

January 2015

Elaborating Borderline and Psychopathic Personality with the Computerized Adaptive Test of Personality Disorder in a Female Correctional Sample

Chelsea Sleep
Eastern Kentucky University

Follow this and additional works at: <https://encompass.eku.edu/etd>



Part of the [Mental Disorders Commons](#)

Recommended Citation

Sleep, Chelsea, "Elaborating Borderline and Psychopathic Personality with the Computerized Adaptive Test of Personality Disorder in a Female Correctional Sample" (2015). *Online Theses and Dissertations*. 317.
<https://encompass.eku.edu/etd/317>

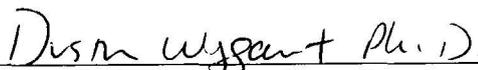
This Open Access Thesis is brought to you for free and open access by the Student Scholarship at Encompass. It has been accepted for inclusion in Online Theses and Dissertations by an authorized administrator of Encompass. For more information, please contact Linda.Sizemore@eku.edu.

Elaborating Borderline and Psychopathic Personality with the Computerized Adaptive
Test of Personality Disorder in a Female Correctional Sample

By

Chelsea Sleep

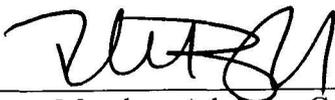
Thesis Approved:



Chair, Advisory Committee



Member, Advisory Committee



Member, Advisory Committee



Dean, Graduate School

STATEMENT OF PERMISSION TO USE

In presenting this thesis in partial fulfillment of the requirements for a Master's degree at Eastern Kentucky University, I agree that the Library shall make it available to borrowers under rules of the Library. Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of the source is made. Permission for extensive quotation from or reproduction of this thesis may be granted by my major professor, or in [his/her] absence, by the Head of Interlibrary Services when, in the opinion of either, the proposed use of the material is for scholarly purposes. Any copying or use of the material in this thesis for financial gain shall not be allowed without my written permission.

Signature Phyllis Steg

Date 4/23/15

Elaborating Borderline and Psychopathic Personality with the Computerized Adaptive
Test of Personality Disorder in a Female Correctional Sample

By

Chelsea Sleep

Bachelor of Arts
University of Kentucky
Lexington, Kentucky
2011

Submitted to the Faculty of the Graduate School of
Eastern Kentucky University
in partial fulfillment of the requirements
for the degree of
MASTER OF SCIENCE
May, 2015

Copyright © Chelsea E. Sleep, 2015
All rights reserved

DEDICATION

This thesis is dedicated to my parents,
Bob and Julie Sleep,
for their unconditional love and support.

ACKNOWLEDGMENTS

I would like to thank my mentor, Dr. Dustin Wygant, for all of the time he devoted to my professional development as well as his guidance and support throughout this process. I would also like to thank my other committee members, Dr. Robert Brubaker and Dr. Melinda Moore, for their guidance and assistance with this project. I also appreciate the advice and mentorship I received from my previous faculty mentors, Dr. Thomas Widiger, Dr. Jonathan Golding, and Dr. Richard Milich, as I feel that I would not have gotten as far in my academic career without their guidance. Finally, I would like to thank my family and fiancé, Jason Evans, for their encouragement and support.

ABSTRACT

Most of what we know about Psychopathic Personality Disorder (PPD) is based upon research with males. Considerably less research has examined female manifestations of the construct, however, some research suggests that Borderline Personality Disorder (BPD) may represent a female phenotypic expression of PPD, particularly among incarcerated offenders. The current study examined distinction and convergence between PPD and BPD. Utilizing a sample of 146 female correctional inmates as well as 109 female college students, the current study employed the Computerized Adaptive Test of Personality Disorder (CAT-PD) as well as other specific indices to explore the extent to which these two personality disorders overlap from a dimensional trait perspective, which the CAT-PD provides. Steiger's T-tests were calculated to determine whether there was a difference in the magnitude of the correlations between CAT-PD traits and these two personality disorders. Hierarchical linear regression analysis were also conducted to determine whether additional traits could augment the prediction of these two personality disorders beyond the selected traits in the DSM-5 alternative trait model, located in Section III of the DSM-5. Implications of these results in light of explaining the overlap between BPD and PPD among females are explained.

TABLE OF CONTENTS

CHAPTER	PAGE
I. Introduction.....	1
II. The Current Study	16
III. Method	17
IV. Results	22
V. Discussion	26
List of References	32
Appendices.....	44

LIST OF TABLES

TABLE	PAGE
1. Table 1	45
2. Table 2	46
3. Table 3	47
4. Table 4	48
5. Table 5	49

I. Introduction

Psychopathy is a personality disorder marked by deficits in affective processing (e.g., fearlessness, callousness), interpersonal relations (e.g., grandiosity, deceitfulness), and dysfunctional behavior (e.g., impulsivity; Hare & Neumann, 2008; Patrick et al., 2009). Historically, psychopathic personality disorder (PPD) has been conceptualized as “moral insanity” or as a “psychopathic inferiority” (see Pinel, 1801; Prichard, 1835; Koch, 1891; Kraepelin, 1915). In an attempt to reconcile the divergent manifestations of psychopathy, Karpman (1941) described two variants of psychopathy: primary and secondary. Primary psychopathy is largely characterized by deficits in interpersonal and affective features, in which the individual lacks anxiety. Conversely, secondary psychopathy mainly reflects socially deviant and impulsive behavior and is marked by anxiety (Poythress & Skeem, 2006). In addition, primary and secondary psychopaths diverge on the nature of their violence. In particular, primary psychopathy is less likely to be associated with reactive violence, but more likely linked with instrumental violence. On the other hand, secondary psychopaths are prone to relatively frequent, reactive violence (Poythress & Skeem, 2006). Although individuals with both primary and secondary psychopathy share traits as well as behaviors, the etiology of the disorders differ. Specifically, it is thought that primary psychopaths have an innate emotional deficit, whereas those with secondary psychopathy acquire psychopathic traits and behaviors through a subjection of adverse environments, such as abuse or neglect (Karpman, 1948). It is also thought that primary psychopaths are unable to change through treatment, however, secondary psychopaths do not lack the capacity for change (Karpman, 1955; Skeem et al., 2011). Nevertheless, there is skepticism within the

academic community as to whether the secondary variant of psychopathy is actually “true” psychopathy (Poythress & Skeem, 2006; Skeem & Cooke, 2010; Skeem et al., 2011).

Modern understandings of PPD are most directly derived from Hervey Cleckley’s (1941) classic text, *The Mask of Sanity*. Cleckley provided one of the most influential descriptions of PPD and is thus considered by many to be a pioneer within the realm of psychopathy. Specifically, he operationalized the disorder using 16 broad characteristics (e.g., Superficial Charm & Good Intelligence, Absence of Delusions and Other Signs of Irrational Thinking, Absence of Nervousness or Psychoneurotic Manifestations, Unreliability, Untruthfulness and Insincerity, Lack of Remorse & Shame, Inadequately Motivated Antisocial Behavior, Poor Judgment & Failure to Learn by Experience, Pathologic Egocentricity & Incapacity for Love, General Poverty in Major Affective Reactions, Specific Loss of Insight, Unresponsiveness in General Interpersonal Relations, Fantastic & Uninviting Behavior with Drink & Sometimes without, Suicide Threats Rarely Carried out, Sex Life Impersonal, Trivial & Poorly Integrated, and Failure to Follow Any Life Plan). In addition to his conceptualization of PPD, Cleckley described several vivid case studies. He alluded that psychopathic traits “mask” underlying personality psychopathology; this “mask” represents the tendency for psychopaths to appear more adjusted than the typical psychiatric patient. The psychopath is also initially regarded as likeable, however, his or her genuine, “darker” nature is exposed through sustained interaction (Patrick, 2006). Furthermore, the psychopath “carries disaster lightly in each hand,” but is “not deeply vicious” (Cleckley, 1955, p.33). Indeed, the “disaster” caused is generally precipitated by a shallow and reckless nature.

Another notable modern conceptualization of PPD derives from McCord and McCord (1964). Unlike Cleckley's conceptualization, their view of psychopathy is more disturbed and maladjusted, with salient features of hostile alienation, aggression, callousness, impulsivity, and parasitic exploitation (Skeem et al., 2011). Similarly to Cleckley, they asserted that the psychopath is reckless and only exhibits surface emotions. Additionally, although the McCords assert that severe, recurrent, and varied criminal behavior was commonly associated with PPD, they did not consider it to be synonymous with the construct (Hervè, 2007).

PPD has not been well described or represented in either previous or current versions of the Diagnostic and Statistical Manual of Mental Disorders (DSM). Rather, the closest phenotypic expression of it alluded to in the DSM is Antisocial Personality Disorder (ASPD). However, ASPD has been shown to be empirically distinct from PPD (Decuyper, DePauw, DeFruyt, DeBolle, & DeClercq, 2009). Behavioral indicators of ASPD include: failure to conform to social norms, deceitfulness, impulsivity, irritability or aggressiveness, irresponsibility, lack of remorse, and reckless disregard for safety of the self as well as others (APA, 2013). To obtain a diagnosis of ASPD, the individual must also be at least 18 years old and have had a history of conduct disorder before the age of 15. Broadly speaking, ASPD can be viewed as deficiencies related to disinhibition (e.g., impulsivity, negative affectivity) as well as to a certain degree, meanness (e.g., callousness, coldheartedness, antagonism). Nevertheless, ASPD departs from Cleckley's (1941) conceptualization from PPD, in that it lacks adequate coverage of the interpersonal and affective features central to Boldness (e.g., social dominance, low stress reactivity, thrill-adventure seeking), a significant feature of PPD, such that it has also

been found to be largely unrelated to ASPD (Venables, Hall, & Patrick, 2014). Therefore, Boldness is considered to be a key distinction between the two disorders (see Wall, Wygant, & Sellbom, 2015). ASPD and PPD also diverge in regards to their prevalence rates among incarcerated offenders. For instance, ASPD is estimated to be as high as 80%, whereas PPD accounts for 15-20% (Hare, Hart, & Harpur, 1991). Furthermore, as previously discussed, PPD has a strong etiological basis in neurobiology, particularly in the amygdala and prefrontal cortex (e.g., orbitofrontal, dorsal anterior cingulate) (Blair, 2007, 2008; Kiehl, 2006), whereas ASPD is not linked to a particular etiology. Rather, ASPD has been found to be related to antisocial parents and peers, male gender, minority race, poor parent-child relationship, non-specific deficits in executive and emotional functioning as well as low intelligence, academic achievement, and socioeconomic status (Farrington, 2006, Marsh & Blair, 2008, Morgan & Lilienfeld, 2000).

As previously stated, PPD is considered to be a heterogeneous construct; thus, there are several prominent conceptualizations. Perhaps the most widely recognized and used model of PPD is derived from Hare's (1980/1991/2003) two-factor model, which is measured by the Psychopathy Checklist-Revised (Hare, 2003). Specifically, the two higher order factors (Interpersonal/Affective and Social Deviance) are comprised of four facets: *Interpersonal* (e.g., Glibness/Superficial Charm, Grandiose Sense of Self-Worth, Pathological Lying, Conning Manipulative), *Affective* (e.g., Lack of Remorse or Guilt, Shallow Affect, Callous/Lack of Empathy, Failure to Accept Responsibility of Own Actions), *Lifestyle* (e.g., Need for Stimulation/Proneness to Boredom, Impulsivity, Irresponsibility, Parasitic Lifestyle, Lack of Realistic, Long-Term Goals), and *Antisocial* (e.g., Poor Behavior Controls, Early Behavior Problems, Juvenile Delinquency,

Revocation of Conditional Release, Criminal Versatility), respectively. Furthermore, two other items which contribute to one's PLC-R total score, but do not load on a particular facet are Promiscuous Sexual Behavior and Many Short-Term Marital Relationships (Hare & Neumann, 2008). Although taxometric analyses suggest that psychopathy is dimensional rather than categorical (see Edens, Marcus, Lilienfeld, & Poythress, 2006), PCL-R total scores can vary from 0 to 40, with a cut-score of 30 generally used to indicate the diagnostic presence of psychopathy. Given that this measure was developed utilizing criminal samples and subsequently designed for those samples, it lacks positive adjustment indicators; thus, it is more aligned with McCord and McCord's (1964) conception of psychopathy versus Cleckley's model (Skeem et al., 2011). Subsequently, researchers are very knowledgeable about the psychopathy in criminal samples, but not necessarily about the nature and scope of the construct itself (Skeem et al., 2011). Despite its predominance, concerns have been raised within the scientific community regarding making inferences about psychopathy based solely on the PCL-R (Skeem & Cooke, 2010). Therefore, alternative models of psychopathy have been raised.

Rather than utilizing a two-factor model, Cooke and Michie (2001) proposed a three-factor conceptualization of PPD. Using structural equation modeling, they posited that PPD maintained a superordinate factor, *Psychopathy*, and three, lower, supporting factors: *Arrogant and Deceitful Interpersonal Style*, *Deficient Affective Experience*, and *Impulsive and Irresponsible Behavioral Style*, respectively. This model diverges from traditional two-factor models in that rather than viewed together, affective and interpersonal features of PPD are independent constructs (Hare, 2003).

In contrast to the PCL-R, the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996; Lilienfeld & Widows, 2005), was developed in a nonclinical sample comprehensively based on traits represented in Cleckley's (1941) model. Furthermore, factor analysis of the measure has revealed two higher-order factors: *Fearless Dominance* (FD) and *Self-Centered Impulsivity*¹ (SCI; Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Lilienfeld & Widows, 2005; Skeem et al., 2011). Although still significant, the remaining subscale, Coldheartedness, has been found to be largely unrelated to the above higher-order factors; thus, it is considered to be a third factor of the PPI-R. FD is correlated with emotional stability, social efficacy, narcissism, thrill seeking, and diminished empathy (Benning et al., 2005; Benning Patrick, Salekin, & Leistico, 2005; Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006; Skeem et al., 2011). Conversely, SCI is more reflective of maladaptive dispositional and behavioral tendencies, such as aggressiveness, antisocial behavior, impulsivity, substance use, negative affect, dysphoria, and suicide ideation (Skeem et al., 2011). Finally, the remaining scale, Coldheartedness, reflects a callous nature and lack of guilt (Stanley, Wygant, & Sellbom, 2013).

Phenotypic expressions of PPD have also been viewed as a diverse constellation of dimensional personality traits (see Lynam, 2002; Miller, Lynam, Widiger, & Leukefeld, 2001; Widiger & Lynam, 1998). Specifically, the Five Factor Model (FFM) gauges personality psychopathology in relation to general personality (e.g., Miller, Maples, Few, Morse, Yaggi, & Pilkonis, 2010; Widiger & Simonsen, 2005; Widiger & Trull, 2007). In order to capture general personality, this model utilizes five broad

¹The 2nd factor was originally termed Impulsive Antisociality (IA), but was later changed to Self-Centered Impulsivity (SCI) on the PPI-R

domains (*Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness*), and each is composed of 6 facets. Using the FFM, PPD has been broadly characterized by low levels of *Agreeableness* and *Conscientiousness*, which is thought to be reflective of antagonism and poor impulse control (Lynam & Derefinko, 2005; Widiger & Lynam, 1998). Another measure, based off this model, designed to measure the basic components of PPD is the Elemental Psychopathy Assessment (EPA; Lynam, Gaughan, Miller, Miller, Mullins-Sweat, & Widiger, 2011). In a factor analysis among college students, Few, Miller, and Lynam (2013) found four higher order factors: *Antagonism* (e.g., Coldness, Distrust, Manipulation, Self-Centeredness, Callousness), *Emotional Stability* (e.g., Unconcern, Self-Contentment, Invulnerability), *Disinhibition* (e.g., Urgency, Thrill-Seeking, Oppositional, Disobliged, Impersistence, Rashness), and *Narcissism* (e.g., Self-Assurance, Anger, Dominance, Arrogance).

More recently, Patrick, Fowles, and Krueger (2009) proposed the Triarchic Model of psychopathy as a means of integrating persisting fundamental themes of current and historic accounts of the disorder. This model was developed to connect various conceptualizations of PPD to other broad dimensional models of general personality and psychopathology (Patrick & Drislane, 2014). The Triarchic model of PPD considers the disorder along three phenotypic, dimensional domains of *Boldness* (social dominance, low stress reactivity, and thrill-adventure seeking), *Meanness* (callousness, coldheartedness, and antagonism), and *Disinhibition* (impulsivity and negative affectivity) (Patrick, Drislane, & Strickland, 2012). Additionally, these three domains are associated with distinct developmental (e.g., difficult and fearless temperaments) as well as neurobiological (e.g., orbitofrontal cortex, limbic system) pathways (Patrick, Fowles,

& Krueger, 2009). According to this model, PPD is indicative when an individual is high in Disinhibition as well as high in either Meanness and/or Boldness, but not if he or she is high in only one of the above domains (Patrick & Drislane, 2014).

Despite these various conceptualizations, much of our understanding of the construct is based upon research using white males largely from North America. As such, the extent to which our current conceptualizations generalize to women, among other groups of people, is not well understood. Until recently, manifestations of PPD in women have been disregarded, and thus, much less is known about potential female manifestations of it (Verona & Vitale, 2006). Data on the generalization of PPD's factor structure from men to women has been historically mixed, such that additional analysis utilizing correctional as well as clinical samples is necessary (Skeem et al., 2011).

Female Variants of Psychopathy

Given that women exhibit overall lower base rates of physical aggression, it is thought that a phenotypic expression of PPD in women may be more associated with suicidal behaviors as well as other internalizing symptoms (Seveneche, Lehmkuhl, & Krischer, 2009; Skeem et al., 2011; Verona, Hicks, & Patrick, 2005). It is also thought that PPD is more likely to manifest in women through relational aggression, whereas in men, it can be behaviorally exhibited through physical aggression (Verona & Vitale, 2006). In particular, relational aggression is marked by malevolent behaviors intended to damage others' relationship, such as through spreading rumors, gossiping, and "backstabbing" (Crisk & Grotepeter, 1995; Skeem et al., 2011). Furthermore, another study found that in comparison to men, women were generally more violent within the home and tended target family members, however, they caused significantly less serious

injuries and were arrested less often following violent behavior (Robbins, Monahan, & Silver, 2003). This data suggests that the difference between violence exhibited by men and women is a result of varying context rather than underlying etiology. In particular, Cloninger, Reich, and Guze (1975) suggested and successfully demonstrated that “female hysteria, male sociopathy, and female sociopathy” are due to the same vulnerability, but can be viewed as increasingly severe manifestations.

Some research suggests Borderline Personality Disorder (BPD) may represent a phenotypic expression of PPD in women, particularly among female offenders (Cale & Lilienfeld, 2002; Sprague, Javdani, Sadeh, Newman, & Verona 2012). According to Linehan’s biosocial theory, it is thought that BPD is a disorder primarily arising from a dysfunction of the emotion regulation system and when paired with a dysfunctional or invalidating environment results in BPD (Linehan, 1993). Generally, BPD is characterized by a persistent pattern of intensely dysfunctional and chaotic interpersonal relationships as well as unstable self-image and emotions. This is paired with frantic efforts to avoid real or imagined abandonment (Bartholomew, Kwong, & Hart, 2001). BPD is further associated with disturbances in the capacity to maintain coherent representations of both current and past significant or intimate relationships, such that he or she oscillates between idealization & devaluation. Furthermore, these individuals often have a chaotic relationship history, are emotional unstable, and display impulsive as well as reactive behaviors, inappropriate anger, and suicidal/self-harm behaviors. Lastly, severe dissociative symptoms or paranoid ideation can manifest as a result of stress (APA, 2013).

Despite similarities, research examining both the convergence and distinction between BPD and PPD among women is sparse. Research in this area is complicated by the differential gender prevalence rates between BPD and PPD, with significantly higher rates for women in the former and men in the latter. However, although the disorders have a differential gender prevalence, their general prevalence rates remain similar (e.g., 1-2% general population; Neumann & Hare, 2008). These two distinct personality disorders also share a number of characteristics (e.g., aggression, manipulation, impulsivity) and risk factors (poor parental attachment style, child abuse; Goa et al., 2010; Zanarini, 2000). For instance, in a closer examination of trauma and PPD, researchers have found that a history of childhood abuse and/or neglect was associated with significantly higher PLC-R scores when compared to those who had not experienced abuse (Weiler & Widom, 1996). Specifically, Factor 2 (*Antisocial Behavior and Impulsivity*), but not Factor 1 (*Emotional and Interpersonal*) was related to childhood adversity (Harpur, Hare, & Hakstian, 1989). Sexual abuse has also been found to be more related to conduct problems and changes in affect (Talbot, Duberstein, King, Cox, & Guiles, 2001), whereas physical abuse is related with conduct problem and aggressiveness (Techachasen & Kolkijoven, 2001). Given the prevalence of women with BPD reporting childhood sexual abuse, it is suggestive that it is an important factor in the disorder's etiology. In particular, it was reported by 75% of BPD inpatients, while only 34% in other psychiatric inpatients (Bryer, Nelson, Miller, & Krol, 1987). Additionally, Trull (2001) found that sexual and physical abuse was linked with negative affectivity and disinhibition, which are key underlying factors in BPD. Thus, research has shown somewhat mixed findings as to the role of trauma and PPD, in part

due to the heterogeneous nature of PPD and the varying preferential emphasis of core features (Verona, Hicks, & Patrick, 2005).

Categorical versus Dimensional Models of Psychopathology

The DSM has utilized a categorical classification system to characterize psychopathology for more than 30 years (Wright & Simms, 2014). However, the categorical classification of personality psychopathology has traditionally been plagued with problems. In particular, it produces high rates of comorbidity among various, supposedly distinct conditions (Clark, Watson, & Reynolds, 1995), arbitrary boundaries between normal and abnormal personality traits (Widiger & Clark, 2000), as well as within disorder heterogeneity (Widiger, 1993). Moreover, categorical classification tends to result in a valuable information loss, due to arbitrary thresholds (Simms, Goldberg, Roberts, Watson, Welte, & Rotterman, 2011). In response to these limitations, recent developments among assessment and psychopathology researchers have emphasized examining dimensional models of personality psychopathology. Specifically, with the latest revision of the DSM, a dimensional trait model was proposed. Nevertheless, it was ultimately voted to retain the current categorical classification system and include this new model in the DSM-5 Section III: *Emerging Models and Measures*.

The Section III model departs from the Section II criterion-based categorical model in that it utilizes a hybrid system which emphasizes dimensional traits (APA, 2013). In particular, the DSM-5 Section III dimensional model is divided into seven criteria. Criterion A assesses personality specific impairments in personality functioning, such as through self (identity or self-direction) and interpersonal (empathy or intimacy)

functioning (APA, 2013). Criterion B maintains 25 pathological traits spread across five broad domains: *Negative Affectivity*, *Detachment*, *Antagonism*, *Disinhibition*, and *Psychoticism*. Additionally, the personality impairment must meet requirements for pervasiveness (Criterion C), stability (Criterion D), and should not be better accounted for by another mental disorder, substances, or developmental stage (Criterion E, F, G; APA, 2013). As a companion to Section III, the Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012) was developed to measure the proposed 25 maladaptive traits.

DSM-5 Section III Borderline and Antisocial Personality Disorders

Once criteria for an impairment is met (Criterion A), clinicians refer to the trait model to characterize the specific maladaptive personality traits. As stated above, each trait domain is comprised of specific facets, which allow for greater reliability of the personality disorder descriptions. Moreover, as a means to maintaining continuity with the DSM-5 Section II's categorical model, conceptually relevant traits are combined to define specific personality disorders, such as BPD and ASPD.

In Section III, BPD is broadly characterized as an “instability of self-image, personal goals, interpersonal relationships, and affects, accompanied by impulsivity, risk raking and/or hostility” (APA, 2013, p. 763). More specifically, a diagnosis of BPD is captured by: Emotional Lability, Anxiousness, Separation Insecurity, Depressivity (from the domain *Negative Affectivity*), Hostility (*Antagonism* domain), Impulsivity, and Risk Taking (*Disinhibition* domain). Given the conceptual shift from a categorical to a dimensional trait perspective, it is important to examine whether the proposed shifts in BPD's operationalization will result in unexpected negative consequences. Specifically, concerns have been raised that the shift may result in considerable differences in

prevalence rates, which can have deleterious effects on scientific theory as well as public health decisions (Samuel, Miller, Widiger, Lynam, Pilkonis, & Ball, 2012). However, in a study examining the convergence between the DSM-5 Section II and III's diagnostic criteria for BPD within a psychiatric sample, Sellbom, Sansone, Songer, and Anderson (2014) found that Section III was able to adequately capture traditional conceptualizations of the disorder. Sellbom and colleagues (2014) also found that other conceptually relevant traits (Perceptual Dysregulation and Suspiciousness) augmented the prediction of BPD. However, two of the seven proposed dimensional traits (Anxiousness and Impulsivity) did not uniquely contribute to the prediction of BPD. Further examination simulating the DSM-5 Section III trait model by utilizing traits from the five factor model also demonstrated that the model was able to capture a significant amount of BPD's variance (Miller, Morse, Nolf, Stepp, & Pilkonis, 2012).

According to the DSM-5 trait model, ASPD is largely regarded as “a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulateness, and/or risk taking” (APA, 2013, p. 763). Particularly, a diagnosis required six or more pathological traits found within the domains of *Antagonism* (e.g., Callousness, Deceitfulness, Manipulateness, Hostility) and *Disinhibition* (e.g., Impulsivity, Irresponsibility, Risk Taking). When compared to the DSM-5 Section II criterion-based conceptualization of ASPD, this model places preferential emphasis on latent personality traits rather than behaviors individuals exhibit (Anderson et al., 2014). In addition to the aforementioned traits, the DSM-5 Section III includes a Psychopathy Specifier (PS; e.g., ASPD, with Psychopathic Personality Traits). These traits, which are thought to have been otherwise

neglected in traditional operationalizations of ASPD, include low anxiousness, low withdrawal, and attention seeking. This inclusion represents a socially potent interpersonal style as well as high stress immunity. In an examination of the Section III model of ASPD and PPD in both a university and community sample, Anderson and colleagues (2014) found that the DSM-5 Section III trait profile for ASPD was more strongly associated with PPD than its Section II counterpart. Particularly, it demonstrated greater coverage of “core” traits of the disorder, such as affective and interpersonal deficiencies (Lilienfeld, 1994). However, the DSM-5 Section III trait model did not provide better coverage of disinhibitory traits linked with psychopathy than the Section II criteria. Furthermore, the PS was more strongly linked with other measures of psychopathy than the traditional Section II model. Similarly, Few, Lynam, Maples, MacKillop, and Miller (2015) found that the DSM-5 Section III conceptualization of PPD was more convergent with the construct of PPD. However, unlike Anderson and colleagues (2014), they found that the PS accounted for little unique variance, with the exception of measures of fearless dominance. Other research has also shown that PPD is adequately captured using the DSM-5 Section III hybrid model (see Anderson, Sellbom, Wygant, Salekin, & Krueger, 2014; Strickland, Drislane, Lucy, Krueger, & Patrick, 2013; Wygant & Sellbom, 2012; Yalch, Thomas, & Hopwood, 2012).

Although future research is still needed, current research has confirmed the ability of the Section III trait model to adequately capture both BPD and PPP, without a large conceptual shift.

The Computerized Adaptive Test of Personality Disorder (CAT-PD)

The Computerized Adaptive Test of Personality Disorder (CAT-PD; Simms, 2013) was developed similarly to the PID-5 and utilizes a dimensional framework to assess personality-based psychopathology by examining various underlying pathological personality traits. The CAT-PD project had two primary goals: to isolate an integrative, comprehensive set of higher- and lower-order personality traits and to create a computerized system, based on adaptive testing principles, to assess traits efficiently. The full CAT-PD is comprised of 33 scales 1,366 items, whereas the shorter static form has 212 items spanning the 33 scales. In an analysis of the CAT-PD, Wright and Simms (2014) demonstrated that there was a strong convergence between the CAT-PD and PID-5 domains, in conceptually coherent way, as well as a fairly large convergence with the NEO Personality Inventory-3 First Half (NEO-PI-3FH; McCrae & Costa, 2007). Thus, the CAT-PD can adequately capture the DSM-5 Section III trait model. Furthermore, the CAT-PD maintains scales that the PID-5 does not have (e.g., *Domineering, Norm Violation, Rudeness, Self-Harm*) and therefore may be more effective in measuring the Section III model due to its expanded coverage of relevant traits.

II. The Current Study

The current study is aimed at examining the degree of confluence and divergence between BPD (as indexed by the Personality Diagnostic Questionnaire-4 [PDQ-4], the Personality Assessment Inventory [PAI], and the Zanarini Rating Scale for Borderline Personality Disorder [ZAN-BPD]) and PPD (as indexed by the Self-Report Psychopathy Scale-III). In addition to specific measures to assess each disorder, researchers used the CAT-PD, which is a comprehensive model aimed at identifying underlying dimensional pathological personality traits. Given its breadth of coverage, it is an ideal model for exploring the shared and divergent traits underlying the links between BPD and PPD. The present study hypothesized that the disorders will overlap, but will also maintain unique features. In particular, it is projected that BPD and PPD will share traits related Disinhibition and Antagonism, but a divergence will be observed with features related to Negative Affectivity as well as Antagonism to a certain degree.

III. Methods

Participants and Procedures

The current study utilized data on 146 female inmates recruited from Kentucky Correctional Institution for Women (KCIW), a multiple-security prison in Kentucky approximately 95 miles from Eastern Kentucky University. This project is part of a larger data collection at the prison, which includes other measures of self-report psychopathology. Participants were obtained through the use of recruitment flyers, which were posted in each cell block at KCIW. An associate professor, who is a licensed clinical psychology, at Eastern Kentucky University (EKU) supervised data collection, which was collected by graduate and undergraduate research assistants.

The mean age of participants in the correctional sample was 34.3 (8.2 SD) with mean education of 11.5 years (2.1 SD). The sample was predominantly Caucasian (83.6%), with 7.5% identifying themselves as African-American, 6.8% bi-racial, and the remaining inmates (2.1%) identifying themselves as coming from other ethnic groups. Fifty-one percent of the sample were serving sentences for drug-related offenses (trafficking and drug use charges), 29.5% for violent offenses, 27.4% for probation violations, and 23.3% for property-related offenses. Some participants had multiple charges, thus the totals do not sum to 100%.

The current study also utilized data on 109 college undergraduates at Eastern Kentucky University. They mean age of the undergraduate sample was 20.8 (5.1 SD). The sample was also predominately Caucasian (89%), with 5% identifying as African-American, 4% Latina, and 1% Bi-racial. Both samples were combined for analysis, and thus total sample size was 255.

Measures

Borderline Scale of the Personality Diagnostic Questionnaire-4 (PDQ-4; Hyler, 1994). The PDQ is a self-report measure of personality psychopathology. Items are scored as either true or false for the individual. BPD scale is comprised of nine-items, which are representative of the DSM-IV BPD diagnostic criteria. Scores of five or higher are thought to be highly indicative of a diagnosis of BPD. The BPD scale exhibited adequate internal consistency in the current sample, with a Cronbach's alpha of .72. The PDQ-4 has been found to be a useful screening tool for BPD in a variety of settings (see Hyler, et al., 1990; Johnson & Bornstein, 1992; Patrick et al., 1995; Sellbom et al., 2014).

Borderline Scale of the Personality Assessment Inventory (PAI; Morey, 2007). This scale within the PAI is a 24-item measure of maladaptive personality traits consistent with Borderline Personality Disorder. The BPD scale is 24 items which load into a total score and four subscales (Affective Instability, Identity Problems, Negative Relationships, and Self-Harm). Responses are endorsed to be either False/Not at all True, Slightly True, Mainly True, or Very True. The PAI has been shown to be a reliable measure of personality psychopathology and has exhibited good internal consistency in the current sample ($\alpha=.90$).

Computerized Adaptive Test of Personality Disorder Static Form (CAT-PD-SF; Simms, 2013). The CAT-PD-SF is a brief measure (216-items) drawn from the full CAT-PD item pool, which utilizes a dimensional based approach to assess personality based pathology by examining various underlying pathological personality traits. Similarly to the full CAT-PD, the static form continues to employ 33 scales and exhibited good

internal consistency in the current sample, ranging from .65 (Manipulativeness) to .91 (Self-Harm) and an average alpha coefficient of .81. Responses are scored on a 5-point Likert scale ranging from 1 (*very untrue of me*) to 5 (*very true of me*).

Self-Report Psychopathy Scale-III (SRP-III; Paulhus et al., in press). The SRP-III is a 64-item measure of psychopathy, which loads into a total score and two factors, Interpersonal-Affective ($\alpha = .90$) and Impulsive-Antisocial ($\alpha = .91$), representative of the Psychopathy Checklist-Revised (PCL-R; Hare, 2003). In the current sample, the SPR-III exhibited excellent internal consistency ($\alpha = .95$). Participants rate the degree to which they concur with various statements regarding themselves on a 5-point Likert Scale, with a 1 representing *Disagree Strongly* and 5 meaning *Agree Strongly*.

Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD; Zanarini, 2003). The ZAN-BPD is a 9-item measure of BPD adapted from the Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini, Frankenburg, Chauncy, & Gunderson, 1987). This measure reflects a 1-week time frame, in which each of the items are rated on a five-point scale, with values ranging from 0 to 4. The ZAN-BPD exhibited good internal consistency in the current sample, with an alpha of .86.

Proposed Hypotheses and Data Analysis

In order to assess BPD, the raw scores of each measure of Borderline were transformed into standardized scores (z). Next each standardized score (z) was averaged to compute a single standardized score for BPD.

In terms of specific hypotheses (in Roman numerals), given the research discussed earlier, this project will begin by examining the shared and unique underlying

traits (as captured by the CAT-PD) between the BBP and ASPD/PPD as defined by the DSM-5 Section III trait model. The following results are anticipated:

- I. The following traits on the CAT-PD will likely exhibit moderate to strong associations with both BPD and PPD: Anxiousness, Hostile Aggression, Non-Planfulness, and Risk Taking. Given that these traits should be associated with both constructs (BPD and PPD), there should not be a significant difference in the magnitude of the correlations with each construct.
- II. The following traits on the CAT-PD will likely show a stronger association with BPD relative to PPD: Affective Lability, Relationship Insecurity, and Depressiveness.
- III. The following traits on the CAT-PD will likely show a stronger association with PPD relative to BPD: Callousness, Manipulativeness, Irresponsibility, Exhibitionism, and Social Withdrawal.

The magnitude of the correlations between the CAT-PD traits and BPD and ASPD/PPD will be compared using Steiger's T-tests. Steiger's (1980) t-test for dependent correlations was used for all comparisons of correlation magnitudes (CAT-PD scales with BPD and PPD).

Next, regression analyses were used to explore whether additional CAT-PD traits beyond the DSM-5 Section III traits selected for ASPD and BPD could be used to capture these two clinical constructs. Additional CAT-PD traits were rationally selected for their relevance to the clinical constructs (e.g., Self-Harm in predicting BPD). These traits were analyzed both at the zero-order correlation level as well as their unique variance in the regression. These regressions will utilize a hierarchical format, where the DSM-5 Section

III traits selected for BPD and PPD were entered into the first block of the regression. The additional traits were entered into the second block of the regression to determine whether they added incrementally in the prediction. An F-statistic was calculated to determine whether variance captured in subsequent blocks of the regression model added a significant increment.

Finally, should additional traits on the CAT-PD add incrementally to the prediction of BPD and PPD, Steiger's T-tests will compare their relative correlations with these two constructs.

IV. Results

Correlations and Steiger's T-tests

Partial-order correlations were calculated between CAT-PD traits (reflecting the Section III Trait Model of BPD), the BPD standardized score, and SRP-III total score when controlling for age. Specifically, Table 1² shows the correlations and Steiger's T-test scores for the BPD Section III Trait Model, as captured by the CAT-PD traits, in relation to BPD standard and SRP-III scores. Results showed that CAT-PD traits capturing the Section III Trait Model of BPD were more strongly associated with BPD score rather than SRP-III total scores for Affective Liability, Anxiousness, Relationship Insecurity, and Depressiveness (*ts* ranged from 4.10 to 8.30, *ps* < .01). There was no significant difference on the BPD trait of Non-Planfulness in terms of its association with BPD and SRP-III scores (*t* = -1.94, *p* > .05). Hostile Aggression and Risk Taking were significantly more associated with the SRP-III than BPD (*t* = -2.81 and -2.46, respectively, *ps* < .01).

Partial-order correlations were also calculated between CAT-PD traits characterizing ASPD/PPD (as measured by the Section III Trait Model) with the SRP-III total score and the BPD standardized score. Steiger's T-test score were once again calculated to determine whether there was a significant difference between correlations of the trait model and SRP-III total score or those with the BPD score. Results shows that when examining traits reflecting the ASPD/PPD trait model, only Hostile Aggression and Risk Taking were more associated with SRP-III total scores than BPD (*t* = -2.81 and -2.46, respectively, *ps* < .01). There were no significant differences in the magnitude of

² All tables are located in the appendix.

the correlations with BPD and SRP-III scores for Callousness, Manipulativeness, Non-Planfulness, and Irresponsibility (t s ranged from 0.00 to -1.94, $ps > .05$). Examining the PS, Anxiousness and Social Withdrawal were significantly more associated with BPD rather than SPR-III total scores ($t = 8.30$ and 2.92 , respectively, $ps < .01$). Exhibitionism (capturing DSM-5 Section III Attention Seeking) was approximately equally associated with BPD and SRP-III scores ($t = -.18$, $p > .05$). These results are found in Table 2.

Partial-order correlations were also calculated between other conceptually relevant CAT-PD traits related to ASPD/PPD and BPD with the SRP-III total score and the BPD standardized score (see Table 3). Steiger's T-test score were once again calculated to determine whether there was a significant difference between correlations of the conceptually relevant traits for each disorder and SRP-III total score or those with the BPD score. Results shows that when examining traits relevant to BPD, Anger, Self-Harm, & Unusual Experiences were all more strongly associated with BPD than with PPD (t s ranged from 3.5 to 10.1, $ps < .01$). Conversely, when examining traits conceptually relevant to PPD, Grandiosity, Rudeness, and Norm Violation were found to be more strongly associated with PPD than BPD (t s ranged from 2.0 to 4.3, $ps < .01$). However, when examining Mistrust, it exhibited a significantly stronger association with BPD rather than with PPD ($t = 2.1$, $ps < .05$).

Regression Analysis

A hierarchical linear regression analysis was conducted to determine the extent to which the CAT-PD traits, representative of the Section III Trait Model for BPD, and other conceptually relevant traits account for the standardized BPD score (see Table 4). The BPD standard score represented a dimensional dependent variable in the regression

equation. CAT-PD traits representing Section III BPD were entered into the first block of the regression equation to account for the BPD variance predicted by the trait model. Other conceptually relevant traits of the CAT-PD were entered into the second block of the regression equation to determine their incremental prediction of BPD (beyond the trait model). Incremental validity was measured by the change in variance (e.g., R^2) accounted in the dependent variable (BPD standard score) by the predictor variables. R^2 change was examined via an F test to determine whether the increments at each block of the regression equation were statistically significant. Results showed that CAT-PD traits capturing the trait model accounted for 72% of the variance ($p < .001$) in predicting BPD scores. Other conceptually relevant traits added 6% of additional variance ($p < .001$), which was a significant increment, F change = 13.57, $p < .001$. In the final regression model, several CAT-PD scales exhibited significant unique predictions, including, Relationship Insecurity ($\beta = .23, p < .001$), Anger ($\beta = .22, p < .001$), Non-Planfulness ($\beta = .18, p < .001$), Self-Harm ($\beta = .17, p < .001$), Anxiousness ($\beta = .14, p = .002$), and Unusual Experiences ($\beta = .13, p = .003$).

Another hierarchical linear regression analysis was conducted to determine the extent to which the CAT-PD traits, representative of the Section III Trait Model for ASPD/PPD, and other conceptually relevant traits account for the SRP-III total score. The CAT-PD traits characterizing Section III ASPD/PPD were entered into the first block of the regression equation to account for the PPD variance predicted by the trait model. Next, PS traits were entered into the second block to determine their relative incremental prediction of PPD (beyond the ASPD traits). Finally, other conceptually relevant traits of the CAT-PD were entered into the third block of the regression equation to determine the

extent to which they augmented the prediction of PPD, as measured by the SRP-III. Incremental validity was once again measured by the change in variance (e.g., R^2) accounted in the dependent variable (SRP-III total score) by the predictor variables. Similarly, the significance of R^2 change was examined via an F test. Results showed that CAT-PD traits capturing the Section III Trait Model of ASPD/PPD accounted for 63% of the variance ($p < .001$) in predicting SRP-III total scores. The PS accounted for an additional 1% of variance, which was a significant increment, F change = 3.13, $p = .026$. Other conceptually relevant traits added 9% of additional variance (F change = 13.25, $p < .001$). In the final regression model, Norm Violation ($\beta = .39, p < .001$), Mistrust ($\beta = .18, p < .001$), Hostile Aggression ($\beta = .16, p = .006$), Risk Taking ($\beta = .14, p = .010$), Grandiosity ($\beta = .11, p = .024$), and Rudeness ($\beta = .10, p = .032$) were significant predictors of SRP-III total scores. These results are found in Table 5.

V. Discussion

The current study aimed to explore the links between BPD and PPD from a dimensional trait perspective as measured by the CAT-PD. Much of the PPD literature to date has been conducted in male populations, and thus, female variants of the disorder are not well understood. The addition of the Section III trait model in the DSM-5 offers the opportunity to explore the distinctness of these two disorders. Previous research has suggested that BPD may be a phenotypic expression of PPD in females (Cale & Lilienfeld, 2002). Indeed, the two disorders maintain four shared traits in the DSM-5 Section III Model (e.g., Hostility, Impulsivity, Irresponsibility, Anxiousness elevated in BPD and low in PS) as well as general prevalence rates, similar symptoms, and risk factors (Sprague et al., 2012).

Results suggested that internalizing (Affective Lability, Anxiousness, Depressiveness) and interpersonal (Relationship Insecurity) traits of BPD were significantly more associated with BPD than PPD. In addition, results exhibited a less clear pattern for the traits defining PPD. Specifically, externalizing traits on the CAT-PD (Hostile Aggression, Non-Planfulness, and Risk-Taking) were more strongly associated with PPD than BPD. However, the PS was found to be largely unrelated to PPD, but was related to BPD. This pattern of results was unsurprising given that the SPR-III is a measure of Hare's two factor theory of PPD, which does not represent features of boldness or fearless dominance well. Thus, the PS, which is essentially a measure of the two aforementioned features, was found to be virtually unrelated to PPD in this study. However, Anxiousness and Social Withdrawal of the PS were found to be associated with BPD in this sample because each are characteristic of negative emotionality, which is

considered to be a key component of BPD. Specifically, both of these scales, as captured by the CAT-PD, are measuring features of interpersonal anxiety and avoidance. When framing these results within the context of BPD, this can be exhibited through the oscillation between fears of real or imagined abandonment. Hence, individuals with BPD may avoid relationships with others due to latent fears or anxiety related to abandonment from others.

Additional conceptually relevant CAT-PD traits were able to provide a clearer differentiation between the two disorders. In particular, Anger, Self-Harm, and Unusual Experiences were more associated with BPD, whereas Grandiosity, Rudeness, and Norm Violations were more strongly associated with PPD. Each of the three aforementioned traits were thought to be more related to BPD because they capture various features essential to its nature. For instance, Anger captures the tendency for an individual to exhibit explosive rage, which is evident in BPD's diagnostic criteria, but is not captured as well through the CAT-PD's scale Hostile Aggression. In particular, it is thought that Anger better captures disinhibited, volatile features of the rage, whereas Hostile Aggression measures a pattern of instrumental or reactive aggression as well as a tendency to be vindictive or sadistic. Additionally, when examining Self-Harm and Unusual Experiences, both of these features are captured by BPD's diagnostic criteria (e.g., transient stress induced dissociative states, recurrent suicidal behavior or self-mutilating behavior), but are not paralleled by the Section III trait model. When examining the three aforementioned traits found to be more related to PPD, once again these results are not surprising, particularly because they measure features of entitlement,

arrogance, interpersonal insensitivity, and a pattern of defiant behavior as well as norm violation, which are known to be associated with PPD.

Although Mistrust added unique variance to the prediction of PPD, it did not augment the prediction of BPD. However, when examining its association with both disorders, Mistrust was found to be more strongly associated with BPD than PPD. These results were expected because the trait model of PPD does not represent features of interpersonal suspiciousness, whereas given that BPD is more relational in nature, it is suspected that Mistrust was unable to account for unique various beyond that which was accounted for by Relationship Insecurity. Additionally, as previously indicated, BPD is a multifaceted disorder, which has internalizing, externalizing, thought dysfunction, and interpersonal features. Therefore, when examining its relation with other conceptually relevant traits, not captured by the trait model, it is not surprising that BPD exhibited a relationship with traits representing those various components. Thus, BPD may have exhibited a relationship with Mistrust because it measures features of interpersonal suspiciousness, which is associated with various symptoms of BPD.

The current findings have some implications for the role of BPD as a phenotypic expression of PPD among female offenders. The trait model suggests and the results of the current investigation support that the two disorders are similarly related to features of Hostile Aggression, Non-Planfulness, Risk-Taking, Callousness, Manipulativeness, Irresponsibility, and Social Withdrawal. However, features of externalizing behavior were found to be more strongly related to PPD. One interpretation of the present findings necessitates consideration to the essence and intricacy of BPD's symptoms. For instance, in this disorder, an individual will vacillate between behavioral and emotional poles, such

as from intensely emotional, hostile, and disinhibited reactivity to calculating, detached, and emotionally restrictive behavior (Linehan, 1993). In women, these behaviors are generally associated with internalizing symptoms exhibited through interpersonal and other intimate contexts (Skeem et al., 2011; Sprague et al., 2012; Verona, Hicks, & Patrick, 2005), whereas PPD is primarily linked with externalizing features. Thus, PPD may be preferentially expressed through externalizing behaviors in men and internalization in women (Verona & Vitale, 2006).

In another study, Sprague and colleagues (2012) found that BPD and PPD converged in women and potentially reflected a gendered phenotypic expression of similar dispositional vulnerabilities. They found that an interaction of Interpersonal-Affective and Impulsive-Antisocial factors of PPD were also associated with BPD among incarcerated females. In particular, Sprague and colleagues (2012) note that women exhibit this externalizing behavior towards acquaintances and intimates, which is commonly associated with BPD, whereas men direct externalization towards strangers, which is captured through traditional notions of ASPD/PPD. These findings related to women's externalizing tendencies similarly support the notion that BPD may reflect a phenotypic expression of PPD in women. Once again, this fits with the current study's findings that traditional notions of externalizing behavior, captured by the SRP-III are associated with PPD, whereas when exhibited by women, it is captured through interpersonal and internalizing CAT-PD traits, such as Affective Lability, Anxiousness, Depressiveness, Self-Harm, and Relationship Insecurity.

Overall, the findings illuminate both the unique features as well as links between PPD and BPD, and extend our understandings of the clinical presentation of PPD among

female offenders. The current study also bears significant implications for future revisions of the DSM to more fully capture these personality disorders with the alternative trait model. For instance, in line with recent research by Anderson and colleagues (2014), future revisions to BPD in the trait model might include traits related to psychoticism. In addition, the present results have implications for legal and clinical practice, in that various expressions of PPD may differ in risk of violence and treatment responsivity (Sprague et al., 2012). In particular, individuals with PPD are considered to be inalterable and are often viewed upon with therapeutic pessimism (Skeem et al., 2011), whereas Dialectical Behavior Therapy (DBT) has had considerable empirical support in the treatment of BPD (Linehan, 1993). Thus, if the BPD can be viewed as a phenotypic manifestation of PPD among females, than perhaps DBT can be similarly utilized in the treatment of PPD, but this remains an empirical question for future research to elucidate.

Limitations and Future Directions

These results must be considered in light of several limitations. First, the sample may not be generalizable to other populations as it was all female and geographically limited. Secondly, the sample was relatively small and therefore more data should be collected for greater statistical power. Additionally, the data was limited to self-report, and thus due to shared method variance, correlations were inflated. Despite these limitations, the current investigation is associated with certain significant strengths. In particular, as previously stated, the trait model published in the DSM-5 affords the opportunity to explore underlying trait profiles associated with various personality disorders, which have been shown to be heterogeneous constructs in nature. In light of its

expanded coverage of relevant traits over the PID-5, which is the only other self-report measure developed to index this trait model, the CAT-PD was found to be particularly effective in this effort. Specifically, it offers a unique assessment of personality disorders (in relation to the PID-5) due to several additional scales (e.g., self-harm, norm violations) that are not directly captured by the Section III trait model.

Future research should extend the investigation into different populations, such as male inmates as well as other individuals recruited from more diverse geographic locations. Additionally, given that research has shown that BPD may be a female variant of PPD, future research should also examine the extent to which gender may moderate the difference between a diagnoses of BPD versus PPD. Specifically, future research should explore and compare the degree to which PPD and BPD overlap among male and female offenders. Future research should also examine the role of personality functioning (Section III Criterion A) in relation to the overlap of the two disorders.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders, Fifth Edition*. Washington, DC: American Psychiatric Association.
- Anderson, J.L., Sellbom, M., Wygant, D.B., Salekin, R.T., & Krueger, R.F. (2014). Examining the associations between DSM-5 Section III antisocial personality disorder traits and psychopathy in community and university samples. *Journal of Personality Disorders, 28*, 675-697.
- Bartholomew, K., Kwong, M.J., & Hart, S.D. (2001) Attachment. In *Handbook of Personality Disorders: Theory, Research, and Treatment* (Ed. W.J. Livesley), pp. 196-230. New York, NY: the Guilford Press.
- Benning, S.D., Patrick, C.J., Blonigen, D.M., Hicks, B.M., & Iacono, W.G. (2005). Estimating facets of psychopathy from normal personality traits: A step toward community-epidemiological investigations. *Assessment, 12*, 3-18.
- Benning, S.D., Patrick, C.J., Hicks, B.M., Blonigen, D.M., & Krueger, R.F. (2003). Factor structure of the Psychopathic Personality Inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15*, 340-350.
- Benning, S.D., Patrick, C.J., Salekin, R.T., & Leistico, A.R. (2005). Convergent and discriminant validity of psychopathy factors assessed via self-report: A comparison of three instruments. *Assessment, 12*, 270-289.
- Blair, R.J.R. (2007). The amygdala and ventromedial prefrontal cortex in morality and psychopathy. *Trends in Cognitive Science, 11*, 387-392.
- Blair, R.J.R. (2008). The cognitive neuroscience of psychopathy and implications for judgments of responsibility. *Neuroethics, 1*, 149-157.

- Bryer, J.B., Nelson, B.A., Miller, J.B., & Krol, P.A. (1987). Childhood sexual and physical abuse as factors in adult psychiatric illness. *American Journal of Psychiatry, 144*, 1426-1430.
- Cale, E.M. & Lilienfeld, S.O. (2002) Sex differences in psychopathy and antisocial personality: A review and integration. *Clinical Psychology Review, 34*, 1179-1207.
- Clark, L.A., Watson, D., & Reynolds, S. (1995). Diagnosis and classification of psychopathology: Challenges to the current system and future directions. *Annual Review of Psychology, 46*, 121-153.
- Cleckley, H. (1941). *The mask of sanity*. (1st Ed.). St. Louis, MO: Mosby.
- Cleckley, H. (1941). *The mask of sanity*. (3rd Ed.). St. Louis, MO: Mosby.
- Cloninger, C.R., Reich, T., & Guze, S.B. (1975). The multifactorial model of disease transmission: II. Sex differences in the familia transmission of sociopathy (antisocial personality). *British Journal of Psychiatry, 127*, 11-22.
- Cooke, D.J., & Michie, C. (2001). Refining the construct of psychopathy: Towards a hierarchical model. *Psychological Assessment, 13*, 171-188.
- Crick, N.R., & Grotpeter, J.K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development, 66*, 710-722.
- Decuyper, M., DePauw, S., DeFruyt, F., DeBolle, M., & DeClercq, B. (2009). A meta-analysis of psychopathy, antisocial PD, and FFM associations. *European Journal of Personality, 23*, 531-565.
- Farrington, D.P. (2006). Family background. In C.J. Patrick (Ed.), *Handbook of psychopathy* (pp. 229-250). New York, NY: Guilford Press.

- Few, L.R., Lynam, D.R., Maples, J.L., MacKillop, J. and Miller, J.D. (2015). Comparing the utility of DSM-5 section II and III antisocial personality disorder diagnostic approaches for capturing psychopathic traits. *Personality Disorders: Theory, Research, and Treatment, 6*, 64-74.
- Few, L.R., Miller, J.D., & Lynam, D.R. (2013). An examination of the factor structure of the Elemental Psychopathy Assessment. *Personality Disorders: Theory, Research, and Treatment, 4*, 247-253.
- Gao, Y. Y., Raine, A. A., Chan, F. F., Venables, P. H., & Mednick, S. A. (2010). Early maternal and paternal bonding, childhood physical abuse and adult psychopathic personality. *Psychological Medicine, 40*, 1007-1016.
- Hare, R.D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Journal of Personality and Individual Differences, 1*, 111-119.
- Hare, R.D. (1983). Diagnosis of antisocial personality disorder in two prison populations. *American Journal of Psychiatry, 140*, 887–890.
- Hare, R.D. (1991/2003). *The Psychopathy Checklist-Revised manual* (2nd Ed.). Toronto, Ontario, Canada: Multi-health Systems.
- Hare, R.D. & Hart, S.D. (1995). Commentary on the DSM-IV antisocial personality disorder field trial. In W. J. Livesley (Ed.), *The DSM-IV Personality Disorders* (pp. 127–134). Guilford Press: New York.
- Hare, R.D., Hart, S.D., & Harpur, T.J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology, 100*, 391-398.
- Hare, R.D., & Neumann, C.S. (2008). Psychopathy as a clinical and empirical construct. *Annual Review of Clinical Psychology, 4*, 217-246.

- Harpur, T.J., Hare, R.D., & Hakstian, A. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment, 1*, 6-17.
- Hervè, H.F. (2007). Psychopathy across the ages: A history of the Hare psychopathy. In H.F. Hervè & J.C. Yuille (Eds.), *The Psychopath: Theory, research, and practice* (pp. 31-56). Hillsdale, N.J: Erlbaum.
- Hylers, S.E. (1994). *Personality Questionnaire, PDQ-4+*. New York: New York State Psychiatric Institute.
- Hylers, S.E., Skodol, A.E., Kellman, H., Oldham, J.M., & Rosnick, L. (1990). Validity of the Personality Diagnostic Questionnaire-Revised (PDQ-R): Comparison with two structured interviews. *American Journal of Psychiatry, 147*, 1043-1048.
- Johnson, J.G. & Bornstein, R.F. (1992). Utility of the Personality Diagnostic Questionnaire-Revised in a nonclinical population. *Journal of Personality Disorders, 6*, 450-457.
- Karpman, B. (1948). Conscience in the psychopathy: Another version. *American Journal of Orthopsychiatry, 18*, 455-491.
- Karpman, B. (1955). Criminal Psychodynamics: A platform. *Archives of Criminal Psychodynamics, 1*, 3-100.
- Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminal Psychopathology, 3*, 112-137.
- Kiehl, K.A. (2006). A cognitive neuroscience perspective on psychopathy: Evidence for paralimbic system dysfunction. *Psychiatry Research, 142*, 107-128.

- Koch, J.L. (1891). *Die psychopathischen Mindwertigkeiten*. Ravensburg, Germany.
- Kraepelin, E. (1915). *Psychiatrie: Ein lehrbuch* (8th ed., Vol 4). Leipzig, Germany: Barth.
- Krueger, R.F., Eaton, N.R., Clark, L.E., Watson, D., Markon, K.E., Derringer, J., Skodol, A., & Livesley, W.J. (2012). Deriving an Empirical Structure of Personality Pathology for DSM-5. *Journal of Personality Disorders*, 25, 170-191.
- Lilienfeld, S.O. (1994). Conceptual problems in the assessment of psychopathy. *Clinical Psychology Review* 14, 17–38
- Lilienfeld, S.O. & Andrews, B.P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment*, 66, 488-524.
- Lilienfeld, S.O. & Widows, M.R. (2005). *Psychopathic Personality Inventory—Revised (PPI-R) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Linehan, M.M. (1993). *Cognitive Behavioral Treatment of Borderline Personality Disorder*. New York, NY: The Guilford Press.
- Lynam, D.R. (2002). Psychopathy from the perspective of the five factor model. In P.T. Costa & T.A. Widiger (Eds.), *Personality disorders and the five factor model of personality* (2nd Ed. Pp. 325-350). Washington, DC: American Psychological Association.
- Lynam, D.R., & Derefinko, K.J. (2006). Psychopathy and personality. In C.J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 133-155). New York: The Guilford Press.
- Lynam, D.R., Gaughan, E., Miller, J.D., Miller, D., Mullins-Sweat, S., & Widiger, T.A., (2011). Assessing the basic traits associated with psychopathy: Development and validation of the

- Marsh, A.A., & Blair, R.J.R. (2008). Deficits in facial affect recognition among antisocial populations: A meta-analysis. *Neuroscience and Biobehavioral Reviews*, 32, 454-465.
- McCord, W., & McCord, J. (1964). *The psychopath: An essay on the criminal mind*. Princeton, NJ: Van Nostrand.
- McCrae, R.R., & Costa, P.T., Jr. (2007). Brief versions of the NEO-PI-3: A more readable revision of the NEO personality inventory. *Journal of Individual Differences*, 28, 116-128.
- Miller, J.D., Lynam, D.R., Widiger, T.A., & Leukefeld, C. (2001). Personality disorders as extreme variants of common personality dimensions: Can the Five Factor Model adequately represent psychopathy? *Journal of Personality*, 69, 253-276.
- Miller, J.D., Maples, J., Few, L.R., Morse, J.Q., Yaggi, K.E., & Pilkonis, P.A. (2010). Using clinician-rated five-factor model data to score the DSM-IV personality disorders. *Journal of Personality Assessment*, 92, 296-305.
- Miller, J.D., Morse, J.Q., Nolf, K., Stepp, S.D., & Pilkonis, P.A. (2012). Can DSM-IV borderline personality disorder be diagnosed via dimensional personality traits? Implications for the DSM-5 personality disorder proposal. *Journal of Abnormal Psychology*, 121, 944-950.
- Morey, L. C. (2007). *Personality Assessment Inventory Professional Manual*. (2nd Ed.). Odessa, FL: Psychological Assessment Resources.
- Morgan, A.B., & Lilienfeld, S.O. (2000). A metaanalytic review of the relation between antisocial behavior and neuropsychological measures of executive function. *Clinical Psychology Review*, 20, 113-156.

- Neumann, C.S., & Hare, R.D. (2008). Psychopathic traits in a large scale community sample: Links to violence, alcohol use, and intelligence. *Journal of Consulting and Clinical Psychology, 76*, 893-899.
- Patrick, C.J., (2006). *Handbook of Psychopathy*. New York, NY: The Guilford Press.
- Patrick, C.J., & Drislane, L.E. (2014). Triarchic model of psychopathy: Origins, operationalizations, and observed linkages with personality and general psychopathology. *Journal of Personality*. doi: 10.1111/jopy.12119
- Patrick, C.J., Drislane, L.E., & Strickland, C.D. (2012). Conceptualizing psychopathy in triarchic terms: Implications for treatment. *International Journal of Forensic Mental Health, 11*, 253-266.
- Patrick, C.J., Edens, J.F., Poythress, N., Lilienfeld, S.O., & Benning, S.D. (2006). Construct validity of the PPI two-factor model with offenders. *Psychological Assessment, 18*, 204-208.
- Patrick, C.J., Fowles, D.C., & Krueger, R.F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*, 913-938.
- Patrick, J., Links, P., Van Reekum, R., & Mitton, J.E. (1995). Using the PDQ-R scale as a brief screening measure in the differential diagnosis of personality disorder. *Journal of Personality Disorders, 9*, 266-274.
- Paulhus, D. L., Neumann, C. S., & Hare, R. D. (in press). *Manual for the Self-Report Psychopathy Scale*. Toronto, ON, Canada: Multi-Health Systems.
- Pinel, P. (1801). *Traite medico-philosophique sur l'alienation mentale*. Paris: Caille et Ravier.

- Poythress, N.G., & Skeem, J.L. (2006). Disaggregating psychopathy: Where and how to look for subtypes. In C.J. Patrick (Ed.), *Handbook of Psychopathy* (pp. 172-192). New-York, NY: Guilford Press.
- Pritchard, J.C. (1835). *A Treatise on Insanity*. New York: Hafner.
- Robbins, P.C., Monahan, J., & Silver, E. (2003). Mental disorder, violence, and gender. *Law and Human Behavior, 27*, 561-571.
- Samuel, D.B., Miller, J.D., Widiger, T.A., Lynam, D.R., Pilkonis, P.A., & Ball, S.A. (2012). Conceptual changes to the definition of borderline personality disorder proposed for DSM-5. *Journal of Abnormal Psychology, 121*, 467-476.
- Sellbom, M., Ben-Porath, Y.S., Patrick, C.J., Wygant, D.B., Gartland, D. M., & Stafford, K. P. (2012). Development and construct validation of MMPI-2-RF indices of global psychopathy, fearless-dominance, and impulsive-antisociality. *Personality Disorders: Theory, Research, and Treatment, 3*, 17–38.
- Sellbom, M., Sansone, R.A., Songer, D.A., & Anderson, J.L. (2014). Convergence between DSM-5 Section II and Section III diagnostic criteria for borderline personality disorder. *Australian & New Zealand Journal of Psychiatry, 48*, 325-332.
- Sellbom, M., & Verona, E. (2004). *Differential neuropsychological mechanisms for two psychopathy factors*. Poster presented at the 19th Annual Meeting for the Society for Research in Psychopathology, St. Louis, MO.
- Seveneche, K., Lehmkuhl, G., & Krischer, M.K. (2009). Examining relations between psychopathology and psychopathy dimensions among adolescent female and male offenders. *European Child & Adolescent Psychiatry, 18*, 85-95.

- Simms, L.J. (2013). CAT-PD Static Form (CAT-PD-SF, v1.1) Item List.
- Simms, L. J., Goldberg, L. R., Roberts, J. E., Watson, D., Welte, J., & Rotterman, J. H. (2011). Computerized adaptive assessment of personality disorder: Introducing the CAT–PD project. *Journal of Personality Assessment, 93*, 380-389.
- Skeem, J. L., & Cooke, D.J. (2010). One measure does not a construct make: Directions toward reinvigorating psychopathy research—Reply to Hare and Neumann (2010). *Psychological Assessment, 22*, 455-459.
- Skeem, J. L., Polaschek, D. L., Patrick, C. J., & Lilienfeld, S. O. (2011). Psychopathic personality: Bridging the gap between scientific evidence and public policy. *Psychological Science in the Public Interest, 12*, 95-162.
- Sprague, J., Javdani, S., Sadeh, N., Newman, J. P., & Verona, E. (2012). Borderline personality disorder as a female phenotypic expression of psychopathy? *Personality Disorders: Theory, Research, and Treatment, 3*, 127-139.
- Stanley, J.H., Wygant, D.B., & Sellbom, M. (2013). Elaborating on the construct validation of the Triarchic Psychopathy Measure in a criminal offender sample. *Journal of Personality Assessment, 95*, 343-350.
- Strickland, C.M., Drislane, L.E., Lucy, M., Krueger, R.F., & Patrick, C.J. (2013). Characterizing psychopathy using DSM-5 personality traits. *Assessment, 20*, 327-338.
- Talbot, N.L., Duberstein, P.R., King, D.A., Cox, C., & Guiles, D.E. (2001). Personality Traits of women with a history of childhood sexual abuse. *Comprehensive Psychiatry, 41*, 130-136.

- Techachasen, P., & Kolkijoven, V. (2001). Comparison between physical and sexual abuse of children in BMA Medical College and Vijara Hospital. *International Medical Journal*, 8, 293-298.
- Trull, T.J. (2001). Structural relations between borderline personality disorder features and putative etiological correlates. *Journal of Abnormal Psychology*, 110, 471-481.
- Venables, N. C., Hall, J. R., & Patrick, C. J. (2014). Differentiating psychopathy from antisocial personality disorder: A Triarchic model perspective. *Psychological Medicine*, 44, 1005-1013.
- Verona, E., & Hicks, B.M., & Patrick, C.J. (2005). Psychopathy and suicidal behaviors in female offenders: Mediating influences of temperament and abuse history. *Journal of Consulting and Clinical Psychology*, 73, 1065-1073.
- Verona, E., & Vitale, J. (2006). Psychopathy in Women: Assessment, Manifestations, and Etiology. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 415-436). New York, NY, US: Guilford Press.
- Wall, T.D., Wygant, D.B., & Sellbom, M. (2015). Boldness explains a key difference between psychopathy and antisocial personality disorder. *Psychiatry, Psychology and Law*, 22, 94-105.
- Weiler, B., & Wisdom, C. (1996). Psychopathy and violent behavior in abused and neglected young adults. *Criminal Behaviour & Mental health*, 6, 253-271.
- Widiger, T.A. (1993). The DSM-III-R categorical personality disorder diagnosis: A critique and an alternative. *Psychological Inquiry*, 4, 75-90.

- Widiger, T.A., & Clark, L.A. (2000). Toward *DSM-V* and the classification of psychopathology. *Psychological Bulletin*, *126*, 946-963.
- Widiger, T.A., & Lynam, D.R. (1998). Psychopathy and the five factor model of personality. In T. Millon, E. Simonsen, M. Birket-Smith, R.D., Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behaviors* (pp. 171-187). New York: Guilford Press.
- Widiger, T.A., & Simonsen, E. (2005). Alternative dimensional models of personality disorder: Finding a common ground. *Journal of Personality Disorders*, *19*, 110-130.
- Widiger, T.A., & Trull, T.J. (2007). Plate tectonics in the classification of personality disorder: Shifting to a dimensional model. *American Psychologist*, *62*, 71-83.
- Wright, A.G.C., & Simms, L.J. (2014). On the structure of personality disorder traits: Conjoint analysis of the CAT-PD, PID-5, and NEO-PI-3 trait models. *Personality Disorders: Theory, Research, and Treatment*, *5*, 43-54.
- Wygant, D.B. & Sellbom, M. (2012). Viewing psychopathy from the perspective of the personality psychopathology five model: Implications for DSM-5. *Journal of Personality Disorders*, *26*, 717-726.
- Yalch, M.M., Thomas, K.M., & Hopwood, C.J. (2012). The validity of trait, symptom, and prototype approaches for describing borderline and antisocial personality disorders. *Personality and Mental Health*, *6*, 207-216.
- Zanarini, M. C. (2000). Childhood experiences associated with the development of borderline personality disorder. *Psychiatric Clinics of North America*, *23*, 89-101.

Zanarini, M. C. (2003). Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD): A continuous measure of DSM-IV borderline psychopathology. *Journal of Personality Disorders, 17*, 233-242.

Zanarini, M. C., Frankenburg, F.R., Chauncy, D.L., & Gunderson, J.G. (1987). The diagnostic interview for personality disorders: interrater & test-retest reliability. *Comprehensive Psychiatry, 28*, 467-480.

APPENDIX

Table 1.

Partial correlations controlling for age.

CAT-PD	BPD	SRP-III	<i>t</i>
<i>Affective Lability</i>	.47	.26	4.10**
<i>Anxiousness</i>	.63	.26	8.30**
<i>Relationship Insecurity</i>	.67	.45	5.08**
<i>Depressiveness</i>	.56	.28	5.83**
<i>Hostile Aggression</i>	.54	.66	-2.81**
<i>Non-Planfulness</i>	.49	.58	-1.94
<i>Risk Taking</i>	.51	.62	-2.46*

Note. BPD = Borderline Personality Disorder variable. CAT-PD = Computerized Adaptive Test of Personality Disorder. SRP-III = Self-Report Psychopathy Scale-III. **Bold** traits shared between DSM-5 Section III ASPD/BPD. Note that Anxiousness is elevated for BPD and low for the Psychopathy Specifier of Section III ASPD.

* $p < .05$, ** $p < .01$

Table 2.

Partial correlations controlling for age.

CAT-PD	BPD	SRP-III	<i>t</i>
<i>Hostile Aggression</i>	.54	.66	-2.81**
<i>Callousness</i>	.42	.42	0.00
<i>Manipulativeness</i>	.39	.45	-1.17
<i>Non-Planfulness</i>	.49	.58	-1.94
<i>Irresponsibility</i>	.40	.33	1.33
<i>Risk Taking</i>	.51	.62	-2.46*
<i>Anxiousness</i>	.63	.26	8.30**
<i>Exhibitionism</i>	.28	.29	-.18
<i>Social Withdrawal</i>	.46	.31	2.92**

Note. BPD = Borderline Personality Disorder variable. CAT-PD = Computerized Adaptive Test of Personality Disorder. SRP-III = Self-Report Psychopathy Scale-III.

Bold traits shared between DSM-5 Section III ASPD/BPD. Note that Anxiousness is elevated for BPD and low for the Psychopathy Specifier of Section III ASPD.

* $p < .05$, ** $p < .01$

Table 3.

Partial correlations controlling for age.

CAT-PD	BPD	SRP-III	<i>t</i>
Anger	.67	.25	10.1**
Self-Harm	.54	.26	5.8**
Unusual Experiences	.47	.29	3.5**
Grandiosity	.34	.51	3.4**
Mistrust	.52	.42	2.1*
Rudeness	.52	.61	2.0*
Norm Violations	.63	.78	4.3**

Note. BPD = Borderline Personality Disorder variable. CAT-PD = Computerized

Adaptive Test of Personality Disorder. SRP-III = Self-Report Psychopathy Scale-III.

* $p < .05$, ** $p < .01$

Table 4.

Hierarchical linear regression analysis predicting Borderline Personality Disorder.

CAT-PD	<i>r</i>	Final β	<i>p</i>
<i>Affective Lability</i>	.44	.06	.145
<i>Anxiousness</i>	.62	.14	.002**
<i>Relationship Insecurity</i>	.67	.23	<.001**
<i>Depressiveness</i>	.54	.05	.336
<i>Hostile Aggression</i>	.54	.00	.943
<i>Non-Planfulness</i>	.53	.18	<.001**
<i>Risk Taking</i>	.53	.08	.064
<i>Anger</i>	.68	.22	<.001**
<i>Mistrust</i>	.50	.06	.227
<i>Manipulativeness</i>	.42	.04	.271
<i>Self-Harm</i>	.54	.17	<.001**
<i>Unusual experiences</i>	.47	.13	.003**

Note. * $p < .05$, ** $p < .01$

Table 5.

Hierarchical linear regression analysis predicting Antisocial/Psychopathic Personality Disorder.

CAT-PD	<i>r</i>	Final β	<i>P</i>
<i>Hostile Aggression</i>	.61	.16	.006**
<i>Callousness</i>	.45	-.02	.734
<i>Manipulativeness</i>	.48	.06	.138
<i>Non-Planfulness</i>	.60	.09	.084
<i>Irresponsibility</i>	.37	-.02	.577
<i>Risk Taking</i>	.64	.14	.010**
<i>Anxiousness</i>	.25	-.07	.166
<i>Exhibitionism</i>	.31	-.04	.392
<i>Social Withdrawal</i>	.31	.05	.327
<i>Domineering</i>	.45	.04	.484
<i>Anger</i>	.40	-.07	.201
<i>Grandiosity</i>	.51	.11	.024*
<i>Mistrust</i>	.42	.18	<.001**
<i>Rudeness</i>	.61	.10	.032*
<i>Norm Violation</i>	.78	.39	<.001**

Note. * $p < .05$, ** $p < .01$