, particularly with respect to interpersonal and affective facets of the latter.

Psychopathy and alexithymia, despite their conceptual link, do not appear to be divergent operationalizations of the same latent construct. For instance, nearly half (43.5%) of psychopathic offenders in the current sample failed to receive a concurrent alexithymia classification. Using a higher benchmark for psychopathy (i.e., PCL-R $\geq$30), Louth et al. (1999)

found that almost three-quarters (72.7%) of sampled female psychopaths incarcerated in a medium-security Canadian prison were not considered alexithymic. In this way, prevalence rates of psychopathy and alexithymia using both male and female offenders support their existence as discrete constructs with significant overlap in feature expression.

The inclusion of alexithymia when assessing psychopathy could potentially improve clinicians' accuracy in evaluating risk in the criminal justice system. Louth and colleagues (1999) documented significant associations of violence with both alexithymia and psychopathy in their all-female prison sample. In this context, psychopathy's incremental association with alexithymia over APD and non-APD offending is informative. One advantage of a multidimensional approach toward risk assessment is a thorough and balanced consideration of both risk and protective factors. In addition, consideration of multiple constructs provides an opportunity to more fully comprehend the context in which antisocial or violent behaviors are likely to occur (e.g., Rogers, 2000; Rogstad & Rogers, 2008). For example, the clinical picture of psychopathy's relationship to violence may be entirely different at varying levels of empathy, alexithymia, or emotional intelligence. Future studies should clarify predictors' relative contributions to violence and recidivism as well as their synergistic effects.

A detailed analysis of an offender's approach to problem-solving and decision-making could be beneficial in discriminating among antisocial populations. While psychopathic offenders displayed difficulty in identifying and describing their feelings, these deficits were not specific to psychopathy. Rather, an externally-oriented thinking style was selectively associated with psychopathy over APD and non-APD offenders. In other words, psychopathic offenders predictably tend to employ a logic-based as opposed to affect-driven approach to decision-making compared to offenders with and without APD. Interestingly, previous research (Louth et

al., 1999) has demonstrated only slight (r = .19) associations between psychopathy and externally-oriented thinking. However, Louth and colleagues failed to consider psychopathy independently from APD, and combined symptoms of antisociality may have suppressed any unique contributions of interpersonal and affective features of psychopathy. Furthermore, their use of the outdated 26-item Toronto Alexithymia Scale over the TAS-20 severely limits the current relevance of their findings.

A logic-oriented approach to problem-solving and decision-making introduces an appealing point of intervention to potentially combat problematic antisocial behaviors and risk for re-offending in psychopathic offenders. Ample evidence of psychopathic individuals' information processing deficits exists (see Hiatt & Newman, 2006). When compared to non-psychopathic controls, Newman and colleagues (e.g., Gorenstein & Newman, 1980; Newman et al., 1985; Patterson & Newman, 1993; Zeier, Maxwell, & Newman, 2009) have been instrumental in demonstrating psychopaths' inability to suspend goal-directed behavior and incorporate peripheral information into their dominant response set. Applied to externally-oriented thinking, it could be argued that psychopaths' logical approach to problem-solving serves as a dominant response set when engaged in goal-directed behavior (e.g., obtaining money from a stranger). In this case, peripheral emotional information that might inhibit subsequent behavior or promote the re-evaluation of their decision (e.g., distress facial cues) is overlooked. In this way, any therapeutic intervention designed to facilitate psychopaths' capacity to incorporate such peripheral emotional information would be beneficial in inhibiting maladaptive behavior. For example, cognitive techniques that train psychopathic individuals to allocate attention to secondary information are likely to promote adaptive self-regulation (Wallace & Newman, 2004). Additional psycho-education regarding others' emotional experiences might

simultaneously increase the salience of emotional stimuli and allow psychopaths to incorporate this information into their decision-making and subsequent behavior.

Alexithymia in Female and Male Psychopathy

The association between psychopathy and alexithymia varies markedly between genders. An examination of prevalence rates among female offenders produced a 54.5% higher co-occurrence in psychopathic than non-psychopathic alexithymics. In contrast, comorbidity rates were nearly identical (i.e., < 15%) for male psychopathic and non-psychopathic alexithymics. The current study provides the first attempt to empirically demonstrate gender-specific relationships to alexithymia by making direct comparisons between female and male psychopathic offenders. Clearly, gender moderates the relationship between psychopathy and alexithymia, at least in this offender sample.

The current findings, though preliminary, further caution against blanket extrapolations about gender's association with alexithymia from non-forensic populations to offending samples. For instance, in community samples, women tend to score slightly lower (d = -.28) than men on measures of alexithymia (Parker et al., 2003). In stark contrast, however, female psychopathic offenders in the current study were markedly *less* able to recognize and identify their own emotions than their male counterparts (d = .94). Female psychopaths' deficit in their own emotional awareness is completely unexpected, given women's relative emotionality compared to men in the general population (e.g., Davis, 1983; Parker et al., 2003). Regarding alexithymia, psychopathy appears to "level the emotional playing field" to an extent between genders, with an unexpected advantage to male psychopaths. In fact, alexithymia's differential relationship between female and male psychopaths helps to clarify female psychopaths' deficient cognitive empathy relative to their male counterparts. For instance, high levels of psychopathy may

unilaterally dampen affective experiences among women, such that they are unable to identify or comprehend emotions in themselves and other people. Conversely, affective deficits in male psychopaths may manifest only when deficits in affective experience (i.e., high scores on the PCL-R Affective facet) are prominent. Perhaps glib and deceitful (i.e., PCL-R Interpersonal facet) psychopathic males retain the ability to recognize their own and others' emotions, making them more adept at mimicking the affective experiences they observe in others (Cleckley, 1976).

Gender differences in abuse and trauma history may shed light on the gender-moderated relationship between psychopathy and alexithymia among jail detainees. Recent research has underscored the strong relationship between alexithymia and borderline personality disorder (BPD) traits in college (Webb & McMurran, 2008) and outpatient clinical (Zlotnick, Mattia, & Zimmerman, 2001) samples. For instance, Zlotnick and colleagues (2001) found that BPD was more predictive of alexithymia than a variety of Axis I disorders (e.g., substance abuse, eating disorders), including post-traumatic stress disorder (PTSD), and a childhood history of abuse or neglect. BPD often arises following early childhood traumas, such as physical or sexual abuse, and is diagnosed more commonly in females (approximately 75%) than males (APA, 2000).

As a Cluster B personality disorder, BPD bears some striking similarities to psychopathy in its symptom patterns, particularly regarding behavioral manifestations. Specifically, BPD is marked by disturbances in behavioral and affect regulation, impulsivity, and intense interpersonal conflict (APA, 2000). Lilienfeld (1992) postulated that certain disorders predominantly diagnosed in women represent female manifestations of psychopathy. Indeed, BPD is one of the personality disorders most frequently diagnosed among psychopaths (Blackburn, Logan, Donnelly, & Renwick, 2003), resulting in modest relationships between the constructs, irrespective of gender, in offenders (Blackburn & Coid, 1998) and methadone

patients (Rutherford et al., 1996). Moreover, Verona and Vitale (2006) argue that some disorders, including BPD, reflect gender-specific expressions that reflect a common diathesis for externalizing problems, disinhibition, and antisocial behavior. In other words, female BPD and male psychopathy may share etiological underpinnings.

Alexithymia's substantial relationship to BPD may partially explain female psychopaths' difficulty identifying their emotions compared to their male counterparts. BPD was not assessed in the current study; however, borderline personality traits were likely prevalent among female offenders, particularly psychopathic female offenders, given (a) BPD's comorbidity with psychopathy, (b) BPD's potential as a distinct female expression of psychopathy, and (c) BPD's association with trauma history. On this last point, although numbers are not available, a sizable portion of female participants reported a significant history of trauma and abuse, including victimizations, sexual assaults, and childhood abuse and neglect. Moreover, a recent meta-analytic review (Jespersen, Lalumière, & Seto, 2009) revealed that specific adult offender groups (i.e., sex offenders) are likely to have been abuse victims for similar crimes. In this context, unresolved, residual effects of trauma and abuse could manifest as the behavioral and affect dysregulation characterizing both BPD and psychopathy, particularly alexithymia symptoms.

Potential Interventions for Alexithymia and Psychopathy

Psychopathy's association with alexithymia has promising treatment implications. By definition, individuals suffering from features of both conditions lack emotional awareness that may (a) promote insight into their psychological experience, (b) allow them to change their thinking, feeling, and behavior by accessing emotions, and (c) inhibit the externalization of vulnerable emotional states (e.g., aggression; Levant, 1992; Levant, Halter, Hayden, & Williams, 2009) that pose formidable challenges to implementing effective psychotherapeutic

interventions. Therapeutic techniques that prove effective with alexithymia may also have promising implications for the successful treatment of psychopathic individuals.

Considerable therapeutic pessimism exists in the psychopathy field despite convincing criticisms (Salekin, 2002, 2010) citing the absence of empirical support for this pervasive view. Psychopathy's robust association with alexithymia may introduce novel and potentially effective techniques to include in psychopathy intervention research. On this point, a recently developed brief psycho-educational treatment protocol may enhance adaptive identification and expression of emotion in male psychopaths, particularly those also possessing alexithymic characteristics. The alexithymia reduction treatment (ART; Levant, 2001) has demonstrated preliminary efficacy in reducing symptoms of alexithymia in men (Levant et al., 2009). The aim of ART is to articulate the role of emotions in psychological well-being and pinpoint socio-cultural explanations for emotional experience difficulties. In six sessions, clients are guided through exercises designed to (a) increase emotional awareness, (b) aid in the accurate identification of emotions and engender adaptive coping responses, and (c) encourage the incorporation of emotions into interpersonal interactions. This brief approach to treatment may prove fruitful with psychopathic males for two critical reasons. First, these techniques attempt to compensate for affective deficits commonly exhibited by psychopaths. Furthermore, a successful intervention effectuated in six sessions is ideal for offenders housed in correctional facilities where resources for time and personnel are increasingly in demand.

Additional therapeutic initiatives that target the deficient affect regulation skills of psychopathic offenders may be particularly effective. For instance, dialectical behavior therapy (DBT; Linehan, 1993) is a primarily cognitive-behavioral therapy designed to replace maladaptive behavior with skills by combining behavioral and emotion regulation techniques

with distress tolerance, acceptance, and mindful awareness skills. DBT may be effective in reducing impulsive and antisocial behaviors among female psychopaths, particularly if they also display borderline personality traits. On this point, DBT has proved incredibly effective in women with BPD, including a reduction in externalizing (e.g., suicidal and self-injurious) behavior (Neacsiu, Rizvi, & Linehan, 2010). Specifically, DBT's use of words to label emotions, discrimination of one's own emotions from others', and validation of one's own emotional responsiveness (Linehan & Kehrer, 1993; Zlotnick et al., 2001) could be particularly beneficial given female psychopathy's association with alexithymia.

Emotional Memory in Psychopathy

Researchers (e.g., Blair et al., 2004; Kosson et al., 2006; Lorenz & Newman, 2002a; Lykken, 1957; Newman & Kosson, 1986; Patrick et al., 1993; Williamson et al., 1991) have amply documented male psychopaths' deficiencies in processing emotional information across a variety of research paradigms. It is necessary, however, to clarify the use of terms and their definitions before the current findings can be discussed in the context of this literature. Three terms will be operationalized in order from the broadest to most precisely defined construct: (a) emotion processing, (b) emotional facilitation, and (c) emotional memory facilitation. First, emotion processing is broadly described as an individual's processing of emotionally valenced information. Next, emotional facilitation, an aspect of emotion processing, involves the enhanced *processing* of emotionally valenced over neutral stimuli. Finally, emotional memory facilitation is the enhanced *recall* for emotional over neutral material.

Male psychopaths display substantially diminished emotional facilitation compared to their non-psychopathic counterparts (Lorenz & Newman, 2002a; Williamson et al., 1991). With one notable exception (Kosson et al., 2006), most studies have failed to include competing

hypotheses; instead they simply establish that psychopathy predicts deficient emotional facilitation better than nothing at all. More importantly, studies have overlooked female psychopathy when investigating these hallmark effects. When female offenders are included, results have been inconsistent (Lorenz & Newman, 2002b; Sutton et al., 2002; Vitale & Newman, 2001). Furthermore, emotional memory facilitation has been relatively uninvestigated in psychopathic offenders.

Emotion processing appears to function similarly in psychopathy and APD among male and female jail detainees. In the current study, psychopaths performed similarly (d = -.10) to offenders with APD, but both groups displayed moderately *higher* emotional memory facilitation (ds = .47 and .53, respectively) than their non-APD counterparts. These findings are counterintuitive given psychopathy's association with emotion deficits, such as shallow affect and lack of empathy (Hare, 2003). Recently, Kosson and colleagues (2006) demonstrated that lower levels of emotion facilitation on a lexical decision task were specific to psychopathy over APD. These conflicting findings are likely attributable to two key differences in study characteristics. First, the Kosson et al. study included a large (N = 472) sample of male, European American prisoners. Their sample represents a fairly homogeneous, severely antisocial population whose findings do not likely generalize to the more typical population of jail detainees sampled in the current study, who are likely to vary markedly with respect to index offense, gender, and ethnic composition. Moreover, Kosson and colleagues investigated emotional facilitation, not emotional memory facilitation. Although a subtle distinction, definitively lower levels of emotional memory facilitation in psychopathy have not yet been established since findings between the four published studies have been contradictory. Consistent

with Glass and Newman (2009), the current findings do not support a fundamental deficit in emotional memory among psychopathic offenders.

The effects of gender and APD diagnosis on emotional facilitation may shed some light on these unexpected findings. Lorenz and Newman (2002b) investigated emotional facilitation in 237 male and 172 female prison inmates. They found that male offenders with APD performed similarly to non-APD offenders, but female inmates with APD demonstrated greater emotional facilitation relative to their non-APD counterparts. Nearly two-thirds (60.2%) of the current offender sample was female and it stands to reason that the combined effects of gender and APD on emotion facilitation extend to emotional memory facilitation. In this way, enhanced emotional memory facilitation in female offenders with APD may compensate for any affective deficits resulting from a concurrent psychopathy classification. APD offenders' significantly heightened recall for negatively valenced stimuli in particular (d = .65) in combination with increased negative trait affectivity (d = .69) compared to their non-APD counterparts further supports this assertion.

The current study was the first to explore emotional memory facilitation in psychopathic female offenders and allow for direct gender comparisons. Surprisingly, findings do not support an enhancement effect of gender on emotional memory facilitation within psychopathy groups, because gender differences were nominal (d = .27). Prior investigations into emotion processing in female psychopathy have yielded inconsistent results: One study found evidence of deficits (Sutton et al., 2002), whereas another study detected slight improvement (Vitale & Newman, 2001).

The current data suggesting female and male psychopaths' similar emotional memory facilitation raise two equally plausible possibilities regarding the role of emotion processing in

female psychopathy. First, emotion processing deficits in female psychopaths may be limited to abnormal physiological arousal. For example, the only evidence of female psychopathy's association with deficient emotion processing was found using a startle paradigm in response to unpleasant stimuli (Sutton et al., 2002). It is conceivable that in the absence of overtly noxious stimuli (e.g., a spontaneous, loud burst of white noise while viewing graphic images), female psychopaths do not display the emotion processing deficits observed in their male counterparts. An alternate possibility suggests that, irrespective of gender, psychopaths' deficits in emotion processing and emotional facilitation simply do not generalize to emotional memory facilitation. Clearly, more research is needed before drawing conclusions about the role of emotion processing in female psychopathy, particularly studies allowing for direct gender comparisons.

Discriminant Validity of Psychopathy and APD

Psychopathy has long been lauded as the premier predictor of negative outcomes within the criminal justice system, such as violence, recidivism, and antisocial conduct (e.g., Salekin et al., 1996; Leistico et al., 2008). Rogers and Rogstad (2010) recently raised the concern, however, that psychopathy's effectiveness as a predictor of violence and aggression may be an artifact of stringent PCL-R cut scores (i.e., $\geq$ 30 of 40; 75%) required for classification. In other words, psychopathy may be held to a stricter standard than APD. This supposition is especially tenable given recent evidence that psychopathy (Edens, Marcus, Lilienfeld, & Poythress, 2006; Walters et al., 2007) and APD (Marcus et al., 2006) represent dimensional constructs rather than discrete categories and may function on a continuum (Coid & Ullrich, 2010). Nonetheless, researchers and clinicians alike continue to assign these categorical classifications to offenders.

Hare (2003) notes the asymmetrical relationship evident between psychopathy and APD: Most psychopathic offenders also qualify for a diagnosis of APD, but the majority of offenders

with APD are not psychopaths. Differential cut scores required for classification of psychopathy and APD appear to account for a large portion, though not all, of this asymmetry. Prevalence rates for both conditions became strikingly more aligned when cut scores were leveled. Specifically, the difference between rates of psychopaths with APD and APD offenders with psychopathy shrank considerably from 91.8% using standard (i.e., disproportionate) cut scores to 12.4% when cut scores were equalized.

Kosson et al. (2006) used a similar methodology with 472 male prison inmates. They found that severity differences between psychopathy and APD classification criteria contributed to group differences for nonviolent offenses, but not for violent offenses or criminal versatility. Notably, however, nearly one quarter (22.9%) of prison inmates met criteria for the more stringent APD cut score without psychopathy. Their mixed results with these severely antisocial prisoners are instructive. Clearly, some of psychopathy's predictive utility (i.e., nonviolent offenses) was an artifact of varying cut scores despite the severely antisocial nature of the sample.

Beyond extremely antisocial populations, examinations of prevalence rates with non-forensic patients (Rogers & Rogstad, 2010) and in the current study with typical jail detainees suggest that only a small amount of the asymmetry in prevalence rates between psychopathy and APD is attributable to differences in constructs. Rather, differential prevalence rates appear to stem largely from varying approaches toward the conceptualization and measurement of psychopathy and APD. This conclusion is further supported by recent evidence that psychopathy and APD reflect a continuum of antisociality, with psychopathy representing a more severe form of APD (Coid & Ullrich, 2010).

Empirical support for the dimensional relationship between psychopathy and APD is

particularly relevant in light of proposed revisions to the conceptualization of personality pathology in the forthcoming fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-V*). Specifically, the *DSM-V* work group has recommended that APD diagnosis be reformulated as the antisocial/psychopathic personality disorder type (Skodol, 2010). Under this new system, clinicians would make multiple ratings on a Likert-type scale. One rating would represent the degree to which the individual typifies the overall personality disorder type. Additional ratings would reflect specific traits that encompass traditionally constructed psychopathy and APD constructs, such as callousness, aggression, manipulativeness, hostility, deceitfulness, narcissism, irresponsibility, recklessness, and impulsivity. *DSM-V*'s significant departure from diagnostic categories is predicated on evidence of the dimensionality of personality pathology (e.g., Coid & Ullrich, 2010; Edens et al., 2006; Marcus et al., 2006) in addition to problems that result from arbitrarily assigning diagnostic thresholds (Skodol, 2010).

Limitations and Future Directions

General and victim empathy both reflect attitudes regarding unfortunate others and, as a result, are susceptible to presentation bias (e.g., social desirability). Self-report questionnaires assessing empathy domains in the absence of objective verification measures have been criticized for depicting how empathic a person wishes to be viewed as opposed to their actual empathic capacity (Eisenberg & Fabes, 1990; Jolliffe & Farrington, 2006). A limitation of the present study is its reliance on detainees' self-report to assess empathy levels. Attempts were made to statistically control for social desirability by including a measure of response style (i.e., the Paulhus Deception Scales [PDS]); however, participants' responses are arguably exposed to response style distortions beyond the scope of the PDS. For instance, the correctional nature of the sample could conceivably influence offenders' willingness to endorse concern for others for

fear of being viewed as soft or weak to other detainees. However, this possibility likely did not drastically alter reports of general and victim empathy in this jail sample since reported levels were surprisingly high.

Future research should utilize multiple methods to evaluate empathy levels, primarily experimental measures that include an objective empathy dependent variable. For example, the modifications to the Taylor Aggression Paradigm (TAP; Taylor, 1967) have proved effective in eliciting empathy to another's perceived distress (van Baardewijk, Stegge, Bushman, & Vermeiren, 2009). In this paradigm, the salience of distress cues was manipulated when participants administered punitive electric shocks against a fictitious opponent in a reaction-time task. The dependent variable of administered shock intensity as a measure of aggression would be objective and particularly ecologically valid when applied to offender populations. This paradigm in particular would afford an evaluation of victim empathy by directly measuring the amount of pain offenders are willing to inflict on another person in the face of their victim's distress.

Another study limitation involves the use of moderate psychopathy levels to denote group classification using the PCL-R. In contrast to traditionally constructed psychopathy groups, the use of a lower cut score may attenuate some group differences that might otherwise be apparent. In this way, the use of moderate psychopathy groups limits conclusions to typical jail populations and results may not generalize to all psychopaths. However, a dimensional approach toward psychopathy classification is relevant given recent consensus that psychopathy is a dimensional, as opposed to taxonic, construct (Edens et al., 2006). Moreover, the *DSM-V*'s push toward dimensional models of antisocial and psychopathic personality pathology require research examining varying degrees of psychopathic traits.

Future research should investigate dimensions of psychopathy beyond the context of forensic settings to help clarify its role in broader personality pathology. For instance, Cleckley (1941) anecdotally introduced the notion of the "successful psychopath," or an individual who possesses the essential personality features of psychopathy but refrains from severe criminal deviance. Moreover, some psychopathic traits (e.g., superficial charm, fearlessness) may serve as assets within certain professions (Lykken, 1995). A compelling question is whether successful psychopaths share fundamental affective deficits with their criminal counterparts and if so, what influences these deficits may have on differential behavioral expressions of the syndrome.

The PCL-R (Hare, 2003) is considered the "gold standard" for assessing psychopathy, with reliability and validity predominantly based on male forensic populations. In contrast, little normative or psychometric data is available regarding psychopathy in females. Classic correlates of psychopathy appear to function variedly between genders, including core affective deficits (Vitale & Newman, 2001) and antisocial conduct (Leistico et al., 2008). For instance, interpersonal and affective features of psychopathy appear to play a key role in female as opposed to male criminal behavior. Hare (2003) continues to advocate the use of the PCL-R with females and as a result, forensic practitioners evaluating female offenders must extend Hare's interpretive guidelines beyond male-specific findings. Future research should rigorously evaluate the construct validity of psychopathy in females and identify any related sources of measurement bias.

Psychopathy, and the PCL-R more specifically, is widely used as a meaningful predictor of outcomes within the criminal justice system (e.g., Cunningham & Reidy, 1998; Salekin et al., 1996). However, exclusive focus on the psychopathy construct in isolation is neither clinically useful nor defensible. A future direction would include the consideration of competing

hypotheses through related constructs. As reflected in the current study, measures of emotional awareness and expression, such as alexithymia, can clearly distinguish psychopathy from APD and male from female psychopathy. Other personality characteristics may further clarify the syndrome's expression. For example, psychopathy may provide strikingly different clinical presentations between genders, with males appearing antisocial and narcissistic (Blackburn & Coid, 1998; Blackburn et al., 2003) and females presenting as histrionic or borderline (Lilienfeld, 1992; Verona & Vitale, 2006). Evaluation of these gender-specific manifestations is needed to inform the conceptualization and accurate measurement of psychopathy across genders.

Future research should focus on identifying potential therapeutic interventions and systematically evaluating their efficacy with psychopathic offenders. A pervasive, pessimistic view has dominated the psychopathy field regarding psychopathic offenders' amenability to treatment. Namely, therapeutic interventions are thought to (a) be incredibly difficult, (b) have no appreciable effect at best, and (c) at worst, *increase* criminal behavior and recidivism in psychopathic offenders. Recent reviews (D'Silva et al., 2004; Salekin, 2002, 2010) rebut this therapeutic pessimism, citing the absence of convincing empirical evidence to support such strong conclusions. Findings from the current study provide a conceptual opportunity for implementing potentially effective treatment approaches with psychopathic offenders, particularly those intended to promote emotional awareness as a means for behavioral regulation, such as ART or DBT.

Concluding Remarks

The current study highlights key differences between psychopathy and APD, its most common comorbid diagnosis. Specifically, psychopathic offenders and their counterparts with APD were clearly delineated by (a) deficits in emotional awareness and (b) a logical over

emotional approach toward decision-making and problem-solving. Constructs considered intrinsic to psychopathy (i.e., victim empathy), however, failed to reliably distinguish between psychopathy and APD. Moreover, the asymmetrical relationship observed in correctional settings between prevalence rates of psychopathy and APD appears to be largely attributable to differences in cut scores required for classification. The question was raised whether psychopathy and APD are best viewed as dimensions of the same construct or related but discrete entities. This question is particularly relevant in light of the paradigm shift from categorical diagnosis to dimensional trait models of personality pathology in the upcoming *DSM-V*. Future *DSM-V* conceptualizations will likely require the extensive review and revision of current research and clinical practice methods.

The present data suggest considerable disparities in expressions of the affective features of female and male psychopathy. In particular, interpersonal features like deceitfulness are associated with increased comprehension of others' emotions in male psychopathy, arguably allowing male psychopaths to more proficiently manipulate others by imitating, but not experiencing, emotions (Cleckley, 1976). This asset was not evident in females; rather, female psychopathy produces pronounced difficulty identifying emotions. Absent sufficient evidence of comparable expressions and correlates of psychopathy between genders, the principal issues may involve whether (a) the extension of instruments validated with male offenders is similarly appropriate for the assessment of female psychopathy or (b) these syndromes are essentially distinct. The current research makes a significant contribution to the psychopathy literature in its support for fundamental gender differences in the affective expression of psychopathy. The implications for these distinctions with regard to forensic research and practice are extensive and require future consideration.

APPENDIX A

A COMPARISON OF THE CRITERIA FOR PSYCHOPATHY AND ANTISOCIAL PERSONALITY DISORDER

Items exclusive to PCL-R	Similar items between PCL-R and APD	Items exclusive to APD criteria
1. Glibness/superficial charm	1. Pathological lying (PCL-R) and Deceitfulness (APD)	1. Irritability and aggressiveness, as indicated by repeated physical fights or assaults
2. Grandiose sense of self worth	2. Lack of remorse or guilt (PCL-R) and Lack of remorse (APD)	2. Reckless disregard for safety of self or others
3. Need for stimulation/proneness to boredom	3. Impulsivity (PCL-R) and Impulsivity or failure to plan ahead (APD)	3. Evidence of conduct disorder with onset before age 15 years
4. Conning/Manipulative	4. Irresponsibility (PCL-R) and Consistent irresponsibility (APD)	
5. Shallow affect	5. Criminal versatility (PCL-R) and Failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest	
6. Callous/lack of empathy		
7. Parasitic lifestyle		
8. Poor behavioral controls		
9. Promiscuous sexual behavior		
10. Early behavioral problems		
11. Lack of realistic, long-term goals		
12. Failure to accept responsibility for own actions		
13. Many short-term marital relationships		

14. Juvenile delinquency

15. Revocation of conditional release

APPENDIX B

LIST OF NEGATIVE, NEUTRAL, AND POSITIVE WORDS USED AS STIMULI IN THE PRESENT STUDY

Negative words	Neutral words	Positive words
devil	algebra	charm
gore	array	creator
hostage	bowl	dove
injury	code	goddess
misery	custom	heaven
murder	deed	kiss
perjury	edition	ocean
shock	errand	prayer
shotgun	event	sunset
slave	figment	tribute
tomb	foam	vigor
victim	gallery	warmth
	hound	
	lecture	
	mileage	
	piano	
	plain	
	profile	
	pupil	
	reflex	
	salute	
	sulfur	
	vacuum	
	vessel	

APPENDIX C

AFFECTIVE DEFICITS? COMPARING NORMATIVE VALIDATION SAMPLES TO THE CURRENT OFFENDER SAMPLE

	Male					
		Normative		Psychopathy-APD Offender (n = 14)		Effect size
Measure	*n*	*M*	*SD*	*M*	*SD*	Cohen's *d*
			General empathy			
IRI[a] Perspective Taking	579	16.78	4.72	12.86	4.61	-.83
IRI[a] Empathic Concern	579	19.04	4.21	17.79	6.09	-.29
BES[b] Empathy	194	64.30	9.80	69.28	7.28	.52
Cognitive Empathy	194	32.20	5.10	35.85	4.08	.72
Affective Empathy	194	32.10	6.50	33.43	6.70	.20
			Alexithymia			
TAS-20[c] Alexithymia	868	47.30	11.32	55.36	14.42	.71
Diff Identifying Feelings	868	14.51	5.22	16.64	7.40	.41
Diff Describing Feelings	868	13.16	4.10	16.79	5.90	.88
Extern-Oriented Thinking	868	19.62	4.67	21.93	4.25	.50
	Female					
		Normative		Psychopathy-APD Offender (n = 17)		Effect size
Measure	*n*	*M*	*SD*	*M*	*SD*	Cohen's *d*
			General empathy			
IRI[a] Perspective Taking	582	17.96	4.85	12.47	5.64	-1.13
IRI[a] Empathic Concern	582	21.67	3.83	18.94	5.96	-.70
BES[b] Empathy	169	75.30	8.30	72.62	11.46	-.31
Cognitive Empathy	169	35.00	3.90	34.24	5.97	-.18
Affective Empathy	169	40.30	5.80	38.39	10.52	-.30
			Alexithymia			
TAS-20[c] Alexithymia	1065	44.15	11.19	60.49	10.45	1.46
Diff Identifying Feelings	1065	14.27	5.20	22.49	5.05	1.58
Diff Describing Feelings	1065	11.96	4.21	16.41	4.66	1.06
Extern-Oriented Thinking	1065	17.93	4.63	21.59	3.78	.79

Note. Sample comparisons were not possible for victim empathy because Clements et al. (2006) did not provide the descriptive data for the VCS-22 required for these calculations; Diff Identifying Feelings = Difficulty Identifying Feelings; Diff Describing Feelings = Difficulty Describing Feelings; Extern-Oriented Thinking = Externally-Oriented Thinking.

[a]The IRI validation sample included 1161 undergraduate students (Davis, 1980).

[b]The BES validation sample consisted of 363 British school-age adolescents (Jolliffe & Farrington, 2006b).

[c]The TAS-20 validation sample included 1933 adults from a community population (Parker et al., 2003).

ENDNOTES

[1]While sections of the thesis proposal were applied to a recently published review of the literature on gender differences in affective deficits associated with psychopathy and APD (i.e., Rogstad & Rogers, 2008), this thesis defense represents a more comprehensive and detailed analysis, including contemporary, relevant studies not available at the time of publication.

[2]To avoid criterion contamination from items on the PCL-R assessing criminal conduct, items 18 ("juvenile delinquency") and 20 ("criminal versatility") were prorated when conducting analyses.

[3]These inmates composed a subsample of the larger sample (n = 508) from this study investigating alexithymia's relationship to psychopathology and intellectual functioning in an offender population (Kroner & Forth, 1995). The author has included only the results relevant to psychopathy's relationship with alexithymia.

[4]Because APD is so widely prevalent in correctional populations, hypotheses were targeted toward offenders with psychopathy and APD-only for purposes of investigating competing hypotheses. However, since a surprisingly large number of control (i.e., non-APD) offenders were available for analysis in the current sample, these results were also discussed.

[5]Although findings from Sayar, Ebrinc, and Ak (2001) might suggest that psychopathic individuals may score similarly to those with APD, the uniqueness of the Turkish military sample used limits their generalizability to the current study.

[6]Gender-specific analyses were limited to the psychopathy-APD group since affective variables of interest were conceptually associated with psychopathy. Unexpectedly, one female participant qualified for psychopathy classification as operationalized in the current study but not

APD. To ensure consistency with group comparisons made in previous studies, this participant was excluded from subsequent analyses.

[7]Two neutral words were presented in a different order from the original paradigm to account for primacy and recency effects. One neutral word was removed from the third ("custom") and tenth ("bowl") blocks of words and placed into the first and last blocks of words respectively to ensure that two emotional words and two neutral words were discounted from analyses and resulting memory recall was not biased.

[8]As described previously, women consistently receive lower PCL-R scores than men (e.g., Hare, 2003; Vitale, Smith, Brinkley, & Newman, 2002; Warren et al., 2006) and prevalence rates of psychopathy in female samples are lower when using standard cut scores. As a result, Hare (2003) recommends using *T*-score conversions between genders to approximate equal latent psychopathy levels. The dimensional classification described above was applied to female offenders and *T*-scores used for males to ensure that resulting psychopathy classifications included only those scores within the moderate range and above.

[9]Since only one (1.0%) male and one (1.0%) female participant were detained for violent crimes using the FBI's narrow definition, Yates' correction was applied to the Chi-square analysis to account for this low incidence (i.e., cell counts < 5) of violence in the overall sample. An analysis of a broader definition of violence (i.e., including simple assaults and offenses using a weapon) also required the application of Yates' correction and similarly revealed no differences in violence rates by gender, $\chi^2(1, N = 98) = 1.89, p = .17$.

[10]Unfortunately, Clements and colleagues (2006) do not provide the VCS-22 community sample descriptive data necessary to test this hypothesis.

[11]An unexpected exception occurred between male samples for BES Empathy total and scale scores. This finding is perhaps attributable to (a) the relatively less extensive validation of the BES compared to the IRI and (b) age dissimilarities between the current offender and BES normative samples.

[12]Yates' correction was applied to Chi-square analyses to account for low levels (i.e., cell counts < 5) of distorted responding in this subsample.

[13]For female offenders, few (i.e., < 5) offenders were categorized as both psychopathic non-alexithymic; therefore, Yates' correction was required for subsequent Chi-square analyses.

[14]Fewer than five male non-psychopathic offenders were classified as alexithymic. As a result, Chi-square analyses required the application of Yates' correction.

[15]Smith (2006) defines these individuals in terms of primarily interpersonal (e.g., exemplary communication skills, charm) and affective (e.g., lack of guilt, callousness, rationalizations for behaviors) terms, yet mistakenly labels them only with the APD diagnosis. Moreover, his oversight in failing to mention psychopathy appears to result from an interchangeable use in terms (e.g., APA, 2000) rather than an assertion that APD is preferentially associated with specific empathy facets.

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