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## Gender differences in psychopathy

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GENDER DIFFERENCES IN  
PSYCHOPATHY

Thesis

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The Degree

Master of Arts in Clinical Psychology

by

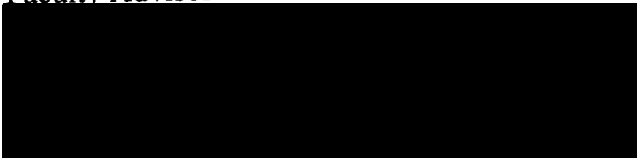
Jamie Lynn See

UNIVERSITY OF DAYTON

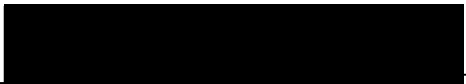
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## ABSTRACT

### Gender Differences in Psychopathy

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Despite sharing many common features, Borderline Personality Disorder (BPD) and Antisocial Personality Disorder (ASPD) show surprising gender differences in their prevalence rates of diagnosis. One explanation for these discrepancies in prevalence rates is that BPD and ASPD may be connected to each other by psychopathy. Some authors have hypothesized that men and women may differ in their overt behavioral manifestations of personality traits, resulting in the diagnosis of either BPD for women or ASPD for men. Using a sample of 84 male and 79 female college students, the current study used self-report measures of personality, psychopathy, sex-role identity, trait anxiety, and social desirability to examine this hypothesis. It was hypothesized that the Gender x Psychopathy interaction would significantly predict BPD and ASPD above the main effects for gender and psychopathy alone such that women high in psychopathy would score higher on the BPD measure while men high in psychopathy would score higher on the ASPD measure. A similar pattern of means was expected when sex-role identity was substituted for gender in the study analyses. Finally, it was hypothesized that BPD would be found to be related to secondary psychopathy but not primary psychopathy, while ASPD would be found to be related to both primary and secondary

psychopathy and that females would be more likely to demonstrate secondary psychopathy while males would be equally likely to demonstrate both primary and secondary psychopathy. Although no significant Gender (or Sex-Role Identity) x Psychopathy interactions were found in the current study, significant main effects between psychopathy and BPD and ASPD indicated that participants who scored low on psychopathy scored lower on BPD or ASPD in comparison to those who scored high on psychopathy. Significant main effects were found for gender in two out of the four equations in that women scored higher on BPD than men and men scored higher on ASPD than women. The results also indicated that BPD is related to secondary psychopathy while ASPD is related to both primary and secondary psychopathy. The overarching hypothesis that BPD and ASPD are sex-typed manifestations of psychopathy received no support in the current study.

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## CHAPTER I

### INTRODUCTION

Personality disorders are characterized by deeply ingrained and pathological patterns of thought, feeling, or behavior that can be traced back to adolescence or early adulthood. These disorders are categorized into three clusters; Cluster A personality disorders are described as odd or eccentric, and Cluster B personality disorders are distinguished as dramatic, emotional, or erratic, while Cluster C disorders are deemed anxious or fearful (Kraus & Reynolds, 2001). Cluster B personality disorders such as borderline personality disorder (BPD) and antisocial personality disorder (ASPD) share many common features such as poor impulse control (Murphy & Vess, 2003) as well as varying degrees of anger, aggression, manipulation, and emotional instability as described in the DSM-IV Text Revision (TR) (American Psychiatric Association, 2000). The tendency to act out and characteristics of maliciousness are also commonalities between BPD and ASPD that are not shared by the other personality disorders such as histrionic personality disorder (HPD) and narcissistic personality disorder (NPD). Interestingly, there is a large gender difference between BPD and ASPD, as 75% of persons diagnosed with BPD are female and 75% of persons diagnosed with ASPD are male (American Psychiatric Association, 2000). The gender differences in diagnosis of BPD versus ASPD are surprising given the overlap of criteria between the two disorders. One possibility for this inconsistency could be clinician biases in diagnosis. Males may

also be diagnosed more often with ASPD due to the large behavioral or aggressive component of the diagnostic criteria and females with BPD due to the stereotype of heightened emotionality (Skodol, 2000). In a review of the clinician bias literature, Garb (1997) noted that even when female and male clients do not differ in symptomology, males are more likely than females to be diagnosed with ASPD. This bias is evidenced by studies in which different groups of clinicians have been given case histories that are identical except for the designation of gender. However, Garb noted that for BPD, the effect of gender bias has generally not been significant, and when it has been significant, findings have not been replicated (1997).

Another explanation is that BPD and ASPD may be connected to each other by a core hypothetical concept known as psychopathy. Psychopathy can be described as a plethora of personality traits that generally include remorselessness, callousness, deceitfulness, egocentricity, failure to form close emotional bonds, superficial charm, and externalization of blame (Lilienfeld, 1998). Many of these traits are found in both BPD and ASPD. Some authors have hypothesized that although the same underlying personality features of psychopathy are shared, men and women may differ in their overt behavioral manifestations (Cale & Lilienfeld, 2002a), resulting in the diagnosis of either BPD for women or ASPD for men.

Pennline and Lutz-Zois (2005) examined the hypothesis that BPD and ASPD represent sex-typed expressions of the underlying dimension of psychopathy. Their results failed to indicate significant Gender x Psychopathy interactions in the prediction of BPD and ASPD. These authors speculated that one explanation for this failure to support their hypotheses was that the measure they used to assess psychopathy did not

adequately capture the emotional instability that is characteristic of BPD. They also speculated that sex-role identity may be a more important moderator variable than gender per se. The proposed study is designed to address these two limitations. The remainder of the introduction will review similarities and differences between BPD and ASPD, including similarities and differences in development and etiology of these two disorders. Further, research linking psychopathy to both ASPD and BPD will be reviewed. Finally, a study will be proposed that builds on previous research by Pennline and Lutz-Zois (2005).

### *Characteristics of Borderline and Antisocial Personality Disorder*

This section will explore the criteria for diagnosis of BPD as well as the characteristics of the disorder and behaviors of someone with BPD. The criteria for the diagnosis of ASPD will also be detailed in this section along with the characteristics and behaviors that are associated with the disorder.

The DSM-IV TR describes BPD as being a pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity that starts by early adulthood (American Psychiatric Association, 2000). Almost always in a state of crisis, persons diagnosed with BPD have significant impairments in tolerating negative affect, controlling impulses, and coping with feelings of aloneness (Kraus & Reynolds, 2001). However, for many clinicians, a history of self-harming or self-destructive behavior is the defining feature of BPD as evidenced by suicidal gestures, threats, or self-mutilation (Gunderson, Davis, & Youngren, 1997). Persons with BPD persistently present with an unstable self-image and often have problems with identity formation which may result in impulsivity in their actions such as overspending, promiscuity, and

substance abuse. Affective instability is also prominent in those diagnosed with BPD (Trull, Widiger, Lynam, & Costa, 2003), as they may present with rapid mood shifts in which emotional states tend to only last a few hours. Along with experiencing emotional turmoil, individuals with BPD often suffer from chronic feelings of emptiness or tend to exhibit inappropriate, intense anger that they have difficulty controlling (Paris, 2005). Interpersonally, they demonstrate a pattern of unstable and intense relationships and often alternate their representations of either themselves or others as exclusively “good” or exclusively “bad” (Kraus & Reynolds, 2001) which exemplifies their extremes of idealization and devaluation. These relationships often develop quickly and tend to be superficial in nature. Persons diagnosed with BPD lack trust in others and often make frantic efforts to avoid real or imagined abandonment in interpersonal relationships (Trull, 2001). Lastly, individuals with BPD often display transient, stress-related paranoid ideations or severe dissociative symptoms (American Psychiatric Association, 2000).

According to the DSM-IV TR, ASPD is characterized by a pervasive pattern of disregard for, and violation of, the rights of others occurring since the age of 15 years. Individuals diagnosed with ASPD must be at least 18 years of age and have had some evidence of conduct disorder with onset before the age of 15. Furthermore, the antisocial behavior must not occur exclusively during the course of schizophrenia or a manic episode. Individuals with ASPD display behaviors that reflect criminality or conformity problems such as impulsivity, poor behavioral controls, need for stimulation, and a parasitic lifestyle (Murphy & Vess, 2003). Persons with ASPD are usually seen as being combative and exploitive of others at the expense of empathy, reciprocity, and social

sensitivity (Kraus & Reynolds, 2001). They present as overconfident with superficial charm but lack remorse and tend to rationalize their behavior by blaming their victims for being foolish, helpless, or deserving their fate. Financial irresponsibility and irresponsible work behavior are also characteristic of persons with ASPD as are repeated physical fights or assaults. These individuals also tend to have a higher prevalence of alcohol abuse and dependence than individuals without ASPD (Cale & Lilienfeld, 2002a) and lack respect for the law as evidenced by destroying property, harassing others, stealing, or pursuing illegal occupations (American Psychiatric Association, 2000). Interpersonally, relationships are often shallow or lacking commitment as individuals with ASPD tend to mistreat others for personal gain, amusement, or in the throes of passion (Hare, Hart & Harper, 1991). Overall, persons with ASPD are characterized by sensation-seeking, emotional underreactivity, and interpersonal antagonism and exploitation (Skodol, 2000).

#### *Comparison of Underlying Dimensions of BPD and ASPD*

This section will explore the three main dimensions that are hypothesized to underlie both ASPD and BPD. Specifically, impulsivity, affective instability and cognitive disturbances are commonalities between ASPD and BPD.

Impulsivity, one of the core dimensions commonly found in ASPD and BPD, is defined as behaving without thinking and considering the risk involved in the behavior (Casillas & Clark, 2002). According to Siever and Davis (1991), when chronic and pervasive, a predisposition toward impulsive behaviors may result in persistent self-destructive and antisocial behaviors, as in BPD and ASPD. Impulsive patterns such as eating binges, assaultive behavior, shoplifting, promiscuity, and substance

abuse/dependence can be observed in these personality disorders (Zanarini, Gunderson, Frankenburg, & Chauncey, 1990). In ASPD, this impulsivity is manifested as a lack of suppression of behaviors that defy normal social constraints, such as stealing or lying, whereas in BPD, impulsivity may be expressed as suicide attempts, angry outbursts, fights, and substance abuse, often in response to a disappointment or frustration in an important relationship (Siever & Davis, 1991).

Affective instability, another commonality between ASPD and BPD, can be defined as a predisposition toward marked, rapidly reversible shifts in affective state that are extremely sensitive to meaningful environment events. Affective instability is most often found in persons with BPD (Siever & Davis, 1991). Disinhibited, impulsive individuals such as those diagnosed with BPD may exaggerate their affective responses, using their emotionality to control the behavior of others in order to improve their own mood and self-esteem. Zanarini et al. (1990) noted that feelings of depression, anger, and dysphoria are significantly more common among persons with BPD than persons with other personality disorders such as ASPD. However, Paris (2003) hypothesizes that persons with ASPD may have experienced overwhelming dysphoria as a child but responded impulsively and dealt with stressful situations by acting out. For example, a male child who throws a chair instead of crying can be seen as acting out rather than displaying sadness or emotion. If prevented from physically acting out, their typical coping mechanism, it is unclear as to the extent to which extreme dysphoria would lead to affective instability in persons with ASPD (Paris, 2003).

The last dimension thought to underlie ASPD and BPD is cognitive disturbances. Zanarini, Gunderson, and Frankenburg (1990) found that a significantly high percentage



of persons with BPD reported experiencing some type of cognitive disturbance. Individuals with BPD tend to develop psychotic or psychotic-like symptoms when sufficiently stressed such as odd-thinking, unusual perceptions, and nondelusional paranoia, but in extreme cases, they can experience a clear-cut departure from reality. Paris (2003) stated that persons with BPD show cognitive impairment associated with “micropsychotic phenomena” such as marked superstitiousness, recurrent illusions, and undue suspiciousness or other paranoid ideation (Zanarini et al., 1990). It has been speculated that odd thinking or unusual perceptual experiences and nondelusional paranoia are also common among persons with other personality disorders such as ASPD (Zanarini et al., 1990). Dodge (1980) found a cyclical relationship between hostile bias attributions and aggressive behavior such that an aggressive child who perceives that a peer is responsible for a negative event will react with aggression. Over time, the child will develop aggressive styles of social interaction due to this bias and infer hostile intentions from others even when none are present. This type of cognitive disturbance may be observed in persons with ASPD who have repeated the cycle of aggressive responses to social interactions throughout their lives. Persons with ASPD also appear to have an inability to articulate or verbalize their emotions which could be attributed to a cognitive disturbance. Furthermore, individuals with ASPD have shown consistent abnormalities on neuropsychological testing, with defects in executive functioning and planning related to the prefrontal cortex (Paris, 2003).

#### *Gender Differences in Development and Etiology of BPD and ASPD*

The last section summarized core similarities between BPD and ASPD. This section will analyze the gender-specific etiologies and development of BPD and ASPD in

order to explain the emergence of the gender differences between the disorders. The roles of personality traits, genetic/biological predispositions, and social and family factors in the development of BPD versus ASPD will be examined.

### *Personality Traits*

This section will discuss the importance of the five factor model of personality (FFM) and the six facets of the dimensions in examining personality disorders, specifically BPD and ASPD. ASPD and BPD share similar FFM profiles in that they are both high in neuroticism and low in agreeableness. This section will also examine gender differences in personality based on the facets of the FFM.

Personality disorders are usually construed as psychiatric categories characterized by a unique configuration of traits and behaviors (McCrae et al., 2001). Since there are demonstrated associations between personality disorder diagnoses and normal personality traits, a dimensional model that examines normal personality, the five factor model of personality (FFM), is useful in psychiatric diagnosis (Wiggins & Pincus, 1992; McCrae et al., 2001). The FFM can also aid in examining and understanding both the similarities and differences between BPD and ASPD. The FFM is composed of the broad personality dimensions of Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Trull, 1992). Six facets were identified from the previously mentioned five dimensions of personality that corresponded conceptually to criteria or associated features of personality disorders (Widiger, Trull, Clarkin, Sanderson, & Costa, 1994). Therefore, personality disorder symptomology should reflect the five dimensions of personality and, subsequently, their six facets.

Numerous studies examining the relationship between the FFM and personality disorder pathology have found significant associations between the DSM personality disorders and the five dimensions of the FFM (McCrae et al., 2001; Trull, 1992; Wiggins & Pincus, 1989). Wiggins and Pincus (1989) concluded that the FFM of personality provides a comprehensive model of both normal and abnormal personality (i.e., personality disorders). According to the FFM, ASPD and BPD are similar in that they are both high in neuroticism and low in agreeableness (Widiger et al., 1994). However, beyond the similarity in dimensions, the disorders differ in the facet scales level of each dimension. Each of the five dimensions of the FFM consists of six facet scales that make up the dimension. Where individuals with BPD demonstrate high levels of every facet scale of neuroticism, persons with ASPD present only with high levels of impulsivity, hostility, and depression but lack the self-consciousness and vulnerability seen in individuals with BPD (Widiger et al., 1994). Trull (1992) found the high levels of all six facet scales of neuroticism in BPD particularly instructive in providing a good description of BPD pathology such that high anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability seem to summarize the symptoms seen in persons with BPD. Borderline personality disorder is also characterized by emotional or affective dysregulation, a major behavioral component in neuroticism (Skodol, 2000). Numerous studies have found that neuroticism appears to be the personality trait most related to BPD (McCrae et al., 2001; Trull, 1992; Widiger et al., 1994; Wiggins & Pincus, 1989). Further, Corbitt and Widiger (1995) found that women are more likely to score higher than men on neuroticism and all its facet scales except hostility. These findings support a greater female prevalence of BPD since women on average are more likely than men to

score high in neuroticism, whereas men are more likely than women to score low on the facet scales of neuroticism, especially vulnerability and anxiety (Corbitt & Widiger, 1995).

Low agreeableness is the primary personality dimension seen in persons with ASPD. Antisocial personality disorder is characterized by low levels of straightforwardness, altruism, compliance, modesty, and tender-mindedness, five of the six facet scales of agreeableness (Widiger et al., 1994). Empirical studies have consistently supported the negative correlation between ASPD and the trait of agreeableness (Trull, 1992; Wiggins & Pincus, 1989). Corbitt and Widiger (1995) found that males tend to encompass the majority of extreme low scores on the agreeableness dimension of the FFM and score significantly lower than women on the facet scales of altruism, tender-mindedness, straightforwardness, and compliance. In addition, males on average score higher than females on the extraversion facet scale of excitement-seeking. This finding may explain why men are more likely to score high on measures of ASPD, as ASPD also loads positively on the excitement-seeking facet scale of extraversion (Skodol, 2000).

Feingold (1994) conducted a meta-analysis of gender differences in personality that combined data from different inventories based on the facet scales of the FFM. Males were found to be more assertive than females, and females scored notably higher than males on the facet scales of anxiety, trust, and especially tender-mindedness (Feingold, 1994). The two major gender differences observed, higher assertiveness in men and higher tender-mindedness in women, are consistent with the traditional theory that men score higher on traits of agency, or instrumental traits, whereas females score

higher on traits of communality, or expressive traits (Skodol, 2000). More extreme variants of instrumental traits such as pathological independence and concern for one's own needs are found in persons with ASPD while more extreme variants of expressive traits such as intense emotionality and fear of abandonment are observed in persons with BPD. Therefore, differences between men and women with regard to traits of agency versus communality may be reflected in the gender differences in individuals diagnosed with ASPD and BPD.

### *Genetic / Biological Predispositions*

Genetic and biological predispositions contribute to the etiology of BPD and ASPD. This section will examine twin and adoption studies as well as hereditary factors that increase the incidence of individuals to develop BPD and ASPD. Further, the biological reactions of resting heart rate, cerebrospinal fluid serotonin and reduced levels of frontal lobe activity which have been shown to be associated to the traits found in BPD and ASPD will be addressed.

*Genetic.* Based on twin and adoption studies, a wide range of behavioral genetic studies have shown that about half the variance in personality traits can be accounted for by genetic differences; therefore, research suggests that personality is, at least in part, heritable (Paris, 2003). Torgersen et al. (2000) studied a large twin series from Norway and concluded that the heritability coefficient was .60 for Cluster B personality disorders, and more specifically, 69% for BPD. Family, adoptive, and twin studies converge to support an underlying genetic component to BPD (Siever, Torgersen, Gunderson, Livesley & Kendler, 2002). Little twin data on persons with ASPD exist, most likely due to their lack of cooperativeness with researchers (Paris, 2003; Torgersen et al., 2000).

However, adoption studies (Cloninger, Sigvardsson, Bowman, & von Knorring, 1982; Mednick, Cudeck, Griffith, Talovic, & Schulsinger, 1984) reveal that children of parents with ASPD tend to develop similar behaviors, even when living with adoptive families whose members do not possess characteristics of ASPD (Paris, 2003).

Numerous studies propose that the traits of impulsivity, affective instability, and cognitive disturbances seen in BPD and ASPD may all be at least partially heritable. Siever et al. (2002) suggest that the genetic basis for BPD may be stronger for dimensions such as impulsivity/aggression and affective instability than for the diagnostic criteria itself. Paris (2005) also specifically names affective instability and impulsivity as heritable components of BPD. Silverman et al. (1991) concluded that a familial and genetic factor associated with traits of affective instability and impulsivity is suggested by the observed greater risk for both kinds of traits among the relatives of BPD probands. In addition, it has been shown that traits of impulsivity and risk-taking are heritable in persons with ASPD (Paris, 2003). Coccaro, Bergeman, and McClearn (1993) examined the heritability of personality traits related to impulsiveness, irritability, and the inhibition of assertive or aggressive behavior in twin and adoption studies and found that irritable impulsiveness and lack of assertiveness/aggressiveness showed substantial genetic contributions. Taken together, these studies suggest that genetic predispositions toward underlying traits such as impulsivity, affective instability, and cognitive disturbances appear to increase the incidence of individuals to develop BPD or ASPD.

*Neuro-chemical.* Just as individuals are theorized to inherit particular personality features increasing one's inclination to develop BPD or ASPD, associated autonomic and central nervous system characteristics are also heritable factors in the incidence of both

disorders (Brennan & Raine, 1997). The biological reactions of resting heart rate, cerebrospinal fluid serotonin, and reduced levels of frontal lobe activity all have been shown to be related to the traits found in BPD and ASPD. However, important differences in these biological indices exist between disorders. Each of these three biological components will be separately addressed.

First, resting heart rate is described as an indicator of autonomic nervous system arousal (Skodol, 2000). Individuals with ASPD have been shown to have low resting heart rates which have been related to fearlessness (Raine, 1993). In childhood, since reduced fear of punishment would reduce the effectiveness of conditioning, lack of fear would help to explain poor socialization in young antisocial individuals (Skodol, 2000). Mednick (1977) stated that deficits in the autonomic nervous system of some individuals result in poor avoidance conditioning and an inability to learn law-abiding behavior. Children with these autonomic nervous system deficits who are raised in inadequate social environments are considered to be at the highest risk to develop ASPD (Brennan & Raine, 1997). Most of the data in the field emphasize autonomic characteristics that indicate lowered levels of baseline anxiety, lessened autonomic reaction to some forms of stress, and changes in speed of autonomic recovery from such stress in persons with ASPD.

Researchers assume a relationship between autonomic defect and conditioned responses to fear or anxiety, such as that implicated in early development of the ability to learn from experience (Cooper, Frances & Sacks, 1986). Thus autonomic underarousal as seen in individuals with ASPD may lead to stimulus-seeking behavior, passive coping, withdrawal in the face of threat, and insensitivity to socializing punishments (Skodol,

2000). Whereas low resting heart rate has been related to fearlessness, high heart rate in infants and young children is associated with anxiety and fearful, inhibited temperament (Kagan, 1989). Skodol (2000) found increased likelihood of anxiety disorders in BPD patients, most of whom were female. This finding may be attributed to the generalization that males have lower resting heart rates than females (Burns, 1995). Skodol (2000) suggests that resting heart rates in patients with BPD are higher than those in antisocial patients or may show different responses to stress. Researchers agree that resting heart rate is indicative of autonomic nervous system arousal; therefore, BPD is a disorder of high autonomic arousal whereas ASPD is a disorder of lower arousal.

Studies of central neurotransmitter activity have shown that impulsive traits, a major component of BPD and ASPD, are associated with deficits in central serotonergic functioning (Paris, 2005). Siever (1997) discussed that, in humans, reductions in serotonergic activity are associated with impulsive aggressive behavior. The greatest reductions in serotonergic activity are associated with the highest reported irritability and aggression. However, serotonin levels are not associated with interpersonal or affective related traits. Siever (1997) suggests that what is inherited in BPD and ASPD is not the behavior of impulsivity and aggression, but an alteration in the serotonergic system that may at times be expressed in a propensity toward impulsive aggression. Coccaro and Siever (2000) discuss that abnormalities of the serotonin are perhaps the most well-documented findings in relation to impulsive aggression and patients with personality disorders. More specifically, individual differences in serotonin activity appear to be heritable and associated with aggressive, dominant behavior. Agents that enhance serotonergic activity can reverse this aggressive behavior as well as inhibit spontaneous



or induced aggression (Coccaro & Siever, 2000). Men with the trait of "impulsive aggression" are established to have sluggish central serotonin activity and often have less serotonergic responsivity than do women, which may predispose some men more than women to impulsive/aggressive traits (Paris, 2003).

Research indicates that individuals with BPD and ASPD have neuropsychological deficits in executive function, which is largely controlled by the prefrontal cortex (Paris, 2003). Raine, Lencz, Bihrlé, LaCasse, and Colletti (2001) reported structural changes in the brain in patients with ASPD, with a decrease in prefrontal gray matter, which is related to differences in executive function. Cooper et al. (1986) discuss that some antisocial or aggressive behaviors are clearly associated with specific or diffuse lesions in the brain. In addition, frequent electroencephalographic (EEG) abnormalities are found in aggressive patients and their families. Generalized loss of inhibition, increases in risk taking, rule breaking, emotional and aggressive outbursts, argumentative behavior, impulsivity and poor judgment, reduced concentration and reasoning ability, and decreased problem-solving skills and verbal communication ability have all been associated with prefrontal cortex dysfunction (Skodol, 2000). All of these behaviors seem to characterize antisocial individuals, and most would describe persons with BPD. However, women appear to have enhanced frontal activity when compared with men (Skodol, 2000), which may result in a higher prevalence of antisocial tendencies in men versus women. Thus, although both disorders involve problems in frontal activity, women have more frontal activity than men by comparison which could explain the lower incidence of ASPD diagnoses in women.

### *Social and Family Factors*

Social factors and other family factors contribute to the etiology of BPD and ASPD. Paris (1996) stated that neither biological nor psychological factors fully account for the development of these disorders and highlighted the importance of social factors in the etiology of ASPD and BPD. Sex-role socialization differences, family factors such as child abuse or neglect, and specific childhood or adolescent disorders will be examined in this section as antecedents of both BPD and ASPD.

*Socialization Differences.* Socialization differences between young girls and boys may contribute to the gender differences in rates of occurrence of BPD and ASPD. Kagan (1989) speculated that the behavioral profiles of children are influenced in a major way by environmental conditions existing during the early years of life. Negative peer influences, academic failure, large family size, unemployment, poor living conditions, and a variety of other adverse social situations are associated with delinquency and criminality and may result in such disorders as ASPD and BPD (Skodol, 2000). However, boys are more likely than girls to be susceptible to peer pressure and to instigate delinquent behavior while girls are more likely to develop delinquency when negatively influenced by delinquent brothers or older boys at school (Caspi, Lynam, Moffitt, & Silva, 1993). Research also suggests that infant boys and girls are handled differently by caregivers in that boys receive more gross motor stimulation than girls and that parents demonstrate more concern about gender-appropriate behaviors from their sons than their daughters (Skodol, 2000). Boys' behavior has also been shown to be more susceptible to the influence of media aggression. Media portrayals of aggression may teach boys aggressive responses to conflict and provide motivation for disinhibition

by depicting success of the aggressive acts (Eron & Huesmann, 1986). Werner and Crick (1999) found that the pattern of associations between aggression and adjustment varied somewhat by gender. When boys are victims of relational aggression, they are more likely to respond with delinquent and antisocial behaviors. Conversely, young women who are victims of relational aggression are more likely to experience feelings of sadness, pessimism about the future, and low positive affect (i.e., a general dissatisfaction with their lives). Hence, gender-role stereotypes that boys externalize or tend to be more agentic while girls internalize or tend to be more communal support male aggressiveness and female emotionality. These findings support the development in vulnerable individuals of ASPD in men with high aggression and low levels of prosocial behavior and the development of BPD in women with affective instability (Werner & Crick, 1999).

*Child Abuse.* Child abuse may be another causal factor in the etiology of BPD and ASPD. Abuse and neglect have been related to the development of externalizing symptoms and disorders, violent offending, and ASPD in males and, conversely, to the development of internalizing symptoms, depression, suicide attempts, and alcohol abuse in females (Widom, 1989; Widom, 1998). In addition, Magdol et al. (1997) found that women who were victims of severe physical violence were more likely to experience symptoms of anxiety than were men who were victims. Conversely, for men rather than women, severe physical violence was more strongly associated with unemployment, low educational attainment, few social support resources, polydrug use, ASPD symptoms, depression symptoms, and violence toward strangers. Malinosky-Rummell and Hansen (1993) provided data that indicate that men abused as children exhibit violent behavior

more often than do abused women, whereas women abused as children display more self-injurious and suicidal behavior than do abused men. Physical abuse has also been associated with emotional problems such as somatization, anxiety, depression, dissociation, and psychosis in adult women. Bryer, Nelson, Miller, and Krol (1987) studied adult female psychiatric inpatients and found that inpatients with a history of abuse differed from non-abused inpatients in the following characteristics. Abused female inpatients had more severe and possibly psychotic or psychotic-like acute symptoms; more diagnoses of BPD and characteristic features; more suicidal features; and, finally, they were given pharmacological treatment more often relative to non-abused female inpatients. These collective findings suggest an increased likelihood of abused women to be diagnosed with BPD due to internalizing tendencies and affective instability and abused men to be diagnosed with ASPD due to aggressive behaviors.

Not only have studies looked at physical abuse in the development of BPD and ASPD but sexual abuse as well. Studies comparing patients with BPD and with non-BPD personality disorders found that childhood sexual abuse was a risk factor for BPD in both males and females, although the percentage of female patients reporting childhood sexual abuse (as high as 70%) was greater than that of males (50%) (Paris, Zweig-Frank, & Guzder, 1994). Ogata and colleagues discussed the idea that victims of sexual abuse may direct their negative feelings against themselves, resulting in self-destructive acts such as cutting, burning, and suicide attempts (Ogata et al., 1990). These actions are very much associated with the diagnosis of BPD and may explain the increased likelihood of women to be diagnosed with BPD due to their 10-fold increased incidence of sexual abuse when compared with men. Kroll (1988) noted that because girls are at greater risk

for sexual abuse than are boys and because women are more often diagnosed with BPD, many clinicians believe that child sexual abuse is a primary cause of BPD.

*Childhood Disorders.* Adults with ASPD have been shown to have behavioral problems and disorders during childhood that eventually exacerbate to warrant a diagnosis of ASPD later in life. Such behavioral disorders include Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD) both of which are seen more predominantly in boys than in girls (Zoccolillo, 1993). In children 12 years of age or younger, Conduct Disorder is 3-4 times as common in boys as in girls and ODD is twice as common in boys as in girls (American Psychiatric Association, 2000). Although by adolescence, these gender differences in conduct and behavioral problems have diminished somewhat, they resurface in the gender-ratio difference in ASPD diagnosis later in adulthood (Skodol, 2000). The specific behaviors characteristic of Conduct Disorder fall into one of four categories: aggression to people and animals, destruction of property, deceitfulness or theft, or serious violation of rules. Some of these symptoms must have been seen before the age of 15 in order for a diagnosis of ASPD to be given (American Psychiatric Association, 2000). Attention-Deficit/Hyperactivity Disorder (ADHD) may co-morbidly occur with CD or ODD to increase the likelihood of an ASPD diagnosis. The principle characteristics of ADHD are inattention, hyperactivity, and impulsivity. The addition of ADHD to CD or ODD because of the trait of impulsivity could exacerbate or amplify the problems associated with these disorders. The component of impulsivity along with school and behavioral problems seen in children with ADHD may eventually become the impulsive and excitement-seeking traits seen in adults with ASPD. While not as critical in the development of ASPD as Conduct

Disorder, ODD is still a risk factor (American Psychiatric Association, 2000).

Additionally, as many as one-third to one-half of all children with ADHD- mostly boys- have ODD. These children are often defiant, stubborn, non-compliant, have outbursts of temper, or become belligerent. They argue with adults and refuse to obey (National Institute of Mental Health [NIMH], 2006).

Bernstein and colleagues (1996) conducted a longitudinal study that found that childhood immaturity- a variable that encompassed clumsiness and distractibility, noncompliance, nonpersistence, and low school achievement separate from conduct problems and hyperactivity- predicted adolescent behavior problems indicative of Cluster B personality disorders only in girls. They propose that girls may account for a greater proportion of transient conduct disturbance of adolescence than of life-persistent antisocial behavior leading to ASPD. Conversely, they suggest that a subgroup of boys possess traits and have experiences that account for enduring antisociality throughout life (Bernstein, Cohen, Skodol, Bezerganian, & Brook, 1996).

Emotional problems (e.g., anxiety and depression) show a gender pattern different from that of behavioral problems (e.g., Conduct Disorder and ADHD) (Skodol, 2000). All childhood anxiety disorders excluding obsessive-compulsive disorder are more common among girls than boys (American Psychiatric Association, 2000). The gender differences are such that boys, on average, show more aggression and externalizing behavior patterns and disorders, and girls show more behavioral inhibition and internalizing problems. Such internalizing problems in girls as anxiety and depression and affective instability combined with impulsive aggression may lead to the

development of BPD in adulthood, while aggressive boys with conduct and behavioral externalizing patterns may develop ASPD later in life (Skodol, 2000).

In summary, this section discussed the gender differences in the development and etiology of BPD and ASPD. An examination of the five factor model of personality revealed the personality traits that are seen in persons diagnosed with BPD versus ASPD. Further, genetic and biological predispositions such as hereditary factors and neurochemical components such as resting heart rate, cerebrospinal fluid serotonin and reduced levels of frontal lobe activity are linked to gender differences in the development of the disorders. Finally, social and family factors such as socialization differences, child abuse and childhood disorders can possibly explain some of the gender differences in BPD and ASPD.

#### *The Relationship of Psychopathy to BPD and ASPD*

This next section will begin by exploring the definition of psychopathy, the hypothetical construct proposed to be the underlying dimension of both BPD and ASPD. The characteristics of psychopathy and Cleckley's classic description of psychopathy will also be addressed. In addition, this section will examine primary versus secondary psychopathy as well as the associations between psychopathy and the disorders BPD and ASPD.

The hypothetical construct of psychopathy can be defined by a constellation of affective, interpersonal, and behavioral characteristics (Hare, 1996). Psychopathy, while not a formal diagnosis, is a personality disorder in which the individual displays a lack of conscience, seeks self-gratification at others' expense, is emotionally detached, and generally leaves a path of destruction in the wake of their interpersonal relationships

(Murphy & Vess, 2003). Hervey Cleckley (1941) provided the first comprehensive description of the psychopath's personality in *The Mask of Sanity*. Cleckley delineated 16 criteria for the diagnosis of psychopathy, including superficial charm, the absence of delusions or irrational thinking, lack of nervousness, unreliability, untruthfulness, lack of remorse, inadequately motivated antisocial behavior, failure to learn from experience, pathologic egocentricity, poverty of affect, lack of insight, interpersonal unresponsiveness, fantastic and uninviting behavior (e.g., vandalism, unruly behaviors), suicide rarely carried out, impersonal and trivial sex life, and failure to plan ahead (Cleckley, 1941; Cale & Lilienfeld, 2002a). In contrast to the DSM-IV TR diagnosis of ASPD, Cleckley's definition primarily involves aspects of the personality rather than the behavioral manifestations of psychopathy (Murphy & Vess, 2003). Psychopathy has a long history in clinical psychology and psychiatry and "is perhaps the most reliable and well-validated diagnostic category in the field of personality disorders" (Harpur, Hart, & Hare, 1994).

#### *Primary / Secondary Psychopathy*

Psychopathy can be broken down into two distinct subtypes, primary and secondary psychopathy, which were first proposed by Karpman (1948). He held persons with primary psychopathy to be callous, manipulative, massively selfish, and routinely untruthful. In addition to having these characteristics, he believed that individuals with secondary, or neurotic, psychopathy engage in antisocial behavior under the influence of emotional disorder- typically manifested as extreme impulsivity and self-defeating behaviors- whereas people who have purely primary psychopathy give no evidence of such disorder (Levenson, Kiehl, & Fitzpatrick, 1995). Cleckley's (1941) definition of



psychopathy fits the primary psychopathy subtype more than the secondary psychopathy subtype. Karpman (1948) proposed that trait anxiety would be expected to distinguish secondary from primary psychopathy in a non-institutionalized sample.

Levenson et al. (1995) created the Primary and Secondary Psychopathy Scale (PSPS) to distinguish between the primary and secondary types of psychopathy. The “primary psychopathy” factor included items assessing narcissism and an uncaring disregard for the welfare of others, whereas the second factor labeled “secondary psychopathy” focused on an impulsive and a socially deviant, antisocial lifestyle. Factor analyses in a large sample of college undergraduates supported the two-factor structure of the PSPS, and internal consistency coefficients of .82 and .63 were reported for the Primary and Secondary Psychopathy scales, respectively (Wilson, Frick, & Clements, 1999).

Numerous researchers discuss the two types of psychopathy and the characteristics displayed by individuals with either primary or secondary psychopathy. Schneider identified two types of psychopathic individuals that seem to map onto this distinction between primary and secondary psychopathy. The *Gemutsamer* psychopath is the smug, arrogant person with psychopathy who primarily causes suffering to others, and the *Geltungsbedürftig* is the needy, demanding person with psychopathy who experiences internal suffering from his or her psychic abnormality (Herpertz & Sass, 2000). In addition, the Minnesota Multiphasic Personality Inventory (MMPI) identified over-controlled and under-controlled patterns of personality such that individuals with primary psychopathy are described as extraverted, self-confident, impulsive, and hostile whereas persons with secondary psychopathy are characterized as impulsive, hostile,

socially anxious, withdrawn, and moody (Murphy & Vess, 2003). These distinctions have been supported by research utilizing the Millon Clinical Multiaxial Inventory (MCMI) (Blackburn & Coid, 1998). Further, Skeem and colleagues reviewed theories that share the premise that the most fundamental differences between primary and secondary psychopathy are etiological: primary psychopathy is believed to reflect stronger genetic influences, whereas secondary psychopathy is thought to reflect stronger environmental influences (i.e., faulty parenting, exposure to trauma, and social disadvantage) (Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003). The hostile, antisocial behavior exemplified by an individual with secondary psychopathy was thought to reflect a character neurosis traceable to environmental causes. Conversely, the behavior of an individual with primary psychopathy was thought to reflect the “instinctive emotional organization of a subhuman animal” (Karpman, 1948).

#### *Psychopathy and ASPD*

The classic construct of psychopathy described by Cleckley (1941) focuses primarily on personality features whereas the DSM-IV TR provides a more behavior-based conceptualization of ASPD (Lilienfeld, 1994). So, despite shared characteristics, psychopathy and ASPD are not the same and should not be confused with each other because chronic antisocial behavior is neither necessary nor sufficient for a diagnosis of psychopathy (Cale & Lilienfeld, 2002a). Likewise, the DSM-IV TR criteria for ASPD do not explicitly include such characteristics as selfishness, egocentricity, callousness, manipulateness, and lack of empathy which are very much characteristic of psychopathy (Hare, Hart, & Harpur, 1991). Psychopathy can be generalized as more of a

matter of degree than of a categorical construct. Therefore, psychopathy is a description of certain personality features while ASPD is defined primarily by behavioral features.

Hence, a critical distinction exists between psychopathy and ASPD. This distinction is essential for understanding the factors that lead certain individuals with psychopathic personality traits down the pathway to criminal behavior such as with ASPD, as well as the factors that allow other individuals with such traits to remain law-abiding citizens with no ASPD diagnosis (Lilienfeld & Andrews, 1996). Persons with psychopathy, but not ASPD, may choose sensation-seeking, high-powered careers where lack of strict adherence to ethical principles is at times rewarded. Such individuals may never break the law or participate in criminal behaviors and might be highly successful in their careers. Empirically, the relation between psychopathy and ASPD is asymmetrical; about 90% of psychopathic, criminal offenders meet ASPD criteria, but only about 25% of those diagnosed with ASPD meet the Psychopathy Checklist-Revised (PCL-R) criteria for psychopathy (Hare, 1985), or in other words demonstrate psychopathic personality traits.

#### *Psychopathy and BPD*

Research also points to an overlap between BPD and the construct of psychopathy. As previously discussed, psychopathy can be broken down into two subtypes, primary and secondary psychopathy. Skeem and colleagues (2003) noted that persons with secondary psychopathy occasionally manifest a positive social trait or human emotion, such as guilt, empathy, love, or wish for acceptance. These traits are seen much more often in BPD than ASPD as ASPD is usually more highly correlated with primary psychopathy. Blackburn (1996) asserted that persons with secondary

psychopathy “may be predominantly borderline personalities” and qualify more often for diagnoses of BPD than do persons with primary psychopathy, who more often exhibit antisocial and narcissistic disorders. Some of the shared characteristics of BPD and secondary psychopathy include propensities toward impulsive behaviors and toward extreme feelings of anxiety and anger (Skeem et al., 2003). A study completed by Edens, Buffington-Vollum, Colwell, Johnson, and Johnson (2002) found significant relations between secondary psychopathy and BPD characteristics. They initially focused on the Antisocial Features scale of the Personality Assessment Inventory (PAI) in comparison to the PCL-R in a study involving a sample of convicted sex offenders. However, further review of their results indicated that the Borderline Features scale of the PAI was significantly correlated with Factor 2 of the PCL-R, the factor closely associated with secondary psychopathy. These results are in concordance with Hart and Hare (1989) who also found a positive correlation between BPD and Factor 2 (social deviance and impulsivity). Still, Factor 1 (superficiality, lack of guilt and conscience) accounted for most of the association between the PCL-R and Axis II disorders.

Numerous other studies have found considerable correlations between psychopathy and BPD. Sandoval, Hancock, Poythress, Edens, and Lilienfeld (2000) determined that male offenders’ scores on the Psychopathic Personality Inventory (PPI) were associated with borderline personality features, including primitive defense mechanisms, identity diffusion, and poor reality testing. Evidence also exists that PCL-R total scores are significantly associated with measures of BPD in male inmates and forensic outpatients as well as in female inmates (Raine, 1986; Salekin, Rogers, & Sewell, 1997; Shine & Hobson, 1997). Stalenheim and von Knorring (1998) found that

the symptoms of affective disturbance and interpersonal difficulties characteristic of BPD can resemble the affective and interpersonal deficits of a person with psychopathy in general. In addition, they concluded that BPD was more closely related to psychopathy than ASPD. Millon and Davis (1998) proposed ten theoretical subtypes of psychopathy. The "disengenuous psychopath" is typified by an extreme need for attention, a veneer of friendliness, an impressionistic personality style, and chronic unreliability- all characteristics often seen in individuals with BPD. Millon and Davis's subtypes of psychopathy appear to be closely related to aspects of BPD, ASPD, narcissistic personality disorder, and sadism (Murphy & Vess, 2003). Similarly, Blackburn and Coid (1998) postulated that "psychopathy is not simply one discrete category of personality disorder among many, but is more appropriately construed as a broad continuum of personality variation reflected in the traits of a number of currently identified disorders." The considerable overlap or covariance among the Cluster B personality disorders, which includes borderline, antisocial, narcissistic, and histrionic personality disorders, provides an argument against the current categorical approach used in DSM-IV TR (Murphy & Vess, 2003). Given this overlap within diagnostic criteria, these personality disorders could be conceptualized as recurring patterns of covarying traits rather than discrete categories (Blackburn & Coid, 1998). Thus, the construct of psychopathy may be the underlying concept that ties the Cluster B personality disorders together. Further, an individual's Cluster B personality disorder may depend on the gender of that individual such that persons diagnosed with ASPD are usually male while persons diagnosed with BPD and histrionic personality disorder (HPD) are usually female.

*Research on Gender x Psychopathy Interactions*

Recent studies have examined gender differences in the manifestations of psychopathy. Cale and Lilienfeld (2002b) were interested in Gender x Psychopathy interactions in the prediction of HPD and ASPD. They tested the hypothesis that HPD and ASPD are sex-typed manifestations of psychopathic features. In other words, they postulated that psychopathy would be more associated with HPD in females and with ASPD in males. Hence, traits of overly energetic, sensation-seeking, and physically aggressive behaviors in males (ASPD) and extreme expressiveness or emotionality in females (HPD) may be manifestations of psychopathy that are gender-specific. In their study, Cale and Lilienfeld (2002b) used both self-report and peer ratings of personality disorder features and psychopathy, as peer ratings are seen as an essential complement to self-report data for persons with personality disorders who often have “blindspots” for perceiving their maladaptive behaviors (Grove & Tellegen, 1991). Seventy-five professional and nonprofessional actors participated in this study and nominated a total of 108 peers to provide ratings of their personality disorder features. Participants were asked to complete a measure of psychopathy (the PPI) and two measures of BPD and ASPD (the Personality Diagnostic Questionnaire (PDQ-4+) and the Coolidge Axis II Inventory (CATI)). Cale and Lilienfeld (2002b) postulated that the associations among psychopathy, HPD, and ASPD would be positive and significant in both males and females. Further, they predicted that results from both the self-report and peer ratings would reveal Gender x Psychopathy interactions in the prediction of ASPD and HPD. That is, they hypothesized that psychopathy would correlate more strongly with HPD features in females and with ASPD in males.

To test these hypotheses, Cale and Lilienfeld (2002b) performed six moderated multiple regression analyses with either ASPD or BPD as the criterion variable. For all regression equations, they entered psychopathy scores in the first step and gender in the second step, and entered the product of psychopathy scores and gender in the third step. Their results provided weak and inconsistent support for the hypothesis that HPD is a female-typed variant of psychopathy and that ASPD is a male-typed variant of psychopathy. However, for the entire sample, associations among psychopathy, HPD, and ASPD features were typically significant and moderate in magnitude. In addition, there was some evidence, although inconsistent, that females with traits of psychopathy are inclined to exhibit histrionic features, while males with traits of psychopathy are inclined to exhibit antisocial features. Correlational analyses also revealed psychopathy, HPD, and ASPD to be associated with other Cluster B personality disorders, such as BPD.

Pennline and Lutz-Zois (2005) were interested in Gender x Psychopathy interactions in the prediction of ASPD and BPD rather than HPD and conducted a study using a very similar methodology to that of Cale and Lilienfeld. They failed to find support for their hypotheses, as the Gender x Psychopathy interactions did not predict ASPD or BPD. However, other aspects of the results suggested possible reasons for this failure to support the primary study hypotheses. Specifically, their results indicated that the total scores of the psychopathy measures were more strongly related to the primary psychopathy subscales than to the secondary psychopathy subscales. This result suggests that Levenson's Self-Report Psychopathy Scale (LSRP) may not adequately tap secondary psychopathy, the subtype more closely associated to the features of BPD.

Further, it is possible that results failed to reveal gender differences in BPD because sex-role identity may be a more important factor in predicting some of the symptoms of BPD than gender per se. These limitations could partially explain the lack of observed Gender x Psychopathy interactions in Pennline and Lutz-Zois' study.

### *The Current Study*

The purpose of this study is to re-explore the possibility of Gender x Psychopathy interactions in the prediction of BPD and ASPD by addressing two limitations of Pennline and Lutz-Zois (2005). The first possibility for failure to support their hypotheses is that the measure of psychopathy used was inadequate for their purposes. Not only do Pennline and Lutz-Zois' results suggest that the LSRP may not be as effective in tapping secondary psychopathy, other researchers have voiced this concern as well. Lilienfeld and Andrews (1996) found that the LSRP did not appear to assess a number of personality domains believed relevant to psychopathy (e.g., poor impulse control, lack of foresight, and externalization of blame). Such personality items are major characteristics of BPD, which may explain why Pennline and Lutz-Zois found stronger correlations between the LSRP and ASPD than between the LSRP and BPD.

The current study utilized the PPI-R to measure psychopathic traits including both primary and secondary psychopathy. The two factors of the PPI-R are orthogonal, and each factor provides unique information about psychopathy as it is modeled in the FFM. In contrast to the PPI-R, the secondary psychopathy scale of the LSRP provides information that is redundant with the primary psychopathy scale (Ross, Benning, Patrick, Thompson, and Thurston (in press). Further, unlike the commonly used LSRP, the PPI-R does not contain items explicitly assessing criminal or antisocial behaviors, but



rather assesses the core personality features of psychopathy (Lilienfeld & Andrews, 1996). Ross and colleagues (in press) suggested that the LSRP also fails to use items that specifically assess anxiety which is one of the major characteristics of BPD. In the current study, indices of primary and secondary psychopathy were created by combining the PPI-R- to address personality attributes- and the Trait subscale of the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, & Lushene, 1970) - to measure anxiety. In a study designed to explore the existence of subtypes of criminal offenders in male inmates, Vassileva, Kosson, Abramowitz, and Conrod (2005) utilized the Trait subscale of the STAI in conjunction with two psychopathy measures to identify persons high in secondary psychopathy. Similarly, secondary psychopathy was assessed in the current study by utilizing the Trait subscale along with the PPI-R as the measure of psychopathy. Persons with secondary psychopathy were identified as those individuals who score high on both the Trait subscale of the STAI and the PPI. The LSRP was utilized as a measure of comparison to the PPI-R.

The second possible reason why Pennline and Lutz-Zois did not find support for their hypotheses is that their study focused only on gender and not sex-role identity. No gender differences in BPD were found in the study by Pennline and Lutz-Zois. It is possible that this was because sex-role identity may be the more critical variable in predicting both BPD and ASPD. Sex-role identity can be defined as the pattern of masculine or feminine behavior of an individual, independent of gender (Constantinople, 1973). Highly feminine people of either gender may be more likely than less feminine people to demonstrate emotionality and expressiveness, and thus may be more likely to score high on traits of BPD. Conversely, highly masculine people of either gender may

be more likely than less masculine people to demonstrate traits of independence and aggression, and thus may be more likely to score high on traits of ASPD. The Bem Sex Role Inventory (BSRI) appears to tap relatively enduring definitions of femininity and masculinity and has been widely-used in numerous empirical studies as a measure of femininity and masculinity (Choi & Fuqua, 2003). Consequently, the BSRI was employed in the current study to assess sex-role identity.

The current study was modeled closely after the study conducted by Pennline and Lutz-Zois (2005) with the exception of a few variations in the measures and participants used. Unlike the study done by Pennline and Lutz-Zois, "peer raters" were not used. A total of 6 measures were utilized in this study. The CATI assessed both BPD and ASPD as in the previous study. In addition, a social desirability measure was administered in order to examine response bias. The LSRP was used again- this time for the purpose of comparison to the PPI-R. Three measures different from those used in the Pennline and Lutz-Zois study will be utilized: the PPI-R, the BSRI, and the State-Trait Anxiety Inventory for Adults (STAI). In terms of the goals of the current study, the following hypotheses were offered with regard to gender:

H1: The Gender x Psychopathy interaction would significantly predict BPD above the main effects for gender and psychopathy alone.

H2: A follow-up examination of the mean ratings for BPD would reveal that women high in psychopathy would score higher on the BPD measure than all other groups (i.e., men high in psychopathy or participants, either male or female, low in psychopathy).

H3: The Gender x Psychopathy interaction would significantly predict ASPD above the main effects for gender and psychopathy alone.

H4: A follow-up examination of the mean ratings for ASPD would reveal that men high in psychopathy would score higher on the ASPD measure than all other groups (i.e., women high in psychopathy or participants, either male or female, low in psychopathy).

Identical hypotheses were tested with regard to Sex-Role Identity in place of Gender. Specifically,

H5: The Sex-Role Identity (Femininity) x Psychopathy interaction would significantly predict BPD above the main effects for Sex-Role Identity (Femininity) alone.

H6: A follow-up examination of the mean ratings for BPD would reveal that highly feminine people high in psychopathy would score higher on the BPD measure than all other groups (i.e., less feminine people high in psychopathy or participants, either high or low feminine people, low in psychopathy).

H7: The Sex-Role Identity (Femininity) x Psychopathy interaction would significantly predict ASPD above the main effects for Sex-Role Identity (Femininity) and psychopathy alone.

H8: A follow-up examination of the mean ratings for ASPD would reveal that less feminine people high in psychopathy would score higher on the ASPD measure than all other groups (i.e., high feminine people high in psychopathy or participants, either high or low feminine people, low in psychopathy).

H9: The Sex-Role Identity (Masculinity) x Psychopathy interaction would significantly predict BPD above the main effects for Sex-Role Identity (Masculinity) alone.

H10: A follow-up examination of the mean ratings for BPD would reveal that less masculine people high in psychopathy would score higher on the BPD measure than all other groups (i.e., highly masculine people high in psychopathy or participants, either high or low masculine people, low in psychopathy).

H11: The Sex-Role Identity (Masculinity) x Psychopathy interaction would significantly predict ASPD above the main effects for Sex-Role Identity (Masculinity) and psychopathy alone.

H12: A follow-up examination of the mean ratings for ASPD would reveal that highly masculine people high in psychopathy would score higher on the ASPD measure than all other groups (i.e., less masculine people high in psychopathy or participants, either high or low masculine people, low in psychopathy).

Additional analyses were conducted to examine the associations between primary and secondary psychopathy and both gender and the two personality disorders. Specifically, we offered the following hypotheses:

H13: BPD would be found to be related to secondary psychopathy but not primary psychopathy.

H14: ASPD would be found to be related to both primary and secondary psychopathy.

H15: Females would be more likely to demonstrate secondary psychopathy than primary psychopathy.

H16: Males would be equally likely to demonstrate both primary and secondary psychopathy.

## CHAPTER II

### METHOD

#### *Participants*

A total of 163 participants, 84 males (51.5%) and 79 females (48.5%), were recruited from a medium-sized, private university in the Midwest. All participants completed a demographic measure which can be found in Appendix A. Ages of the participants ranged from 18 to 58 years old. The average age of the participants was 19 (SD = 3.44). In terms of racial composition, 87% of the sample was Caucasian, 5% was African American, 3% was Asian, 1% was Latino/Hispanic, and 4% was another racial or ethnic group. They were recruited from undergraduate Introduction to Psychology courses and were awarded a credit for participating in a study as a requirement of their classes. The study took approximately one hour to complete.

#### *Measures*

##### *Coolidge Axis II Inventory (CATI)*

In the current study, The Coolidge Axis II Inventory (CATI) was used as a measure of BPD and ASPD. The CATI was formulated by Coolidge (1984) as a self-report measure of DSM personality disorders. The CATI consists of 200 items in a (1) to (4) Likert-type, or true-false, format with (1) being strongly false and (4) being strongly true (Coolidge, 1993). The CATI was originally designed to assess the 11 personality disorders on Axis II of the DSM-III, but it was revised in order to conform to the changes

in criteria on Axis II in the DSM-III-R (Coolidge & Merwin, 1992). The questions on the CATI were derived almost directly from the 117 distinctive criteria found in the 11 Axis II personality disorders, plus the two personality disorders from Appendix A of the DSM-III-R. Thus, each criterion of the 117 found in all DSM personality disorders is represented by at least one question on the CATI. Additional questions were created when a DSM-III-R criterion addressed more than one issue or when the criterion was ambiguous (Coolidge & Merwin, 1992). For the current study, only the BPD and ASPD scales of the CATI were utilized due to time constraints and due to the fact that these are the only two disorders of interest in this study. Hence, a total of 62 questions from the CATI were used (39 assessing ASPD; 17 assessing BPD; and 6 assessing both) with values possibly ranging from 45 to 180 for the ASPD scale and from 23 to 92 for the BPD scale. This measure can be found in Appendix B.

Overall, the CATI has demonstrated good reliability and validity. In a sample of undergraduates, Coolidge (1993) found that the mean 1-week test-retest reliability coefficient for the 13 CATI personality disorder scales was  $r = .90$ . In addition, the median Cronbach's alpha for the 13 personality disorder scales was .76. Further, the Cronbach's alpha for the Antisocial scale was .86 whereas the Cronbach's alpha for the Borderline scale was .80. Coolidge and Merwin (1992) found a 50% concordance rate with clinician's diagnosis for 24 patients with personality disorders. Cale and Lilienfeld (2002b) compared CATI scale scores with the Millon Clinical Multiaxial Inventory-II (MCMI-II) and found that the convergent validity correlations for Cluster B personality disorder scales were  $r = .57$  (ASPD),  $r = .87$  (BPD),  $r = .72$  (HPD), and  $r = .38$  (NPD). The CATI also demonstrates good structural validity as the majority of the items

correlate moderately to strongly with the total scales. These favorable psychometric findings illustrate that the CATI is a valuable aid for clinical assessment (Watson & Sinha, 1996). In the current study, the coefficient alpha for the Borderline scale was .86, and the alpha for the Antisocial scale was .84.

*Psychopathic Personality Inventory-Revised (PPI-R)*

In the current study, the Psychopathic Personality Inventory- Revised (Lilienfeld, 2005), like the original Psychopathic Personality Inventory (Lilienfeld & Andrews, 1996), was used to assess the core personality features of psychopathy as described by Cleckley (1941). The PPI focuses primarily on psychopathic personality traits and does not explicitly assess antisocial behaviors (Cale & Lilienfeld, 2002a). The same goals and assumptions underlying the PPI provided the foundation for the PPI-R (Lilienfeld & Widows, 2005). By lowering the PPI's reading level, rewording culturally specific phrases, and reducing its length, the authors intended to make the PPI-R more applicable to individuals in forensic and clinical samples while retaining its utility in nonclinical (e.g., student, community) samples. This measure can be found in Appendix C.

The PPI-R is a self-report measure that contains 154 items which are endorsed on a four-point Likert scale ranging from false (F) to true (T). Based on successive item-level factor analyses and revisions conducted on three large samples totaling 1,104 undergraduates, Lilienfeld and Andrews (1996), found that the two dimensions of primary and secondary psychopathy could be broken down into eight more discrete dimensions that are used in the PPI and the PPI-R. The interpersonal and affective dimension factored into four scales labeled as Machiavellian Egocentricity (manipulativeness) (20 items); Coldheartedness (callousness and lack of guilt) (16 items);



Fearlessness (risk taking behaviors) (14 items); and Blame Externalization (a tendency to blame others for mistakes) (15 items). The impulsive and antisocial behavior dimension factored into another four scales labeled Social Influence- formerly Social Potency on the PPI- (charm and ability to influence or persuade others) (18 items); Carefree Nonplanfulness (absence of forethought) (19 items); Rebellious Nonconformity- formerly Impulsive Nonconformity on the PPI- (a disregard for social norms) (16 items); and Stress Immunity (lack of anxiety) (13 items) (Wilson, Frick, & Clements, 1999). For the purpose of the current study, the Stress Immunity scale was not used due to the possible overlap with the State-Trait Anxiety Inventory (STAI) as a measure of anxiety. In addition to the assessment of the eight subscales, the PPI yields a total score, which is interpretable as an index of global psychopathy (Lilienfeld & Hess, 2001). In this study, the total score was used to measure psychopathy. The range of possible values is 141-564 for the total score due to the Stress Immunity scale being removed.

The PPI total score and its eight subscales were found to possess satisfactory internal consistency and test-retest reliability when examined in community/college and offender samples (Lilienfeld & Widows, 2005). Results indicated satisfactory internal consistency (Cronbach's alpha was greater than .80) for the PPI-R total score and Content scales in the community/college sample, with the exception of mildly lower internal consistency for the Coldheartedness scale/factor as Cronbach's alpha was .78. For the offender sample, internal consistency estimates for the PPI-R scale scores were somewhat lower, but still were all above .70, suggesting moderate reliability for this group of individuals. Sandler (2004) reported Cronbach's alphas for the PPI-R total score of .95 (written) and .92 (computerized), respectively with Content scales ranging from .75

(Rebellious Nonconformity- computerized) to .90 (Social Influence- computerized). In addition, the PPI-R demonstrated excellent test-retest stability over the test-retest period. Test-retest coefficients for a mean interval of 19.94 days ranged from .82 (Coldheartedness scale) to .95 (Social Influence, Fearless Dominance factor) (Lilienfeld & Widows, 2005). Sandler (2004) also examined the test-retest reliability of the PPI-R across an interval of approximately three weeks with the total score reliabilities of .94 (written version first, computerized second) and .90 (computerized version first, written second). Test-retest reliabilities for the PPI-R Content scales ranged from .66 to .91; however, 13 of the 16 correlations were in the .80 to .91 range. In addition, the PPI-R and PPI total scores display good convergent and discriminant validity with self-report, interview, and observer-rated measures of psychopathy, antisocial behavior, DSM personality disorders, and normal-range personality traits (Lilienfeld & Widows, 2005). Specifically, the PPI-R (Lilienfeld & Widows, 2005) and PPI (Lilienfeld & Andrews, 1996) total scores correlate moderately to highly with the PCL-R and several other commonly used self-report psychopathy-related measures. The coefficient alpha for the total psychopathy score in the current study was .92.

#### *Levenson's Self-Report Psychopathy Scale (LSRP)*

Levenson's Self-Report Psychopathy Scale (Levenson, Kiehl, & Fitzpatrick, 1995) was also utilized in the current study to assess the core personality features of psychopathy and served as a measure of comparison to the PPI-R. So, in the current study, all analyses using the PPI-R were also used with the LSRP as a comparison. The LSRP is a self-report measure of psychopathic traits and can be found in Appendix D. The LSRP is made up of 26 total items which are endorsed on a four-point Likert scale

ranging from “disagree strongly” to “agree strongly.” The LSRP is divided into two subscales: Primary Psychopathy Scale (16 items) and Secondary Psychopathy Scale (10 items). The LSRP was initially validated in a sample of 487 university students and a factor analysis of the items produced the hypothesized two-factor structure (Lynam, Whiteside, & Jones, 1999). Examples of the primary psychopathy scale are, “My main purpose in life is getting as many goodies as I can” and “I often admire a really clever scam.” Examples of the secondary psychopathy scale include, “I quickly lose interest in tasks I start” and “When I get frustrated, I often ‘let off steam’ by blowing my top.” The participants’ total scores may range from 26 to 104. Scores on the primary psychopathy scale range from 16 to 64 while scores on the secondary psychopathy scale range from 10 to 40. In the current study, the total score was utilized in the primary study analyses.

Levenson, Kiehl, and Fitzpatrick (1995) found Cronbach’s alpha to be .82 for the primary psychopathy scale and .63 for the secondary psychopathy scale. Test-retest reliability over an eight-week period was found to be .83 (Lynam, Whiteside, & Jones, 1999). Their study found the LSRP to be both a reliable and valid means of assessing psychopathy in noninstitutionalized populations. Lynam, Whiteside, and Jones (1999) found the LSRP to have convergent validity with the HSRP, a self-report version of the PCL. The convergent validity was .64 for the total psychopathy score, .66 for the primary psychopathy scale, and .42 for the secondary psychopathy scale. The coefficient alphas in the current study were .84 (primary psychopathy) and .76 (secondary psychopathy).

*Bem Sex Role Inventory (BSRI)*

The Bem Sex Role Inventory (BSRI) was used in the current study as a measure of masculinity and femininity (Bem, 1981). The BSRI was designed for conducting empirical research on psychological androgyny. This measure can be found in Appendix E. The BSRI provides independent assessments of masculinity and femininity in terms of the respondent's self-reported possession of socially desirable, stereotypically masculine and feminine personality characteristics (Choi & Fuqua, 2003). The original form of the BSRI consists of 60 items representing 60 personality characteristics. It measures masculine, feminine, androgynous, or undifferentiated sex role identity using the Masculinity and Femininity scales (Bem, 1981). Twenty of the characteristics are stereotypically feminine (e.g., affectionate, gentle, understanding, sensitive to the needs of others) and twenty are stereotypically masculine (e.g., ambitious, self-reliant, independent, assertive). The BSRI also contains twenty filler or neutral items (e.g., truthful, happy, conceited) (Antill & Cunningham, 1982). The final BSRI form was built on a 7-point Likert-type, unipolar scale ranging from 1 (never or almost never true) to 7 (always or almost always true). Respondents are instructed to indicate how well each item describes them (Choi & Fuqua, 2003). Only the Masculinity and Femininity scales will be used in the current study with values ranging from 20-140 on the Masculinity scale and from 20-140 on the Femininity Scale.

The BSRI is reported to have an acceptable level of reliability. Bem (1974) reported two types of reliability coefficients: internal consistency and test-retest based on two Stanford samples of undergraduates. The internal consistency reliability coefficients were .80 and .82 for the Femininity subscale scores and .86 and .86 for the Masculinity

subscale scores (Choi & Fuqua, 2003). The coefficients reported by Matsui (1994) in several empirical studies were also within this range. The test-retest reliability coefficients over a 4-week span as reported by Bem (1974) were .82 for females on femininity, .94 for females on masculinity, .89 for males on femininity, and .76 for males on masculinity. The most common approach to construct validation of the BSRI has been factor analytic (Choi & Fuqua, 2003). Gaa, Liberman, and Edwards (1979) examined the validity of the BSRI in comparison to the Personality Attributes Questionnaire (PAQ). Gaudreau's (1977) study of the BSRI supported the conceptualization of masculinity and femininity as independent "traits" and indicated that the masculine and feminine scales on the BSRI are orthogonal. Moreland, Gulanick, Montague, and Harren (1978) and Waters, Waters, and Pincus (1977) also factor analyzed the BSRI with results that were similar to those reported by Gaudreau (1977). The BSRI is utilized to tap expressiveness and emotionality with the Femininity scale and to tap instrumentality and agency with the Masculinity scale (Choi & Fuqua, 2003). Some researchers (Bohannon & Mills, 1979; Moreland et al., 1978) have suggested that terms such as instrumentality be used for the Masculinity subscale and expressiveness be used for the Femininity subscale of the BSRI. The BSRI has served as the most widely used measure of masculinity and femininity in empirical studies on these constructs (Choi & Fuqua, 2003). The coefficient alphas in the current study were .85 (Masculinity scale) and .79 (Femininity scale).

#### *The State-Trait Anxiety Inventory (STAI)*

The State-Trait Anxiety Inventory (STAI), developed by Spielberger and his associates (Spielberger et al., 1970), provides separate scales to measure state and trait

anxiety. This measure can be found in Appendix F. The total scale consists of 40 items written at a fifth- or sixth-grade level of reading. The 20 items on the first side provide an index of state anxiety (A-State), while the 20 items on the second side provide an index of trait anxiety (A-Trait) (Hedberg, 1972). Each of twenty items in the scales asks respondents to check one of four statements describing how they generally feel (A-Trait) and how they feel at a particular moment in time (A-State) (Woody, 1980). Responses are recorded on a four-part rating scale (Hedberg, 1972). Answers on the A-State scale range from 1 (Not At All) to 4 (Very Much So) while answers on the A-Trait scale range from 1 (Almost Never) to 4 (Almost Always) (Spielberger et al., 1970). Half of the A-State items and seven of the 20 A-Trait items are stated in reverse so as to minimize an acquiescence set. Scoring is simplified by using a prepared template or by having the answers recorded on a standard multiple-choice answer sheet for machine scoring (Hedberg, 1972). For the purpose of the current study, only the A-Trait scale was used with values ranging from 20-80. After administering the STAI to a college sample, Spielberger et al. (1970) found both males and females to have a median score of 57; therefore, those scoring above 57 were classified as demonstrating high anxiety while those scoring below 57 were considered to demonstrate low anxiety. A median split of the A-Trait scale was also calculated for the purposes of the primary study analysis.

Both scales of the STAI have demonstrated a high degree of internal consistency. The A-State scale has coefficients ranging from .83 to .94 as measured by formula K-R (20) while the A-Trait scale has K-R (20) coefficients from .86 to .92 (Gaudry, 1975). However, only the A-Trait scale has high test-retest reliability. Spielberger and colleagues (1970) report test-retest coefficients from .16 to .54 for the A-State scale and

.73 to .86 for the A-Trait scale for a retest period of 104 days and 20 days, respectively. Those data are consistent with the design of the two scales (Gaudry, 1975). Construct validity is demonstrated by the fact that the A-State items consistently vary with different experimental states of stress while A-Trait items do not. Concurrent validity with other A-Trait measures, MAS and IPAT, yields correlations between .75 and .85 for college students and psychiatric patients. Considerable evidence (Spielberger et al., 1970; Woody, 1980) indicates that the STAI is a useful clinical and research tool. The coefficient alpha for the A-Trait scale in the current study was .92.

### *Social Desirability Scale*

The Balanced Inventory of Desirable Responding (BIDR) is a widely used instrument to measure the two components of social desirability: self-deceptive enhancement and impression management (Paulhus, 1984). Self-deceptive enhancement (SDE) represents perceived desirability (Peebles & Moore, 1998) and refers to an unconscious positive bias in item responses with the aim of protecting positive self-esteem (Stober, Dette, & Musch, 2002). In contrast, impression management (IM) represents defensiveness (Peebles & Moore, 1998) and refers to the conscious dissimulation of item responses with the aim of making a favorable impression on others (Stober et al., 2002). The BIDR can be found in Appendix G and contains 40 items, each of which is worded as a statement. Twenty items capture SDE (e.g., "I always know why I like things"), and twenty items capture IM (e.g., "When I hear people talking privately, I avoid listening"). The BIDR items are presented with a 7-point Likert answer scale ranging from 1 (not true) to 7 (very true) (Paulhus, 1984). In scoring the BIDR, negatively keyed items are reversed, and 1 point is awarded for each "6" or "7" response

on both SDE and IM items (Stober et al., 2002). Responses ranging from “1” to “5” are scored as “0.” Points are summed across all items to form subscale scores. An overall measure of socially desirable responding can then be determined by adding together the SDE and IM subscale scores. The score for each subscale can range from 0 to 20, while the range for the full measure is 0 to 40 (Peterson et al., 2003). The SDE and IM subscales will be used separately in the current study.

The BIDR has a high degree of internal consistency (Cronbach’s  $\alpha = .83$ ) and adequate test-retest reliability (.65 to .69) (Paulhus, 1991). The internal consistency values range from .68 to .80 for the SDE scale and from .75 to .86 for the IM scale. Test-retest reliability of the BIDR was .69 for the SDE scale and .65 for the IM scale over a 5-week interval (Peebles & Moore, 1998). Low to moderate correlations ( $r = 0.05$  to  $0.40$ ) have been found between the two subscales of the BIDR (Reid-Seiser & Fritzsche, 2001). Lastly, concurrent validity has been assessed using the Marlowe-Crowne scale and the Multidimensional Social Desirability Inventory. Correlations between the BIDR and the above measures were .71 and .80 (Paulhus, 1991). The coefficient alphas for the current study were .70 (self-deceptive enhancement) and .69 (impression management).

### *Procedure*

The study was conducted in small groups with a maximum of twenty participants at a time. The CATI, PPI-R, LSRP, BSRI, STAI and BIDR were administered in a packet along with a demographic data sheet. The demographic data sheet always came first in the packet. The order of the rest of the measures was randomized using a random starting order with rotation procedure (e.g., CBA, BAC, ACB). Upon the completion of all measures, the participants were thanked and debriefed.



## CHAPTER III

### RESULTS

#### *Preliminary Analyses*

The means, standard deviations, and ranges of the continuous variables for this study are summarized in Table 1. Preliminary analyses were conducted to examine the relationships between the criterion variables (BPD and ASPD) and demographic variables or social desirability in order to assess for the possibility of any confounding variables. Nominal level demographic variables (i.e., race) and the criterion variables were analyzed using a one-way Analysis of Variance (*ANOVA*). Significant differences were found between the racial groups on ASPD,  $F(4, 158) = 2.71, p < .05$  and BPD,  $F(4, 158) = 5.16, p < .05$ . Post Hoc Tests- Tukey HSD and Scheffe- indicated that Caucasian participants ( $M = 78.11; SD = 11.65$ ) and participants whose race fell under the Other category ( $M = 76.4; SD = 8.6$ ) were less likely to demonstrate the personality traits associated with ASPD than Latino or Latina participants ( $M = 106; SD = 55.15$ ). Post Hoc Tests also indicated that participants who reported that they were Caucasian ( $M = 45.44; SD = 8.91$ ), African American ( $M = 48.38; SD = 10.64$ ), Asian ( $M = 40.18; SD = 9.36$ ), and those participants whose race fell under the Other category ( $M = 50; SD = 12.64$ ) were all less likely to demonstrate the personality traits of BPD than Latino/a participants ( $M = 72.5; SD = 19.09$ ). It is critical to note that only two participants were Latino/a in the current study. Therefore, these results should be viewed with extreme

Table 1

*Descriptive Statistics for Continuous Study Measures*

Variables	Mean	Std. Dev.	Min-Max
Criterion Variables			
Antisocial Personality Disorder	78.58	12.79	59.32-145
Borderline Personality Disorder	45.95	9.74	25.88-86
Predictor Variables			
Total Psychopathy (PPI)	295.04	36.58	218-429
Total Psychopathy (PPI with Stress Immunity Scale)	327.00	37.00	231-481
Total Psychopathy (LSRP)	50.77	10.82	29-89
Primary Psychopathy (LSRP)	30.22	7.64	16-61
Secondary Psychopathy (LSRP)	20.54	5.33	11-40
Anxiety	39.68	9.75	21-75
Social Desirability			
Self-Deceptive Enhancement	5.65	3.33	0-17
Impression Management	4.98	3.06	0-15

caution. Nonetheless, race was controlled in the main analyses since significant differences were found in the criterion variables as a function of race.

Zero-order correlations were conducted in order to examine the relationship between both social desirability and the continuous demographic variable (i.e., age) and the criterion variables. These results are summarized in Table 2. The results of these analyses indicated that age was positively correlated with ASPD ( $r = .16, p < .05$ ). That is, the older the participant, the more likely he or she was to score high on ASPD. In addition, the results indicated that self-deceptive enhancement was negatively related to both ASPD ( $r = -.23, p < .01$ ) and BPD ( $r = -.43, p < .01$ ). Further, impression management was also negatively related to both ASPD ( $r = -.43, p < .01$ ) and BPD ( $r = -.18, p < .05$ ). These results indicated that participants who had a tendency to represent themselves in a positive manner were less likely than other participants to score high on the measures of personality pathology; therefore, self-deceptive enhancement and impression management scores were controlled for in any analyses involving ASPD or BPD. Based on the results of the zero-order correlations, participants' age was statistically controlled for in any analyses involving ASPD. It is important to note that the Stress Immunity Scale of the PPI-R (13 items) was left out of the data analysis due to the possible overlap with the STAI as a measure of anxiety. However, in order to confirm that the data were consistent with the data in previous studies using the PPI-R, the thirteen items of the Stress Immunity Scale were added back in for the sake of comparison. Therefore, the current study mean and standard deviation ( $M = 295.04$ ;  $SD = 36.58$ ) increased when the thirteen Stress Immunity Scale items were added back in ( $M = 327$ ;  $SD = 37$ ).

Table 2

*Zero-Order Correlations Between the Continuous Demographic Variables (Age), Social Desirability (Self-Deceptive Enhancement and Impression Management), and the Criterion Variables (Antisocial Personality Disorder and Borderline Personality Disorder)*

Variable	Age	Decep	IM	ASPD	BPD
Age	--				
Decep	.06	--			
IM	.09	.36**	--		
ASPD	.16*	-.23**	-.43**	--	
BPD	.05	-.43**	-.18*	.56**	--

\* $p < .05$

\*\* $p < .01$

Note. Decep = Self-Deceptive Enhancement; IM = Impression Management; ASPD = Antisocial Personality Disorder; BPD = Borderline Personality Disorder.

### *Primary Analyses*

For the purpose of the current study, the PPI-R scores and LSRP scores were dichotomized into high and low categories by computing median splits. With the PPI-R, a score of 293 or below was categorized as “low” psychopathy while a score of 294 and above was considered to be “high” psychopathy. With the LSRP, a score of 50 or below was classified as “low” psychopathy while a score of 51 or above was categorized as “high” psychopathy.

The primary analyses in this study were comprised of twelve factorial ANOVAs. The first two equations examined the Gender (male v. female) x Psychopathy (high v. low PPI-R scores) interactions in the prediction of the dependent variables, BPD or ASPD depending on the equation. The next two equations examined this same interaction, but the LSRP was substituted for the PPI-R as the measure of psychopathy. The other eight equations were in the identical form with the exception that in four, high versus low masculinity was substituted for gender. Likewise, in the other four equations, high versus low femininity was substituted for gender. Race, impression management, and self-deceptive enhancement were controlled for in all analyses with BPD as the dependent variable. In addition to race, impression management, and self-deceptive enhancement, age was also controlled for in all analyses with ASPD as the dependent variable. It is important to note that the degrees of freedom change in the results of this study because some participants did not complete all of the measures in the questionnaire packet. It was decided that their data would be used in the analyses involving questionnaires they had completed.

### *Hypotheses 1 through 4: Gender and Personality Disorders*

Hypotheses 1 and 3 suggested that the Gender x Psychopathy interaction would significantly predict BPD (H1) or ASPD (H3) above the main effects for gender and psychopathy alone. Hypotheses 2 and 4 proposed that women high in psychopathy would score higher on the BPD measure than all other groups (H2) and that men high in psychopathy would score higher on the ASPD measure than all other groups (H4).

*Examination of Hypotheses 1 and 2: Gender and BPD.* The equation with BPD as the dependent variable and the PPI-R as the measure of psychopathy will be addressed first. Significant main effects were found for psychopathy,  $F(1, 154) = 22.73, p < .01$ , in that participants who scored low on psychopathy ( $M = 42.53; SD = .96$ ) scored lower on BPD in comparison to those who scored high on psychopathy ( $M = 49.21; SD = .97$ ). Significant main effects were also found for gender,  $F(1, 154) = 4.55, p < .05$ , in that women ( $M = 47.34; SD = .97$ ) scored higher on BPD than men ( $M = 44.41; SD = .94$ ). However, no significant interaction was found between gender and psychopathy; therefore, Hypotheses 1 and 2 were not supported using the PPI-R (See Table 3). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and an ANOVA was run again in attempt to find a significant Gender x Psychopathy interaction. In the equation with BPD as the dependent variable and the LSRP as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 150) = 8.36, p < .01$ , in that participants who scored low on psychopathy ( $M = 43.68; SD = 1.02$ ) scored lower on BPD in comparison to those who scored high on psychopathy ( $M = 47.89; SD = .99$ ). No significant main effects were found for gender, and no significant

Table 3

*Factorial ANOVA with Gender (Male v. Female) and Psychopathy (PPI-R scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	773.90	11.65	.00
Decep	1	2095.08	31.53	.00
IM	1	10.15	.15	.70
Gender	1	302.27	4.55	.04
Psychopathy (PPI-R)	1	1510.53	22.73	.00
Gender x Psychopathy	1	39.03	.59	.45
Error	154	66.45		

interaction was found between gender and psychopathy; therefore, Hypotheses 1 and 2 were not supported using the LSRP (See Table 4).

*Examination of Hypotheses 3 and 4: Gender and ASPD.* In the equation with ASPD as the dependent variable and the PPI-R as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 153) = 47.06, p < .01$ , in that participants who scored low on psychopathy ( $M = 72.77; SD = 1.14$ ) scored lower on ASPD in comparison to those who scored high on psychopathy ( $M = 84.17; SD = 1.15$ ). No significant main effects were found for gender, and no significant interaction was found between gender and psychopathy; therefore, Hypotheses 3 and 4 were not supported using the PPI-R (See Table 5). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and an ANOVA was run again in attempt to find a significant Gender x Psychopathy interaction. In the equation with ASPD as the dependent variable and the LSRP as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 149) = 25.59, p < .01$ , in that participants who scored low on psychopathy ( $M = 73.86; SD = 1.21$ ) scored lower on ASPD in comparison to those who scored high on psychopathy ( $M = 82.59; SD = 1.17$ ). Significant main effects were found for gender,  $F(1, 149) = 4.40, p < .05$ , in that men ( $M = 80.03; SD = 1.17$ ) scored higher on ASPD than women ( $M = 76.42; SD = 1.20$ ). No significant Gender x Psychopathy interaction was found; therefore, Hypotheses 3 and 4 were not supported using the LSRP (See Table 6).

In summary, significant main effects were found for psychopathy in all four of the equations while significant main effects for gender were found in only two of the four equations. No Gender x Psychopathy interactions were found in any of the equations.



Table 4

*Factorial ANOVA with Gender (Male v. Female) and Psychopathy (LSRP scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	556.04	7.72	.01
Decep	1	1406.20	19.52	.00
IM	1	20.72	.29	.59
Gender	1	245.82	3.41	.07
Psychopathy (LSRP)	1	602.16	8.36	.00
Gender x Psychopathy	1	72.97	1.01	.32
Error	150	72.04		

Table 5

*Factorial ANOVA with Gender (Male v. Female) and Psychopathy (PPI-R scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	489.17	5.23	.02
Decep	1	387.83	4.15	.04
IM	1	1032.95	11.04	.00
Age	1	664.12	7.10	.01
Gender	1	169.97	1.82	.18
Psychopathy (PPI-R)	1	4402.54	47.06	.00
Gender x Psychopathy	1	113.08	1.21	.27
Error	153	93.55		

Table 6

*Factorial ANOVA with Gender (Male v. Female) and Psychopathy (LSRP scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	213.75	2.12	.15
Decep	1	5.49	.05	.82
IM	1	1826.41	18.09	.00
Age	1	180.98	1.79	.18
Gender	1	444.58	4.40	.04
Psychopathy (LSRP)	1	2583.67	25.59	.00
Gender x Psychopathy	1	243.07	2.41	.12
Error	149	100.96		

*Hypotheses 5 through 12: Sex-Role Identity and Personality Disorders*

Identical hypotheses were tested with regard to Sex-Role Identity in place of Gender. Specifically, Hypotheses 5, 7, 9, and 11 suggested that the Sex-Role Identity x Psychopathy interaction would significantly predict BPD (H5, H9) or ASPD (H7, H11) above the main effects for Sex-Role Identity and psychopathy alone. Hypothesis 6 proposed that highly feminine people high in psychopathy would score higher on the BPD measure than all other groups while Hypothesis 8 suggested that less feminine people high in psychopathy would score higher on the ASPD measure than all other groups. Hypothesis 10 proposed that less masculine people high in psychopathy would score higher on the BPD measure than all other groups while Hypothesis 12 suggested that highly masculine people high in psychopathy would score higher on the ASPD measure than all other groups.

For the purpose of the current study, the BSRI scores were dichotomized into high and low categories using median splits which were recommended by Bem (1981) for the purpose of scoring. A score of 4.9 or below was categorized as “low” femininity or masculinity while a score of 5 and above was considered to be “high” femininity or masculinity.

*Examination of Hypotheses 5 and 6: Femininity and BPD.* In the equation with high versus low femininity substituted for gender, BPD as the dependent variable and the PPI-R as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 151) = 6.11, p < .05$ , in that participants who scored low on psychopathy ( $M = 40.64; SD = 2.08$ ) scored lower on BPD in comparison to those who scored high on psychopathy ( $M = 49.48; SD = 2.94$ ). No significant main effects were

found for femininity, and no significant interaction was found between femininity and psychopathy; therefore, Hypotheses 5 and 6 were not supported using the PPI-R (See Table 7). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and the ANOVA was run again in attempt to find a significant Sex-Role Identity x Psychopathy interaction. In the equation with high versus low femininity substituted for gender, BPD as the dependent variable and the LSRP as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 148) = 4.04, p < .05$ , in that participants who scored low on psychopathy ( $M = 41.55; SD = 2.16$ ) scored lower on BPD in comparison to those who scored high on psychopathy ( $M = 49.03; SD = 3.06$ ). No significant main effects were found for femininity, and no significant interaction was found between femininity and psychopathy; therefore, Hypotheses 5 and 6 were not supported using the LSRP (See Table 8).

*Examination of Hypotheses 7 and 8: Femininity and ASPD.* In the equation with high versus low femininity substituted for gender, ASPD as the dependent variable and the PPI-R as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 150) = 5.60, p < .05$ , in that participants who scored low on psychopathy ( $M = 70.49; SD = 2.40$ ) scored lower on ASPD in comparison to those who scored high on psychopathy ( $M = 80.30; SD = 3.40$ ). No significant main effects were found for femininity, and no significant Femininity x Psychopathy interaction was found; therefore, Hypotheses 7 and 8 were not supported using the PPI-R (See Table 9). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and the ANOVA was run again in attempt to find a significant Sex-Role Identity x Psychopathy interaction. In the equation with high versus low femininity substituted for

Table 7

*Factorial ANOVA with Femininity (High v. Low Femininity) and Psychopathy (PPI-R scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	572.68	8.33	.00
Decep	1	2458.52	35.76	.00
IM	1	27.04	.39	.53
Femininity	2	10.32	.15	.86
Psychopathy (PPI-R)	1	420.30	6.11	.02
Femininity x Psychopathy	2	27.48	.40	.67
Error	151	68.74		

Table 8

*Factorial ANOVA with Femininity (High v. Low Femininity) and Psychopathy (LSRP scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	467.87	6.32	.01
Decep	1	1823.51	24.64	.00
IM	1	2.51	.03	.85
Femininity	2	16.71	.23	.80
Psychopathy (LSRP)	1	298.99	4.04	.05
Femininity x Psychopathy	2	43.27	.59	.56
Error	148	74.02		

Table 9

*Factorial ANOVA with Femininity (High v. Low Femininity) and Psychopathy (PPI-R scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	656.25	7.20	.01
Decep	1	337.70	3.70	.06
IM	1	1215.17	13.33	.00
Age	1	8.98	.10	.75
Femininity	2	227.22	2.49	.09
Psychopathy (PPI-R)	1	510.81	5.60	.02
Femininity x Psychopathy	2	181.76	1.99	.14
Error	150	91.20		



gender, ASPD as the dependent variable and the LSRP as the measure of psychopathy, no significant main effects were found for psychopathy or for femininity. No significant Femininity x Psychopathy interaction was found, either; therefore, Hypotheses 7 and 8 were not supported using the LSRP (See Table 10).

*Examination of Hypotheses 9 and 10: Masculinity and BPD.* In the equation with high versus low masculinity substituted for gender, BPD as the dependent variable and the PPI-R as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 151) = 6.02, p < .05$ , in that participants who scored low on psychopathy ( $M = 40.91; SD = 2.07$ ) scored lower on BPD in comparison to those who scored high on psychopathy ( $M = 47.37; SD = 1.55$ ). No significant main effects were found for masculinity, and no significant interaction was found between masculinity and psychopathy; therefore, Hypotheses 9 and 10 were not supported using the PPI-R (See Table 11). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and the ANOVA was run again in attempt to find a significant Sex-Role Identity x Psychopathy interaction. In the equation with high versus low masculinity substituted for gender, BPD as the dependent variable and the LSRP as the measure of psychopathy, no significant main effects were found for psychopathy or for masculinity. Further, no significant interaction was found between masculinity and psychopathy; therefore, Hypotheses 9 and 10 were not supported using the LSRP (See Table 12).

*Examination of Hypotheses 11 and 12: Masculinity and ASPD.* In the equation with high versus low masculinity substituted for gender, ASPD as the dependent variable and the PPI-R as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 150) = 9.85, p < .01$ , in that participants who scored low on

Table 10

*Factorial ANOVA with Femininity (High v. Low Femininity) and Psychopathy (LSRP scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	401.90	3.86	.05
Decep	1	8.79	.08	.77
IM	1	2381.40	22.86	.00
Age	1	95.61	.92	.34
Femininity	2	100.48	.96	.38
Psychopathy (LSRP)	1	320.31	3.08	.08
Femininity x Psychopathy	2	102.90	.99	.38
Error	147	104.18		

Table 11

*Factorial ANOVA with Masculinity (High v. Low Masculinity) and Psychopathy (PPI-R scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	665.28	9.94	.00
Decep	1	2136.26	31.91	.00
IM	1	31.92	.48	.49
Masculinity	2	67.56	1.01	.37
Psychopathy (PPI-R)	1	402.77	6.02	.02
Masculinity x Psychopathy	2	117.72	1.76	.18
Error	151	66.95		

Table 12

*Factorial ANOVA with Masculinity (High v. Low Masculinity) and Psychopathy (LSRP scores) as the Independent Variables and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	488.26	6.62	.01
Decep	1	1691.71	22.94	.00
IM	1	.87	.01	.91
Masculinity	2	55.49	.75	.47
Psychopathy (LSRP)	1	81.04	1.10	.30
Masculinity x Psychopathy	2	40.80	.55	.58
Error	148	73.75		

psychopathy ( $M = 71.12$ ;  $SD = 2.42$ ) scored lower on ASPD in comparison to those who scored high on psychopathy ( $M = 80.76$ ;  $SD = 1.81$ ). No significant main effects were found for masculinity, and no significant Masculinity x Psychopathy interaction was found; therefore, Hypotheses 11 and 12 were not supported using the PPI-R (See Table 13). The total scores on the LSRP were then substituted for the PPI-R scores as a comparison, and the ANOVA was run again in attempt to find a significant Sex-Role Identity x Psychopathy interaction. In the equation with high versus low masculinity substituted for gender, ASPD as the dependent variable and the LSRP as the measure of psychopathy, significant main effects were found for psychopathy,  $F(1, 147) = 9.37, p < .01$ , in that participants who scored low on psychopathy ( $M = 71.67$ ;  $SD = 2.11$ ) scored lower on ASPD in comparison to those who scored high on psychopathy ( $M = 80.78$ ;  $SD = 2.10$ ). No significant main effects were found for masculinity, and no significant Masculinity x Psychopathy interaction was found; therefore, Hypotheses 11 and 12 were not supported using the LSRP (See Table 14). Significant main effects were found for psychopathy in six out of the eight equations; however, no significant main effects were found for Sex-Role Identity, and no significant Sex-Role Identity x Psychopathy interactions were found.

In summary, twelve factorial ANOVAs comprised the primary analyses in this study in looking to find Gender x Psychopathy interactions. The results of the twelve equations were such that significant main effects were found for psychopathy in ten out of the twelve equations. We found a main effect for BPD on psychopathy 5 times and found a main effect for ASPD on psychopathy 5 times as well. These results indicate that participants who scored low on psychopathy scored lower on BPD or ASPD in

Table 13

*Factorial ANOVA with Masculinity (High v. Low Masculinity) and Psychopathy (PPI-R scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	620.72	6.83	.01
Decep	1	316.68	3.48	.06
IM	1	1253.04	13.78	.00
Age	1	9.45	.10	.75
Masculinity	2	199.83	2.20	.12
Psychopathy (PPI-R)	1	895.70	9.85	.00
Masculinity x Psychopathy	2	156.91	1.73	.18
Error	150	90.94		

Table 14

*Factorial ANOVA with Masculinity (High v. Low Masculinity) and Psychopathy (LSRP scores) as the Independent Variables and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Race	1	366.57	3.59	.06
Decep	1	28.15	.28	.60
IM	1	1967.75	19.25	.00
Age	1	75.00	.73	.39
Masculinity	2	266.35	2.61	.08
Psychopathy (LSRP)	1	958.04	9.37	.00
Masculinity x Psychopathy	2	74.97	.73	.48
Error	147	102.23		

comparison to those who scored high on psychopathy. Significant main effects were found for gender in two out of the four equations in that women scored higher on BPD than men, and men scored higher on ASPD than women. No significant main effects for Sex-Role Identity were found in any of the eight equations. No significant Gender x Psychopathy interactions or Sex-Role Identity x Psychopathy interactions were found in any of the 12 equations.

#### *Additional Analyses*

Supplemental analyses were conducted in order to examine the associations between primary and secondary psychopathy and both gender and the two personality disorders, BPD and ASPD. To test Hypotheses 13 through 16, four groups were created: persons scoring low on the STAI but high on the PPI-R (primary psychopathy group); persons scoring high on the STAI and PPI-R (secondary psychopathy group); persons scoring high on the STAI but low on the PPI-R (anxiety group); and persons scoring low on the STAI and PPI-R (normal group). These four groups served as the independent variable, Pathology, in a series of two one-way ANOVAs.

#### *Hypotheses 13 through 16: Analyses Involving Primary and Secondary Psychopathy*

Hypothesis 13 suggested that BPD would be found to be related to secondary psychopathy but not primary psychopathy while Hypothesis 14 proposed that ASPD would be found to be related to both primary and secondary psychopathy. Hypothesis 15 proposed that females would be more likely to demonstrate secondary psychopathy than primary psychopathy while Hypothesis 16 suggested that males would be equally likely to demonstrate both primary and secondary psychopathy.



*Hypotheses 13 and 14: Examination of Personality Disorders and Primary and Secondary Psychopathy.* In the first ANOVA, BPD served as the dependent variable. Significant differences were found between the pathology groups on BPD,  $F(3, 158) = 29.55, p < .01$ . Post Hoc Tests- Tukey HSD and Scheffe- indicated that participants who were categorized in the primary psychopathy group ( $M = 42.90; SD = 7.42$ ), anxiety group ( $M = 48.49; SD = 7.57$ ), and normal group ( $M = 38.75; SD = 5.76$ ) were all less likely to demonstrate the personality traits of BPD than participants categorized in the secondary psychopathy group ( $M = 53.44; SD = 10.02$ ) (See Table 15). Thus, Hypothesis 13 was supported as post hoc tests revealed significant group differences between the secondary psychopathy group and the other three groups such that those in the secondary psychopathy group scored higher on BPD. In the second ANOVA, ASPD served as the dependent variable. Significant differences were found between the pathology groups on ASPD,  $F(3, 158) = 27.33, p < .01$ . Post Hoc Tests- Tukey HSD and Scheffe- indicated that participants who were categorized in the primary psychopathy group ( $M = 82.99; SD = 11.13$ ) and secondary psychopathy group ( $M = 87.61; SD = 14.24$ ) were more likely to demonstrate the personality traits of ASPD than participants categorized in the anxiety group ( $M = 74.07; SD = 8.03$ ) or the normal group ( $M = 69.48; SD = 6.31$ ) (See Table 16). Thus, Hypothesis 14 was supported as post hoc tests revealed significant group differences such that the primary psychopathy group and the secondary psychopathy group scored higher on ASPD than the other two groups. Therefore, ASPD was found to be related to both primary and secondary psychopathy.

*Hypotheses 15 and 16: Examination of Gender and Primary and Secondary Psychopathy.* Hypotheses 15 and 16 were tested with Chi Square Goodness of Fit

Table 15

*One-way ANOVA with Pathology as the Independent Variable and BPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	3	1839.44	29.55	.00
Within Groups	158	62.24		
Total	161			

Table 16

*One-way ANOVA with Pathology as the Independent Variable and ASPD as the Dependent Variable*

Source	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	3	2986.37	27.33	.00
Within Groups	158	109.28		
Total	161			

because gender and pathology (i.e., primary psychopathy, secondary psychopathy, anxiety, and normal) are categorical variables. For the purposes of this study, only the primary psychopathy group and secondary psychopathy group were analyzed.

Hypothesis 15 was not supported as the result of the Chi Square Goodness of Fit analysis was not significant,  $\chi^2 (1, 28) = .57, p = .45$ . These results indicate that females are not more likely to demonstrate secondary psychopathy than primary psychopathy.

Hypothesis 16 was supported, however, as it was predicted that there would be no significant difference between the number of men in the primary psychopathy group and the number of men in the secondary psychopathy group,  $\chi^2 (1, 52) = 1.23, p = .27$ .

## CHAPTER IV

### DISCUSSION

Using a sample of undergraduate males and females sampled from a medium-sized university in the Midwest, the current study examined the hypothesis that borderline personality disorder (BPD) and antisocial personality disorder (ASPD) represent sex-typed expressions of the underlying dimension of psychopathy. The study was modeled closely after a study conducted by Pennline and Lutz-Zois (2005) that examined the possibility of gender differences in the manifestations of psychopathy for persons with BPD and ASPD. Pennline and Lutz-Zois developed their study from the one conducted by Cale and Lilienfeld (2002b) that explored the possibility of Gender x Psychopathy interactions in the prediction of ASPD and histrionic personality disorder (HPD) as opposed to BPD. Unfortunately, support was not found for the current study hypotheses in that the Gender x Psychopathy interactions did not predict BPD or ASPD. Further, no significant Sex-Role Identity x Psychopathy interactions were found. However, significant main effects were found between psychopathy and BPD and ASPD. These results indicate that participants who scored low on psychopathy scored lower on BPD or ASPD in comparison to those who scored high on psychopathy. Significant main effects were found for gender in two of the four equations in that women scored higher on BPD than men, and men scored higher on ASPD than women. No significant main effects for Sex-Role Identity were found. The remainder of the discussion section will

address the implications of the current findings as well as limitations and suggestions for future research.

### *Tests of Study Hypotheses*

#### *Hypotheses 1 through 12*

In regards to the primary hypotheses, the results were not consistent with the predictions. The Gender x Psychopathy interactions were not found in the prediction of BPD or ASPD. Specifically, evidence was not found for the hypothesis that males high in psychopathy would be high in ASPD characteristics and females high in psychopathy would be high in BPD characteristics. Therefore, the expectation that BPD and ASPD are sex-typed manifestations of psychopathy received no support in the current study. This finding was similar to that of Pennline and Lutz-Zois (2005) as their interactions between Gender x Psychopathy and BPD or ASPD were also found to be non-significant. The interactions between Gender x Psychopathy and ASPD or HPD were non-significant as well in the study by Cale and Lilienfeld (2002b). However, Hamburger, Lilienfeld and Hogben (1996) conducted a study using structural equation modeling applied to self-report measures of psychopathy, gender roles, and ASPD and HPD traits. Specifically, they found that psychopathy was a strong predictor of both ASPD and HPD traits and that the relation between psychopathy and both ASPD and HPD traits was moderated by gender. Hence, psychopathic males tended to exhibit ASPD characteristics, whereas psychopathic females tended to exhibit HPD characteristics.

In another study, Schmeelk, Sylvers and Lilienfeld (2008) hypothesized that gender would moderate the relationship between relational aggression and personality pathology such as BPD or ASPD. Given the substantial empirical overlap between

Cluster B personality disorders and psychopathy (Cale & Lilienfeld, 2002a; Salekin, Rogers, & Sewell, 1997; Warren et al., 2003), relational aggression may be similarly associated with psychopathic features. In their study, Schmeelk et al. (2008) found that gender did not moderate the relationship between relational aggression and personality pathology with the exception of sadistic personality disorder (SPD) features. Analysis indicated that SPD was more strongly correlated with relational aggression in males than females. Their results that gender did not moderate the relationship between relational aggression and psychopathic traits are similar to those in the current study that gender did not moderate the relationship between psychopathy and BPD or ASPD. To this author's knowledge, no study has specifically examined the interaction between gender and psychopathy in relation to BPD as opposed to HPD except for Pennline and Lutz-Zois (2005).

As the current study did not find Gender x Psychopathy interactions to predict BPD or ASPD, research was examined that may provide an explanation as to why the expected results were not found. Rogstad and Rogers (2008), Lorenz and Newman (2002) and Forouzan and Cooke (2005) introduce the possibility that level of emotion may play an important role in the manifestation of psychopathy. Rogstad and Rogers (2008) reviewed literature pertaining to gender differences in contributions of emotion to psychopathy and ASPD. The research suggests that the role of emotion processing and emotional expression varies substantially between male and female offenders, particularly between those classified as psychopathic and those diagnosed with ASPD. Current evidence suggests that female offenders with ASPD display higher levels of emotion than their male counterparts (Lorenz & Newman, 2002). Forouzan and Cooke

(2005) found evidence of gender differences in the core traits and characteristics of psychopathic traits. They postulate four key differences in manifestations of psychopathy by gender: differential expressions of psychopathic behavior; differences in interpersonal characteristics; different psychological motivations underpinning indicators of psychopathy; and potential bias in the assessment of psychopathy according to social norms. Therefore, based on this research and since level of emotion may play a role in the manifestation of psychopathy, an idea for a future study would be to replace Gender with Emotional Level to examine how the interaction of Emotional Level and Psychopathy may predict BPD or ASPD. To support this possible future topic of study, research by Rogstad and Rogers (2008) suggests that the role of emotion processing and emotional expression varies substantially between male and female offenders, particularly between those classified as psychopathic and those diagnosed with ASPD. Kosson, Lorenz and Newman (2006) suggest investigating emotion processing in female psychopathy in light of the consistently reliable findings of deficient processing of emotional stimuli in male psychopathy. Based on this previous research and findings, the replacement of the categorical variable Gender with the continuous variable Emotional Level may result in significant Emotional Level x Psychopathy interactions that predict BPD or ASPD. Specifically, it would be expected that persons who scored highly on the measure of emotionality and highly on the psychopathy measure would in turn score highly on the measure of BPD. Conversely, it would be expected that persons who scored low on the measure of emotionality but highly on the psychopathy measure would score highly on the measure of ASPD. Such results would support the theory that

psychopathy may be manifested as BPD when associated with high emotionality and as ASPD when associated with low emotionality.

Although no Gender x Psychopathy interactions or Sex-Role Identity x Psychopathy interactions were found, the results of the current study provide support for a relationship between psychopathy and BPD or ASPD. A main effect for BPD on psychopathy was found in five equations, and equally, a main effect for ASPD on psychopathy was found in five equations. These results reflect that participants who were high in psychopathy were also high in traits of BPD or ASPD. The construct of psychopathy and ASPD share many characteristics but are not the same, as psychopathy is a description of certain personality features while ASPD is defined primarily by behavioral features (Cleckley, 1941; Lilienfeld, 1994; Cale & Lilienfeld, 2002a; Hare, Hart, & Harpur, 1991; Lilienfeld & Andrews, 1996; Hare, 1985). Although there is less research examining the relationship between psychopathy and BPD than psychopathy and ASPD, numerous studies have found considerable correlations between the construct of psychopathy and BPD (Sandoval et al., 2000; Raine, 1986; Salekin, Rogers, & Sewell, 1997; Shine & Hobson, 1997; Stalenheim & von Knorring, 1998).

The current study found significant main effects for gender with BPD in one of two equations in that women scored higher on BPD than men. Conversely, significant main effects for gender with ASPD were found in one of two equations in that men scored higher on ASPD than women. These findings are consistent with the previous studies in that researchers have found that men tend to score higher on traits of agency while women score higher on traits of expressiveness (Feingold, 1994). As discussed in the previous section, these results call into question the role that expressiveness or



emotionality may play in the manifestation of psychopathy into BPD or ASPD.

Differences between men and women with regard to traits of agency versus communality, or expressiveness, may be reflected in the gender differences in individuals diagnosed with ASPD and BPD (Skodol & Bender, 2003; Kendall, 2006). In examining the specific traits characteristic of a personality disorder, it is shown that women are more likely than men to score higher on neuroticism. Numerous studies have found that neuroticism appears to be the personality trait most related to BPD (McCrae et al., 2001; Trull, 1992; Widiger et al., 1994; Wiggins & Pincus, 1989). These findings support a greater female prevalence of BPD since women on average are more likely than men to score high in neuroticism, whereas men are more likely than women to score low on neuroticism. Females also scored notably higher than males on scales of anxiety, trust, and especially tender-mindedness while males were found to be more assertive than females (Feingold, 1994). These findings are consistent with the traditional theory that men score higher on traits of agency, or instrumental traits, whereas females score higher on traits of communality, or expressive traits (Skodol, 2000).

No significant main effects for Sex-Role Identity were found in the current study when Sex-Role Identity was substituted for Gender. No significant main effects for femininity with BPD were found, and no significant Femininity x Psychopathy interaction was found. Similarly, no significant main effects for masculinity with ASPD were found, and no significant Masculinity x Psychopathy interaction was found. The failure to find significant main effects between Sex-Role Identity and BPD and ASPD was initially surprising given the significant findings of main effects for gender with BPD and ASPD in two of four equations. The results may be due to the questionable validity

of the BSRI. Choi and Fuqua (2003) examined 23 validation studies of the BSRI and found that the BSRI may not capture the complex and multidimensional nature of masculinity/ femininity. Their findings support the speculation that the items included on the BSRI probably underrepresent the masculinity/ femininity constructs and that the item collections are too narrow to adequately define their dimensions or domains. The BSRI was chosen for the purposes of this study over the Personal Attributes Questionnaire (PAQ), the second most popular measure of sex-role identity, due to the failure of the PAQ masculine items to evidence consistent loadings across both sexes and due to research suggesting that the PAQ could profit from refinement (Antill & Cunningham, 1982). Although the BSRI and PAQ are the two most commonly used inventories to measure masculinity and femininity today (Helgeson, 2009), no measure to date has been devised to capture the true multifaceted structure of masculinity/ femininity.

Another possibility for the failure to find significant Sex-Role Identity x Psychopathy interactions in the current study is that peer ratings support the findings of the BSRI more so than participants' self-ratings according to researchers. Studies have demonstrated that when assessing masculinity/ femininity, participants may be willing to take into consideration more variable evidence for themselves than others (Helgeson, 1994). Thus, had peer ratings been used in the current study, it may have increased the chances of finding significant Sex-Role Identity x Psychopathy interactions as a more obvious dichotomization of masculinity and femininity may have been observed when classified by peers versus self-assessment. Further, the utilization of peer ratings would increase the validity of the findings in comparison to self-ratings.

*Hypotheses 13 through 16*

Additional analyses were conducted in the current study in order to examine the associations between primary and secondary psychopathy and both gender and BPD or ASPD. Hypothesis 13 stated that BPD would be found to be related to secondary psychopathy but not primary psychopathy. The results revealed significant group differences between the secondary psychopathy group and the other three groups on BPD such that those in the secondary group scored higher on BPD in comparison to the other groups. This finding that BPD was found to be related to secondary psychopathy is supported by numerous studies that have found correlations between secondary psychopathy and BPD characteristics (Edens et al., 2002; Hart & Hare, 1989; Skeem et al., 2003; Blackburn, 1996). Campbell and Elison (2005) posit that emotion is the foremost point of distinction between primary and secondary psychopathy. Persons with secondary psychopathy are characterized as impulsive, hostile, socially anxious, withdrawn, moody and emotionally volatile with self-defeating behaviors (Karpman, 1948; Herpertz & Sass, 2000). These characteristics are also found in the diagnostic criteria for BPD (American Psychiatric Association, 2000). Blackburn compared persons with primary psychopathy to persons with secondary psychopathy and found that persons with secondary psychopathy qualify more often for diagnoses of BPD than do persons with primary psychopathy, who more often display antisocial disorders (Blackburn, 1996; Blackburn & Coid, 1999; Hart & Hare, 1989). These findings are replicated in the current study in that BPD was found to be related to secondary psychopathy but not to primary psychopathy.

Hypothesis 14 stated that ASPD would be found to related to both primary and secondary psychopathy. The results indicated significant group differences such that the primary psychopathy group and the secondary psychopathy group scored higher on ASPD than the other two groups. Therefore, ASPD was found to be related to both primary and secondary psychopathy. This finding is supported by numerous studies that have found correlations between psychopathy and ASPD characteristics (Lynam, Whiteside, & Jones, 1999; Skeem et al., 2003; Edens et al., 2002; Hart & Hare, 1989). This research indicates that the construct of psychopathy captures individual differences among those with ASPD. Numerous characteristics, such as impulsivity and deceitfulness that are found in psychopathy are also found in the diagnostic criteria for ASPD (American Psychiatric Association, 2000).

Hypothesis 15 offered that females would be more likely to demonstrate secondary psychopathy than primary psychopathy. Although BPD was found to be related to secondary psychopathy more than primary psychopathy in the current study (i.e., Hypothesis 13), the results did not indicate that women were more likely to have the characteristics of secondary psychopathy than primary psychopathy. One explanation for the failure in the current study to find support that females will be more likely to demonstrate secondary psychopathy than primary psychopathy is that the prevalence of psychopathy is lower for females than for males (Rogstad & Rogers, 2008; Salekin, Rogers, & Sewell, 1997; Warren et al., 2003; Grann, 2000). Salekin et al. (1997) found only 16% of women in correctional samples to score as a psychopathic individual as compared with 25 to 30% typically found in male correctional samples. Grann (2000) also found psychopathy to be more common among males (31%) than females (11%) in

individuals referred for forensic psychiatric evaluation. In the current study, only 28 females were categorized in the primary and secondary pathology groups in contrast to 52 males found in the primary and secondary pathology groups. Coid and Yang (2008) found that 3.6 % of their community-dwelling sample were probable psychopaths while another 25.6% demonstrated psychopathic features. Despite these findings, an undergraduate college population as utilized in the current study is not as likely as a clinical or criminal population to exhibit traits of psychopathy. Hence, a larger sample of women with the characteristics of psychopathy may have resulted in significant group differences between the primary and secondary psychopathy groups; the more women that score high on psychopathy, the more an opportunity exists to see a distinction between the primary and secondary psychopathic traits in those women.

Hypothesis 16 stated that males would be equally likely to demonstrate both primary and secondary psychopathy. This hypothesis was supported by the finding that there was no significant difference between the number of men in the primary psychopathy group and the number of men in the secondary psychopathy group. The DSM-IV TR indicates that 75% of persons diagnosed with ASPD are male (American Psychiatric Association, 2000). As stated previously, ASPD is found to be related to both primary and secondary psychopathy. Recent research has provided evidence that relative to persons with primary psychopathy, persons with secondary psychopathy have comparable levels of antisocial behavior (Skeem, Johansson, Andershed, Kerr, & Louden, 2007). This supports the finding of the current study that ASPD was found to be related to both primary and secondary psychopathy. However, this author found no previous research supporting this study's finding that men are equally likely to have the

characteristics of both primary and secondary psychopathy. Therefore, this result may be a new finding that should be explored in future studies.

Essentially, the current study replicates the commonly observed gender difference in diagnosis such that women are more often diagnosed with BPD and men are more often diagnosed with ASPD. Unlike the findings by Pennline and Lutz-Zois (2005) of gender differences only with ASPD, the current study found gender differences with both BPD and ASPD. Similar to the results of the study completed by Cale and Lilienfeld (2002b) and Pennline and Lutz-Zois (2005), the overarching hypothesis that BPD and ASPD are sex-typed manifestations of psychopathy received no support in the current study. However, additional analyses revealed that men are equally likely to demonstrate both primary and secondary psychopathy which is a new finding in the literature.

#### *Limitations and Directions for Future Research*

The methods used in the current study may pose some problems that could be addressed further in future research. For instance, limiting our sample to an undergraduate college population may not have adequately represented the frequency with which psychopathy manifests as BPD in women and as ASPD in men. Specifically, the majority of the participants were likely to be highly functioning adults. Therefore, some of the diagnostic criteria for BPD such as self-harming and suicidal gestures and ASPD such as behaviors that reflect criminality could make a person with one of the disorders less likely to attend college. Further, the participants in the current study were recruited from Introduction to Psychology classes. Therefore, the students may have demonstrated response biases due to familiarity with the disorders being studied.

Suggestions for future research may be to use a criminal or clinical population, specifically persons diagnosed as either BPD or ASPD, instead of using a college sample. Cale and Lilienfeld (2002a) discussed that sex differences in psychopathy have more often been studied in forensic and undergraduate samples than in clinical samples. Conversely, sex differences in ASPD have more often been studied in clinical samples than in forensic and undergraduate samples. Silberman, Roth, Segal, and Burns (1997) utilized a sample of chronically mentally ill inpatient adults to investigate the relationship between the CATI and the Millon Clinical Multiaxial Inventory-II (MCMI-II), and their results using the CATI reflected higher means for both BPD ( $M = 49.4$ ;  $SD = 11.2$ ) and ASPD ( $M = 80.4$ ;  $SD = 15$ ) than the current study. These data suggest that a clinical population will more likely demonstrate BPD and ASPD than the undergraduate sample that was utilized in the current study; therefore, the likelihood of finding significant Gender x Psychopathy interactions would be increased with a larger sample of persons diagnosed with BPD or ASPD (i.e., a clinical population). In the future, researchers should look to replicate the current study utilizing a clinical population to increase the scope of the findings.

Further, persons with psychopathic traits, even within the populations of persons diagnosed with ASPD (American Psychiatric Association, 2000), are but a small subpopulation (Hart & Hare, 1997) and are thus likely to comprise smaller percentages of the general and student populations (Campbell & Elison, 2005). Coid and Yang (2008) found the percentage of probable community-dwelling psychopaths to be approximately 3.6% while another 25.6% showed psychopathic features. Thus, while the proportion of the general population that has some psychopathic attributes may be relatively high, the

percentage that has clinically relevant levels is fairly low (i.e., 3.6%). This is in contrast to estimates in prison populations which are around 20 percent (Hare 1993). In looking at studies conducted with a criminal population, the means and standard deviations of the PPI total score are significantly higher than those found in the current study. The data suggest that a criminal population will be more likely to demonstrate psychopathic traits than the undergraduate sample that was used in the current study; therefore, the likelihood of finding significant Gender x Psychopathy interactions would be increased with a larger sample of persons with psychopathy (i.e., prison sample). In the future, researchers should look to replicate the current study utilizing a criminal population to increase the significance of the findings or the likelihood of getting the hypothesized results. It is important to note that the current study did not utilize the Stress Immunity Scale (13 items), which would explain a slight decrease in the means of the current study. The thirteen items from the Stress Immunity Scale were added back in for the sake of comparison to the following studies which resulted in an increase in the mean of the current study ( $M = 327$ ;  $SD = 37$ ). Chapman, Gremore, and Farmer (2003) utilized a sample of 153 female inmates to evaluate the psychometric properties of the PPI, and their results reflected a higher mean total score and standard deviation ( $M = 367.32$ ;  $SD = 48.31$ ) than the current study ( $M = 295.04$ ;  $SD = 36.58$ ). As previously stated, the thirteen items from the Stress Immunity Scale were added back in to the total score which caused an increase in the mean of the current study ( $M = 327$ ;  $SD = 37$ ) to come within one standard deviation of the mean of the prison sample ( $M = 367.32$ ;  $SD = 48.31$ ). Further, Berardino, Meloy, Sherman, and Jacobs (2005) utilized a sample of 102 incarcerated females to validate the PPI, and their results also reflected a higher mean



total score and standard deviation ( $M = 381.59$ ;  $SD = 40.29$ ) than the current study ( $M = 295.04$ ;  $SD = 36.58$ ). Again, the addition of the Stress Immunity Scale items back into the current study brought the mean ( $M = 327$ ;  $SD = 37$ ) much closer to the mean of the sample of incarcerated females ( $M = 381.59$ ;  $SD = 40.29$ ). However, investigators should still attempt to replicate our findings in psychiatric and prison samples, which presumably are characterized by higher levels of Cluster B personality traits and psychopathic traits (Schmeelk et al., 2008). It remains to be seen whether our results will generalize to a criminal or clinical population, but it is speculated that these populations would increasingly demonstrate that BPD and ASPD are sex-typed manifestations of psychopathy. If a community sample is studied, a recommendation would be to utilize the Self-Report Psychopathy scale (SRP) as it was modeled on the Psychopathy Checklist (Hare, 1985) unlike the PPI-R (Mahmut, Homewood, & Stevenson, 2008).

Another potential methodological problem in the current study is the classification of PPI-R, LSRP, BSRI, and STAI scores into high and low categories through the use of median splits. Median splits may not have been as effective in separating the data into two distinct categories as the use of standard deviations. Standard deviation was not used as that method would have reduced an already small sample size. Another concern is that the length of the questionnaires could have led to random responding. The questionnaire packet was made up of 6 separate measures and was 23 pages in length. Hence, the young, undergraduate population may not have taken the time and effort required to read each specific question carefully and considerately. During the conduction of the study, the participants were observed to move very quickly through the questionnaire packets in approximately half the time that it was predicted it would take them to finish. When the

data was entered for statistical analysis, it was found that not all of the questionnaires had been completed in their entirety. Some measures were completed while other measures were left blank in the questionnaire packet which may have skewed results. Therefore, the current study may not have captured the true profiles of participants.

Finally, the current study results relied solely on self-report measures. Future research should utilize clinical interviews, such as the Structured Clinical Interview for DSM-IV Axis II for assessing DSM-IV personality disorders and the Psychopathy Checklist-Revised (Hare, 2003) for assessing psychopathy for increased accuracy. Hart and Hare (1997) discussed that the use of self-report measures is traditionally an undesirable methodology in the study of psychopathy for several reasons. First, self-reports cannot adequately assess and control for the effects of deceitfulness, a key clinical feature of psychopathy. Further, Hart and Hare (1997) state that self-report measures of psychopathy are strongly influenced by the respondent's emotional state at the time of the assessment. Finally, the content of self-report measures of psychopathy is problematic as most tend to focus on overt delinquent and antisocial acts to the exclusion of interpersonal and affective symptoms of psychopathy (Harpur et al., 1989); others contain items that are theoretically unrelated to or even inconsistent with the disorder (e.g., sexual dysfunction, feelings of guilt) (Hart & Hare, 1997). The use of peer-report measures may lend further confidence in the results if self and peer raters for all measures are significantly correlated with one another because it suggests the personality disorder measure is tapping personality rather than merely self-concept.

Finally, research should extend the study of psychopathy to longitudinal designs investigating the course, correlates, and manifestations of psychopathy from childhood

through adulthood. Results of preliminary analyses in the current study revealed that age was positively correlated with ASPD, which suggests that the older the participants, the more likely they were to score high on ASPD. Therefore, the potential for Gender x Psychopathy interactions may vary based on the age and developmental stage of the participants.

In conclusion, the findings in this study do not provide evidence that BPD and ASPD are sex-typed manifestations of psychopathy. However, we did find support for the theory that ASPD is related to both primary and secondary psychopathy and, further, that men are equally likely to demonstrate both primary and secondary psychopathy. Despite these findings, some of the methodological issues detailed above need to be resolved and may provide an opportunity for future research.

## APPENDICES

## APPENDIX A

## Demographic Sheet

Please take a few moments to complete the demographic information on this page and then proceed in completing the remainder of the assessment packet in the order in which the questionnaires are presented.

Age: \_\_\_\_\_

Gender:        Male    Female

Race: \_\_\_\_\_

Year in School:        Freshman        Sophomore        Junior        Senior

## APPENDIX B

## CATI

The things written in this questionnaire ask you to answer as you see yourself. Some sentences will seem strongly false, and some sentences will seem strongly true. Other sentences will seem somewhere in between the strongly false and strongly true. You are to choose if they are more false than true, or more true than false. It is important that you try not to leave out any answers. If the sentence does not exactly describe you, do your best to find the answer that most closely is like you. After each sentence, you will find four possible answers: **SF(1)** for "Strongly False," **MF(2)** for "More False than True," **MT(3)** for "More True than False," and **ST(4)** for "Strongly True." Put a circle around the answer that is most like you. Remember, you have the right to leave any and/or all of the questions blank.

<b>Antisocial Personality Disorder Scale</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
1. I have had a lot of different jobs in the last few years.	SF	MF	MT	ST
2. Before the age of 15, I was a big liar.	SF	MF	MT	ST
3. I am afraid to do things that might get me arrested. <b>RS</b>	SF	MF	MT	ST
4. Some people say that I take too many chances.	SF	MF	MT	ST
5. People make me angry.	SF	MF	MT	ST
6. When I fall in love, I'm usually the one who ends up hurt. <b>RS</b>	SF	MF	MT	ST
7. I have never hit anyone in any of my relationships. <b>RS</b>	SF	MF	MT	ST
8. People think I am tied to my job or work. <b>RS</b>	SF	MF	MT	ST
9. I pay back all my loans and debts. <b>RS</b>	SF	MF	MT	ST
10. Before the age of 15, I ran away from home overnight more than once.	SF	MF	MT	ST
11. Before the age of 15, I often started fist fights.	SF	MF	MT	ST
12. Before the age of 15, I stole from others more than once (shoplifting, forgery, etc.)	SF	MF	MT	ST
13. I have quit more than one job without having plans for my next job.	SF	MF	MT	ST

**SF(1) = Strongly False, MF(2) = More False than True, MT(3) = More True than False, and ST(4) = Strongly True**

14. I never destroyed other people's property on purpose (like vandalism or setting fires). <b>RS</b>	SF	MF	MT	ST
15. I would never put down or shame someone in public even if they deserved it.	SF	MF	MT	ST
16. Before the age of 15, I was mean and hurt people or animals.	SF	MF	MT	ST
17. I have traveled around without a job, a clear goal, or a travel plan.	SF	MF	MT	ST
18. I guess you could say I was a juvenile delinquent.	SF	MF	MT	ST
19. It takes a lot to make me uptight. <b>RS</b>	SF	MF	MT	ST
20. It is a fact of life that sometimes you have to step on people or hurt people to get what you really want.	SF	MF	MT	ST
21. People consider me to be a rebel.	SF	MF	MT	ST
22. I have been mean in order to control someone in my care.	SF	MF	MT	ST
23. I have little or no desire to have sex with another person.	SF	MF	MT	ST
24. Before the age of 15, I often skipped school.	SF	MF	MT	ST
25. I have never forced anyone to have sex with me. <b>RS</b>	SF	MF	MT	ST
26. I have lived without a mailing address for more than one month.	SF	MF	MT	ST
27. I have never stolen from someone face-to-face (like mugging or robbing someone). <b>RS</b>	SF	MF	MT	ST
28. I tell lies a lot.	SF	MF	MT	ST
29. It takes a lot to bug me. <b>RS</b>	SF	MF	MT	ST
30. I would lie to hurt someone if I felt that they deserved it.	SF	MF	MT	ST

**SF(1) = Strongly False, MF(2) = More False than True, MT(3) = More True than False, and ST(4) = Strongly True**

31. People have told me that I am too picky.	SF	MF	MT	ST
32. I would never frighten others to get them to do things I want them to do. <b>RS</b>	SF	MF	MT	ST
33. I have been sexually faithful to one person for more than one year. <b>RS</b>	SF	MF	MT	ST
34. I have never been accused of hurting, neglecting, or mistreating a child. <b>RS</b>	SF	MF	MT	ST
35. I have never been a bad parent. <b>RS</b>	SF	MF	MT	ST
36. When I lose a close friend, I feel finished or helpless. <b>RS</b>	SF	MF	MT	ST
37. I have gotten into trouble because of my drinking or drug problem.	SF	MF	MT	ST
38. I feel just fine if I hurt or treat someone badly.	SF	MF	MT	ST
39. I have used scams or conned people for money or pleasure.	SF	MF	MT	ST

**Borderline Personality Disorder Scale**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
40. My feelings don't change a lot. <b>RS</b>	SF	MF	MT	ST
41. I wonder who I am most of the time.	SF	MF	MT	ST
42. I can get sad pretty quickly.	SF	MF	MT	ST
43. I try hard to not be alone.	SF	MF	MT	ST
44. I feel strong emotional feelings.	SF	MF	MT	ST
45. I am more calm than other people. <b>RS</b>	SF	MF	MT	ST
46. My moods change quite fast.	SF	MF	MT	ST
47. People tell me that I am a cold person.	SF	MF	MT	ST

**SF(1) = Strongly False, MF(2) = More False than True, MT(3) = More True than False, and ST(4) = Strongly True**

48. I am very afraid of being left alone by someone.	SF	MF	MT	ST
49. I have said I would kill myself, or tried to, more than once in my life.	SF	MF	MT	ST
50. I've had a lot of temper tantrums.	SF	MF	MT	ST
51. I see myself as a person whose feelings are well controlled. <b>RS</b>	SF	MF	MT	ST
52. I seem able to change my feelings quickly.	SF	MF	MT	ST
53. I do not often feel empty or bad. <b>RS</b>	SF	MF	MT	ST
54. More than once, I have hurt myself badly on purpose, like cutting my wrists or smashing my fist against a wall.	SF	MF	MT	ST
55. Recently, I have felt like killing myself.	SF	MF	MT	ST
56. When I get stressed, I start to feel unreal, weird, or strange.	SF	MF	MT	ST
<b>Both ASPD and BPD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
57. I have gotten into at least one hitting fight in the past few years.	SF	MF	MT	ST
58. I usually have heavy and up and down relationships.	SF	MF	MT	ST
59. I am a person who has to do things right away.	SF	MF	MT	ST
60. I have been very thoughtless in my spending money, or sex, drug use, shoplifting, reckless driving, or binge eating.	SF	MF	MT	ST
61. My anger gets out of control easily.	SF	MF	MT	ST
62. I try not to get into physical fights. <b>RS</b>	SF	MF	MT	ST

**RS** denotes reverse score items.



## APPENDIX C

## PPI-R

This test measures different personality characteristics- that is, the ways in which people's personality styles make them different from each other. Read each statement carefully and decide *how false or true* it is as a description of you. Then, mark the best choice that corresponds to your answer on this form. Use the answer choices provided as follows: **F = False(1)**, **MF = Mostly False(2)**, **MT = Mostly True(3)**, **T = True(4)**. Even if you feel that a statement is neither false nor true about you, or if you are not sure which answer to choose, select the answer that is the *closest* to describing you. Try to be as honest as you can. Please be sure to give your *own* opinion about whether each statement is false or true about you. Remember, you have the right to leave any and/or all of the questions blank.

	1	2	3	4
1. If I really want to, I can persuade most people of almost anything.	F	MF	MT	T
2. When I meet people, I can often make them interested in me with just one smile.	F	MF	MT	T
3. Dangerous activities like skydiving scare me more than they do most people. <b>RS</b>	F	MF	MT	T
4. I have always seen myself as something of a rebel.	F	MF	MT	T
5. I hate having to tell people bad news. <b>RS</b>	F	MF	MT	T
6. Sometimes I wake up feeling nervous without knowing why. <b>RS – S.I.</b>	F	MF	MT	T
7. I like to act first and think later.	F	MF	MT	T
8. Sometimes I forget my name.	F	MF	MT	T
9. At times, I worry that I have hurt the feelings of others. <b>RS</b>	F	MF	MT	T
10. I am easily flustered in pressured situations. <b>RS – S.I.</b>	F	MF	MT	T
11. I tell a lot of "white lies."	F	MF	MT	T
12. I would find the job of a movie stunt person exciting.	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

13. When my life gets boring, I like to take chances.	F	MF	MT	T
14. I've never cared about society's "values of right and wrong."	F	MF	MT	T
15. I might like to hang out with people who "drift" from city to city with no permanent home.	F	MF	MT	T
16. If I'd had fewer bad breaks in life, I'd be more successful.	F	MF	MT	T
17. It would bother me to cheat on a test even if no one was hurt by it. <b>RS</b>	F	MF	MT	T
18. A lot of people have tried to "stab me in the back."	F	MF	MT	T
19. People's reactions to the things I do often are not what I would expect.	F	MF	MT	T
20. On big holidays, I never eat more than I should.	F	MF	MT	T
21. I find it hard to make small talk with people I don't know well. <b>RS</b>	F	MF	MT	T
22. I'm not good at getting people to do favors for me. <b>RS</b>	F	MF	MT	T
23. I get mad if I don't receive special favors I deserve.	F	MF	MT	T
24. I am hardly ever the center of attention. <b>RS</b>	F	MF	MT	T
25. It might be exciting to be on a plane that was about to crash but somehow landed safely.	F	MF	MT	T
26. I pride myself on being offbeat and different from others.	F	MF	MT	T
27. A lot of times, I worry when a friend is having personal problems. <b>RS</b>	F	MF	MT	T
28. I tend to get crabby and irritable when I have too many things to do. <b>RS – S.I.</b>	F	MF	MT	T
29. A lot of times, I repeat the same bad decisions.	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

30. I think that it should be against the law to badly injure someone on purpose. <b>RS</b>	F	MF	MT	T
31. I get mad when I hear about the injustices in the world. <b>RS</b>	F	MF	MT	T
32. I don't let everyday hassles get on my nerves. <b>S.I.</b>	F	MF	MT	T
33. I could be a good "con artist."	F	MF	MT	T
34. I have a talent for getting people to talk to me.	F	MF	MT	T
35. I like (or would like) to play sports with a lot of physical contact.	F	MF	MT	T
36. I might like to travel around the country with some motorcyclists and cause trouble.	F	MF	MT	T
37. I have never wished harm on someone else.	F	MF	MT	T
38. People usually give me the credit that I have coming to me. <b>RS</b>	F	MF	MT	T
39. If I want to, I can get people to do what I want without them ever knowing.	F	MF	MT	T
40. When I'm with people who do something wrong, I usually get the blame.	F	MF	MT	T
41. People are impressed with me after they first meet me.	F	MF	MT	T
42. I have no bad habits.	F	MF	MT	T
43. In conversations, I'm the one who does most of the talking.	F	MF	MT	T
44. I try to be the best at everything I do. <b>RS</b>	F	MF	MT	T
45. To be honest, I believe that I am more important than most people.	F	MF	MT	T
46. I feel sure of myself when I'm around other people.	F	MF	MT	T
47. Parachute jumping would really scare me. <b>RS</b>	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

48. I'd like to spend my life writing poetry in a commune.	F	MF	MT	T
49. I look out for myself before I look out for anyone else.	F	MF	MT	T
50. I am high-strung. <b>RS – S.I.</b>	F	MF	MT	T
51. When people lend me something, I try to get it back to them quickly. <b>RS</b>	F	MF	MT	T
52. Whenever I hear an airplane flying above me, I look down at the ground.	F	MF	MT	T
53. I often feel guilty about small things. <b>RS</b>	F	MF	MT	T
54. When I'm in a frightening situation, I can "turn off" my fear almost at will. <b>S.I.</b>	F	MF	MT	T
55. I'll break a promise if it's too hard to keep	F	MF	MT	T
56. I like to stand out in a crowd.	F	MF	MT	T
57. It would be fun to fly a small airplane by myself.	F	MF	MT	T
58. I like to dress differently from other people.	F	MF	MT	T
59. Every once in a while, I nod my head when people speak to me even though I'm not paying attention to them. <b>RS</b>	F	MF	MT	T
60. People "rake me over the coals" for no good reason.	F	MF	MT	T
61. In school or at work, I try to "stretch" the rules just to see what I can get away with.	F	MF	MT	T
62. I've often been betrayed by people I trusted.	F	MF	MT	T
63. The opposite sex finds me sexy and appealing.	F	MF	MT	T
64. I have never pretended to know something I didn't know.	F	MF	MT	T
65. I have a hard time standing up for my rights. <b>RS</b>	F	MF	MT	T
66. When a task gets too hard, I'll drop it and move on	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

to something else.

67. I enjoy seeing someone I don't like get into trouble.	F	MF	MT	T
68. I get embarrassed more easily than most people. <b>RS</b>	F	MF	MT	T
69. High places make me nervous. <b>RS</b>	F	MF	MT	T
70. I get restless when my life gets too predictable.	F	MF	MT	T
71. It would break my heart to see a poor or homeless person walking the streets at night. <b>RS</b>	F	MF	MT	T
72. Some people say that I am a "worry wart." <b>RS – S.I.</b>	F	MF	MT	T
73. I like having my vacations planned out. <b>RS</b>	F	MF	MT	T
74. I smile at a funny joke at least once in a while. <b>RS</b>	F	MF	MT	T
75. It bothers me a lot when I see someone crying. <b>RS</b>	F	MF	MT	T
76. I get stressed out when I'm "juggling" too many tasks. <b>RS – S.I.</b>	F	MF	MT	T
77. I like to (or would like to) wear expensive and "showy" clothing.	F	MF	MT	T
78. It's easy for me to go up to a stranger and introduce myself.	F	MF	MT	T
79. I would not like to be a race-car driver. <b>RS</b>	F	MF	MT	T
80. I don't care about following the "rules"; I make my own rules as I go along.	F	MF	MT	T
81. I never give an opinion unless I've thought it over carefully.	F	MF	MT	T
82. Few people in my life have taken advantage of me. <b>RS</b>	F	MF	MT	T
83. I don't take advantage of people even when it would be good for me. <b>RS</b>	F	MF	MT	T
84. I've been the victim of a lot of bad luck.	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

85. When people are mad at me, I usually win them over with my charm.	F	MF	MT	T
86. I sometimes put off unpleasant tasks. <b>RS</b>	F	MF	MT	T
87. I'm hardly ever the "life of the party." <b>RS</b>	F	MF	MT	T
88. I am careful when I do work that involves detail. <b>RS</b>	F	MF	MT	T
89. I've thought a lot about my long-term career goals. <b>RS</b>	F	MF	MT	T
90. Some people have gone out of their way to make my life difficult.	F	MF	MT	T
91. I would make a good actor.	F	MF	MT	T
92. I sometimes lie just to see if I can get someone to believe me.	F	MF	MT	T
93. I agree with the motto, "If you are bored with life, risk it."	F	MF	MT	T
94. If I had grown up during the 1960s, I would have been a "hippie."	F	MF	MT	T
95. I can honestly say that I've never met anyone I disliked.	F	MF	MT	T
96. I function well under stress. <b>S.I.</b>	F	MF	MT	T
97. I feel bad about myself after I tell a lie. <b>RS</b>	F	MF	MT	T
98. I get deeply attached to people I like. <b>RS</b>	F	MF	MT	T
99. People who know me well know they can depend and rely on me. <b>RS</b>	F	MF	MT	T
100. I feel that life has treated me fairly. <b>RS</b>	F	MF	MT	T
101. If I do something that gets me in trouble, I don't do it again. <b>RS</b>	F	MF	MT	T
102. I frequently have disturbing thoughts that become so powerful that I think I can hear claps of thunder	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

or crashes of cymbals inside my head.

103. I have to admit that I'm a bit of a materialist.	F	MF	MT	T
104. I like my life to be unpredictable and surprising.	F	MF	MT	T
105. I like to poke fun at established traditions.	F	MF	MT	T
106. I occasionally feel like giving up on difficult tasks. <b>RS</b>	F	MF	MT	T
107. When I'm stressed, I often see big, red, rectangular shapes moving in front of my eyes.	F	MF	MT	T
108. I push myself as hard as I can when I'm working. <b>RS</b>	F	MF	MT	T
109. I get very upset when I see photographs of starving people. <b>RS</b>	F	MF	MT	T
110. Ending a friendship is (or would be) very painful for me. <b>RS</b>	F	MF	MT	T
111. I haven't thought much about what I want to do with my life.	F	MF	MT	T
112. I'm sure some people would be pleased to see me fail in my life.	F	MF	MT	T
113. I hardly ever end up being the leader of a group. <b>RS</b>	F	MF	MT	T
114. I often lose patience with people when I have to keep explaining things.	F	MF	MT	T
115. I might like flying across the ocean in a hot-air balloon.	F	MF	MT	T
116. Many people see my political beliefs as "radical."	F	MF	MT	T
117. I occasionally feel annoyed at people. <b>RS</b>	F	MF	MT	T
118. I don't get nervous under pressure. <b>S.I.</b>	F	MF	MT	T
119. I worry about things even when there's no reason to. <b>RS - S.I.</b>	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

120. I do favors for people even when I know I won't see them again. <b>RS</b>	F	MF	MT	T
121. When I am doing something important, like taking a test or doing my taxes, I check it over first. <b>RS</b>	F	MF	MT	T
122. People I thought were my "friends" have gotten me into trouble.	F	MF	MT	T
123. I often put off doing fun things so I can finish my work. <b>RS</b>	F	MF	MT	T
124. When an important person is talking to me, I usually try to pay attention. <b>RS</b>	F	MF	MT	T
125. How much I like someone really depends on how much that person does for me.	F	MF	MT	T
126. Sometimes I do dangerous things on a dare.	F	MF	MT	T
127. Keeping the same job for most of my life would be dull.	F	MF	MT	T
128. I occasionally have bad thoughts about people who hurt my feelings. <b>RS</b>	F	MF	MT	T
129. When a friend says hello to me, I generally either wave or say something back. <b>RS</b>	F	MF	MT	T
130. I think long and hard before I make big decisions. <b>RS</b>	F	MF	MT	T
131. When someone is hurt by something I say or do, that's their problem.	F	MF	MT	T
132. I tell people only the part of the truth they want to hear.	F	MF	MT	T
133. I've learned from my big mistakes in life. <b>RS</b>	F	MF	MT	T
134. I get blamed for many things that aren't my fault.	F	MF	MT	T
135. It bothers me to talk in front of a big group of strangers. <b>RS</b>	F	MF	MT	T



**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

136. I quickly get annoyed with people who do not give me what I want.	F	MF	MT	T
137. If I were a firefighter, I would like the thrill of saving someone from the top of a burning building.	F	MF	MT	T
138. I would like to have a "wild" hairstyle.	F	MF	MT	T
139. Even when I'm busy, I never have second thoughts about helping people who ask for favors.	F	MF	MT	T
140. I can remain calm in situations that would make many other people panic. <b>S.I.</b>	F	MF	MT	T
141. I'm the kind of person who gets "stressed out" pretty easily. <b>RS - S.I.</b>	F	MF	MT	T
142. I cringe when an athlete gets badly injured during a game on TV. <b>RS</b>	F	MF	MT	T
143. I usually think about what I'm going to say before I say it. <b>RS</b>	F	MF	MT	T
144. Some people have made up stories about me to get me in trouble.	F	MF	MT	T
145. I watch my finances closely. <b>RS</b>	F	MF	MT	T
146. During the day, I see the world in color rather than in black-and-white. <b>RS</b>	F	MF	MT	T
147. To be honest, I try not to help people unless there's something in it for me.	F	MF	MT	T
148. I am a daredevil.	F	MF	MT	T
149. I would like to hitchhike across the country with no plans.	F	MF	MT	T
150. I have never exaggerated a story to make it sound more interesting.	F	MF	MT	T
151. Sometimes I go for several days at a time not knowing if I'm awake or asleep.	F	MF	MT	T

**F(1) = False, MF(2) = Mostly False, MT(3) = Mostly True, T(4) = True**

152. I try to use my best manners when I'm around other people. **RS**      F      MF      MT      T

153. I often place my friends' needs above my own. **RS**      F      MF      MT      T

154. If I can't change the rules, I try to get others to bend them for me.      F      MF      MT      T

**RS** denotes reverse score items.

**S.I.** denotes Stress Immunity Scale items that were removed upon scoring

## APPENDIX D

## LSRP

Please answer the following questions using the scale below. Remember, you have the right to leave any and/or all of the questions blank.

- 1= Disagree strongly  
 2= Disagree somewhat  
 3= Agree somewhat  
 4= Agree strongly

**Primary Psychopathy Scale**

- \_\_\_\_\_ 1. Success is based on survival of the fittest; I am not concerned about the losers.  
 \_\_\_\_\_ 2. For me, what's right is whatever I can get away with.  
 \_\_\_\_\_ 3. In today's world, I feel justified in doing anything I can get away with to succeed.  
 \_\_\_\_\_ 4. My main purpose in life is getting as many goodies as I can.  
 \_\_\_\_\_ 5. Making a lot of money is my most important goal.  
 \_\_\_\_\_ 6. I let others worry about higher values; my main concern is with the bottom line.  
 \_\_\_\_\_ 7. People who are stupid enough to get ripped off usually deserve it.  
 \_\_\_\_\_ 8. Looking out for myself is my top priority.  
 \_\_\_\_\_ 9. I tell other people what they want to hear so that they will do what I want them to do.  
 \_\_\_\_\_ 10. I would be upset if my success came at someone else's expense. **RS**  
 \_\_\_\_\_ 11. I often admire a really clever scam.  
 \_\_\_\_\_ 12. I make a point of trying not to hurt others in pursuit of my goals. **RS**  
 \_\_\_\_\_ 13. I enjoy manipulating other people's feelings.  
 \_\_\_\_\_ 14. I feel bad if my words or actions cause someone to feel emotional pain. **RS**  
 \_\_\_\_\_ 15. Even if I were trying very hard to sell something, I wouldn't lie about it. **RS**  
 \_\_\_\_\_ 16. Cheating is not justified because it is unfair to others. **RS**

**Secondary Psychopathy Scale**

- \_\_\_\_\_ 17. I find myself in the same kinds of trouble, time after time.  
 \_\_\_\_\_ 18. I am often bored.  
 \_\_\_\_\_ 19. I find that I am able to pursue one goal for a long time. **RS**  
 \_\_\_\_\_ 20. I don't plan anything very far in advance.  
 \_\_\_\_\_ 21. I quickly lose interest in tasks I start.  
 \_\_\_\_\_ 22. Most of my problems are due to the fact that other people just don't understand me.

- 1= Disagree strongly  
2= Disagree somewhat  
3= Agree somewhat  
4= Agree strongly

\_\_\_\_\_ 23. Before I do anything, I carefully consider the possible consequences. **RS**

\_\_\_\_\_ 24. I have been in a lot of shouting matches with other people.

\_\_\_\_\_ 25. When I get frustrated, I often "let off steam" by blowing my top.

\_\_\_\_\_ 26. Love is overrated.

**RS** denotes reverse score items.

## APPENDIX E

## BSRI

Rate yourself on each item, on a scale from 1 (never or almost never true) to 7 (always or almost always true). Remember, you have the right to leave any and/or all of the questions blank. **M = Male item, F = Female item, N = Neutral item**

	never or almost never true						always or almost always true
1. self-reliant(M)	1	2	3	4	5	6	7
2. yielding(F)	1	2	3	4	5	6	7
3. helpful (N)	1	2	3	4	5	6	7
4. defends own beliefs(M)	1	2	3	4	5	6	7
5. cheerful(F)	1	2	3	4	5	6	7
6. moody(N)	1	2	3	4	5	6	7
7. independent(M)	1	2	3	4	5	6	7
8. shy(F)	1	2	3	4	5	6	7
9. conscientious(N)	1	2	3	4	5	6	7
10. athletic(M)	1	2	3	4	5	6	7
11. affectionate(F)	1	2	3	4	5	6	7
12. theatrical(N)	1	2	3	4	5	6	7
13. assertive(M)	1	2	3	4	5	6	7
14. flatterable(F)	1	2	3	4	5	6	7
15. happy(N)	1	2	3	4	5	6	7
16. strong personality(M)	1	2	3	4	5	6	7
17. loyal(F)	1	2	3	4	5	6	7
18. unpredictable(N)	1	2	3	4	5	6	7

	never or almost never true					always or almost always true	
19. forceful(M)	1	2	3	4	5	6	7
20. feminine(F)	1	2	3	4	5	6	7
21. reliable(N)	1	2	3	4	5	6	7
22. analytical(M)	1	2	3	4	5	6	7
23. sympathetic(F)	1	2	3	4	5	6	7
24. jealous(N)	1	2	3	4	5	6	7
25. has leadership abilities(M)	1	2	3	4	5	6	7
26. sensitive to the needs of others(F)	1	2	3	4	5	6	7
27. truthful(N)	1	2	3	4	5	6	7
28. willing to take risks(M)	1	2	3	4	5	6	7
29. understanding(F)	1	2	3	4	5	6	7
30. secretive(N)	1	2	3	4	5	6	7
31. makes decisions easily(M)	1	2	3	4	5	6	7
32. compassionate(F)	1	2	3	4	5	6	7
33. sincere(N)	1	2	3	4	5	6	7
34. self-sufficient(M)	1	2	3	4	5	6	7
35. eager to soothe hurt feelings(F)	1	2	3	4	5	6	7
36. conceited(N)	1	2	3	4	5	6	7
37. dominant(M)	1	2	3	4	5	6	7
38. soft-spoken(F)	1	2	3	4	5	6	7
39. likable(N)	1	2	3	4	5	6	7

	never or almost never true					always or almost always true	
40. masculine(M)	1	2	3	4	5	6	7
41. warm(F)	1	2	3	4	5	6	7
42. solemn(N)	1	2	3	4	5	6	7
43. willing to take a stand(M)	1	2	3	4	5	6	7
44. tender(F)	1	2	3	4	5	6	7
45. friendly(N)	1	2	3	4	5	6	7
46. aggressive(M)	1	2	3	4	5	6	7
47. gullible(F)	1	2	3	4	5	6	7
48. inefficient(N)	1	2	3	4	5	6	7
49. acts as a leader(M)	1	2	3	4	5	6	7
50. childlike(F)	1	2	3	4	5	6	7
51. adaptable(N)	1	2	3	4	5	6	7
52. individualistic(M)	1	2	3	4	5	6	7
53. does not use harsh language(F)	1	2	3	4	5	6	7
54. unsystematic(N)	1	2	3	4	5	6	7
55. competitive(M)	1	2	3	4	5	6	7
56. loves children(F)	1	2	3	4	5	6	7
57. tactful(N)	1	2	3	4	5	6	7
58. ambitious(M)	1	2	3	4	5	6	7
59. gentle(F)	1	2	3	4	5	6	7
60. conventional(N)	1	2	3	4	5	6	7

**\*Note: Neutral (N) Scale removed upon scoring**



## APPENDIX F

## STAI

A number of statements which people have used to describe themselves are given below. Read each statement and then circle the appropriate value to the right of the statement to indicate how you *generally* feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel. Remember, you have the right to leave any and/or all of the questions blank.

	Almost Never	Sometimes	Often	Almost Always
1. I feel pleasant <b>RS</b>	1	2	3	4
2. I feel nervous and restless	1	2	3	4
3. I feel satisfied with myself <b>RS</b>	1	2	3	4
4. I wish I could be as happy as others seem to be	1	2	3	4
5. I feel like a failure	1	2	3	4
6. I feel rested <b>RS</b>	1	2	3	4
7. I am "calm, cool, and collected" <b>RS1</b>		2	3	4
8. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
9. I worry too much over something that really doesn't matter	1	2	3	4
10. I am happy <b>RS</b>	1	2	3	4
11. I have disturbing thoughts	1	2	3	4
12. I lack self-confidence	1	2	3	4
13. I feel secure <b>RS</b>	1	2	3	4
14. I make decisions easily <b>RS</b>	1	2	3	4

	Almost Never	Sometimes	Often	Almost Always
15. I feel inadequate	1	2	3	4
16. I am content <b>RS</b>	1	2	3	4
17. Some unimportant thought runs through my mind and bothers me	1	2	3	4
18. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
19. I am a steady person <b>RS</b>	1	2	3	4
20. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

**RS** denotes reverse score items.

## APPENDIX G

## BIDR

Using the scale of 1 to 7 below, write a number beside each statement to indicate how much you agree with it. Remember, you have the right to leave any and/or all of the questions blank.

Strongly							Strongly
Disagree							Agree
1	2	3	4	5	6	7	

**Self-Deceptive Enhancement Scale**

- \_\_\_\_\_ 1. My first impressions of people usually turn out to be right.
- \_\_\_\_\_ 2. It would be hard for me to break any of my bad habits. **RS**
- \_\_\_\_\_ 3. I don't care to know what people really think of me.
- \_\_\_\_\_ 4. I have not always been honest with myself. **RS**
- \_\_\_\_\_ 5. I always know why I like things.
- \_\_\_\_\_ 6. When my emotions are aroused, it biases my thinking. **RS**
- \_\_\_\_\_ 7. Once I've made up my mind, other people can seldom change my opinion.
- \_\_\_\_\_ 8. I am not a safe driver when I exceed the speed limit. **RS**
- \_\_\_\_\_ 9. I am fully in control of my own fate.
- \_\_\_\_\_ 10. It's hard for me to shut off a disturbing thought. **RS**
- \_\_\_\_\_ 11. I never regret my decisions.
- \_\_\_\_\_ 12. I sometimes lose out on things because I can't make up my mind soon enough. **RS**
- \_\_\_\_\_ 13. The reason I vote is because my vote can make a difference.
- \_\_\_\_\_ 14. My parents were not always fair when they punished me. **RS**
- \_\_\_\_\_ 15. I am a completely rational person.
- \_\_\_\_\_ 16. I rarely appreciate criticism. **RS**
- \_\_\_\_\_ 17. I am very confident of my judgments.
- \_\_\_\_\_ 18. I have sometimes doubted my ability as a lover. **RS**
- \_\_\_\_\_ 19. It's all right with me if some people happen to dislike me.
- \_\_\_\_\_ 20. I don't always know the reasons why I like to do things. **RS**

**Impression Management Scale**

- \_\_\_\_\_ 21. I sometimes tell lies if I have to. **RS**
- \_\_\_\_\_ 22. I never cover up my mistakes.
- \_\_\_\_\_ 23. There have been occasions when I have taken advantage of someone. **RS**
- \_\_\_\_\_ 24. I never swear.
- \_\_\_\_\_ 25. I sometimes try to get even rather than forgive and forget. **RS**
- \_\_\_\_\_ 26. I always obey laws, even if I'm unlikely to get caught.

- |  |          |   |          |
|--|----------|---|----------|
|  | Strongly |   | Strongly |
|  | Disagree |   | Agree    |
|  | 1        | 2 | 3        |
|  |          | 4 | 5        |
|  |          |   | 6        |
|  |          |   | 7        |
- 
- \_\_\_\_\_ 27. I have said something bad about a friend behind his or her back. **RS**
- \_\_\_\_\_ 28. When I hear people talking privately, I avoid listening.
- \_\_\_\_\_ 29. I have received too much change from a salesperson without telling him or her. **RS**
- \_\_\_\_\_ 30. I always declare everything at customs.
- \_\_\_\_\_ 31. When I was young I sometimes stole things. **RS**
- \_\_\_\_\_ 32. I have never dropped litter on the street.
- \_\_\_\_\_ 33. I sometimes drive faster than the speed limit. **RS**
- \_\_\_\_\_ 34. I never read sexy books or magazines.
- \_\_\_\_\_ 35. I have done things that I don't tell other people about. **RS**
- \_\_\_\_\_ 36. I never take things that don't belong to me.
- \_\_\_\_\_ 37. I have taken sick-leave from work or school even though I wasn't really sick. **RS**
- \_\_\_\_\_ 38. I have never damaged a library book or stole merchandise without reporting it.
- \_\_\_\_\_ 39. I have some pretty awful habits. **RS**
- \_\_\_\_\_ 40. I don't gossip about other people's business.

**RS** denotes reverse score items (Award 1 point for each "6" or "7" responses and 0 points for any other response)

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