THE MEDIATING ROLE OF EMOTION DYSREGULATION IN PSYCHOPATHY

AND BORDERLINE TRAITS

A Thesis

By

BRITTANY NICOLE PENSON

Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Chair of Committee,	John F. Edens
Committee Members,	Steven Woltering
	Brandon J. Schmeichel
Head of Department,	Heather C. Lench

May 2017

Major Subject: Psychology

ABSTRACT

Research over the last several decades has more clearly specified the nature of the relationships between emotion regulation and various pathologies. For example, a growing body of literature suggests that psychopathic traits show divergent associations with emotion dysregulation. Among men, interpersonal-affective features of psychopathy (e.g., social dominance and fearlessness) demonstrate a negative relationship with emotion dysregulation; whereas impulsive-antisocial characteristics show a positive association. However, such findings have yet to be demonstrated with women, whose presentation of core psychopathic traits is thought to differ from men. In particular, research has pointed to borderline personality traits, to which emotion dysregulation is a core feature, to be closely linked to psychopathic traits in women.

The current study sought to extend the literature concerning the relationship between emotion dysregulation and psychopathy by examining this association as a function of gender. Additionally, the current study examined the mediating role emotion dysregulation plays in the relationship between borderline personality traits and psychopathy as it relates to the phenotypic expression of psychopathy across men and women. The results of the present study reveal the same divergent pattern of emotion dysregulation and psychopathic traits in women as in men. Additionally, emotion dysregulation served as a full mediator, as psychopathy traits were a not a significant predictor of borderline traits after controlling for emotion dysregulation. Conversely, emotion dysregulation served as a partial mediator in the female sample. Such results

suggests that although emotion dysregulation may explain the conceptual overlap between psychopathy and borderline traits in men, various dimensions of borderline personality disorder, aside from affective instability, remain relevant to the expression of psychopathy in women.

ACKNOWLEDGEMENTS

CONTRIBUTORS AND FUNDING SOURCES

TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION AND LITERATURE REVIEW

Psychopathic personality (psychopathy) is a widely studied yet poorly

understood disorder. In early conceptualizations, such as Cleckley's (1941) influential

monograph "The Mask of Sanity," the prototypical psychopath was described as a "wolf

in sheep's clothing," portraying the condition as a severe pathology masked by an

outward façade of positive adjustment. Cleckley, among a number of prominent theorists

such as Lykken (1984) and McCord and McCord (1964), conceptualized psychopathy as

a constellation of personality traits such as superficial charm, intelligence, lack of

remorse, untruthfulness, and an absence of neurotic symptoms or anxiety. A notable

exclusion of criminal or antisocial behavior as essential components of the syndrome

highlighted the position that psychopathy was viewed primarily as a personality disorder

rather than simply a propensity towards socially deviant behavior.

As the nomological net surrounding psychopathy expanded, however,

researchers and nosologists began focusing more on behaviors indicative of a chronically

unstable and antisocial life style as central to the disorder (Cloninger, 1978; Robins,

1978; Spitzer, Endicott, & Robins, 1975) and less on more inferential concepts (e.g.,

callousness, pathological lying) that historically had been more difficult to reliably

assess. This behaviorally based approach operationalizes psychopathy primarily in terms

of a history of readily agreed-upon antisocial conduct. As a means of integrating both the

personality and behavioral based approaches to psychopathy, later researchers theorized

a two-factor model of psychopathy (e.g., Harpur, Hakstian, & Hare, 1988; Harpur, Hare,

& Hakstian, 1989). Factor 1, as described by many of the core personality traits originally theorized to be central to the disorder, is reflective of a psychopath's emotional and interpersonal style. Factor 2 describes behaviors indicative of a chronically unstable and antisocial lifestyle; often referred to as an indicator of social deviance. This two-factor model was derived from the most widely used instrument for assessing psychopathy, Hare's (1991) Psychopathy Check-list Revised (PCL-R). This 20 item rating scale encompasses the two distinct factors described above; one reflecting emotional-interpersonal defecits, (i.e., lack of remorse, empathy, emotional depth, blame externalization, and charm), and the other reflecting socially deviant behaviors (i.e., early behavior problems, delinquency, stimulation seeking, impulsiveness).

Conceptual Models of Psychopathy and Their Assessment

The two-factor model provides creates a pertinent framework for the conceptualization and assessment of psychopathy. Several self-report measures are generally reflective of the two-factor model as presented in the PCL-R. For example Levenson's Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995) consist of two positively correlated scales: Primary Psychopathy (LSRP-PP) and Secondary Psychopathy (LSRP-SP). The Primary Psychopathy scale is reflective of interpersonal exploitation and profound emotional deficits. Conversely, the Secondary Psychopathy scale measures the tendency towards impulsive, and reckless behavior. Similarly, Hare's Self- Report psychopathy scale (SRP; Hare, 1985) is analogous to the PCL-R comprising two factors intended to measure interpersonal manipulation/Affective callousness and erratic lifestyle/ overt antisociality respectively.

As another example, the Psychopathic Personality Inventory- Revised (PPI-R; Lilienfeld & Widows, 2005), the most widely researched self-report measure of psychopathy, comprises two higher order factors reflecting emotional and interpersonal characteristics (*Fearless Dominance*) and social deviance characteristics (*Self-Centered Impulsivity*; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). The PPI also includes a third subscale characterized by affective detachment or coldness (*Coldheartedness*). However, it does not typically load highly onto either of the two traditional higher-order factors (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Benning et al., 2003). Although the PPI is analogous to the two-factor model as presented in the PCL-R, research suggests these measures may assess different conceptualizations of psychopathy, particularly the interpersonal, affective features central to the disorder. For example, Malterer and colleagues (2010) reported *Fearless Dominance* as measured by the PPI and Factor 1 of the PCL-R to be weakly correlated (*r*'s .15 - .24; accounting for 2% to 5% of the shared variance; Malterer, Lilienfeld, Neumann, & Newman, 2010) in both offender and community samples.

Although the two-factor model of psychopathy is reflective in several self-report psychopathy measures, the precise conceptualization of the syndrome and the most appropriate method of assessing it remains a topic of ongoing debate. In an effort to clarify and reconcile various alternative conceptions of psychopathy, Patrick, Fowles and Krueger (2009) formulated a triarchic model, which characterizes psychopathy in terms of three intersecting but distinguishable constructs: *Boldness, Meanness,* and *Disinhibition.* This model has been operationalized using a self-report scale, the

Triarchic Psychopathy Measure (TriPM; Patrick, 2010) that is increasingly used in research on this disorder. Its Boldness scale, which is characterized by fearlessness, interpersonal dominance, and resilience to stress, is strongly related to the Fearless Dominance factor of the PPI (rs = .61-.77; Patrick et al., 2009; Skeem, Polaschek, Patrick, & Lilienfeld, 2011). By contrast, Disinhibition, characterized by deficient impulse control and poor self-regulation, is captured directly and substantially by both Factor 2 of the PCL-R and the Self-Centered Impulsivity Factor of the PPI. Meanness, characterized by callousness, lack of empathy, and exploitiveness, is most reflective in items indicative of shallow emotionality, and a lack of remorse and guilt of the PCL-R as well as the Coldheartedness and Machiavellian Egocentricity subscales of the PPI (r =. 67 and r =. 60 respectively; Drislane, Patrick, & Arsal, 2014; Hall, Drislane, Patrick, Morano, Lilienfeld, & Poythress, 2014; Patrick, 2010; Sellbom & Phillips, 2013). The conceptual models of psychopathy and the overlap of their assessments are represented in Figure 1.
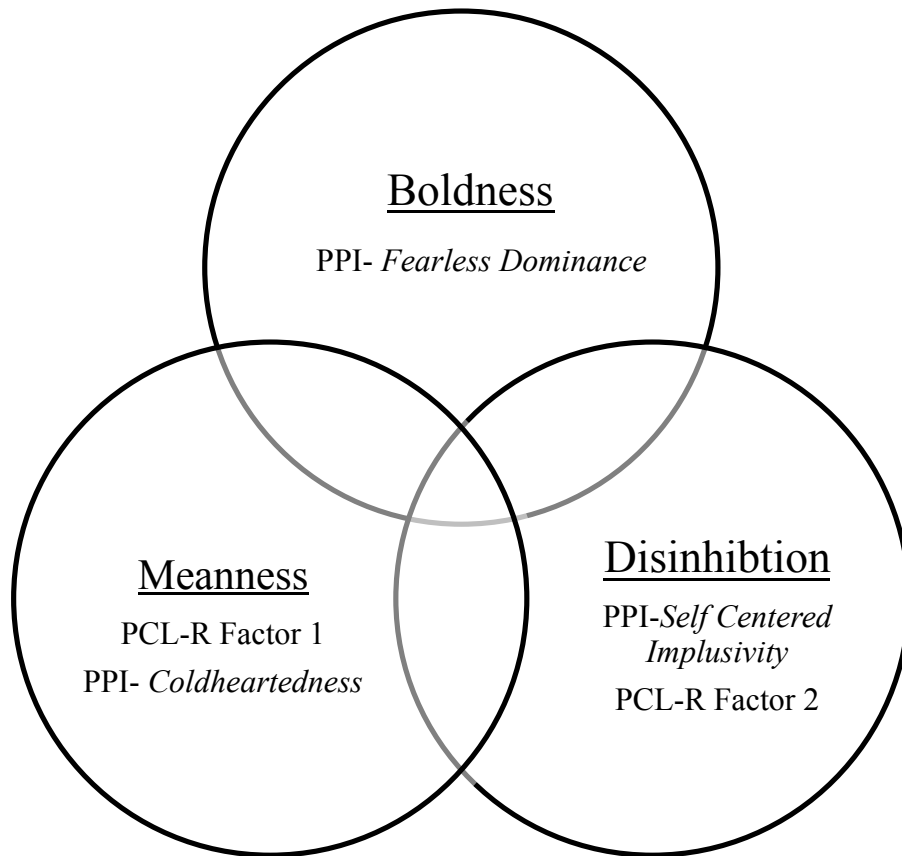
Figure 1. The Triarchic Model Dimensions and the subscales of the PPI and PCL-R.

PPI: Psychopathic Personality Inventory. PCL-R: Psychopathy Checklist-Revised.

External Correlates of Psychopathy Factors

    Findings from previous research indicate that traits associated with Disinhibition

and Meanness (typically operationalized by PCL-R Factor 1 and Factor 2) show marked

differential associations with risk factors and negative outcomes. For instance, several

studies report moderate to strong positive relationships between Disinhibition (as

measured by the PCL-R Factor 2) and anxiety, depression, substance abuse, self-harm,

suicide, impulsivity, aggression and childhood abuse, compared with negative low or

negligible relations for Meanness (Skeem, Poythress, Edens, Lilienfeld, & Cale, 2003; Benning et al., 2005; Verona, Hicks, & Patrick, 2005; Douglas et al., 2006; Hicks et al., 2010). In addition, past structural modeling studies (e.g., Patrick, Hicks, Krueger, & Lang, 2003) have shown disinhibtion (operationalized by the PCL-R Factor 2), but not Meanness, to be highly correlated ($r=. 97$) with a latent externalizing factor most evident in antisocial behavioral symptoms and disinhibitory personality traits. Given the correlates of Disinhibition noted earlier (e.g., hostility, anxiety, and depression) it is not surprising that higher scores are associated with more severe mental health problems such as suicide attempts and poorer global functioning (Salter-Pedneault, Roemer, Tull, Rucker & Mennin, 2006). Similarly, the TriPM Disinhibition scale has been strongly associated to anxiousness, emotional lability, separation insecurity, anhedonia, and depressivity (rs=. 30-.40; Anderson et al., 2014; Strickland et al., 2013). Such correlates of Disinhibition imply a broad vulnerability dimension associated with various externalizing behaviors, such as aggression, violent offending, and subsequent recidivism. (Hall et al., 2004; Harpur et al., 1989; Hicks et al., 2004; Hicks & Patrick, 2006; Kennealy et al., 2007; Poythress, Skeem, & Lilienfeld, 2006; Skeem et al., 2007; Skeem & Mulvey, 2001; Smith & Newman 1990; Sullivan, Blonigen, Hicks, & Patrick 2008; Verona, Patrick, & Joiner, 2001; Verona et al., 2005).

Lastly, Boldness demonstrates positive associations with traits indicative of adaptive functioning. In fact, a recent meta-analysis revealed Boldness (as operationalized by the PPI *Fearless Dominance*) to be positively associated with measures of positive emotionality such as positive affect, extraversion, and dominance

(average $r =$ .39, 95% CI = .34-.43, $p < .001$) and negatively associated with measures

of negative emotionality (average $r = -.35$, 95% CI = -.41 to -.30; $p < .001$; Marcus,

Fulton, & Edens, 2012). In addition, Boldness demonstrated an average negative

association ($r = -.04$) with characteristics indicative of constraint such as impulsivity.

Such positive associations with indicators of psychological health suggest Boldness

represents a constellation of adaptive personality traits that possibly serve as a protective

factor against the development of internalizing pathology (i.e., anxiety, depression) and

externalizing behaviors.

Variants of Psychopathy

The divergent associations of factor scores with external criteria are most notably

reflective of the variants of psychopathy, often referred to as primary and secondary

subtypes. Originally theorized by Karpman in the 1940s, *idiopathic* psychopathy (i.e.,

primary psychopathy) was thought to differ from *symptomatic* psychopathy (i.e.,

secondary psychopathy) on grounds of etiology, motivation of behaviors, and response

to treatment (Karpman, 1941, 1948). Karpman postulated primary psychopathy to be

marked by "constitutional deficits" and heritable in nature. Similar to traits originally

theorized by Cleckley, the primary psychopath was thought to possess deficits in

emotion concerning guilt, empathy, and love. Karpman (1948b) also argued primary

psychopaths to be less impulsive in nature, describing these individuals as deliberate in

their actions. In contrast, secondary psychopathy was thought to be a behavioral

adaption to environmental stressors such as parental rejection or harsh punishment.

Unlike primary psychopaths, secondary psychopaths ostensibly have a relatively normal

capacity for emotional experience. Characteristically impulsive, Karpman (1948a) described secondary psychopaths as "hot headed" and reactive in manner. Both subtypes are phenotypically similar in relation to engaging in high levels of antisocial and criminal behavior, but are theorized to differ in their underlying etiology as evidenced by differences in personality structure.

Similar theories have been postulated concerning variants of psychopathy as proposed by prominent theorist such as Blackburn (1975) and Lykken (1957). Blackburn (1975) found empirical support for the primary/secondary typology through the use of the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & Mckinley, 1943) with institutionalized samples. Results from cluster analytic techniques yielded two clusters consistent with the variants of psychopathy. Although both groups were phenotypically similar, characterized by impulsivity and aggression, the cluster resembling primary psychopathy had consistently lower scores on anxiety, withdrawal, and emotionality.

More recent studies have found the variants of psychopathy to be reflected in the factor structure of psychopathy assessment measures. For example, using model-based cluster analysis with PCL-R scores and trait anxiety scores, Skeem et al. (2007) found 2 clusters phenotypically similar to the primary-secondary typology in a sample of violent offenders. Secondary psychopaths were found to exhibit higher trait anxiety scores, considerable less psychopathic traits and comparable levels of antisocial behavior. In terms of validation variables, secondary psychopaths manifested more borderline

personality tendencies, poorer interpersonal functioning, and more symptoms of severe pathology.

Hicks and colleagues (2004) reported similar results using a model-based cluster analysis to identify subtypes of criminal psychopaths on the basis of personality structure. They performed cluster analyses on the Multidimensional Personality Questionnaire (MBQ-BF; Patrick, Curtin, Tellegen, 2002), using a sample of offenders with high scores on the PCL-R (30 or more). Results yielded two clusters indicative of what they termed *emotionally stable* psychopaths and *aggressive* psychopaths. Emotionally stable psychopaths were characterized high agency and low stress reaction, where as aggressive psychopaths were defined by high negative emotionality, low communion, and low constraint.

Similarly, Poythress and colleagues (2010) reported two emergent groups phenotypically similar to primary and secondary psychopathy in a sample of 691 offenders who met DSM-IV criteria for antisocial personality disorder (ASPD; DSM-IV 4th ed.; American Psychiatric Association, 1994). In comparison with the primary group, the secondary group revealed higher mean scores on self-report measures of internalizing and externalizing psychopathology and impulsivity. The secondary group had both a higher incidence of general and aggressive disciplinary problems in prison and a higher incidence of violent recidivism. In summary, the existing and growing body of literature surrounding subtypes of psychopathy suggests variants of psychopathy may be distinguishable by etiology and personality structure.

Psychopathy across Gender

The psychopathy literature has only recently broadened its scope to address correlates and manifestations of this disorder in women. This could be explained, in part, by the presumed low prevalence of the disorder in women or an absence of a clear conceptualization of 'female' psychopathy (Forouzan & Cooke, 2005). Although research is limited through reliance on assessment instruments developed and validated primarily with men, research suggests similarities in the factor structure and item functioning of psychopathy measures for both men and women (e.g., Salekin, Rogers, & Sewell, 1997). For example, Kennealy et al. (2007) demonstrated in a large sample of female prisoners that associations between PCL-R factor and facet scores and various criterion variables were highly consistent with results reported previously for male prisoners. In addition, research has identified variants of psychopathy in women reflective of primary and secondary psychopathy often recognized in men. For instance, Hicks, Vaidyanathan, and Patrick (2010) reported similar subtypes in female prisoners on the basis of personality structure using model-based cluster analysis. Results revealed that in the female sample, secondary psychopaths were characterized by negative emotionality, low behavioral constraint, and greater psychopathology. Although there were few distinguishing personality features in the female sample, primary psychopaths exhibited relatively few mental health problems.

Although the construct of psychopathy may be applicable to women, the expression of core psychopathic traits do not always parallel those found in men. For instance, Forouzan and Cooke (2005) reported key gender differences in interpersonal

10

and behavioral expressions of the syndrome. They suggest core psychopathic interpersonal traits such as glibness and grandiosity may be diminished in women. In regards to behavioral manifestations, research has established psychopathic men to have a tendency to engage in violent aggressive behavior whereas psychopathic women may engage in self-directed harming behaviors or other non-violent acts (Forouzan & Cooke, 2005; Leistico et al., 2008; Salekin et al., 1996; Walters, 2003). The existing literature also suggests that psychopathic women present as more manipulative, emotionally unstable, less grandiose, less (physically) aggressive, and less domineering than psychopathic men (e.g., Forouzan & Cooke, 2005; Kreis & Cooke, 2011; Verona & Vitale, 2006). Such gender differences maybe expected given the influence of gender on many other disorders, with women tending to present with internalizing disorders and men with more externalizing disorders (Paris, 2007). Women are also more often diagnosed with borderline personality disorder (BPD), whereas men are more often diagnosed with antisocial personality disorder (ASPD). Such differences call for the investigation of shared underlying traits of psychopathy and other personality disorders. Given that women present core psychopathic traits differently than men, it is important to understand the role of psychopathy and comorbid personality disorders as it relates to the pattern of symptoms and presentation of psychopathy in men and women.

Conceptual Overlap of Borderline Personality Disorder and Psychopathy

Research suggests that borderline personality disorder, as characterized by a pervasive pattern of instability in affect regulation, impulse control, interpersonal relationships and self-image (Linehan, 1993), shares overlapping traits with the

antisocial-externalizing features evident in Disinhibition (as measured by the PCL-R factor 2) and secondary psychopathy. Prominent theorists such as Blackburn (1996) postulate that persons with secondary psychopathy may be "predominantly borderline personalities" and qualify more often for diagnosis of BPD than do those with primary psychopathy. Reported rates of co-morbidity between psychopathy and BPD range from 20% to 65% depending on the type of population studied (e.g., Blackburn & Coid, 1998; Blackburn, Logan, Donnelly, & Renwick, 2003), with rates typically higher for women than men. However, the two factors of psychopathy show contrasting relationships with BPD traits. In particular, studies that have examined the relation between PCL-R factor scores and BPD scores (e.g., Blackburn & Coid, 1998; Hart & Hare, 1989; Salekin et al., 1997; Shine & Hobson, 1997) indicate that BPD tends to be more strongly and positively associated with Disinhibition (PCL-R Factor 2; r's=. 26 to .74) than with Meanness (PCL-R Factor 1; rs=−.03 to .38). Similarly, Patrick and colleagues (2006) found among a sample of male offenders positive associations with Disinhibition of the PPI and Borderline Features scales of the Personality Assessment Inventory (PAI; Morey, 1991) and negative associations with Boldness (r =. 54, r = -.04; respectively). In addition, Miller, Gaughan, and Pryor (2008) found BPD and Disinhibition (as measured by the LSRP Secondary Psychopathy Scale) to manifest similar profiles with regard to impulsivity, including high urgency and low premeditation and perseverance. Overall research suggests that BPD tendencies and externalizing-antisocial features of psychopathy may reflect common dispositions of emotional liability and weak inhibitory control.

Much of the literature informing the association between BPD characteristics and psychopathy, however, examine exclusively male samples. Psychopathy and BPD exhibit different prevalence rates across gender, with BPD being more common among women and psychopathy among men (Salekin et al., 1997; Zanarini et al., 1998). Given the differing behavioral manifestations of psychopathy as a function of gender, several researchers have theorized borderline personality traits to be differentially associated with psychopathy based on gender. This growing body of literature is suggestive of psychopathy, particularly secondary psychopathy, as a female phenotypic expression of borderline personality disorder (e.g., Sprague et al., 2012, Sprague, 2015). In a recent study, Sprague et al. (2012) found Disinhibition, as measured by the short form of the PPI and the Self Report Psychopathy Scale (Hare, Harpur, & Hemphill, 1989) to be more strongly associated with borderline traits in women than in men. Additional analyses regarding the interaction of Disinhibition, Boldness and gender indicated that the relationship between Disinhibition and borderline traits was stronger among women who were also high on Boldness (β =. 80, p < .001). In contrast, the relationship between Disinhibition and borderline traits among men remained similar regardless of scores on Boldness. Similarly, Verona, Sprague, and Javdani (2012), reported externalizing behaviors relevant to borderline personality disorder (e.g., self- directed violence), to be differentially related in men and women. Among women, Disinhibition (as measured by a composite measure of PPI *Self-Centered Impulsivity* and the SRP) was associated with self directed violence risk only among those who were also high in Boldness (β =. 55, p = .01). In contrast, the interaction (Disinhibition x Boldness) was marginally significant

but in the opposite direction in men (β = -.14, p = .08). In a follow-up analysis to examine whether borderline symptoms accounted for the relationship between psychopathy and self-directed violence, BPD symptoms partially accounted for the effects of Disinhibition and self-directed violence in both genders but fully accounted for the protective effects of Boldness only in men (Indirect effects: β = -.06, p < .05). Such findings suggest that with men the interpersonal-affective traits characteristic of Boldness may serve as a protective factor against different forms of behavioral maladjustment. Additionally, the strong overlap of BPD and both Boldness and Disinhibition, particularly found in women, may reflect gender differentiated phenotypic expressions of similar dispositional vulnerabilities.

EMOTION REGULATION

One area that increasingly has been the focus of study in the development and maintenance of mental health is emotion regulation. The concept of emotion regulation refers to the process of influencing which emotion one has, when one may experience that particular emotion, and how one expresses that emotion (Gross, 1998b). This multi-process phenomenon involves regulatory stages that precede and follow regulatory implementation (Bonanno & Burton, 2013; Gross, 2015; Sheppes et al., 2014). Such an effortful process can be used in the context of down regulating negative emotions by decreasing the experiential and behavioral aspects of emotions such as anger, sadness, and anxiety (Gross, Richards, & John, 2006). Although emotion regulation is often framed in the context of negative emotions, individuals often engage in up-regulation of positive emotions such as feelings of love, interest, and joy (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Intrinsic emotion regulation, characterized by the motivation to influence one's own emotions, can occur both consciously (e.g., willfully inhibiting one's laughter at an individual's embarrassment) as well as out of conscious awareness (e.g., quickly turning away from upsetting material; Gyurak, Gross, & Etkin, 2011). A conscious effort to regulate emotions usually involves the employment of strategies to achieve a desired outcome.

A commonly used framework for studying emotion regulation strategies is the *process model of emotion regulation* (Gross, 1998b). This particular process involves modifying emotions in five ways; (a) situation selection: taking steps to influence the

situation one is exposed to; b) situation modification; changing relevant aspects of the situation; (c) attentional deployment: influencing what aspects of the situation are perceived; (d) cognitive change: changing the way the situation is cognitively represented and (e) response modulation: directly modifying actions in response to emotions. The process model of emotion regulation is reflective of adaptive emotion regulation involving the use of context- appropriate strategies, effectively recognizing controllability over external and internal events, and engaging in appropriate behaviors to modify responses (John & Gross, 2004; Werner & Gross, 2010).

In contrast, emotional *dysregulation* occurs when one engages in maladaptive strategies to influence or control emotions. Difficulties in emotion regulation are often associated with the failure to (a) identify the need to regulate emotions; (b) select appropriate emotion regulation strategies; and (c) implement the selected strategy (Sheppes, Suri, & Gross, 2015). These difficulties are often underlying factors commonly associated with various forms of psychopathology. The dysregulation of emotion in particular has been argued to be transdiagnostic indicator of mental health problems, as it is present in nearly all diagnostic categories of the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; American Psychiatric Association, 2013). In fact, some theorists have argued that core features of numerous disorders can be conceptualized as maladaptive emotion regulation attempts (e.g., Campbell-Sills & Barlow, 2007). Disturbances in emotion regulation have been implicated in depression and anxiety disorders (Campbell-Sills & Barlow, 2007; Gross & Munoz, 1995; Nolen-Hoeksema et al., 2007), borderline personality disorder (Chapman, Leung, & Lynch,

2008; Linehan, 1993), substance abuse (Cooper, Frone, Russell, 1995; Swendsen et al., 2000), aggression and violence (Penney & Moretti, 2010), and suicidality (Baumeister, 1990). Additionally, external factors such as sleep, alcohol use, and exercise play important roles in the ability to adequately regulate emotions (Berking, Margraf, Ebert, Wuppermann, Hofmann, Junghanns, 2011; Bernstein & McNally, 2016; Mauss, Troy, LeBourgeois, 2013).

Emotion dysregulation has emerged as a possible mechanism by which negative affect influences the development and maintenance of psychopathology. Negative affect is often characterized by the tendency to experience negative emotion states such as anxiety, guilt, or fear (Watson, Clark, & Tellegen, 1988). Research has shown negative affect to be linked to various disorders and externalizing behaviors such as depression, borderline personality disorder, and aggression (Donahue, Goranson, McClure, & Van Male, 2014; Salsman & Linehan, 2012). For example, a number of research findings have reported positive relationships between negative affect and features of BPD in both non-clinical and clinical populations (Bland et al., 2004; Tolpin et al., 2004). Given that emotion dysregulation is a pervasive feature of BPD, it is suggested that negative affect plays an influential role in the ability to effectively regulate one's emotions. In particular, research has demonstrated moderate to strong relationships between negative affect, particularly chronic anxiety, and several forms of emotion dysregulation, including poor acceptance of emotion and poor utilization of effective emotion regulation strategies (r's= .15-.28, p <.01; Salter-Pedneault et al., 2006) In addition, Baumeister and Scher (1988) explained the link between negative affect and emotion

dysregulation by positing that one's proneness to experiencing negative affect increases one's favoring of immediate and perhaps maladaptive responses to alleviate negative mood states.

Relationship between Psychopathic Traits and Emotion Regulation

Karpman's (1948a) phenotypic distinctions concerning primary and secondary psychopathy are most evident in emotional functioning. In essence, Karpman describes primary psychopathy as an emotional deficit; whereas secondary psychopathy may be understood as an emotional disturbance. Primary psychopaths are often characterized by their inability to experience complex emotions such as empathy. Such constitutional deficits lead to impoverished negative affect including lack of guilt, fear and anxiety. In comparison, secondary psychopaths are theorized to have a relatively normal capacity for emotional experience. However, researchers theorize that secondary psychopaths are more prone to poorly regulated negative affect characterized by high levels of anxiety, emotional distress, hostility, aggression, and impulsive behavior (Dean et al., 2013; Prado, Treeby, & Crowe, 2015).

From an emotional framework, substantial research suggests psychopaths differ in emotion processing in comparison to non-psychopaths (e.g., Williamson, Harpur, & Hare, 1991). In fact, Cleckley (1941) postulated that psychopaths have difficulty understanding and expressing affective cues. This particular theory is supported by a number of studies showing psychopaths to be significantly less accurate at recognizing facial emotion than non- psychopathic individuals (e.g., Blair, Mitchell, Peschardt, Leonard, & Shine, 2004; Hastings, Tangney, & Stuewig, 2008; Marsh & Blair, 2008).

For example, Hastings et al. (2008) reported psychopathy to be negatively correlated ($r = -.17$) with overall facial recognition of affect, particularly recognition of sad and fearful faces, in a sample of 145 male jail inmates. Similarly, Blair et al. (2004) reported psychopathic individuals to exhibit selective impairment for the recognition of fearful faces. Such deficits in emotion recognition may interfere with moral socialization, and subsequently increase the risk of engaging in antisocial behavior.

Although an abundance of research has examined the relation of psychopathy to the recognition of emotion in others, a growing body of literature has increasingly shifted the focus to the regulation of emotion within psychopathic individuals. Research suggests psychological constructs or diagnoses related to emotion dysregulation to have divergent associations with psychopathy factors. Studies supporting this general notion have reported direct evidence of the differential association between psychopathy factors and emotion dysregulation. For example, Donahue, McClure, and Moon (2014) reported emotion regulation difficulties as measured by the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) to be negatively associated with the Fearless Dominance scale of the PPI and positively associated with the Self- Centered Impulsivity Factor ($r = -.29$ $p < .01$, $r = .63$, $p <. 01$, respectively) even after controlling for negative affect. Similarly, past research has indicated similar divergent associations with emotion regulation in the PCL-R. For example, Malterer and colleagues (2008) reported Disinhibition (PCL-R Factor 2) to be modestly negatively associated with the Mood Repair subscale of the Trait Meta Mood Scale in sample of 439 male inmates. ($r = -.02$; TMMS; Salovey, Mayer, Goldman, Turvey & Palfai, 1995; Malterer, Glass, &

Newman, 2008). Results suggest individuals with elevated levels of Disinhibition are more likely to experience difficulties in emotion regulation.

Emotion regulation has been studied in a variety of different ways including self-report of the subjective experience of emotion (e.g., Kirsch & Becker, 2007), recognition of emotional categories (e.g., Willmott et al., 2009) and psychophysiological responses to emotional material (e.g., Lorber, 2004). The latter includes indices such as skin conductance and cardiovascular responsivity (heart rate). For example, Casey and colleagues (2012), reported offenders with higher scores on Meanness (operationalized by the PCL-R Factor 1) were more cardiovascularly responsive when processing negative information than positive material. In the study, participants were required to view both positive and negative images in one of three conditions (i.e., passive viewing, experiencing, or suppressing). When required to experience emotional response by "getting into the feeling" of the emotion conveyed by a negative image, psychopathic individuals with higher scores on Meanness showed reduced responsiveness. These results suggest that interpersonal and affective traits of psychopathy are related to higher levels of emotion regulation, encompassing a relative absence of emotional reactivity. Conversely, other research suggests that high levels of Disinhibition reflect problems in self-regulation of behavior and emotion, particularly in response to rewards and punishments (Blair et al., 2004; Patterson & Newman, 1993). For example, Disinhibition (measured by the PCL-R Factor 2) has been associated with decision making that favors immediate rewards despite long-term consequences (Mitchell et al., 2002; van Honk et al., 2002). Research has also demonstrated difficulties in emotion regulation (e.g. the

under regulation and overregulation of emotion) to be linked to externalizing antisocial behaviors such as aggression (Long, Felton, Lilienfeld, & Lejuez, 2014). Long et al. (2014) reported both Disinhibition (operationalized by PPI Self-Centered Impulsivity) and Boldness (operationalized by PPI Fearless Dominance) to exert significant indirect effects on impulsive aggression through emotion regulation as measured by the Difficulties in Emotion Regulation Scale. However in this study, the DERS did not mediate the relations between psychopathic traits and premeditated aggression. Such results suggest difficulties with emotion regulation may be an important mediator in the relationship between psychopathy factors and externalizing behaviors.

Much of the literature informing the relationship between emotion dysregulation and psychopathic traits do not examine this particular relationship across gender nor take into account the influence of shared traits between personality disorders. For example, Donahue, McClure, and Moon (2014) reported divergent associations between the PPI's Fearless Dominance and Self-Centered Impulsivity factors and difficulties in emotion regulation. However the sample in this particular study was comprised entirely of men (n=119). Although previous studies have included samples of both men and women, very few have examined potential gender differences in the association between emotion dysregulation and psychopathy. Given that women elevated in psychopathy tend to present as more emotionally unstable (e.g., Forouzan & Cooke, 2005; Kreis & Cooke, 2011; Verona & Vitale, 2006), it is necessary to examine if the same divergent associations are evident in women. In addition, previous research has indicated certain personality disorders such as Borderline Personality Disorder to be differentially

21

associated between psychopathic men and women. For example, research shows Boldness and Disinhibition to be significantly correlated with borderline traits only in women (Sprague et al., 2012, Verona et al., 2012). Moreover, research suggests the interaction between Boldness and Disinhibition in women is predictive of BPD such that within higher scores on Boldness, Disinhibition is more predictive of BPD traits (Sprague et al., 2012; Sprague 2015). Given that emotion dysregulation is a central feature of BPD, it is important to investigate if the same interaction of F1 and F2 traits in the association of emotion dysregulation and psychopathic traits would be evident among women.

To date, only one study has examined the emotion dysregulation as a latent construct in the relationship of BPD and psychopathy. Sprague (2015) examined gender differences in the association of BPD, psychopathy, and the broader construct of emotion regulation in both undergraduate and forensic samples of men and women. Consistent with previous research, results revealed a gender specific association between psychopathy factors and BPD. More specifically, a significant interaction was evident between Boldness and Disinhibition (measured by the PPI Fearless Dominance and PPI Self-Centered Impulsivity) in the prediction of BPD traits in women but not in men. In relation to the broader construct of emotion dysregulation, results indicated divergent associations between emotion dysregulation and psychopathic traits among male participants similar to that found in Donahue et al. (2014). However in relation to the female samples, the interaction between Boldness and Disinhibition was a significant predictor in emotion dysregulation such that elevated scores on both factors were

indicative of difficulties in emotion regulation. Such results reveal that emotion dysregulation may play a mediating role between BPD and psychopathy specifically in women. Differentiated manifestations of core psychopathic traits across men and women could be partly attributable to gender-specific associations with emotion dysregulation.

Although Sprague (2015) further extended the literature concerning psychopathy and women, the study provides a narrow view of emotion dysregulation. Specifically, the model of emotion dysregulation used in the study includes measures of mood liability, hostility, emotional aggression, reactivity in relationships and suicide related behaviors. This particular operationalization of emotion dysregualtion emphasizes the control of emotional experience and expression. However, prominent theorists (e.g., Cole, Michel, & Teti, 1994; Thompson, 1994) suggest emotion regulation is not always synonymous with emotional control. They postulate emotion regulation to be a multifaceted construct that may also include an awareness and understanding of emotions, acceptance of emotions, and engaging in effortful strategies to modulate emotional responses (Thompson & Calkins, 1996). Such a nuanced definition of emotion regulation lends to understanding the specific relationships between psychopathic traits and the broader construct of emotion dysregulation. For example, alexithymia, a clinical syndrome characterized by difficulty describing and identifying emotional arousal, is positively associated with secondary psychopathy (Lander, Lutz-Zois, Rye, & Goodnight, 2012). Further, Rogstad and Rogers (2013) found that women with prominent psychopathic traits had substantially more difficulty ($d = 0.94$) identifying their feelings than their male counterparts. Such results suggests the

23

relationship between psychopathy and emotional dysregulation may result in more than

the inability to control negative affect but rather the inability to understand and be aware

of emotions and the inability to engage in subsequent behaviors to modulate those

emotions.

PRESENT STUDY

The current study sought to extend the literature concerning the relationship between emotion dysregulation and psychopathy by examining this association as a function of gender. Although past research has shown psychopathic men and women differ in their ability to regulate emotions (e.g., Sprague, 2015), to date no study has examined these differences after controlling for negative affect. Given that emotion regulation is a multifaceted construct, it is important to examine the specific relationships between psychopathic trait and facets of emotion regulation in addition to regulating negative affect. Such facets include awareness, acceptance, and understanding of emotions and the ability to engage in adaptive strategies to regulate emotions. Research suggests significant associations exist between psychopathic traits and difficulties in emotion regulation even after controlling for negative affect using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; Donahue et al., 2014). However, no study to date has examined if the same significant associations would be evident in women. Given that Disinhibition and Boldness interact to predict emotion dysregulation only in women, it is important to understand the role negative affect plays in such association. In addition, the current study examined the possible mediating role of emotion dysregulation in the relationship between psychopathy and borderline personality traits. Given that both Factor 2 psychopathy and borderline personality disorder share positive associations with negative affect (e.g., Patrick 1994; Selby, Anestis, Bender, Joiner & 2009), differing associations between

psychopathy and BPD may emerge once controlling for the shared variance associated with negative affect.

To assess the presence of psychopathic traits, the current study used the Triarchic Model of psychopathy. As mentioned previously, the TriPM characterizes psychopathy in terms of three intersecting but distinguishable constructs; *Boldness, Meanness,* and *Disinhibition.* Given that research has shown a divergent relationship to emerge between psychopathy factors and emotional dysregulation in men (e.g., Donahue, McClure, & Simone, 2014), it was hypothesized that similar results will replicate in a female sample. More specifically, it was predicted that Boldness will be negatively correlated with emotional dysregulation and positively associated with Disinhibition at a bivariate level.

The present study examined if Boldness, Meanness, and Disinhibition are significant predictors of emotional dysregulation even after controlling for negative affect. Although prior research has found evidence that gender moderates the relationship between psychopathic characteristics and emotion dysregulation (e.g., Sprague, 2015), such research fails to consider the shared variance with negative affect. Thus the present study sought to extend the current literature by determining the relationship between psychopathic characteristics and emotion dysregulation across gender while also controlling for negative affect. More specifically, the present study examined interactions between gender and TriPM dimensions in the prediction of emotion dysregulation. Given prior work that has found evidence of a Boldness and Disinhibition interaction in predicting both BPD, such that the effect of Boldness is intensified at higher levels of Disinhibition (Verona et al., 2012; Sprague et al., 2012;

26

Sprague, 2015), it was hypothesized that a similar pattern of results will emerge for the relationship of psychopathy factors and emotion dysregulation even after controlling for negative affect, particularly in women. To further explore the relationship between psychopathy and emotion dysregulation, the present study examined if difficulties in emotion regulation mediates the relationship between psychopathy and borderline traits. Given that emotion dysregulation is a central feature of Borderline Personality Disorder (Linehan, 1993), it was expected that emotion dysregulation would fully mediate the relationship between borderline and psychopathic traits in both men and women.

METHOD

Participants

The participants for the present study consisted of male and female undergraduate students from Texas A&M University subject pool. Men and women had approximately equal sample sizes (Men: $N = 176$, Women: $N = 214$). Majority of participants were classified as Caucasian (64%) and freshmen (64%). Participants completed self-report psychopathy, borderline, emotion regulation, negative affect, and demographic questionnaires using Qualtrics, online survey software. Upon completion, participants received course credit in exchange for participation.

Measures

Psychopathy. The Triarchic Psychopathy Measure (TriPM; Patrick 2010) is a 58-item self-report inventory that indexes the phenotypic constructs of Boldness, Meanness, and Disinhibition of the Triarchic Model of Psychopathy through separate targeted subscales. Boldness is characterized by social assertiveness emotional resiliency, and venturesomeness. Meanness entails a lack of empathy, contempt towards others, cruelty, and predatory exploitativeness. Lastly, Disinhibition captures impulsivity, weak restraint, mistrust, and emotion dysregulation. Participants respond to each item on a 4-point Likert scale (1 = *true,* 2 = *mostly true*, 3 = *mostly false*, 4 = *false*). The TriPM yields a total score, along with scores on the subscales representing Boldness, Meanness, and Disinhibition. Evidence for the validity of the TriPM has been reported in terms of strong associations with other established measures of psychopathy

including the PPI, the Self-Report Psychopathy Scale-III, (SRP-III; Paulhus, Hemphill, & Hare, 2009) and the Levenson Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995; Drislane et al., 2014; Sellbom & Phillips, 2013; Stanley, Wygant, & Sellbom, 2013; Hall et al., 2014).

Emotion Regulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 36 item self-report measure developed to assess clinically relevant difficulties in emotion regulation. The DERS items reflects difficulties within the following dimensions of emotion regulation: (a) awareness and understanding of emotions; (b) acceptance of emotions; (c) the ability to engage in goal-directed behavior, and refrain from impulsive behavior, when experiencing negative emotions; and (d) access to effective emotion regulation strategies. Such dimensions are reflected in six factor-analytically derived subscales that assess Awareness, Clarity, Nonacceptance, Strategies, Impulse, and Goals. The DERS includes a Likert scale ranging from 1 (*almost never*) to 5 (*almost always*) in which respondents rate how often a statement applies to them. Higher scores on the DERS indicate greater difficulties in emotion regulation. The DERS demonstrates good internal consistency with a Cronbach's alpha of .93. All of the DERS subscales also demonstrate high internal consistency with a Cronbach's alpha > .80 for each subscale in the initial validation sample (Gratz & Roemer, 2004). The DERS total and subscales have been reported in terms of robust associations with other established measures of emotion regulation including the Negative Mood Regulation Scale (*r*= -.69, *p*<. 01; Gratz & Roemer, 2004).

Negative Affect. The Positive Affective Negative Affective Schedule- Expanded

Form (PANAS-X; Watson & Clark, 1994) is a 60-item self-report measure used to

assess two dominant and relatively independent dimensions of emotional experience;

Positive Affect and Negative Affect. Positive Affect (PA) reflects the extent to which a

person feels enthusiastic, active, and alert. In contrast, Negative Affect (NA) captures

subjective distress often reflective in aversive mood states such as anger, guilt, fear, and

anxiousness. The PANAS-X requires respondents to rate on a 5-point scale the extent to

which they have experienced a mood state during a specified time frame. For the

purposes of the present study, participants will be asked to rate mood state based on how

they feel on an average basis. Such specified time frame will capture the general

tendency for an individual to experience negative affect. Research has shown the higher

order scales to be internally consistent and have excellent convergent and discriminant

correlations with lengthier measures of the underlying mood factors (see the Manual for

the Positive and Negative Affect Schedule- Expanded form for psychometric properties;

Watson & Clark, 1994).

Borderline Traits. The presence of borderline personality traits will be assessed

using the Personality Assessment Inventory's Borderline Features Scale (PAI; Morey,

1991). The PAI-BOR scale includes 24 items comprised of four subscales reflective of

characteristics of BPD: Affective Instability (AI), Negative Relationships (NR), Identity

Problems (IP) and Self- Harm (SH). Respondents rate how likely the item applies to

them based on four response categories including *false, slightly true, mainly true,* and

30

very true. The PAI manual suggests a total PAI-BOR raw score of 38 or more to be

indicative of significant BPD features.

DATA ANALYTIC PLAN

To examine the associations between the emotion dysregulation subscales, the psychopathy dimensions, and borderline personality traits, bivariate correlations were conducted. Means and standard deviations on the various measures and their subscales were also examined to detect any significant differences between genders. Next, I conducted a series of hierarchical multiple regression analyses to test the hypothesis that psychopathy characteristics explain variance in emotion dysregulation, over and above the influence of negative affect. To control for negative affect, the PANAS-X Negative affect scale was entered into the first block followed by Gender, Boldness and Disinhibition entered into the second block. Hierarchical regression analysis were also conducted to examine the independent and interactive effects of gender and TriPM dimension scores in predicting difficulties in emotion regulation. In order to investigate potential dimension level interactions and gender moderation, the main effects associated with gender and the two psychopathy dimension scores were entered into the first step of analysis, followed by their two way interactions in the second step, and the three way Boldness x Disinhibition x gender interaction in the third step. All independent variables were centered prior to the creation of the interaction terms.

To test the mediating role of emotion dysregulation in the relationship between psychopathy characteristics and borderline personality traits, analyses was employed as described by Baron and Kenny (1986). The proposed four-step approach included several regression analyses in which the significance of the coefficients was examined at

each step. The purpose of the first three steps helped to establish that a zero-order

relationship among the variables exists. If one or more of these relationships are

nonsignificant, than it can be concluded that mediation is not possible or likely. In step

one, a simple regression analysis was conducted in which Disinhibition /Boldness

predicted BPD Traits as measured by the PAI BOR scale. In the second step,

Disinhibition/Boldness predicted the DERS total score. The third step involved the

prediction of the BPD traits from the DERS total score. After establishing significant

relationships from Step 1 through 3, step 4 involved conducting a multiple regression

analysis with Disinhibition/ Boldness predicting BPD traits once controlling for the

DERS total score. Partial mediation is supported if the effect of the DERS total score

remains significant after controlling for Disinhibition or Boldness. If Disinhibition or

Boldness is no longer significant when the DERS total score is controlled, the finding

will support full mediation.

PRELIMINARY ANALYSES

To ensure that respondents were not overly inattentive to the item content of the scales being computed, the Triarchic Assessment Procedure for Inconsistent Responding was employed (TAPIR, Mowle et al., 2016). A cut score of 11 on this scale appears to identify cases where there would be concerns about careless responding adversely impacting the data provided. Using this cut score, 4.9% ($n = 20$) of the participants were deemed as potentially inconsistent responders. Exclusion of all invalid cases resulted in a sample size of 390 participants (Men: $n = 176$, Women: $n = 214$). Upon excluding potentially inattentive cases, data in the sample for variables of interests were normally distributed.

To examine mean scores, I conducted independent samples *t*-tests across gender. Results are reported in Table 1. Consistent with previous literature, men had significantly higher mean scores on the TriPM than women ($t(388) = 9.60$ $p < .01$). In relation to the TriPM facets, results revealed men and women significantly differed on both Meanness ($t(388) = 10.63$ $p < .01$) and Boldness ($t(388) = 7.33$ $p < .01$). Men and women did not significantly differ on Disinhibition. Notably, women had higher mean scores on the variables relevant to emotion dysregulation. As hypothesized, women displayed higher mean scores on both difficulties in emotion regulation as measured by the DERS and borderline features as measured by the PAI Borderline Features Scale (see Table 1). Lastly, it should be noted that men and women did not significantly differ on levels of negative affect.

PRIMARY RESULTS

To examine the relationships between the key variables of interest, bivariate correlations were conducted. Given that gender plays a significant role in the current study, I first examined correlations across gender. As aforementioned, Donahue et al. (2014) reported that Factor 1 and Factor 2 (as measured by the PPI's Fearless Dominance and Self- Centered Impulsivity scales) demonstrate divergent relationships with emotion dysregulation. However, such results were reported in an all male sample. The current study sought to replicate the results across gender. Results in the current study indicate both men and women displayed similar divergent relationships between the TriPM facets (i.e., Boldness and Disinhibition) and emotion dysregulation (refer to Table 2. and Table 3.). Notably, Meanness was positively associated with emotion dysregulation in both men and women. In relation to the total TriPM score, men displayed a modest positive association ($r = .17, p < .01$) to emotion dysregulation, where as the association between the TriPM total score and emotion dysregulation in women was not significantly related ($r = .03$). A similar pattern of divergent associations emerged with the association of the TriPM facets and borderline features (as measured by the PAI) in the male sample. Men displayed a significant, positive association between Disinhibition and borderline features and a negative relationship with Boldness in relation to borderline features. Women also demonstrated a positive association between Disinhibition and borderline features. However, the association between Boldness and borderline features was not significant. Additionally, Meanness displayed

35

a positive association with borderline features. However such a significant correlation was not found among the male sample (Refer to Table 2. and Table 3.).

To further examine the relationship between emotion dysregulation and the TriPM facets, hierarchal regressions were conducted with emotion dysregulation serving as the criterion variable. To control for any extraneous relationships, confounding variables (i.e., alcohol use, sleep, exercise, amount of violent video games played, and employment) were entered in the first block of the hierarchical regressions. Similar to Donahue et al. (2014), to control for negative affect, the PANAS-X Negative Affect Scale was entered into the second block of the regression. The TriPM total score or Boldness, Meanness, and Disinhibition were entered into the third block to examine any main effects. Lastly, to test for interactive effects, interaction terms created with the TriPM facets were entered into the fourth block. To simplify the interpretation of results, regressions were run separately across gender.

Across gender, the relationship between the TriPM total score and emotion dysregulation was nonsignificant (Men: β = -.060, p = .36; Women: β = -.018, p = .75) after controlling for confounding variables and negative affect. For the male sample, results revealed significant main effects for Boldness (β = -.28 t(163) = - 4.38 p < .01) and Disinhibition (β = .44 t(164) = 5.19 p < .01) after controlling for both confounding variables and negative affect. Additionally, the interaction term of Meanness by Disinhibition (β = -.21 t(164) = -3.18 p < .01) was a significant predictor of emotion dysregulation. After using a median split to identify the nature of the interaction term, results suggests that Disinhibition is more predictive of emotion dysregulation at lower

levels of Meanness ($R^2 = .40$) than higher levels of Meanness ($R^2 = .23$). Additional

analyses were run without controlling for confounding variables. Results revealed a

similar pattern of results with the addition a significant interaction term of Meanness by

Boldness ($\beta = -.034$ t(-3.19, $p < .05$). The nature of the interaction term suggests that

Meanness is more predictive of emotion dysregulation in lower levels of boldness ($R^2 =$

.26) than higher levels ($R^2 = .07$). The same general pattern of main effects emerged for

the female sample. After controlling for both negative affect and confounding variables,

both Boldness ($\beta = -.21$ $t(201) = -3.10$, $p < .01$) and Disinhibition ($\beta = .14$ $t(201) = 2.22$,

$p < .05$) remained significant main effects. However, unlike the male sample, results did

not reveal any significant interaction terms in the prediction of emotion dysregulation.

Without controlling for confounding variables, both Boldness and Disinhibition were

both significant predictors of emotion dysregulation. Additionally, the results did not

reveal any significant interaction terms.

Hierarchical regression analyses were conducted to test if Disinhibition exerted a

stronger unique association with emotion dysregulation compared to Boldness. After

controlling for both confounding variables and negative affect, Boldness and

Disinhibition were entered into the third and fourth block respectively. A comparative

regression model was computed with the order of the TriPM scales reversed. Results

indicated that Disinhibition accounted for more unique variance over and above the

effect of Boldness (R^2 change $= .086$ $F(8, 175) = 27.59$, $p < .001$) compared with when

the ordering of variables were reversed (R^2 change $= .069$ $F(8, 175) = 27.59$, $p < .001$).

However, such results were only evident in the male sample. Women demonstrated a

much lower change in R across both regression models in comparison to men. Unlike the male sample, adding Boldness in the last step of the model produced a greater change in R (R^2 change = .022) in comparison to including it in the third step (R^2 change = .014). In both regression models for the female sample, Disinhibition and Boldness significantly accounted for the unique variance in emotion dysregulation ($F(8, 213) =$ 30.39, $p < .001$; $F(7, 213) = 30.22$, $p < .001$).

To test the mediating role of emotion dysregulation in the relationship between borderline traits and psychopathy, a four-step approach as proposed by Baron and Kenny (1986) was employed. In the proposed four-step approach, I ran several regression analyses in which the significance of the coefficients was examined at each step. The purpose of the first three steps helped to establish that a zero-order relationship among the variables exists. If one or more of these relationships did not demonstrate significance, than it could be concluded that mediation was not possible or likely. In step one, a simple regression analysis was conducted in which the TriPM facets predicted borderline traits. Analyses were conducted separately across gender to determine any possible gender differences. Across gender, Disinhibition served as the only significant main effect for the prediction of borderline traits. Therefore, it can be concluded that mediation of emotion dysregulation between both Meanness/Boldness and borderline features is not possible.

In the second step of the mediation process, Disinhibition predicted emotion dysregulation as measure by the DERS total score. A zero order relationship was established across gender, as Disinhibition significantly predicted emotion dysregulation

in both men (β = .58 t(175) = 9.48 p < .01) and women (β = .34 t(213) = 5.38 p < .01). The third step involved the prediction of borderline traits from the DERS total score. Results reveal emotion dysregulation to be a significant predictor of Borderline traits across men (β = .341 t(174) = 4.79 p < .01) and women (β = .461 t(213) = 7.57 p < .01).

After establishing significant relationships from Step 1 through 3, step 4 involved conducting a hierarchical regression analysis with Disinhibition predicting Borderline traits once controlling for the DERS total score. In the hierarchical regression, the DERS total score was entered in the first block followed by Disinhibition entered in the second block. In relation to the male sample, results indicated that after controlling for emotion dysregulation, Disinhibition was not a significant predictor of Borderline Traits. Such results suggest full mediation. Results should be interpreted cautiously as there was a modest decrease in regression coefficients once controlling for emotion dyresgulaton (β = .303, t(174) = 4.19 p =.00; β = .157 (174) = 1.81 p = .07). In the female sample, Disinhibition remained a significant predictor of Borderline traits once controlling for emotion dysregulation. However, the strength of the significance was attenuated once accounting for emotion dysregulation, indicating a partial mediation (β = .276 t(213) = 4.19 p =.00; β = .132 t(213) = 2.05 p = .04) To further test the significance of the indirect effect of emotion dysregulation, a Sobel Test was conducted. As described in Sobel (1982), the Sobel Test indicates whether a mediator variable significantly carries the influence of an independent variable to a dependent variable. As it pertains to the current study, results revealed the Sobel Test to be significant in determining the

mediating role of emotion dysregulation in both the male ($z = 2.50$ $p < .05$) and female

sample ($z = 4.95$ $p < .01$).

To further assess dimensions of emotion dysregulation across gender, bivariate

correlations were conducted between the DERS subscales and TriPM facets (Refer to

Table 4. and Table 5.) independent t-tests were conducted using the DERS subscales.

As aforementioned, the DERS items are intended to measure the following dimensions:

(a) awareness and understanding of emotions; (b) acceptance of emotions; (c) the ability

to engage in goal-directed behavior to regulate negative emotions; (d) to utilize effective

emotion regulation strategies. In the current sample, men and women significantly

differed on all of the DERS subscales except for Impulse. The Impulse subscale refers to

the tendency to engage in impulsive behavior as a way to regulate negative emotions.

For the remainder of the subscales, women displayed higher mean scores suggesting

greater difficulties in both an awareness and clarity of emotions, engaging in goal

directed behavior and using adaptive strategies to regulate such emotions. In relation to

the TriPM, the TriPM total score was positively associated with both Impulse ($r = .22$ p

$< .01$) and Awareness ($r = .21$ $p < .01$) in the male sample (see Table 4). Women also

displayed a positive association between the TriPM total score and Impulse ($r = .19$ $p <$

$.01$). Unlike the male sample, Awareness was not significantly related to the TriPM total

in women. In relation to the TriPM facets, Boldness demonstrated negative associations

with the DERS subscales across gender with the exception of the subscale of Awareness

in the female sample. Conversely, Disinhibition exhibited positive associations with the

DERS subscales across both the male sample and the female sample with the exception

of Awareness subscale in the female sample. Across gender, Meanness demonstrated positive associations with the Impulse, Awareness, and Clarity Subscales.

SUMMARY AND CONCLUSIONS

Research points to emotion dysregulation as a cross cutting symptom among various pathologies. A growing body of literature has attempted to deconstruct the nature of the relationship between emotion dysregulation and such pathologies. For example, recent literature suggests that psychopathic traits show divergent associations with emotion dysregulation. Among men, interpersonal-affective features of psychopathy (e.g., social dominance and fearlessness) demonstrate a negative relationship with emotion dysregulation; where as impulsive-antisocial characteristics show a positive association. Research suggests the same pattern of relationships to be evident even after controlling for negative affect, which itself is strongly related to emotion dysregulation. These findings are consistent with research pointing to the divergent nature of psychopathic traits as it pertains to external correlates. Previous research indicates that traits associated with Disinhibition and Meanness (typically operationalized by PCL-R Factor 1 and Factor 2) show marked differential associations with risk factors and negative outcomes. For instance, several studies report moderate to strong positive relationships between Disinhibition and internalizing features, substance abuse, and borderline personality traits. Such associations are more indicative of deficits in emotion regulation abilities. (i.e., Skeem et al., 2003). Conversely, Boldness is theorized to be a "protective factor," as it demonstrates a negative or null relationship with more internalizing features. Several researchers suggest Boldness to be indicative of adaptive functioning and representative of more emotional resilience.

Although these divergent associations between emotion dysregulation and psychopathic traits tend to be evident in men, considerably less research has focused on the relevance of emotion dysregulation as it relates to psychopathy in women. Women are theorized to differ in etiological pathways and phenotypic expression of psychopathic traits. Therefore it is important to understand the relevance emotion dysregulation plays in psychopathy as a function of gender. Despite phenotypic differences, the results of the present study reveal the same divergent pattern of emotion dysregulation and psychopathic traits in women as in men. In relation to the TriPM facets, Boldness and Disinhibition demonstrated both a significant negative and positive bi-variate associations with emotion dysregulation respectively.

Overall, results suggest that increased difficulties in emotion regulation are associated with deficient impulse control and poor self-regulation as characterized by Disinhibition. Conversely, fearlessness, interpersonal dominance, and resilience to stress, encompassed by Boldness, serves as a buffering mechanism against increased difficulties in the ability to regulate emotion. Most notably Meanness, often subsumed in Factor 1 of the PCL-R, displayed positive associations with emotion dysregulation in both the male and female sample. Although meanness is characterized by callousness, lack of empathy, and exploitiveness, the current study suggests such a cold interpersonal and affective style does not create an immunity or resiliency to emotional disturbance and dysregulation. In fact, such results are consistent with previous research suggesting callousness, as defined within psychopathy, to be positively associated with a lack of emotional awareness and clarity (Zeigler-Hill & Vonk, 2015). Meanness may emerge as

not only the inability to understand emotional states in others but also a difficulty to recognize and manage emotional states in oneself.

Hierarchical regression analyses were conducted to test the hypothesis that the aforementioned divergent relationships existed above the influence of negative affect. Across gender, Boldness and Disinhibition remained significant predictors after controlling for negative affect. The present results are consistent with previous findings showing that emotion regulation deficits are associated with psychopathic traits, but add to the literature by demonstrating that these relationships are not simply attributable to shared variance with negative affect. Moreover, despite the differences in phenotypic expression of psychopathic traits across gender, the current study suggests that emotion dysregulation is relevant in similar ways to women as in men.

The present study also adds to the literature by investigating interactive effects of psychopathic traits in the association of emotion dysregulation. Although the TriPM facets were significant predictors in the overall regression model across gender, Meanness by Disinhibition was the only significant interaction term. However, this interaction term was only present in the male sample. Upon further investigation, results reveal Disinhibition to be more predictive of difficulties in emotion regulation coupled with lower levels of Meanness. Such results are surprising, given the positive relationship Meanness demonstrated with emotion dysregulation. However, the significant interaction term may suggests that higher elevations of Meanness may serve as suppressor in difficulties regulating emotions in highly disinhibited individuals. These results could be attributable to the emotional/ affective deficits associated with Factor 1

(i.e., Meanness) psychopathic traits. Individuals high on Factor 1 may not need to engage in emotion regulation, as Factor 1 represents a relative absence of emotional reactivity.

The present study also adds to the literature by further clarifying the relationship between psychopathic traits and emotion dysregulation through the lens of emotion dysregulation as a multidimensional construct. The DERS subscales reflect various facets that encompass emotion regulation including awareness, impulsivity, clarity, goal-directed behavior, and strategies. Global psychopathic traits, as captured by the TriPM total score, were positively associated with the Impulse subscale across gender. Results suggest a general inability to refrain from impulsive behavior once experiencing negative emotions among individuals elevated in psychopathic traits. Such results resemble that of the secondary variant of psychopathy, Karpman (1948a) theorized as characteristically impulsive and reactive in manner.

Bivariate associations with the TriPM facets and DERS subsclaes followed the same general pattern of divergent associations. Across gender, Boldness demonstrated negative associations with all of the DERS subscales, where as Disinhibition displayed positive associations. In the present study, individuals elevated in traits relevant to Boldness appear to experience fewer difficulties with regulating emotion. Findings are consistent with previous research, suggesting Boldness to be positively associated with measures of positive emotionality such as extraversion, and negatively associated with measures of negative emotionality (i.e., Marcus et al., 2012). Individuals elevated in traits relevant to Boldness may be less likely to engage in regulating negative emotions,

45

given the reduced likelihood of experiencing such emotions. Conversely, individuals high in Disinhibition appear to be predispositioned to experiencing negative emotions, as higher scores on Disinhibition are often associated with more severe mental health problems and global functioning (Salter-Pedneault et al., 2006), and thus difficulties in regulating such negative emotions are consistent with previous literature. Results also suggest that emotion regulation extends beyond just regulating negative affect, as individuals high in Disinhibition also experience difficulties in awareness and clarity of emotion. Lastly, Meanness displayed positive associations with Impulse, Awareness, and Clarity subscales. Such associations may reflect the shallow emotionality often encompassed with Factor 1. In fact, research suggests psychopathic individuals have reported deficits in emotion processing and recognition (Blair et al., 2004). Individuals high in Meanness may lack a level of emotional insight and therefore may experience difficulties in understanding, and managing emotions as they appear.

The second aim of the present study sought to investigate the mediating role of emotion dysregulation in the relationship between psychopathic traits and borderline personality traits. In the case of the present study, emotion dysregulation was hypothesized as an underlying latent trait both psychopathy and borderline personality share. Emotion dysregulation is often implicated as a central feature of borderline personality disorder (Linehan, 1993) and a prominent characteristic of secondary psychopathy (Karpman 1948a). Results support the hypothesis that emotion dysregulation serves as a mediator in the relationship between psychopathic traits and borderline traits across gender. In the male sample, emotion dysregulation served as a

full mediator, as Disinhibition was a not a significant predictor of Borderline traits after controlling for emotion dysregulation. Conversely, emotion dysregulation served as a partial mediator in the female sample. Such results suggests that although emotion dysregulation may explain the conceptual overlap between psychopathy and borderline traits in men, various dimensions of borderline personality disorder, aside from affective instability, remain relevant to the expression of psychopathy in women. Such results are consistent with previous literature suggesting psychopathy, particularly secondary psychopathy, to be a female expression of Borderline Personality Disorder (e.g., Sprague et al., 2012). In particular, suicide risk and self- directed violence, factors often relevant to BPD, have been more closely linked to psychopathy in women as opposed to psychopathy in men (Hicks et al., 2005; Verona et al., 2005; 2012). Additionally, research suggests that Disinhibition (i.e., Factor 2) is most related to borderline traits within higher elevation on Factor 2 (Sprague et al., 2012) only in women. Such results indicate that for women, the multifaceted structure of psychopathy best captures the fluctuations of extremes— a highly emotional and impulsive style to disengaged, manipulative and emotionally restrictive style— characteristic of BPD (Linehan, 1993). However, results of partial and full mediation should be interpreted cautiously as a more simplistic approach for assessing mediation was used for the current study. Recent research has reported several concerns regarding the Baron and Kenny approach, as it fails to account for the influence of covariates, the sizes of the regression coefficients, and temporal order (i.e., Gelfand, Mensinger, & Tenhave, 2009). Replication with more

complex statistical approaches such as path modeling and Structural equation modeling are warranted.

The present study is not without limitations and is in need of replication and extension. In particular, the current study is limited by its use of only self- report measures. Future studies may benefit from incorporating behavioral/ physiological measures and informant reports, which may provide an important alternative means of capturing the variables of interests. For example, recent research suggested the use of informant reports may provide incremental utility beyond self-report in relation to personality traits, such as psychopathy features (Jones & Miller, 2012). Additionally, results are based on a college sample. It is important to investigate if results would replicate across a variety of samples including forensic and clinical samples, as more severe pathology may be evident.

These limitations notwithstanding, the results of the current study help to further clarify the construct of psychopathy as a function of gender. The present study suggests the importance of conceptualizing psychopathy from a transdiagnostic approach in relation to shared underlying traits from other personality disorders. Such an approach helps to inform both treatment and assessment of psychopathy. In particular, recent treatment strategies for psychopathy have included Dialectical Behavioral Therapy (DBT), a treatment commonly used for BPD, to target emotion dysregulation in psychopathic individuals (Galietta & Rosenfeld, 2012). Results from the current study suggests that targeting emotion dysregulation in treatment may involve more than just introducing strategies to regulate negative affect, but also including abilities to

recognize, understand, and accept emotions. Additionally, the present study indicates

that shared underlying personality traits may differ across gender, particularly in the

phenotypic expression of such traits. These results inform how we may take into account

the role of gender when assessing for psychopathy, particularly the performance of items

across gender. In conclusion, the results add to the rather limited, yet growing body of

literature examining the role of emotion dysregulation in the conceptualization of

psychopathy.

REFERENCES

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*(5), 675-697.

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders: DSM-IV. Washington, DC: American Psychiatric Association

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders: DSM-5. Washington, D.C: American Psychiatric Association.

Baron, R. M., Kenny, D. A. (1986) The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

Baumeister, R. F. (1990). Suicide as escape from self. *Psychological Review*, *97*(1), 90-113.

Baumeister, R. F., & Scher, S. J. (1988). Self-defeating behavior patterns among normal individuals: review and analysis of common self-destructive tendencies. *Psychological Bulletin*, *104*(1), 3-23.

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*(1), 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*(3), 340-350.

Berking, M., Margraf, M., Ebert, D., Wuppermann, P., Hofmann, S., & Junghanns, K.

    (2011). Emotion regulation skills as a predictor of relapse during and after

    treatment of alcohol dependence. *Journal of Consulting and Clinical Psychology*,

    79(3), 307-318.

Bernstein, E. E., & McNally, R. J. (2016). Acute aerobic exercise helps overcome

    emotion regulation deficits. *Cognition and Emotion*, *31*(4),1-10.

Blackburn, R. (1975). An empirical classification of psychopathic personality. *The*

    British Journal of Psychiatry, *127*(5), 456-460.

Blackburn, R. (1996). Replicated personality disorder clusters among mentally

    disordered offenders and their relation to dimensions of personality. *Journal of*

    Personality Disorders, *10*(1), 68-81.

Blackburn, R., & Coid, J. W. (1998). Psychopathy and the dimensions of personality

    disorder in violent offenders. *Personality and Individual Differences*, *25*(1), 129-

    145.

Blackburn, R., Logan, C., Donnelly, J., & Renwick, S. (2003). Personality disorders,

    psychopathy and other mental disorders: Co-morbidity among patients at English

    and Scottish high-security hospitals. *The Journal of Forensic Psychiatry &*

    Psychology, *14*(1), 111-137.

Blair, R. J. R., Mitchell, D. G. V., Peschardt, K. S., Colledge, E., Leonard, R. A., Shine, J. H., & Perrett, D. I. (2004). Reduced sensitivity to others' fearful expressions in psychopathic individuals. *Personality and Individual Differences*, *37*(6), 1111-1122.

Bonanno, G. A., & Burton, C. L. (2013). Regulatory flexibility an individual differences perspective on coping and emotion regulation. *Perspectives on Psychological Science*, *8*(6), 591-612.

Campbell-Sills, L., & Barlow, D. H. (2007). *Incorporating emotion regulation into conceptualizations and treatments of anxiety and mood disorders*. New York, NY, US: Guilford Press.

Casey, H., Rogers, R. D., Burns, T., & Yiend, J. (2013). Emotion regulation in psychopathy. *Biological Psychology*, *92*(3), 541-548.

Cleckley, H. (1941). *The mask of sanity; an attempt to reinterpret the so-called psychopathic personality*. Oxford, England: Mosby.

Cloninger, C. R. (1978). The antisocial personality. *Hospital Practice, 13*, 97-106.

Chapman, A. L., Leung, D. W., & Lynch, T. R. (2008). Impulsivity and emotion dysregulation in borderline personality disorder. *Journal of Personality Disorders*, *22*(2), 148-164.

Cole, P. M., Michel, M. K., & Teti, L. O. D. (1994). The development of emotion regulation and dysregulation: A clinical perspective. *Monographs of the Society for Research in Child Development*, *59*(2-3), 73-102.

Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate
positive and negative emotions: a motivational model of alcohol use. *Journal of
Personality and Social Psychology*, *69*(5), 990-1005.

Dean, A. C., Altstein, L. L., Berman, M. E., Constans, J. I., Sugar, C. A., & McCloskey,
M. S. (2013). Secondary psychopathy, but not primary psychopathy, is associated
with risky decision-making in noninstitutionalized young adults. *Personality and
Individual Differences*, *54*(2), 272-277.

Donahue, J. J., Goranson, A. C., McClure, K. S., & Van Male, L. M. (2014). Emotion
dysregulation, negative affect, and aggression: A moderated, multiple mediator
analysis. *Personality and Individual Differences*, *70*, 23-28.

Donahue, J. J., McClure, K. S., & Moon, S. M. (2014). The relationship between
emotion regulation difficulties and psychopathic personality characteristics.
Personality Disorders: Theory, Research, and Treatment, *5*(2), 186-194.

Douglas, K.S., Herbozo, S., Poythress, N.G., Belfrage, H., & Edens, J.F. (2006).
Psychopathy and suicide: A multisample investigation. *Psychological Services,
3*(2), 97-116.

Drislane, L. E., Patrick, C. J., & Arsal, G. (2014). Clarifying the content coverage of
differing psychopathy inventories through reference to the Triarchic Psychopathy
Measure. *Psychological Assessment*, *26*(2), 350-362.

Edens, J. F., Buffington-Vollum, J. K., Colwell, K. W., Johnson, D. W., & Johnson, J.
K. (2002). Psychopathy and institutional misbehavior among incarcerated sex
offenders: A comparison of the Psychopathy Checklist-Revised and the

53

Personality Assessment Inventory. *International Journal of Forensic Mental Health*, *1*(1), 49-58.

Forouzan, E., & Cooke, D. J. (2005). Figuring out la femme fatale: Conceptual and assessment issues concerning psychopathy in females. *Behavioral Sciences & the Law*, *23*(6), 765-778.

Galietta, M., & Rosenfeld, B. (2012). Adapting dialectical behavior therapy (DBT) for the treatment of psychopathy. *International Journal of Forensic Mental Health,* *11*(4), 325-335.

Gelfand, L. A., Mensinger, J. L., & Tenhave, T. (2009). Mediation analysis: a retrospective snapshot of practice and more recent directions. *The Journal of General Psychology*, *136*(2), 153-178.

Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41-54.

Gross, J. J. (1998). The emerging field of emotion regulation: an integrative review. *Review of General Psychology*, *2*(3), 271-299.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, *26*(1), 1-26.

Gross, J. J., & Muñoz, R. F. (1995). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, *2*(2), 151-164.

Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life. In D. K. Snyder, J.A. Simpson & J.N. Hughes (Eds.), *Emotion regulation in families: Pathways to dysfunction and health*. Washington, DC: American Psychological Association.

Gyurak, A., Gross, J. J., & Etkin, A. (2011). Explicit and implicit emotion regulation: a dual-process framework. *Cognition and Emotion*, *25*(3), 400- 412.

Hall, J. R., Drislane, L. E., Patrick, C. J., Morano, M., Lilienfeld, S. O., & Poythress, N. G. (2014). Development and validation of Triarchic construct scales from the psychopathic personality inventory. *Psychological Assessment*, *26*(2), 447- 461.

Hall, J. R., Benning, S. D., & Patrick, C. J. (2004). Criterion-related validity of the three-factor model of psychopathy personality, behavior, and adaptive functioning. *Assessment*, *11*(1), 4-16.

Hastings, M. E., Tangney, J. P., & Stuewig, J. (2008). Psychopathy and identification of facial expressions of emotion. *Personality and Individual Differences*, *44*(7), 1474-1483.

Hathaway, S. R., & McKinley, J. C. (1943). *The Minnesota Multiphasic Personality Inventory*. Minneapolis: University of Minnesota Press.

Hare, R. D. (1991). *Manual for the Revised Psychopathy Checklist.* Toronto: Multi-Health Systems.

Hare, R. D., T. J., & Hemphill, J. F. (1989). Scoring pamphlet for the Self-Report Psychopathy scale: SRP-II. Unpublished document, Simon Fraser University, Vancouver, Canada.

Harpur, T. J., Hakstian, A. R., & Hare, R. D. (1988). Factor structure of the Psychopathy Checklist. *Journal of Consulting and Clinical Psychology*, 56, 741-747.

Harpur, T.J., Hare, R. D., & Hakstian, A.R (1989) Two- factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 1*, 6-17.

Hart, S. D., & Hare, R. D. (1989). Discriminant validity of the Psychopathy Checklist in a forensic psychiatric population. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *1*(3), 211-218.

Hicks, B. M., Markon, K. E., Patrick, C. J., Krueger, R. F., & Newman, J. P. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment*, *16*(3), 276-288.

Hicks, B. M., & Patrick, C. J. (2006). Psychopathy and negative emotionality: analyses of suppressor effects reveal distinct relations with emotional distress, fearfulness, and anger-hostility. *Journal of Abnormal Psychology*, *115*(2), 276-287.

Hicks, B. M., Vaidyanathan, U., & Patrick, C. J. (2010). Validating female psychopathy subtypes: differences in personality, antisocial and violent behavior, substance abuse, trauma, and mental health. *Personality Disorders: Theory, Research, and Treatment*, *1*(1), 38-57.

John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality*, *72*(6), 1301-1334.

Jones, S., & Miller, J. D. (2012). Psychopathic traits and externalizing behaviors: A

    comparison of self-and informant reports in the statistical prediction of

    externalizing behaviors. *Psychological Assessment, 24*(1), 255-260.

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical

    types: the symptomatic and the idiopathic. *Journal of Criminal Psychopathology*

    3(1), 112-137.

Karpman, B. (1948). The myth of the psychopathic personality. *American Journal of*

    Psychiatry, *104*(9), 523-534.

Karpman, B. (1948). Conscience in the psychopath: another version. *American Journal*

    of Orthopsychiatry, *18*(3), 455-491.

Kennealy, P. J., Hicks, B. M., & Patrick, C. J. (2007). Validity of Factors of the

    Psychopathy Checklist—Revised in Female Prisoners Discriminant Relations

    With Antisocial Behavior, Substance Abuse, and Personality. *Assessment*, *14*(4),

    323-340.

Kirsch, L. G., & Becker, J. V. (2007). Emotional deficits in psychopathy and sexual

    sadism: Implications for violent and sadistic behavior. *Clinical Psychology*

    Review, *27*(8), 904-922.

Kreis, M. K., & Cooke, D. J. (2011). Capturing the psychopathic female: A

    prototypicality analysis of the Comprehensive Assessment of Psychopathic

    Personality (CAPP) across gender. *Behavioral Sciences & the Law*, *29*(5), 634-

    648.

Lander, G. C., Lutz-Zois, C. J., Rye, M. S., & Goodnight, J. A. (2012). The differential

association between alexithymia and primary versus secondary psychopathy.

Personality and Individual Differences, *52*(1), 45-50.

Leistico, A. M. R., Salekin, R. T., DeCoster, J., & Rogers, R. (2008). A large-scale

meta-analysis relating the hare measures of psychopathy to antisocial conduct.

Law and Human Behavior, *32*(1), 28- 45.

Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic

attributes in a noninstitutionalized population. *Journal of Personality and Social

Psychology*, *68*(1), 151-158.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a

self-report measure of psychopathic personality traits in noncriminal population.

Journal of Personality Assessment, *66*(3), 488-524.

Lilienfeld, S. O., Widows, M. R., & Staff, P. A. R. (2005). Psychopathic Personality

Inventory-Revised. *Social Influence (SOI)*, *61*(65), 97-105.

Linehan, M. M. (1993). *Skills training manual for treating borderline personality

disorder*. New York, NY: Guilford Press.

Lykken, D. T. (1984). Psychopathic personality. In R. J, Corsini (Ed.), *Encyclopedia of

psychology* (pp. 165- 167). New York: Wiley.

Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *The Journal of

Abnormal and Social Psychology*, *55*(1), 6-10.

Long, K., Felton, J. W., Lilienfeld, S. O., & Lejuez, C. W. (2014). The role of emotion

regulation in the relations between psychopathy factors and impulsive and

premeditated aggression. *Personality Disorders: Theory, Research, and Treatment*, *5*(4), 390-396.

Lorber, M. F. (2004). Psychophysiology of aggression, psychopathy, and conduct problems: a meta-analysis. *Psychological Bulletin*, *130*(4), 531-552.

Malterer, M. B., Glass, S. J., & Newman, J. P. (2008). Psychopathy and trait emotional intelligence. *Personality and Individual Differences*, *44*(3), 735-745.

Malterer, M. B., Lilienfeld, S. O., Neumann, C. S., & Newman, J. P. (2010). Concurrent validity of the psychopathic personality inventory with of- fender and community samples. *Assessment, 17,* 3–15.

Marcus, D. K., Fulton, J. J., Edens, J. F. (2012) The two-factor model of psychopathic personality: Evidence from the psychopathic personality inventory. *Personality Disorders: Theory, Research, and Treatment, 3*(2), 140-154.

Marsh, A. A., & Blair, R. J. R. (2008). Deficits in facial affect recognition among antisocial populations: a meta-analysis. *Neuroscience & Biobehavioral Reviews*, *32*(3), 454-465.

Mauss, I. B., Troy, A. S., & LeBourgeois, M. K. (2013). Poorer sleep quality is associated with lower emotion-regulation ability in a laboratory paradigm. *Cognition & Emotion*, *27*(3), 567-576.

McCord, W, & McCord, J. (1964). *The psychopath: An essay on the criminal mind.* Oxford, England: Van Nostrand.

Miller, J. D., Gaughan, E. T., & Pryor, L. R. (2008). The Levenson Self-Report
  Psychopathy Scale An Examination of the Personality Traits and Disorders
  Associated With the LSRP Factors. *Assessment*, *15*(4), 450-463.

Miller, J. D., Dir, A., Gentile, B., Wilson, L., Pryor, L. R., & Campbell, W. K. (2010).
  Searching for a vulnerable dark triad: Comparing factor 2 psychopathy,
  vulnerable narcissism, and borderline personality disorder. *Journal of
  Personality*, *78*(5), 1529-1564.

Mitchell, D. G., Colledge, E., Leonard, A., & Blair, R. J. R. (2002). Risky decisions and
  response reversal: is there evidence of orbitofrontal cortex dysfunction in
  psychopathic individuals?. *Neuropsychologia*, *40*(12), 2013-2022.

Morey, L. C. (1991). *Personality assessment inventory: Professional manual.* Tampa,
  FL: Psychological Assessment Resources.

Nolen-Hoeksema, S., Stice, E., Wade, E., & Bohon, C. (2007). Reciprocal relations
  between rumination and bulimic, substance abuse, and depressive symptoms in
  female adolescents. *Journal of Abnormal Psychology*, *116*(1), 198-207.

Patrick, C. J., Curtin, J. J., & Tellegen, A. (2002). Development and validation of a brief
  form of the Multidimensional Personality Questionnaire. *Psychological
  Assessment*, *14*(2), 150-163.

Patrick, C. J. (2010). *Operationalizing the triarchic conceptualization of psychopathy:
  Preliminary description of brief scales for assessment of Boldness, Meanness,
  and Disinhibition.* Unpublished test manual, Florida State University,
  Tallahassee, FL. 1110-1131.

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*(03), 913-938.

Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights.

        Psychophysiology, *31*(4), 319-330.

Patrick, C. J. (1995). Emotion and temperament in psychopathy. *Clinical Science*, *5*, 5-8.

Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., & Benning, S. D. (2006).

        Construct validity of the psychopathic personality inventory two-factor model

        with offenders. *Psychological Assessment*, *18*(2), 204-208.

Patterson, C. M., & Newman, J. P. (1993). Reflectivity and learning from aversive

        events: toward a psychological mechanism for the syndromes of Disinhibition.

        Psychological Review, *100*(4), 716-736.

Paris, J. (2007). The nature of borderline personality disorder: multiple dimensions,

        multiple symptoms, but one category. *Journal of Personality Disorders*, *21*(5),

        457-473.

Penney, S. R., & Moretti, M. M. (2010). The roles of affect dysregulation and deficient

        affect in youth violence. *Criminal Justice and Behavior*, *37*(6), 709-731.

Poythress, N. G., Skeem, J. L., & Lilienfeld, S. O. (2006). Associations among early

        abuse, dissociation, and psychopathy in an offender sample. *Journal of Abnormal*

        Psychology, *115*(2), 288-297.

Poythress, N. G., Edens, J. F., Skeem, J. L., Lilienfeld, S. O., Douglas, K. S., Frick, P. J.,

        ... & Wang, T. (2010). Identifying subtypes among offenders with antisocial

personality disorder: a cluster-analytic study. *Journal of Abnormal Psychology*, *119*(2), 389- 400.

Prado, C. E., Treeby, M. S., & Crowe, S. F. (2015). Examining relationships between facial emotion recognition, self-control, and psychopathic traits in a non-clinical sample. *Personality and Individual Differences*, *80*, 22-27.

Quoidbach, J., Berry, E. V., Hansenne, M., & Mikolajczak, M. (2010). Positive emotion regulation and well-being: Comparing the impact of eight savoring and dampening strategies. *Personality and Individual Differences*, *49*(5), 368-373.

Robins, L. N. (1978). Sturdy childhood predictors of adult antisocial behavior: Replications from longitudinal studies. *Psychological Medicine*, 8, 611-622.

Rogstad, J. E., & Rogers, R. (2013). *Emotional expression deficits in offenders: Empathy and alexithymia as predictors of psychopathic traits*. Manuscript under revision.

Rutherford, M. J., Alterman, A. I., Cacciola, J. S., & McKay, J. R. (1997). Validity of the Psychopathy Checklist-Revised in male methadone patients. *Drug and Alcohol Dependence*, *44*(2), 143-149.

Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta‐analysis of the psychopathy checklist and psychopathy checklist‐revised: predictive validity of dangerousness. *Clinical Psychology: Science and Practice*, *3*(3), 203-215.

Salekin, R. T., Rogers, R., & Sewell, K. W. (1997). Construct validity of psychopathy in a female offender sample: A multitrait–multimethod evaluation. *Journal of Abnormal Psychology*, *106*(4), 576-585.

Salsman, N. L., & Linehan, M. M. (2012). An investigation of the relationships among

   negative affect, difficulties in emotion regulation, and features of borderline

   personality disorder. *Journal of Psychopathology and Behavioral Assessment*,

   34(2), 260-267.

Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional

   attention, clarity, and repair: Exploring emotional intelligence using the Trait

   Meta-Mood Scale. *Emotion, Disclosure, and Health*, Washington, DC: American

   Psychological Association; 125-154.

Salters-Pedneault, K., Roemer, L., Tull, M., Rucker, L., & Mennin, D. S. (2006).

   Evidence of broad deficits in emotion regulation associated with chronic worry

   and generalized anxiety disorder. *Cognitive Therapy and Research, 30,* 469-480.

Selby, E. A., Anestis, M. D., Bender, T. W., & Joiner, T. E., Jr. (2009). An exploration

   of the emotional cascade model in borderline personality disorder. *Journal of

   Abnormal Psychology, 118*(2)*,* 375–387.

Sellbom, M., & Phillips, T. R. (2013). An examination of the triarchic conceptualization

   of psychopathy in incarcerated and non incarcerated samples. *Journal of

   Abnormal Psychology*, *122*(1), 208-214.

Sheppes, G., Scheibe, S., Suri, G., Radu, P., Blechert, J., & Gross, J. J. (2014). Emotion

   regulation choice: a conceptual framework and supporting evidence. *Journal of

   Experimental Psychology: General*, *143*(1), 163-181.

Sheppes, G., Suri, G., & Gross, J. J. (2015). Emotion regulation and psychopathology.

   Annual Review of Clinical Psychology, *11*, 379-405.

Shine, J., & Hobson, J. (1997). Construct validity of the Hare Psychopathy Checklist, Revised, on a UK prison population. *Journal of Forensic Psychiatry*, *8*(3), 546-561.

Skeem, J., Johansson, P., Andershed, H., Kerr, M., & Louden, J. E. (2007). Two subtypes of psychopathic violent offenders that parallel primary and secondary variants. *Journal of Abnormal Psychology*, *116*(2), 395- 409.

Skeem, J. L., Poythress, N., Edens, J. F., Lilienfeld, S. O., & Cale, E. M. (2003). Psychopathic personality or personalities? Exploring potential variants of psychopathy and their implications for risk assessment. *Aggression and Violent Behavior*, *8*(5), 513-546.

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*(3), 95-162.

Skeem, J. L., & Mulvey, E. P. (2001). Psychopathy and community violence among civil psychiatric patients: results from the MacArthur Violence Risk Assessment Study. *Journal of Consulting and Clinical Psychology*, *69*(3), 358-374.

Smith, S. S., & Newman, J. P. (1990). Alcohol and drug abuse-dependence disorders in psychopathic and nonpsychopathic criminal offenders. *Journal of Abnormal Psychology*, *99*(4), 430-439.

Spitzer, R. L., Endicott, J., & Robins, E. (1975). Clinica1 criteria for psychiatric diagnosis and DSM-III. *American Journal of Psychiatry*, *131*, 1187- 1197.

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*(2), 127-139.

Sprague, J. (2015). *Psychopathy as a female phenotypic expression of borderline*

personality disorder? Implications for the latent structure of emotional

dysregulation. (Doctoral dissertation). University of Illinois at Urbana-

Champaign. Retrieved from ProQuest Dissertations and Theses. (Accession

Order No. AA13614709).

Stanley, J. H., Wygant, D. B., & Sellbom, M. (2013). Elaborating on the construct

validity of the triarchic psychopathy measure in a criminal offender sample.

Journal of Personality Assessment, *95*(4), 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(3),

327-338.

Sullivan, E. A., Blonigen, D. M., Hicks, B. M., & Patrick, C. J. (2008). Relations among

psychopathy, trauma, posttraumatic stress disorder, and personality in female

prisoners. *Journal of Personality Disorders. 13*(1), 90-95.

Swendsen, J. D., Tennen, H., Carney, M. A., Affleck, G., Willard, A., & Hromi, A.

(2000). Mood and alcohol consumption: an experience sampling test of the self-

medication hypothesis. *Journal of Abnormal Psychology*, *109*(2), 198-204.

Thompson, R. A. (1994). Emotion regulation: A theme in search of definition.

Monographs of the Society for Research in Child Development, 59(2–3), 25-52.

Thompson, R. A., & Calkins, S. D. (1996). The double-edged sword: Emotional
    regulation for children at risk. *Development and Psychopathology*, *8*(01), 163-
    182.

van Honk, J., Hermans, E. J., Putman, P., Montagne, B., & Schutter, D. J. (2002).
    Defective somatic markers in sub-clinical psychopathy. *Neuroreport*, *13*(8),
    1025-1027.

Verona, E., Patrick, C. J., & Joiner, T. E. (2001). Psychopathy, antisocial personality,
    and suicide risk. *Journal of Abnormal Psychology*, *110*(3), 462-470.

Verona, E., Hicks, B. M., & Patrick, C. J. (2005). Psychopathy and suicidality in female
    offenders: mediating influences of personality and abuse. *Journal of Consulting
    and Clinical Psychology*, *73*(6), 1065-1073.

Verona, E., Sprague, J., & Javdani, S. (2012). Gender and factor-level interactions in
    psychopathy: Implications for self-directed violence risk and borderline
    personality disorder symptoms. *Personality Disorders: Theory, Research, and
    Treatment*, *3*(3), 247-262.

Verona, E., & Vitale, J. (2006). *Psychopathy in women: Assessment, manifestations, and
    etiology. In: Handbook of Psychopathy*. New York: NY, US: Guilford Press,
    415-436.

Walters, G. D. (2003). Predicting institutional adjustment and recidivism with the
    psychopathy checklist factor scores: a meta-analysis. *Law and Human Behavior*,
    27(5), 541-558.

Watson, D., & Clark, L. A. (1994). *The PANAS-X: Manual for the positive and negative affect schedule-expanded form.* Iowa City: University of Iowa. Retrieved from http://www.psychology.uiowa.edu/Faculty/Watson/Watson.html.

Werner, K., & Gross, J. J. (2010*). Emotion regulation and psychopathology: A conceptual framework*. New York: NY, US: Guilford Press, 13-37.

Williamson, S., Harpur, T. J., & Hare, R. D. (1991). Abnormal processing of affective words by psychopaths. *Psychophysiology*, *28*(3), 260-273.

Willmott, L., Casey, H., Rogers, R.D., Yiend, J., 2009. F*acial emotion processing in psychopathy.* In: Freitas-Magalhaes, A. (Ed.), Emotional Expression: The Brain and the Face. University Fernando Pessoa Press, Porto.

Zeigler-Hill, V., & Vonk, J. (2015). Dark personality features and emotion dysregulation. *Journal of Social and Clinical Psychology, 34*(8), 692-704.

Zanarini, M. C., Frankenburg, F. R., Dubo, E. D., Sickel, A. E., Trikha, A., Levin, A., & Reynolds, V. (1998). Axis II comorbidity of borderline personality disorder. *Comprehensive Psychiatry*, *39*(5), 296-302.

APPENDIX

Table 1. Means and Standard Deviations Across Gender

	Females	Males	*t*	*df*
		Gender		
Boldness	29.94(8.58)	36.35(8.60)	7.33**	388
Meanness	10.41(6.63)	18.78(8.91)	10.63**	388
Disinhibition	13.99(7.53)	15.36(8.26)	1.72	388
Emotion Dysregulation	87.53(18.96)	83.43(19.42)	-2.105*	388
Borderline Features	11.70 (5.36)	10.06(4.33)	-3.25**	388
Negative Affect	49.94(17.26)	47.69(16.08)	-1.32	388

Note: * = p < .05, ** = p < .01. Boldness, Meanness, and Disinhibition are measured by the Triarchic Psychopathy Measure (TriPM). Emotion Dysregulation is measured by the Difficulties in Emotion Regulation Scale (DERS). Borderline Features is measured by the Personality Assessment Inventory Borderline Features Scale (PAI). Negative Affect is measured by the Positive Affect and Negative Affect Schedule (PANAS-X). Standard Deviations appear in parenthesis.

Table 2. Correlations Across Male Sample

Variables	1	2	3	4	5	6
1. Boldness	-					
2. Meanness	.12	-				
3. Disinhibition	-.20**	.57**	-			
4. Emotion Dysregulation	-.49**	.26**	.58**	-		
5. Borderline Features	-.10	.11	.30**	.34**	-	
6. Negative Affect	-.44**	.26**	.56**	.62**	.33**	-

Note: * $p < 05$. ** $p < .01$. ($n = 176$)

Table 3. Correlations Across Female Sample

Variables	1	2	3	4	5	6
1. Boldness	-					
2. Meanness	.33**	-				
3. Disinhibition	-.06	.42**	-			
4. Emotion Dysregulation	-.37**	.15*	.35**	-		
5. Borderline Features	.00	.15*	.23**	.46**	-	
6. Negative Affect	-.39**	.18*	.34**	.70**	.46**	-

Note: * $p < 05$. ** $p < .01$. ($n = 214$)

Table 4. Bivariate Correlations Between TriPM Facets and DERS Subscales Across Male Sample

	TriPM Total	Boldness	Meanness	Disinhibition
Nonacceptance	.10	-.30**	.11	.39**
Goals	.10	-.33**	.15	.40**
Impulse	.22**	-.38**	.27**	.57**
Awareness	.21**	-.03	.27**	.20*
Strategies	.00	-.49**	.11	.40**
Clarity	.15	-.36**	.24**	.42**

*Note: * p < 05. ** p < .01.*

Table 5. Bivariate Correlations Between TriPM Facets and DERS Subscales Across Female Sample

	TriPM Total	Boldness	Meanness	Disinhibition
Nonacceptance	.00	-.29**	.12	.16*
Goals	-.08	-.27**	-.10	.23**
Impulse	.19**	-.20**	.23**	.42**
Awareness	.12	.00	.23**	.05
Strategies	-.09	-.39**	.03	.22**
Clarity	.05	-.29**	.17*	.30**

*Note: * p < 05. ** p < .01.*