EMOTIONAL DYSREGULATION AND BORDERLINE PERSONALITY
DISORDER: EXPLAINING THE LINK BETWEEN SECONDARY
PSYCHOPATHY AND ALEXITHYMIA

Thesis

Submitted to

The College of Arts and Sciences of the
UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for
the Degree

Master of Arts in Psychology

By

Leigh Elizabeth Ridings
UNIVERSITY OF DAYTON

Dayton, Ohio

August, 2011

EMOTIONAL DYSREGULATION AND BORDERLINE PERSONALITY
DISORDER: EXPLAINING THE LINK BETWEEN SECONDARY
PSYCHOPATHY AND ALEXITHYMIA

Ridings, Leigh Elizabeth

APPROVED BY:

Catherine L. Zois
Faculty Advisor

Carolyn E. Roecker Phelps
Committee Member

Roger N. Reeb
Committee Member

Concurrence:

Carolyn E. Roecker Phelps
Chair, Department of Psychology

ABSTRACT

EMOTIONAL DYSREGULATION AND BORDERLINE PERSONALITY DISORDER: EXPLAINING THE LINK BETWEEN SECONDARY PSYCHOPATHY AND ALEXITHYMIA

Ridings, Leigh Elizabeth
University of Dayton

Advisor: Dr. C. L. Zois

While researchers have studied the fields of psychopathy and alexithymia for decades, research identifying and explaining the overlap between the two disorders is in its infancy. Past research has shown that alexithymia and psychopathy are positively correlated with each other (Kroner & Forth, 1995; Louth, Hare, & Linden, 1998). Further, a unique study by Lander, Zois, and Porco (2011) revealed a significant positive correlation between secondary psychopathy and alexithymia, but not primary psychopathy and alexithymia. However, little is known about what accounts for this differential association. Because both alexithymia (Webb & McMurran, 2008) and secondary psychopathy (Blackburn, 1996) have been linked to Borderline Personality Disorder (BPD), the current study sought to determine if emotional processing deficits which are characteristic of BPD could explain the link between secondary psychopathy and alexithymia. The results supported the hypothesis that alexithymia would be significantly positively associated with secondary, but not primary psychopathy. The results also supported the hypothesis that BPD and emotional dysregulation would both

partially explain the relationship between secondary psychopathy and alexithymia, in that the relationship between secondary psychopathy and alexithymia diminished when BPD and emotional dysregulation were statistically controlled. Other related findings will be discussed. Implications, limitations, and future directions are also discussed.

ACKNOWLEDGEMENTS

My special thanks are in order to Dr. Catherine Zois, my advisor, for providing the time and equipment necessary for the work contained herein, and for directing this thesis and bringing it to its conclusion with patience and expertise. It is because of your guidance, your knowledge, and your perpetual patience that this project has come to a thorough ending, and that my comprehension and understanding has been broadened in the field of research. I am forever grateful for your effort toward shaping me to be an exceptional researcher.

I would also like to acknowledge and thank my thesis committee members, Dr. Carolyn Roecker Phelps and Dr. Roger Reeb, who have taken their invaluable time to review this project and aid in its development and improvement. It is also necessary to express my appreciation to Dr. David Biers who taught me the fundamental elements of research design and statistics, who always had faith in me, and who taught me to never lose faith in myself as a researcher.

I would also like to express my appreciation to everyone who has helped with the work. This includes Jonathan Hentz, who helped tremendously with statistics and gave me support throughout this process; Dr. Keri Kirschman, who provided assistance with the

methods section during a difficult time; and my parents who provided endless encouragement, support, and advice throughout the entirety of this project.

TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGEMENTS	v
LIST OF TABLES.....	viii
INTRODUCTION	1
METHOD	22
RESULTS	31
DISCUSSION	41
REFERENCES	53
APPENDICES	
A. DEMOGRAPHICS MEASURE	73
B. LEVENSON SELF-REPORT PSYCHOPATHY SCALE (LSRP)	74
C. TORONTO ALEXITHYMIA SCALE (TAS-20)	76
D. COOLIDGE AXIS II INVENTORY (CATI)	78
E. EMOTION REGULATION QUESTIONNAIRE (ERQ)	82
F. DIFFICULTIES IN EMOTION REGULATION SCALE (DERS)	83
G. BALANCED INVENTORY OF DESIRABLE RESPONDING (BIDR)	85

LIST OF TABLES

1. Descriptive statistics for primary and secondary psychopathy, alexithymia, Borderline Personality Disorder, cognitive reappraisal, expressive suppression, emotional dysregulation, and social desirability	32
2. Intercorrelations between alexithymia, primary and secondary psychopathy, BPD, cognitive reappraisal, and expressive suppression, while controlling for age and impression management	35
3. Hierarchical regression analysis predicting the effects of BPD and emotional dysregulation on the relationship between secondary psychopathy and alexithymia	36
4. Intercorrelations between alexithymia, secondary psychopathy, and emotional dysregulation while controlling for age and impression management	38
5. Intercorrelations between primary and secondary psychopathy and alexithymia subscales	40

INTRODUCTION

Psychopathy is a complex psychological problem that has intrigued researchers for over half a century. Hervey Cleckley (1941) first coined the term “psychopathy” when he described the syndrome in terms of “chronic behavioral deviance” (e.g., persistent problems with the law), “emotional-interpersonal deficits” (e.g., lack of remorse), and “features of positive adjustment” (e.g., superficial charm). Further, Cleckley (1941) and Karpman (1941) suggested that psychopathy is characterized by an incapacity to feel higher human emotions such as empathy, anxiety, or guilt, as well as an inability to form loving attachments with others.

Though the construct of psychopathy has been recognized for several decades, much is still unknown about its relationship with other disorders. Scholars have begun to speculate about a possible link between alexithymia and psychopathy (Kroner & Forth, 1995; Louth, Hare, & Linden, 1998). Krystal (1979) indicated that persons with alexithymia experience violent bursts of emotional behavior but are unaware of their underlying feelings during such instances. Because of their limited insight into their own emotions, they may be unable to empathize with others. Additionally, Kroner and Forth (1995) suggested that because those with psychopathy and those with alexithymia have marked difficulties interpreting the emotions they are experiencing and, consequently, are unable to empathize, they may exhibit violent bursts of behavior and aggression. Further, research suggests that both individuals with alexithymia and with psychopathy typically

have few close interpersonal relationships and lack the ability to be introspective (Haviland, Sonne, & Kowert, 2004; Kroner & Forth, 1995). Thus, both psychopathy and alexithymia may share some fundamental factor that contributes to the violent behavior and affective and interpersonal deficits evident within each set of psychological symptoms; these common features suggest a possible overlap in these two clinical syndromes.

In one of the first studies to examine the link between these two clinical syndromes, Louth et al. (1998) utilized the Psychopathy Checklist-Revised (PCL-R) to examine this association. The PCL-R consists of two factors: one which is thought to measure interpersonal and affective impoverishment (Factor 1) and a second which is thought to measure impulsivity and an antisocial lifestyle (Factor 2) as experienced by all individuals with secondary psychopathy. Louth et al. (1998) discovered that Factor 2 of the PCL-R was positively correlated with items on the Toronto Alexithymia Scale (TAS) that signify an inability to discriminate feelings and bodily sensations. Likewise, Kroner and Forth (1995) found a significant relationship between Factor 2 of the PCL-R and a subscale of the TAS labeled Experiencing and Utilizing Emotion. Both of these studies found a significant, positive relationship between items on the TAS and the PCL-R Factor 2, as well as a negative relationship, or no relationship, with the PCL-R Factor 1. Though, as Skeem, Johansson, Andershed, Kerr, and Louden (2007) have noted, the PCL-R was not developed to specifically measure primary and secondary psychopathy, researchers have asserted that individuals with primary psychopathy appear to experience a preponderance of features represented by Factor 1, and likewise those with secondary psychopathy are more likely to exhibit features represented by Factor 2 (Hicks, Markon,

Patrick, Krueger, & Newman, 2004). Thus, the findings by Louth et al. (1996) and Kroner and Forth (1995) may suggest that a relationship exists between alexithymia and secondary, but not primary psychopathy.

Karpman (1949) first differentiated between primary and secondary psychopathy when he suggested that individuals with primary psychopathy are essentially unable to experience emotions such as anxiety and skills such as empathy, whereas those with secondary psychopathy are more prone to experiencing guilt and negative emotions such as anxiety and depression. While not specifically designed to examine this relationship, previous studies point to specific similarities between secondary psychopathy and alexithymia (Haviland et al., 2004; Kroner & Forth, 1995; Louth et al., 1998; Skeem et al., 2007). For example, typical individuals with secondary psychopathy and alexithymia tend to be anxious and submissive, whereas those with primary psychopathy do not exhibit these behaviors (Haviland et al., 2004; Skeem et al., 2007).

Although these studies suggest some possible similarities between alexithymia and secondary psychopathy, only one study known to date has examined this relationship directly (Lander, Lutz-Zois, & Porco, 2011). Lander et al. (2011) found a significant positive correlation between secondary psychopathy and alexithymia and found a non-significant relationship between primary psychopathy and alexithymia. These findings further our knowledge of both disorders; however, it is still unclear what accounts for this differential pattern of relationships between alexithymia and primary versus secondary psychopathy.

Past research has found a positive relationship between Borderline Personality Disorder (BPD) and alexithymia (e.g., Webb & McMurran, 2008), as well as a positive

relationship between BPD and secondary psychopathy (e.g., Edens, Buffington-Vollum, Colwell, Johnson, & Johnson, 2002). Moreover, research indicates that emotional dysregulation is a core feature of BPD (Linehan, 1993) and alexithymia (Luminet, Rime, Bagby, & Taylor, 2004). Thus, it is possible that the presence of emotional dysregulation and BPD may partially explain this relationship between secondary psychopathy and alexithymia.

In the remainder of this introduction I will describe in more depth the constructs of psychopathy and alexithymia and the results of Lander et al.'s study (2011) examining secondary psychopathy and alexithymia. I will then discuss the theory and research on the relationships between secondary psychopathy and BPD, and between alexithymia and BPD. And finally, I will discuss a study that was designed to test the idea that emotional dysregulation deficits characteristic of BPD might, in part, explain the link between secondary psychopathy and alexithymia.

Characteristics of Primary and Secondary Psychopathy

When Hervey Cleckley first coined the term “psychopath” in 1941, he used it to describe an individual who was “lacking a conscience.” More recently, Robert Hare (2003) described persons with psychopathy as interpersonally charming but affectively shallow; he noted that they are prone to commit a wide array of antisocial acts and have impulsive, parasitic lifestyles. Those with psychopathy have also been described as intellectual, socially unusual persons without “emotional safeguards” (Herve, 2007). While each of these researchers’ characterizations of psychopathy suggests it is a unitary construct, other research indicates that psychopathy is a heterogeneous construct, where primary psychopathy and secondary psychopathy are distinct subtypes (Falkenbach,

Poythress, & Creevy, 2008; Hicks et al., 2004; Karpman, 1949; Poythress & Skeem, 2006; Skeem et al., 2007; Swogger & Kosson, 2007). Although several researchers divide psychopathy into primary and secondary subtypes, other categorization systems exist in addition to this model. For example, two types of psychopathic individuals have been identified—the *Gemutsamer* psychopath and the *Geltungsbedurftig* psychopath. The *Gemutsamer* psychopath is the haughty, arrogant individual with psychopathy who often causes suffering to others, while the *Geltungsbedurftig* is more of a demanding individual with psychopathy who undergoes internal suffering as a result of his or her mental abnormality (Herpertz & Sass, 2000).

Likewise, Millon and Davis (1998) categorized psychopathy differently than the often-used two-factor model; these researchers distinguished between several different subtypes of psychopathy. These subtypes include the unprincipled psychopath, the disingenuous psychopath, the risk-taking psychopath, the covetous psychopath, the spineless psychopath, the explosive psychopath, the abrasive psychopath, the malevolent psychopath, and the tyrannical psychopath. Although other typologies such as Millon and Davis' (1998) proposed subtypes and Herpertz and Sass' (2000) subtypes of psychopathy have been suggested, the distinction between primary and secondary psychopathy remains the one that has received the most empirical support. Therefore, much research has been done in an effort to distinguish characteristics and etiologies of primary and secondary psychopathy.

Karpman (1949), for example, asserted that primary and secondary psychopathy could be distinguished, in part, by susceptibility to negative emotions. Whereas individuals with primary psychopathy are thought to essentially be unable to experience

empathy and negative emotions such as anxiety, those with secondary psychopathy are more prone to experiencing guilt and other negative affect such as anxiety, anger, and depression.

Fowles and Dindo's (2006) proposed a Dual Deficit Model of psychopathy which highlights possible biological/neurological differences between primary and secondary psychopathy. They suggested that those with primary psychopathy exhibit reduced fear sensitivity, implicating subcortical deficits (i.e., amygdala, hippocampus) rendering the person disinhibited in the presence of exciting or harmful stimuli. Thus, persons with primary psychopathy are prone to dangerous or sensation-seeking behaviors. Those persons exhibiting secondary psychopathic traits, according to this Dual Deficit Model, experience deficits in executive functioning, which implicates the prefrontal cortex and cognitive strategies associated with controlling their behavior (i.e., attention focus, planning). Thus, this model suggests that those with secondary psychopathy experience greater difficulty with impulse control than those with primary psychopathy. In fact, research suggests that those with secondary psychopathy are more "hot-headed" and impulsive than those exhibiting primary psychopathy, as these impulsive individuals typically act based on emotions such as hatred and revenge (Karpman, 1955).

Additionally, other proposed etiological differences exist between the constructs of primary and secondary psychopathy. Karpman (1941; 1948) asserts that primary psychopathy is similar to secondary psychopathy phenotypically, but the difference lies within a heritable affective deficit which is evident predominantly in those with primary psychopathy. Other studies have found that, in contrast to primary psychopathy, secondary psychopathy is characterized etilogically by an acquired affective disturbance

which developed from some environmental cause (Blackburn & Maybury, 1985; Karpman, 1941; 1948; Lykken, 1995; Lynam, Whiteside, & Jones, 1999). For example, some studies have found that secondary psychopathy results from environmental causes such as parental abuse or rejection, harsh punishment, or parental overindulgence (Karpman, 1941; Poythress & Skeem, 2006; Skeem et al., 2007; Skeem, Poythress, Edens, Lilienfeld, & Cale 2003). These developmental precursors (e.g., parental abuse or neglect) are typically associated with neuroticism, impulsivity, aggression, and emotional reactivity, each of which is a core feature of secondary psychopathy (Blackburn & Maybury, 1985; Karpman, 1941; Kosson & Newman, 1995; Lykken, 1995; Lynam, Whiteside, & Jones, 1999; Mealey, 1995; Morrison & Gilbert, 2001). While it may be that each of these hypotheses distinguishing primary from secondary psychopathy jointly explains the differences between the clinical syndromes, research has proposed that those hypotheses regarding affective experience may also help explain the features of a second, related clinical syndrome, alexithymia (Kroner & Forth, 1995; Louth et al., 1998; Lander et al., 2011).

Characteristics of Alexithymia

Alexithymia is defined as a difficulty identifying and distinguishing between feelings and bodily sensations of emotional arousal, and a difficulty describing feelings to others (Nemiah, Freyberger, & Sifneos, 1976). Research suggests that at least four primary characteristics of alexithymia exist: difficulty identifying and describing feelings; inability to differentiate between physical sensations and emotional states; restricted creative activity (as made evident by a scarcity of fantasies and dreams); and a “stimulus-bound, externally oriented cognitive style” (Nemiah et al., 1976; Nemiah &

Sifneos, 1970; Salminen, Saarijarvi, & Aarela, 1995; Sifneos, 1973; 1996; 2000; Taylor, Bagby, & Parker, 1991; Zackheim, 2007). In addition to these difficulties, individuals with alexithymia also experience some interpersonal problems. People with alexithymia do not seem to understand and relate to the emotions of others, nor to their own emotions. Most likely as a result of this difficulty, they seem to exhibit a diminished ability to empathize with others, which exacerbates the problems within their interpersonal relationships (Krystal, 1979; Taylor, 1984).

One study investigating emotional deficits in alexithymia found that this clinical syndrome is associated with impairment in the regulation of strong emotional states (Luminet, Vermeulen, Demaret, Taylor, & Bagby, 2006). In this experiment, eighteen words (twelve emotional and six neutral) were presented to 82 undergraduate students selected on the basis of their alexithymia scores. In the first condition, the perceptual level of processing condition, participants were asked to decide whether each of the eighteen words was written in small, medium, or large font. In the semantic level of processing condition, participants were asked to estimate whether the definition of the word was correct on a 7-point Likert scale. After processing the list of items at the assigned level, participants completed a recall task. They listed the words they could recall and indicated whether the recall was associated with a “Remember” state of consciousness (having a specific memory of the time the word appeared on the screen, such as the feeling state experienced when viewing the word), a “Know” state of consciousness (the participant knew the word was there but cannot provide any further detail related to it), or if it was simply a “Guess” (the participant thought it was plausible that the word was presented, but was not certain that it was there).

Regarding the results of this study, no differences were found between low and high alexithymia students when neutral material was considered for both levels of processing. This suggests that high alexithymia is not related to any global deficit in the processing of neutral information. However, those students high in alexithymia tended to recall fewer emotion words when considering “remember” responses for both levels of processing than students low in alexithymia. Thus, not only do those with alexithymia have difficulties identifying the feelings that they are experiencing, because of this possible encoding deficit, they may also have difficulties remembering information related to emotions as well.

Another study that examined emotional processing deficits in those with alexithymia used emotion-provoking films to better understand this psychological problem. At the cognitive-experiential level, individuals who scored high on the alexithymia scale exhibited lower emotional responses than those who scored low on the alexithymia scale. However, these same individuals exhibited higher emotional responses at the physiological level than those persons who scored low on the alexithymia scale. These results demonstrate the acute difficulty that persons with alexithymia have with describing feelings, as their heart rates increased during an emotion-provoking movie (Luminet et al., 2004). Each of these studies points to some specific emotional processing deficits associated with alexithymia.

Association Between Alexithymia and Secondary Psychopathy

As stated previously, significant positive associations have been found between the PCL-R Factor 2 (impulsivity/antisocial lifestyle) and the TAS, while a negative relationship or no relationship was found with PCL-R Factor 1 (interpersonal and

affective impoverishment) and the TAS (Kroner & Forth, 1995; Louth et al., 1998). For instance, in one study, Kroner and Forth (1995) administered a packet of questionnaires including the TAS-20, the Basic Personality Inventory, the Balanced Inventory for Desirable Responding, the Multidimensional Aptitude Battery, and the PCL-R to a sample of 508 male inmates. Although Kroner and Forth (1995) found significant, negative correlations between several of the central facets of alexithymia and psychopathy, they discovered a positive correlation between Factor 2 of the PCL-R (impulsivity/antisocial lifestyle) and the subscale of the TAS-20 labeled “Importance of Emotions.”

In a study by Louth et al. (1998), researchers administered a packet of questionnaires to a sample of thirty-seven female inmates; of specific interest to the current study are the PCL-R and the TAS. Participants also read and answered questions about a typed story of the violent death of a child, and were then rated on their ability to empathize with the child on a scale of 0 to 5. No significant correlation between alexithymia and the PCL-R Factor 1 (interpersonal and affective impoverishment) was observed, but overall TAS scores were significantly associated with Factor 2 of the PCL-R (i.e., impulsiveness, poor behavioral controls). Although, as Skeem et al. (2007) have noted, the PCL-R was not developed to specifically measure primary and secondary psychopathy, research suggests that Factor 1 of the PCL-R is more closely associated with characteristics of primary psychopathy, whereas Factor 2 of the PCL-R is similar to secondary psychopathic traits (Hicks et al., 2004). Thus, these findings of the study by Kroner and Forth (1995) and Louth et al. (1998) may suggest that a relationship exists

between alexithymia and secondary, but not primary, psychopathy. These studies, however, did not directly measure primary and secondary psychopathy separately.

A more recent study by Lander et al. (2011) did directly measure primary and secondary psychopathy using two different methods in an effort to directly test the hypothesis that alexithymia would be associated with secondary psychopathy, but not primary psychopathy. The first method utilized the LSRP which contains primary and secondary psychopathy subscales. The second method combined the PPI-R and STAI to create four categories: those who scored low on the STAI but high on the PPI-R (primary psychopathy group), persons who scored high on the STAI and PPI-R (secondary psychopathy group), individuals who scored high on the STAI and low on the PPI-R (anxiety group), and persons who scored low on both the STAI and PPI-R (normal group). This approach of distinguishing between primary and secondary psychopathy also has been used in previous research (Vassileva, Kosson, Abramowitz, & Conrod, 2005). Lander and colleagues distributed six different measures to a sample of 104 undergraduate students at a private university in the Midwest, of particular interest to the current study are the Psychopathic Personality Inventory-Revised, the State-Trait Anxiety Inventory, the Levenson Self-Report Psychopathy Scale, the Toronto Alexithymia Scale.

The results of this study revealed a significant group difference between primary psychopathy and secondary psychopathy, with the secondary psychopathy group scoring higher on alexithymia than the primary psychopathy group. These results also found a significant, positive correlation between the TAS and the secondary psychopathy subscale of the LSRP, but a non-significant relationship between the TAS and the primary psychopathy subscale of the LSRP. Lander et al.'s study (2011) was unique in

that it was the first to test for and find a differential association between alexithymia and primary versus secondary psychopathy. However, it is still unclear as to what may account for these differential relationships that alexithymia demonstrates with secondary versus primary psychopathy. In the next section I will discuss the differential associations between alexithymia and Borderline Personality Disorder and between Borderline Personality Disorder and secondary psychopathy.

The Associations Between Borderline Personality Disorder and both Secondary Psychopathy and Alexithymia

Borderline personality disorder and secondary psychopathy. When examining the possible reasons for the link between alexithymia and secondary psychopathy, it is important to examine other related constructs that may help explain what accounts for this relationship. A third disorder, Borderline Personality Disorder (BPD), has been found to be related to secondary psychopathy (Blackburn, 1996; Christopher, Lutz-Zois, & Reinhardt, 2007; Stalenheim & von Knorring, 1998). BPD is characterized by severe interpersonal disruptions, impaired coping skills, and problems in regulating emotions, especially negative ones such as anger, sadness, and anxiety (Kehrer & Linehan, 1996). Blackburn (1996) stated that persons with secondary psychopathy “may be predominantly borderline personalities” and qualify more often for diagnoses of BPD than do those with primary psychopathy. Moreover, researchers have found that some symptoms of affective disruption and interpersonal struggles characteristic of BPD resemble the affective and interpersonal struggles of a person with psychopathy (Stalenheim & von Knorring, 1998).

Specific studies relating secondary psychopathy to BPD exist in addition to these conceptual links between the two clinical syndromes. For example, in one study by See (2009), 163 undergraduate students from a medium-sized university in the Midwest rated themselves on a number of measures, including the Coolidge Axis II Inventory (CATI), which measures BPD and Antisocial Personality Disorder, and two measures of psychopathy (PPI-R and LSRP). This study examined the hypothesis that BPD and Antisocial Personality Disorder represent sex-typed expressions of the underlying dimension of psychopathy. While the results did not support this hypothesis, a significant correlation between BPD and secondary psychopathy, but not primary, psychopathy was discovered.

Likewise, several other studies have found correlations between the PCL-R Factor 2 and BPD characteristics (Blackburn, 1996; Edens et al., 2002; Hart & Hare, 1989; Skeem et al., 2003). For example, using a sample of convicted sex offenders, a study by Edens et al. (2002) found significant correlations between Factor 2 of the PCL-R and characteristics of BPD, as measured by the Personality Assessment Inventory (PAI). Another study by Hart and Hare (1989) which utilized a sample of 80 male forensic patients also found a positive correlation between BPD and Factor 2 of the PCL-R (impulsivity/antisocial lifestyle). These researchers gathered all current medical, psychiatric, and psychological assessments, medical records, social history, and criminal history for each of the subjects. A number of raters scored each patient according to the PCL-R criteria, and each patient was also diagnosed using DSM-III Axis I and Axis II criteria. While Factor 1 (interpersonal and affective impoverishment) accounted for most of the association between the PCL-R and Axis II disorders, a positive correlation

between BPD and Factor 2 was evident in this study, thereby suggesting that BPD is positively associated with secondary psychopathy. Although there are limits to this study and ones like it (i.e., the PCL-R Factors 1 and 2 were not designed to directly correspond with primary and secondary psychopathy, respectively), this large amount of research provides support for the hypothesis that BPD and secondary psychopathy, or Factor 2 of the PCL-R which is thought to be associated with secondary psychopathy, are positively associated.

Borderline Personality Disorder and alexithymia. In addition to the stated relationship between BPD and secondary psychopathy, BPD has also been shown to be associated with alexithymia. Because BPD is characterized in part by problems identifying and distinguishing between different emotions these individuals experience, the definition of alexithymia might be conceptualized as a common characteristic of BPD. Further, some of these problems that are symptomatic of BPD have been associated with alexithymia, such as attachment problems (Troisi, D'Argenio, Peracchio, & Petti, 2001), substance use disorders (Cecero & Holmstrom, 1997), and eating disorders (Zonnevillle-Bender, van Goozen, Cohen-Kettenis, van Elburg, & van Engeland, 2002). Additionally, several studies have found that certain childhood traumas, such as broken home, dysfunctional family, family violence, child sexual abuse, and adult sexual abuse, are associated with both alexithymia and BPD (Berenbaum, 1996; Modestin, Furrer, & Malti, 2005; Zlotnick, Shea, Pearlstein, Simpson, Costello, & Begin, 1996). A study by Modestin et al. (2005) indicated that sexual abuse in childhood and in adulthood was a strong predictor of BPD, whereas family violence was a stronger predictor of alexithymia. These researchers did not find a correlation between alexithymia and sexual

abuse in their sample of non-patients. However, this may be due to the fact that BPD was controlled for, and BPD was associated with sexual abuse.

A number of studies have been done to examine the relationship between alexithymia and BPD. For example, one study looked at the association between alexithymia and several other disorders (i.e., depression, somatization) in medical students and members of a nursing staff of a district general hospital. The results of this study yielded a strong, positive relationship between alexithymia and BPD (Modestin, Furrer, & Malti, 2004). Additionally, one study found that alexithymia was the sole predictor of BPD traits in a sample of 134 university students (Webb & McMurran, 2008). Based on the results of this study, it could be that the relationship between these two clinical syndromes indicates that struggles with identifying, discriminating, understanding, and communicating emotions weakens one's ability to control such emotions. Research suggests that emotions act as a feedback system in that they can regulate behavior and interpersonal relations (e.g., Campos, Campos, & Barrett, 1989; Carver & Scheier, 1990). Berenbaum (1996) asserts that when an individual is unable to identify his or her emotions, he or she may consequently be unable to fully benefit from this feedback that emotions provide. Thus, Berenbaum suggests that BPD may be associated with alexithymia since emotional dysregulation is a central feature of BPD and because this inability to identify emotions contributes to the inability to regulate affect. Because BPD is correlated with both secondary psychopathy and alexithymia (but not with primary psychopathy), this suggests that BPD, or at least some core characteristics of BPD, may partially explain the relationship between alexithymia and secondary

psychopathy. In the next section, I will discuss one such characteristic, emotional dysregulation.

Emotional Dysregulation

In order to better understand the overlapping relationships between alexithymia, secondary psychopathy, and BPD, it is essential to examine the underlying theme that exists among them. One common deficit that continues to be evident in all three of these psychological problems is emotional dysregulation, which is characterized by high emotional reactivity, strong experienced emotional intensity, and a lack of skills for managing strong emotions (Webb & McMurran, 2008).

Emotional dysregulation and BPD. As noted above, researchers argue that emotional dysregulation is a core characteristic of BPD (Linehan, 1993; Trull, Widiger, Lynam, & Costa, 2003). Linehan et al. (1993) argued that individuals with BPD struggle with emotional instability as they may experience swift mood shifts in which emotional states could only last a few hours at a time. This emotional turbulence experienced by persons struggling with BPD is further evidenced by the fact that these people often suffer from chronic thoughts of emptiness and may exhibit a difficulty controlling intense anger (Paris, 2005). Thus, a difficulty in regulating emotion is, by definition, a central characteristic of BPD.

One particular treatment method which focuses on individuals' emotion regulation deficits tends to be effective in treating those individuals with BPD. Dialectical Behavior Therapy (DBT; Linehan, 1987, 1993a, b), the most researched treatment for BPD, attempts to target this difficulty that those with BPD experience in identifying and regulating these emotions. Emotion regulation skills constitute a core

component in DBT, and such skills are closely linked to Linehan's biosocial theory that BPD essentially is a disorder of persistent emotion dysregulation.

Emotional dysregulation and secondary psychopathy. Researchers also suggest that those with secondary psychopathy are more susceptible to extreme negative emotionality (e.g., intense anxiety and anger) (Lykken, 1995) and impulsivity, which may be a result of difficulties regulating emotion (Mealey, 1995), as opposed to those with primary psychopathy who calmly and purposefully carry out their actions and are more emotionally controlled and detached (Karpman, 1948; Levenson, Kiehl, & Fitzpatrick, 1995). In a study performed by Stinson, Becker, and Sales (2008), the results revealed that those who exhibited impulsivity and antisocial behaviors, which are evident in the behaviors exhibited by those with secondary psychopathy, appeared to have significant difficulty regulating negative affect, maintaining mood stability, and regulating impulsive behaviors. As mentioned previously, Blackburn (1996) asserted that persons with secondary psychopathy "may be predominantly borderline personalities" and may even qualify more often for diagnoses of BPD than do those with primary psychopathy. Based on the findings of each of these studies, emotional dysregulation and characteristics of BPD seem to be evident within those individuals suffering from secondary psychopathy.

Emotional dysregulation and alexithymia. Similarly, alexithymia is defined by emotional processing deficits (Kroner & Forth, 1995). Luminet et al. (2004) assert that difficulties verbally describing emotional states is a core feature of the alexithymia construct. Further, as previously mentioned, some studies discovered that struggles with identifying, discriminating, understanding, and communicating emotions, which ultimately leads to an impaired capacity to control these emotions, is evident in persons

with alexithymia (Berenbaum, 1996; Modestin et al., 2004; Webb & McMurran, 2008).

Thus, overall research seems to indicate that alexithymia, BPD, and secondary psychopathy each share a common theme, as they are all marked by some kind of emotional processing deficits.

Components of emotional dysregulation. Gross (1998) introduces five aspects of emotion regulation: a) situation selection; b) situation modification; c) attentional deployment; d) cognitive reappraisal; and e) expressive suppression. Situation selection, refers to the fact that, in order to regulate emotions, certain people, places, or objects must be approached or avoided. The next aspect Gross mentioned, situation modification, refers to active efforts made to modify a situation in order to alter the emotional influence it may elicit. Thirdly, attentional deployment refers to certain strategies employed that change attentional focus, such as distraction, concentration, and rumination. Fourthly, Gross asserts that cognitive reappraisal refers to the process of mental reframing to make a situation more positive. Finally, he describes expressive suppression as the suppression of an emotionally painful affect.

In order to better understand each of these components of emotional dysregulation, it is necessary to acknowledge and appreciate the various emotions people experience each day and to recognize which situations elicit these emotions and cognitions. For example, to understand situation selection, one should be able to recognize the different features of situations that normally evoke emotions (Scherer, Wallbott, & Summerfield, 1986). Once certain situations are selected and acknowledged, then the situations' emotional impacts can be modified, otherwise known in the literature as problem-focused coping (Lazarus & Folkman, 1984). Then, according to Gross, the

individual is able to move attention away from the immediate situation all together, utilizing the process of attentional deployment. This process can be achieved by strategies such as distraction, concentration, and rumination. Once the attention has been moved from the immediate situation, a cognitive reappraisal, such as denial, isolation, and intellectualization can occur to make a situation more positive. Finally, Gross suggests that the suppression of an emotionally-painful affect may decrease self-reported experience of certain emotions, such as pride and amusement, but not other emotions, such as disgust and sadness. This integrative method underscores the complexity of the process of affect regulation, and may provide clues as to the specific difficulties those with secondary psychopathy, alexithymia, and BPD face when experiencing these intense emotions.

Current Study

This study was designed to determine if BPD and the associated symptoms of emotional dysregulation help account for the relationship between alexithymia and secondary psychopathy found in a study conducted by Lander and colleagues (2011). Another goal of this study was to examine the relationship between two of Gross's (1998) emotional dysregulation processes (cognitive reappraisal and expressive suppression) and the four clinical syndromes investigated in this study—primary and secondary psychopathy, alexithymia, and BPD. Because research suggests that individuals with BPD, alexithymia, or secondary psychopathy may exhibit difficulties regulating emotions (i.e., Kroner & Forth, 1995; Linehan, 1993; Lykken, 1995), this study sought to determine if these individuals also have difficulties reframing their cognitions to make a

situation more positive, while those with primary psychopathy may not experience these difficulties.

Furthermore, individuals with alexithymia have difficulty labeling and describing affect (e.g., Luminet et al., 2006; Nemiah et al., 1976) thus, most likely resulting in the suppression of such affect. Additionally, research indicates that those with either primary or secondary psychopathy generally do not suppress emotionally painful affect, since persons with primary psychopathy may lack the ability to experience negative affect and persons with secondary psychopathy may have a tendency to experience these negative emotions such as anger and depression (Karpman, 1941; Lykken, 1995; Patrick, 1994). Individuals with BPD, however, are characterized by affective dysfunction (i.e., emotional intensity, reactivity, and lability) and disinhibition (i.e., impulsivity, sensation seeking, and risk taking) (Linehan, 1993; Livesley, Jang, & Vernon, 1998; Nigg, Silk, Stavro, & Miller, 2005; Siever & Davis, 1991; Skodol, Gunderson, Pfohl, Widiger, Livesley, & Siever, 2002). Thus, because these individuals report heightened affective instability (Bornovalova, Gratz, Delany-Brumsey, Paulson, Lejuez, 2006; Henry, Mitropoulou, New, Koenigsberg, Silverman, & Siever, 2001; Koenigsberg et al., 2002), it is likely that this emotional fluctuation results in expressive suppression at times, but not at others. Based on the research examining the relationship between emotion experience/regulation, it was then hypothesized that alexithymia would correlate positively with expressive suppression, whereas primary or secondary psychopathy would correlate negatively with this component of emotional dysregulation. Additionally, it was predicted that there would not be a significant correlation between BPD and expressive suppression as the fluctuations in this tendency may “cancel each other out.”

The hypotheses of the proposed study are as follows:

Hypothesis 1: Consistent with the results of Lander et al. (2011), alexithymia will not be correlated with primary psychopathy, but will be positively associated with secondary psychopathy.

Hypothesis 2: BPD and emotional dysregulation will both partially explain the relationship between secondary psychopathy and alexithymia. That is, upon statistically controlling for BPD and emotional dysregulation, the association between secondary psychopathy and alexithymia will be diminished.

Hypothesis 3: BPD, alexithymia, and secondary psychopathy will be negatively correlated with cognitive reappraisal, while primary psychopathy will not be significantly correlated to cognitive reappraisal. That is, individuals who score higher on BPD, alexithymia, or secondary psychopathy will engage in less cognitive reappraisal than individuals who are lower in these traits.

Hypothesis 4: Expressive suppression will be positively correlated with alexithymia, negatively correlated with primary psychopathy and with secondary psychopathy, and there will be no relationship between expressive suppression and BPD. That is, those high in alexithymia will exhibit more expressive suppression, those high in primary psychopathy or high in secondary psychopathy will exhibit less expressive suppression, and those high in BPD will not demonstrate a strong tendency toward either high or low levels of expressive suppression.

METHOD

Participants

Because of the possibility of a small base rate of persons with psychopathic attributes in a college student sample, I screened for this variable to increase the probability of having a sufficiently large number of persons with these attributes in this study. Thus, 200 students were sampled from a medium-sized private university in the Midwest and completed a packet of questionnaires. From this sample, 100 participants were selected to be used for the primary study analyses (more details about how this group was selected can be found in the procedures section). The optimal number of participants derived from a power analysis assuming a medium effect size and a power of .80 is approximately 100 (Cohen, 1988).

Of the participants used in the data analysis, 53 were males, 46 were females, and one student did not specify his or her gender. The participants' ages ranged from 18 to 22 years old, and the average age of the participants was 19 ($SD = .99$). In terms of ethnic composition, 88% of the sample was Caucasian, 4% was African American, 3% was Asian/Pacific Islander, 2% was Latino, 1% was Native American, and 2% belonged to another racial or ethnic group.

Measures

Levenson Self-Report Psychopathy Scale (LSRP). The LSRP (Levenson et al., 1995) was used in this study to measure psychopathic traits. The LSRP is a 26-item self-report measure that mirrors the contents of Hare's Psychopathy Checklist-Revised (PCL-

R). The items each include a 4-point scale ranging from “disagree strongly” to “agree strongly,” with reversed items to control for response sets. The LSRP measures both primary and secondary psychopathy, and the total scores range from 26 to 104. The scale for primary psychopathy has 16 items and is designed to assess the interpersonal and affective features of psychopathy (i.e., selfish and manipulative attitude towards others). The primary psychopathy subscale scores range from 16 to 64. An example of an item from this subscale is “For me, what’s right is what I can get away with.” The secondary scale includes 10 items and is designed to assess impulsivity and other antisocial behaviors (Levenson et al., 1995; Miller, Gaughan, & Pryor, 2008). The secondary subscale scores range from 10 to 40. An example of an item from this subscale is “I find myself in the same kinds of trouble, time after time.”

Levenson et al. (1995) found the primary and secondary scales to be positively correlated with each other ($r = .40$). Levenson et al. (1995) found Cronbach’s alpha for the total score, primary psychopathy score, and secondary psychopathy score to equal .82, .83, and .71, respectively. Subsequent studies have confirmed the finding that internal consistency is adequate (Falkenbach, Poythress, Falki, & Manchak, 2007; McHoskey, Worzel, & Szyarto, 1998; Ross & Rausch, 2001), with primary psychopathy scales often being somewhat higher ($\alpha = .82$) than secondary psychopathy scales ($\alpha = .63$) (Walters, Brinkley, Magaletta, & Diamond, 2008). Further, good test-retest reliability was found ($r = .83$) over an eight-week period (Lynam et al., 1999). The convergent validity for the LSRP when compared to the PCL-R has been found to be adequate ($r = .35$) (Brinkley, Schmitt, Smith, & Newman, 2001). Additionally, the convergent validity for the LSRP when compared to the Hare Self-Report Psychopathy

Scale (HSRP) was moderately high ($r = .64, .66$, and $.42$ for the LSRP total scale, primary scale, and secondary scale, respectively) (Lynam et al., 1999). The Cronbach's alphas for the primary scale, secondary scale, and total score in the current study were $.84, .60$, and $.84$, respectively. This measure can be found in Appendix B.

Toronto Alexithymia Scale (TAS-20). In the current study, the TAS-20 (Taylor, Bagby, & Parker, 1992) was used to measure the construct of alexithymia. The TAS-20 is a 20-item self-report measure with a 5-point Likert scale, ranging from “strongly agree” to “strongly disagree.” This test is designed to tap three different factors to correspond to the distinct facets of alexithymia: (Factor 1) difficulty identifying feelings and distinguishing them from bodily sensations of emotion (e.g., “I have feelings that I can't quite identify”), (Factor 2) difficulty describing feelings to others (e.g., “I find it hard to describe how I feel about people”), and (Factor 3) an externally oriented style of thinking (e.g., “I prefer to just let things happen rather than to understand why they turned out that way”) (Parker, Bagby, Taylor, Endler, & Schmitz, 1993). The current study utilized the total score for the primary analyses, which has a possible range of 20-100, and utilized each of the three facets for additional analyses.

This measure has shown high internal consistency, with Cronbach's alpha for the total score, factor 1 score, factor 2 score, and factor 3 score to be $.86, .91, .68$, and $.53$, respectively (Henry, Phillips, Crawford, Theodorou, & Summers, 2006). The TAS-20 has also received strong support for convergent and discriminant validity and modest support for concurrent validity (Bagby, Taylor, & Parker, 1994). For the current study, the Cronbach's alpha for the total score was $.81$, while the Cronbach's alphas for factor 1,

factor 2, and factor 3 were .83, .75, and .63, respectively. The measure can be found in Appendix C.

Coolidge Axis II Inventory (CATI). The Coolidge Axis II Inventory (CATI) was used as a measure of both BPD and Antisocial Personality Disorder (APD) in this study. Although the items related to BPD were of primary interest in this study, the APD items were kept in this measure and used for exploratory analyses. The CATI was formulated by Coolidge (1984) as a self-report measure of DSM personality disorders, and consists of 200 items in a 4-point Likert-type, or true-false, format ranging from “strongly false” to “strongly true.” For the current study, only the BPD and APD scales of the CATI were utilized, resulting in a total of 62 items (17 questions assessing BPD, with values possibly ranging from 23 to 92 for this scale; 39 questions assessing APD, with values possibly ranging from 45 to 180 for this scale; and 6 questions assessing both).

Overall, the CATI has demonstrated good reliability and validity. In one study by Coolidge (1993), the mean 1-week test-retest reliability coefficient for the total scores for the CATI was $r = .90$, while the Cronbach’s alpha for the Borderline scale was .80. The CATI has also demonstrated good validity, as Coolidge and Merwin (1992) found a 50% concordance rate with clinicians’ diagnoses for 24 personality-disordered out-patients. Further, Cale and Lilienfeld (2002) compared CATI scale scores with the Millon Clinical Multiaxial Inventory-II (MCMI-II) and found that the convergent validity correlations for BPD and APD scales were $r = .87$ and $r = .57$, respectively. Cronbach’s alphas for the Borderline scale, Antisocial scale, and overall scale for the current study were .87, .86, and .91, respectively. This measure can be found in Appendix D.

Emotion Regulation Questionnaire (ERQ). The ERQ (Gross & John, 2003) is a 10-item self-report questionnaire that measures different ways in which people tend to manage their emotions. This measure consists of two scales which correspond to two different emotion regulation strategies: cognitive reappraisal (6 items) and expressive suppression (4 items). Both the cognitive reappraisal subscale and the expressive suppression subscale were utilized in the primary analyses. The cognitive reappraisal scale assesses one's tendency to change the way he or she thinks. An example of one of these six items is "I control my emotions by changing the way I think about the situation I'm in." The cognitive reappraisal subscale scores range from 6 to 42. The expressive suppression scale, however, measures tendencies to inhibit or conceal the expression of different emotions one experiences. An example of one of these four items is "When I am feeling *negative* emotions, I make sure not to express them." The expressive suppression subscale scores range from 4 to 28. Each of these items is rated on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree."

Gross and John (2003) reported good internal consistency, with alphas for cognitive reappraisal ranging from $r = .75$ to $r = .82$, and alphas for expressive suppression ranging from $r = .68$ to $r = .76$. Furthermore, a study by Hofmann and Kashdan (2010) revealed that the specific expected subscales of the Affective Style Questionnaire were highly correlated with both subscales of the ERQ, thereby providing support for the construct validity of the ERQ. Specifically, the ASQ-Adjusting subscale and the cognitive reappraisal subscale were positively correlated ($r = .54$), and the ASQ-Concealing subscale and the expressive suppression subscale of the ERQ were also positively correlated ($r = .60$). For the current study, Cronbach's alpha for the cognitive reappraisal

factor was .80, for the expressive suppression factor was .52, and for the total scale was .56. The ERQ can be found in Appendix E.

Difficulties in Emotion Regulation Scale (DERS). The DERS is a 36-item self-report questionnaire developed by Gratz and Roemer (2004) that measures clinically significant difficulties in emotion regulation. Six subscales exist within this measure: (1) Lack of emotional awareness (AWARENESS) (6 items) (e.g., “I pay attention to how I feel” RS), (2) Lack of emotional clarity (CLARITY) (5 items) (e.g., “I have difficulty making sense out of my feelings”), (3) Difficulties controlling impulsive behaviors when distressed (IMPULSIVE) (6 items) (e.g., “When I’m upset, I lose control over my behaviors”), (4) Difficulties engaging in goal-directed behavior when distressed (GOAL) (5 items) (e.g., “When I’m upset, I have difficulty focusing on other things”), (5) Nonacceptance of negative emotional responses (NONACCEPTANCE) (6 items) (e.g., “When I’m upset, I feel ashamed at myself for feeling that way”), and (6) Limited access to effective emotion regulation strategies (STRATEGIES) (8 items) (e.g., “When I’m upset, I believe that wallowing in it is all I can do”). The current study utilized the total score for the DERS for primary analyses, but utilized each of the six subscales for additional analyses. Items are scored on a 5-point Likert scale ranging from “Almost never” to “Almost always.”

As reported in a study by Johnson, Zvolensky, Marshall, Gonzalez, Abrams, and Vujanovic (2008) the overall DERS score has indicated high internal consistency (Cronbach’s $\alpha = .93$). The subscale scores also have been found to possess high internal consistency (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007; Gratz, Tull, Baruch, Bornovalova, & Lejuez, 2008; Gratz & Roemer, 2004). Additionally, thirty-four of the

items had item total correlations above $r = .30$. Good support has also been found for construct and predictive validity for DERS scores (Fox et al. 2007; Gratz, Bornovalova, Delaney-Brumsey, Nick, & Lejuez, 2007; Gratz & Roemer, 2004, 2008). For example, Gratz and Roemer (2004) found significant positive correlations between the DERS and experiential avoidance subscales of the Generalized Expectancy for Negative Mood Regulation Scale (NMR) ($r = .60$) and significant negative correlations between the DERS and emotional expressivity subscales of the NMR ($r = -.23$). The overall correlation between the DERS and the NMR was $r = -.69$. Cronbach's alpha for the total score in the current study was .93, while the alphas for the six subscales listed above were .88 (AWARENESS), .87 (CLARITY), .85 (IMPULSIVE), .77 (GOAL), .89 (NONACCEPTANCE), and .81 (STRATEGY), respectively. This measure can be found in Appendix F.

Balanced Inventory of Desirable Responding (BIDR). The Balanced Inventory of Desirable Responding (BIDR) is an instrument used to measure the two components of social desirability: self-deceptive enhancement and impression management (Paulhus, 1984). Self-deceptive enhancement (SDE) represents perceived desirability (Peebles & Moore, 1998) and refers to an unconscious positive bias in responding to items with the aim of protecting positive self-esteem (Stober, Dette, & Musch, 2002). Impression management (IM), however, represents defensiveness (Peebles & Moore, 1998) and refers to the conscious adjustment of item responses with the goal of making a favorable impression on others (Stober et al., 2002). The BIDR contains 40 items, with twenty items associated with SDE and twenty items capturing IM. An example of an item on the SDE subscale is "I always know why I like things," and an example of an item on the IM

subscale is “When I hear people talking privately, I avoid listening.” Each of the items is presented in a 7-point Likert answer scale ranging from “not true” to “very true.” When scoring the BIDR, negatively keyed items are reversed and each “6” or “7” response on both SDE and IM items is awarded 1 point, while responses ranging from “1” to “5” are scored as “0” (Stober et al., 2002). Points are summed across all items to form subscale scores, and then by adding together the SDE and IM subscale scores, an overall measure of socially desirable responding can be determined. The score for each subscale can range from 0 to 20, while the range for the full measure is 0 to 40 (Peterson et al., 2003). The current study utilized an overall measure of socially desirable responding by adding together the SDE and IM subscale scores, each of which can range from 0 to 20, resulting in full scale scores ranging from 0 to 40.

The BIDR has been shown to have acceptable internal consistency, with values for the SDE and IM scales equaling .72 and .70, respectively (Laurenceau, Kleinman, Kaczynski, & Carver, 2010), and the Cronbach’s alpha for the overall measure of BIDR equaling .83 (Paulhus, 1991). Paulhus (1991) also found good concurrent validity as he found a high correlation of .80 between the BIDR and the Multidimensional Social Desirability Inventory. For the current study, Cronbach’s alphas for the SDE, IME, and total scale were .62, .71, and .74, respectively. The BIDR can be found in Appendix G.

Procedure

A questionnaire packet consisting of the Levenson’s Self Report Psychopathy Scale (LSRP; Levenson et al., 1995), the Toronto Alexithymia Scale (TAS-20; Bagby, Taylor, & Parker, 1992), the Coolidge Axis II Inventory (CATI; Coolidge, 1984), the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), the Difficulties in

Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), and the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991) was available on the Psychology Department's Research Sona System website for undergraduate students to complete for research credit in their introductory psychology courses. Once two hundred students completed these questionnaires online, fifty of these students who fell at least .61 standard deviation above the mean in psychopathy were selected, while another group of fifty students was randomly selected from this pool of 150 students. Because only thirty-two students fell one standard deviation above the mean in psychopathy, a criterion of .61 standard deviation above the mean was used to select those high in this attribute.

The measures were administered via a packet that included the demographic data sheet (found in Appendix A). This demographic data sheet was always completed first in the packet, while the order of the remaining measures was administered as follows: LSRP, TAS, CATI, ERQ, DERS, and BIDR. Upon completion of all measures in the packet, participants were thanked and debriefed in an online form.

RESULTS

Preliminary Analyses

All descriptive statistics for the continuous variables can be found in Table 1. In the current study, preliminary analyses were conducted examining the relationships between demographic variables or social desirability and secondary psychopathy and alexithymia in an effort to assess for potential confounding variables. Zero-order correlations were calculated between secondary psychopathy or alexithymia and age as well as the two social desirability subscales. The results revealed significant negative relationships between secondary psychopathy and age ($r = -.21, p < .05$), the self-deceptive enhancement subscale ($r = -.26, p < .05$), and the impression management subscale ($r = -.46, p < .01$), such that persons higher in age or either type of social desirability scored lower on secondary psychopathy. The correlations were not significant between alexithymia and age ($r = -.15, p > .05$) or between alexithymia and the impression management subscale ($r = -.18, p > .05$). In contrast, a significant negative relationship was found between alexithymia and the self-deceptive enhancement subscale ($r = -.35, p < .01$), such that persons scoring higher in self-deceptive enhancement scored lower on alexithymia. Thus, age and impression management were controlled for in the primary analyses. However, because self-deceptive enhancement is so conceptually similar to the construct of alexithymia, this variable was not controlled for in the primary analyses.

Table 1

Descriptive Statistics for Primary and Secondary Psychopathy, Alexithymia, Borderline Personality Disorder, Cognitive Reappraisal, Expressive Suppression, Emotional Dysregulation, and Social Desirability

Variables	Mean	Standard Deviation	Minimum-Maximum
Primary Psychopathy	33.18	7.33	17-49
Secondary Psychopathy	21.89	4.12	13-31
Alexithymia	52.59	10.50	26-74
BPD	49.86	10.63	28-78
Cognitive Reappraisal	28.97	5.54	12-42
Expressive Suppression	16.07	3.90	6-23
Emotional Dysregulation	91.33	21.16	48-147
Self-Deceptive Enhancement	4.71	2.85	0-15
Impression Management	4.48	3.10	0-13

Next, using a one-way Analysis of Variance (ANOVA), the association between ethnicity and secondary psychopathy or alexithymia was analyzed. Because of the small number of individuals who reported an ethnicity different from Caucasian, the variable of ethnicity was collapsed into two groups: Caucasian and Non-Caucasian. Then, two separate one-way ANOVA's were conducted with ethnicity as the grouping variable and either secondary psychopathy or alexithymia as the dependent variable. The results showed no significant group differences between ethnicity and secondary psychopathy, $F(1, 99) = .34, p > .05$ or alexithymia, $F(1, 99) = 3.23, p > .05$.

Finally, an independent-sample t-test was computed to examine the relationship between gender and secondary psychopathy or alexithymia, with gender as the grouping variable and secondary psychopathy or alexithymia as the dependent variable. The results were nonsignificant for the analyses involving either secondary psychopathy, $t(99) = 1.45, p > .05$ or alexithymia, $t(99) = -.40, p > .05$.

Primary Analyses

Hypothesis 1. This hypothesis stated that, consistent with Lander et al.'s (2011) study, alexithymia would not be correlated with primary psychopathy but would be positively associated with secondary psychopathy. To test the first hypothesis, partial correlations were calculated between alexithymia and both primary and secondary psychopathy while controlling for both age and impression management. In support of Hypothesis 1, such analyses found that secondary psychopathy was significantly positively correlated with alexithymia, $r = .32, p < .01$, such that those who scored higher in secondary psychopathy also scored higher in alexithymia, while no significant

correlation was found between primary psychopathy and alexithymia, $r = .21, p > .05$.

The results of Hypothesis 1 are summarized in Table 2.

Hypothesis 2. Hypothesis 2 was that, upon statistically controlling for BPD and emotional dysregulation, the association between secondary psychopathy and alexithymia would be diminished. Hierarchical multiple regression was used to test this hypothesis, where secondary psychopathy served as the criterion variable for these analyses. In this regression equation, age and IM were entered on the first step, while BPD and emotional dysregulation (as measured by the DERS) were then entered on the second step. On the final step, alexithymia was entered to test this hypothesis. The results supported Hypothesis 2 in that the $R^2\Delta$ value was not significant on the third step ($R^2\Delta = .00, p > .05$). These results are summarized in Table 3.

Hypothesis 3. This hypothesis stated that BPD, alexithymia, and secondary psychopathy would be negatively correlated with cognitive reappraisal, while primary psychopathy would not be significantly correlated with cognitive reappraisal. To test this hypothesis, partial correlations between cognitive reappraisal, BPD, alexithymia, and primary and secondary psychopathy, while controlling for age and IM, were conducted. These results supported this hypothesis in that significant negative correlations were found between cognitive reappraisal and BPD, $r = -.37, p < .01$, alexithymia, $r = -.33, p < .01$, and secondary psychopathy, $r = -.28, p < .05$, such that those who scored higher in cognitive reappraisal had lower scores on BPD, alexithymia, and secondary psychopathy. Further, as hypothesized, no significant correlation was found between cognitive reappraisal and primary psychopathy, $r = .02, p > .05$. Table 2 illustrates these results.

Table 2

Intercorrelations Between Alexithymia, Primary and Secondary Psychopathy, BPD, Cognitive Reappraisal, and Expressive Suppression, While Controlling for Age and Impression Management

Variable	Alexithymia	Primary	Secondary	BPD	Reappraisal	Suppression
Alexithymia	---	.21	.32**	.45**	-.33**	.43**
Primary Psychopathy		---	.27*	.04	.02	.17
Secondary Psychopathy			---	.54**	-.28*	-.01
Borderline Personality Disorder				---	-.37**	.05
Cognitive Reappraisal					---	-.09
Expressive Suppression						---

* $p < .05$

** $p < .01$

Table 3

Hierarchical Regression Analysis Predicting the Effects of BPD and Emotional Dysregulation on the Relationship Between Secondary Psychopathy and Alexithymia

Variable	β	t	p	$R^2 \Delta$	p
Step 1					
Age	-.12	-1.20	.23	.24	.00
Impression Management	-.46	-4.60	.00		
Step 2					
BPD	.43	3.32	.00	.23	.00
Emotional Dysregulation	.11	.92	.36		
Step 3					
Alexithymia	.05	.46	.65	.00	.65

Note: $R^2 = .24$ for step 1; $R^2 = .47$ for step 2; $R^2 = .47$ for step 3.

Hypothesis 4. This hypothesis was that expressive suppression would be positively correlated with alexithymia, negatively correlated with primary psychopathy and with secondary psychopathy, and that there would be no relationship between expressive suppression and BPD. To test Hypothesis 4, partial correlations between expressive suppression, BPD, alexithymia, and primary and secondary psychopathy, while controlling for age and IM, were conducted. Partial support was found for this hypothesis in that expressive suppression was significantly positively correlated with alexithymia, $r = .43, p < .01$, such that persons scoring higher in expressive suppression scored higher in alexithymia, and no significant relationship was found between expressive suppression and BPD, $r = .05, p > .05$. The results did not support the prediction that a significant negative correlation would exist between expressive suppression and both primary and secondary psychopathy, as no significant correlation was found between expressive suppression and primary psychopathy, $r = .17, p > .05$, or secondary psychopathy, $r = -.01, p > .05$. Table 2 illustrates the results of Hypothesis 4.

Additional Analyses

Additional analyses were conducted in an effort to determine the possibility of differential patterns between alexithymia and secondary psychopathy regarding emotional dysregulation. Such analyses examined the relationships between each of the six subscales of the Difficulties in Emotion Regulation Scale (DERS) and both alexithymia and secondary psychopathy, while controlling for age and impression management. As indicated in Table 4, significant positive correlations were found between alexithymia and each of the six subscales of the DERS: (1) Lack of emotional awareness (AWARENESS), $r = .44, p < .01$; (2) Lack of emotional clarity (CLARITY), r

Table 4

Intercorrelations Between Alexithymia, Secondary Psychopathy, and Emotional Dysregulation While Controlling for Age and Impression Management

	Alexithymia	Secondary Psychopathy
AWARENESS	.44**	.14
CLARITY	.77**	.17
IMPULSIVE	.43**	.42**
GOAL	.24*	.39**
NONACCEPTANCE	.37**	.29**
STRATEGIES	.51**	.36**

*p < .05 **p < .01

= .77, $p < .01$; (3) Difficulties controlling impulsive behaviors when distressed (IMPULSIVE), $r = .43$, $p < .01$; (4) Difficulties engaging in goal-directed behavior when distressed (GOAL), $r = .24$, $p < .05$; (5) Nonacceptance of negative emotional responses (NONACCEPTANCE), $r = .37$, $p < .01$; and (6) Limited access to effective emotion regulation strategies (STRATEGIES), $r = .51$, $p < .01$. Additionally, Table 4 illustrates that a significant positive correlation was found between secondary psychopathy and the following subscales of the DERS: NONACCEPTANCE, $r = .29$, $p < .01$, GOAL, $r = .39$, $p < .01$, IMPULSIVE, $r = .42$, $p < .01$, and STRATEGIES, $r = .36$, $p < .01$. No significant correlations were found between secondary psychopathy and the AWARENESS subscale, $r = .14$, $p > .05$, or the CLARITY subscale, $r = .17$, $p > .05$, of the DERS.

Further analyses were conducted in an effort to determine the possibility of differential patterns between primary and secondary psychopathy regarding the subscales of the TAS. Such analyses examined the relationship between each of the three subscales of the Toronto Alexithymia Scale (TAS) and both primary and secondary psychopathy while controlling for age and impression management. As Table 5 shows, a positive significant relationship was found between primary psychopathy and Factor 3 of the TAS, $r = .32$, $p < .01$, while no significant relationship was found with Factor 1, $r = .10$, $p > .05$, or with Factor 2, $r = .05$, $p > .05$. Furthermore, a significant positive relationship was found between secondary psychopathy and Factor 1, $r = .29$, $p < .01$, as well as Factor 3, $r = .24$, $p < .05$. No significant correlation was found between secondary psychopathy and Factor 2, $r = .15$, $p > .05$.

Table 5

*Intercorrelations Between Primary and Secondary Psychopathy and Alexithymia**Subscales*

	Primary Psychopathy	Secondary Psychopathy
FACTOR 1	.10	.29**
FACTOR 2	.05	.15
FACTOR 3	.32**	.24*

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

Note. Factor 1 = difficulty identifying feelings and distinguishing them from bodily sensations of emotion; Factor 2 = difficulty describing feelings to others; Factor 3 = an externally oriented style of thinking.

DISCUSSION

The current study sought to explain the differential association between alexithymia and secondary versus primary psychopathy found in a study conducted by Lander et al. (2011). While previous research (Haviland et al., 2004; Kroner & Forth, 1995; Louth et al., 1998) has discovered a relationship between alexithymia and psychopathy, Lander et al. (2011) was the first to examine the possibility of a differential link between alexithymia and primary versus secondary psychopathy. Aside from the predictions concerning expressive suppression and both primary and secondary psychopathy, all other hypotheses were upheld by the results of this study.

Hypothesis 1

The first hypothesis, which stated that consistent with Lander et al.'s (2011) study, alexithymia would not be correlated with primary psychopathy, but would be positively associated with secondary psychopathy, was supported by the results of the study. Though Lander and colleagues discovered this differential association by utilizing two different psychopathy scales (the LSRP and a combination of the PPI-R and the STAI), the current study replicated Lander et al.'s findings using the LSRP. This replication of findings further supports the validity of the distinction between primary and secondary psychopathy, thus adding to the literature within this developing field.

More specifically, the results of this study mirror the results of previous studies which have differentiated between primary and secondary psychopathy by the negative affect and impulsivity those with secondary, but not primary, psychopathy experience

(Fowles & Dindo, 2006; Ross et al., 2004; Skeem et al., 2007; Wilkowski & Robinson, 2008). As indicated by the results of supplemental analyses in the current study, secondary psychopathy was positively correlated with the subscales of the DERS associated with negative affect and impulsivity. These results also support the claim that a clear distinction exists between primary and secondary psychopathy and that this distinction pertains to emotion regulation deficits.

The growing number of studies that continue to examine alexithymia, primary and secondary psychopathy, and BPD suggests that additional attention should be given to this area of psychology. For example, though Antisocial Personality Disorder (ASPD) can be found in the DSM-IV, psychopathy is not currently recognized as an official disorder in the manual. While ASPD and psychopathy seem to share some behavioral symptoms, they differ in that the affective and interpersonal characteristics of psychopathy are not evident within the diagnosis of ASPD (Hare, 1999; Skeem et al., 2003; Skeem et al., 2007; Walsh & Wu, 2008). Although a personality type known as “Antisocial/psychopathic type” has been proposed for the DSM-V (American Psychiatric Association, 2011), this personality type does not distinguish between primary and secondary psychopathy. Further, the actual criteria appear to emphasize primary rather than secondary psychopathy. For example, the proposal for this disorder states: “Rights, property, or safety of others is disregarded, with little or no remorse or guilt if others are harmed. Emotional expression is mostly limited to irritability, anger, and hostility. . . .” It is evident from the quote above that anxiety and impulsivity are not emphasized in the criteria, and yet the current study, among others, suggests that these are essential features

of secondary psychopathy. However, personality disorder traits have been specified for the Antisocial/psychopathic type, some of which appear to embody characteristics of secondary psychopathy such as negative emotionality and disinhibition.

Hypothesis 2

Hypothesis 2 was that, upon statistically controlling for BPD and emotional dysregulation, the association between secondary psychopathy and alexithymia would be diminished. The results of the current study confirmed this hypothesis, suggesting that BPD and emotional dysregulation both partially explain the relationship between secondary psychopathy and alexithymia. Due to the strong overlap which research has found between BPD, secondary psychopathy, alexithymia, and emotional dysregulation, this finding is not surprising.

As previously mentioned, several studies have found similarities between secondary psychopathy and alexithymia. For instance, a study by Grieve and Mahar (2010) found that secondary psychopathy, but not primary psychopathy, was related to perceived poor emotion skills as well as emotional concealment, both of which are characteristic of alexithymia. Likewise, many of the similarities shared between secondary psychopathy and alexithymia are also evident in the relationships each syndrome has with Borderline Personality Disorder.

Furthermore, the results of the additional analyses conducted in this study provide insight into the distinctions between secondary psychopathy and alexithymia. As Table 4 illustrates, regarding emotional dysregulation, secondary psychopathy shared the same significant positive correlations as alexithymia except for two components: lack of emotional awareness and lack of emotional clarity. This finding suggests that while those

with alexithymia appear to have difficulties paying attention to how they feel and making sense out of their feelings, those with secondary psychopathy do not necessarily encounter these problems. However, secondary psychopathy shared with alexithymia strong correlations with each of those aspects of emotional dysregulation concerning impulsivity and negative affect. For instance, both alexithymia and secondary psychopathy were positively correlated with Subscales 3 (difficulties controlling impulsive behaviors when distressed) and 4 of the DERS (difficulties engaging in goal-directed behavior when distressed), subscales which relate to one's tendency to engage in impulsive behavior. Additionally, both alexithymia and secondary psychopathy demonstrated positive correlations with Subscales 5 (nonacceptance of negative emotional responses) and 6 (limited access to effective emotion regulation strategies), subscale which relate to one's tendency to become overwhelmed by negative affect.

The findings that affect dysregulation and BPD are integral to the understanding of the link between alexithymia and secondary psychopathy could potentially enable clinicians to gain a clearer understanding of what symptoms individuals with alexithymia, secondary psychopathy, and/or BPD may exhibit and, accordingly, what methods of treatment are effective for individuals displaying symptoms shared by these psychological problems. For example, though research is limited in this area, researchers have suggested that secondary psychopathy is more amenable to traditional treatment than primary psychopathy due to the presence of emotions such as anxiety and guilt in those with secondary psychopathy (Skeem et al., 2003; Skeem et al., 2007). The results of this study thus suggest that because of the strong positive correlations found between secondary psychopathy, alexithymia, and BPD, similar treatment methods may be useful

in treating each of these syndromes. Though DBT has been shown to be most effective in treating BPD (Linehan, 1987, 1993a, b), the current results suggest that these techniques might be useful for the treatment of persons with attributes of secondary psychopathy as well. Clearly, additional research is warranted to determine if this is the case.

Hypothesis 3

Hypothesis 3—that BPD, alexithymia, and secondary psychopathy would be negatively correlated with cognitive reappraisal, while primary psychopathy would not be significantly correlated to cognitive reappraisal—was supported by the results of this study. Thus, the results of the current study suggest that people with secondary, but not primary, psychopathy and those with BPD or alexithymia have difficulties engaging in cognitive reappraisal. That is, these individuals are likely unable to mentally reframe a negative situation in an effort to make it more positive. This is in contrast to those with primary psychopathy, people who are often considered opportunistic, who may be skilled at seeing how they can take a negative situation and turn it to their own advantage.

As mentioned in the introduction, although those with primary psychopathy are thought to experience essentially no anxiety, individuals high in secondary psychopathy or in alexithymia tend to experience much higher levels of anxiety and to be much more impulsive (e.g., Haviland et al., 2004; Karukivi, Hautala, Kaleva, Haapasalo-Pesu, Liuksila, Joukamaa, & Saarijärvi, 2010). Several symptoms of BPD are also akin to those of both secondary psychopathy and alexithymia due to these individuals' difficulties regulating such negative emotions and their problems with impulse control. It may be the case then, that persons with alexithymia, secondary psychopathy, or BPD tend to experience such a surge of negative emotions due to their limited capacity to turn a

negative situation into a more positive one (i.e., cognitive reappraisal). In other words, because of these persons' difficulties acknowledging any positive aspects of certain situations, they may have a greater propensity to be rather "hot-headed"—namely those with secondary psychopathy (Karpman, 1955)—and it may be very difficult for them to control their emotions.

This finding is particularly useful for clinicians treating these individuals. Specifically, these results appear to be congruent with models of Cognitive Behavioral Therapy (CBT) which generally suggest that an individual's mood and behaviors are the product of his or her negative thoughts or schemas. Although the treatment of personality disorders has traditionally been thought of as a difficult and complex task due to the disorders' rigid structures, several studies have been conducted to determine the effectiveness of CBT in treating personality disorders (e.g., Bienenfeld, 2007; Davidson, Norrie, Tyrer, Gumley, Tata, Murray, & Palmer, 2006; Davidson et al., 2009; Emmelkamp et al., 2006). Overall, research suggests that the use of CBT or DBT (which has a cognitive restructuring component) to treat personality disorders such as BPD and ASPD—has shown to be effective. Thus, the results of this study, coupled with previous research examining the usefulness of CBT in treating personality disorders, indicate that clinical syndromes such as alexithymia and secondary psychopathy may be effectively treated with methods of CBT or DBT.

Hypothesis 4

The final hypothesis stated that expressive suppression would be positively correlated with alexithymia, negatively correlated with primary psychopathy and secondary psychopathy, and there would be no relationship between expressive

suppression and BPD. The results of the current study partially supported this hypothesis, in that those high in alexithymia exhibited more expressive suppression and those high in BPD did not correlate with this variable. However, inconsistent with Hypothesis 4, no correlation was found between primary or secondary psychopathy and expressive suppression.

Alexithymia is characterized by a difficulty identifying and distinguishing between feelings and bodily sensations of emotional arousal, and a difficulty describing feelings to others (Nemiah et al., 1976). Those with alexithymia have marked difficulties discriminating between and recognizing their emotions, making it extremely difficult to express such emotions in a direct manner. Instead, as the results of the current study suggest, those with alexithymia may experience emotional turbulence as a result of their limited capacity to express such emotionally painful affect. Furthermore, people with BPD are known to frequently experience extreme ends of the emotional spectrum, as they often experience feelings of emptiness as well as feelings of intense anger and/or sadness lasting a few hours at a time (Paris, 2005). Thus, due to their tendency to fluctuate so rapidly in their affective experiences, the results of the current study suggest that those with BPD may be able to suppress their emotionally-painful affect at times, while they may be more likely to outwardly express these intense emotions at others. That is, it may be the case that those with BPD may sensitize to negative affect at one point in time, though they may suppress negative affect at a different time. Therefore, as hypothesized, it is possible that the results of the current study reflect this phenomenon in that, when affect is sampled over time, these two extreme tendencies experienced by persons with

BPD counteract one another, resulting in the non-significant correlation found between BPD and expressive suppression.

Though aspects of Hypothesis 4 regarding alexithymia and BPD were supported by the results of this study, those aspects concerning the subtypes of psychopathy were not supported. It was hypothesized that those with primary psychopathy would experience less expressive suppression because these individuals may be less prone to experience negative emotions; thus, suppressing such emotions would not be necessary since these persons may be less prone to experience them. Additionally, it was hypothesized that those with secondary psychopathy would experience less negative suppression due to their tendency to experience negative affectivity, violent surges of behavior and aggression, and impulsivity. Therefore, it was thought that those high in secondary psychopathy would have difficulty suppressing any emotionally-painful affect as a result of their propensity to experience negative emotions so intensely and impetuously. Interestingly, the finding that expressive suppression was positively correlated with alexithymia but uncorrelated with secondary psychopathy implies that a distinguishing factor between these two clinical syndromes is that those with alexithymia tend to suppress emotionally-painful affect, while those with secondary psychopathy may not suppress such emotions or may fluctuate in their tendencies to suppress this affect. This is also consistent with the supplemental analyses of this study which found a differential pattern of correlations between alexithymia or secondary psychopathy and the various subscales of the DERS.

The results suggest that like those high in alexithymia, those high in secondary psychopathy have difficulty identifying feelings and distinguishing them from bodily

sensations, while also maintaining an externally-oriented style of thinking. Contrary to what was expected in the current study, those with secondary psychopathy were not found to have difficulties describing feelings to others. Based on these results, along with the fact that secondary psychopathy was not correlated with expressive suppression, it may be that these persons are not actively attempting to suppress their painful emotions. Instead, they simply may be unable to recognize and classify their feelings and, consequently, are not especially likely to suppress or express such feelings.

Limitations and Future Directions

One notable limitation of the current study was that an undergraduate student sample from a private Catholic university was utilized. As a result of utilizing participants from this population, it is likely that those on the more pathological end of the psychopathy and the alexithymia spectrums were likely to be underrepresented in this sample. Additionally, this sample was lacking in diversity regarding variables such as age and ethnicity. A total of 88% of the total participants identified as Caucasian, while the participants' ages only ranged from 18 to 22 years old. This sample does not accurately represent the general population regarding race, religion, and socio-economic status; thus, this study may have yielded slightly different results if a more diverse sample had been utilized.

Previous studies (e.g., McCoy & Edens, 2006; Schmidt, McKinnon, Chattha, & Brownlee; 2006), have examined demographic differences and have found higher psychopathy scores in ethnic populations such as African-American and Canadian Aboriginal groups compared to Caucasian groups. Additionally, a study by Stockdale, Olver, and Wong (2010) examined the predictive accuracy of the Psychopathy Checklist:

Youth Version for youth and adult recidivism among a sample of 161 Canadian offenders. That study found various predictive recidivism criteria for subsamples of female and Aboriginal youth, specifically, compared to male groups and Caucasian groups. Future research testing a broad diverse community sample as well as a clinical sample where, perhaps, a prison population or inpatient and outpatient psychiatric patients are used, and comparing those findings with those of the current study, may be necessary in order to address this limitation.

Additionally, while several characteristics and symptoms (e.g., problems with emotion regulation) are thought to be shared between alexithymia, secondary psychopathy, and BPD, much is still unknown about the similarities and differences between these constructs and how specifically they interface with each other. For example, it is possible that alexithymia, like other aspects of emotional dysregulation, is more of a symptom of BPD and secondary psychopathy than a separate clinical syndrome. In other words, one's difficulties both distinguishing between emotions and bodily sensations and describing feelings to others may be a by-product of a diagnosis of BPD, secondary psychopathy, or other psychopathology. Several studies, for example, have found that higher levels of alexithymia are associated with higher levels of posttraumatic stress (e.g., Cloitre, Koenen, Cohen, & Han, 2002; Frewen et al., 2008; Hund & Espelage, 2006; Monson, Price, Rodriguez, Ripley, & Warner, 2004). One study in particular (Declercq, Vanheule, & Deheegher, 2010) suggests that alexithymia contributes to the development of posttraumatic distress, implying that alexithymia may play a role in the symptomatic response to a critical event. Conversely, several other studies (e.g., Szatmari, Georgiades, Duku, Zwaigenbaum, Goldberg, & Bennett, 2008;

Wise, Mann, & Shay, 1992; Wood & Williams, 2007) have referred to alexithymia as a separate, unique syndrome as opposed to a symptom of some disorder such as Posttraumatic Stress Disorder or BPD. Further research is needed in order to shed more light on this debate.

Supplemental research is also needed to examine the association between BPD and secondary psychopathy. As mentioned in the introduction, these two constructs share some similar symptoms (e.g., interpersonal struggles and emotion regulation difficulties) which were also examined in the current study. Though Blackburn (1996) asserted that those with secondary psychopathy “may be predominantly borderline personalities,” the literature currently recognizes secondary psychopathy and BPD as two separate constructs; however, the boundary line separating these two clinical syndromes remains obscure. Though it may be the case that secondary psychopathy is characterized more by aggression while BPD is distinguished more by interpersonal and self-image disruptions, additional research is warranted to empirically test these distinctions more definitively. A factor analysis, for example, may be beneficial in order to determine which variables are associated with both BPD and secondary psychopathy and which variables distinguish the two syndromes. Related, understanding additional shared characteristics among secondary psychopathy, BPD, and alexithymia will also enable clinicians to tailor treatment methods to the particular difficulties these individuals face. In order to better understand how to identify and treat these clinical syndromes, future research investigating increasingly complex models of the interrelations between them should be developed and tested.

Lastly, longitudinal research is needed to better understand the interface between alexithymia, secondary psychopathy, and BPD developmentally. Several studies have determined that factors such as childhood neglect and abuse and a broken home tend to be shared characteristics between the constructs of this study (e.g., Berenbaum, 1996; Modestin et al., 2005; Poythress & Skeem, 2006; Skeem et al., 2003; Zlotnick et al., 1996). However, at this point, these remain the only known etiological factors common to these constructs. Future research could benefit from examining any existing variables which moderate the relationship between negative childhood factors (e.g., abuse or neglect) and the development of alexithymia, secondary psychopathy, or BPD. Additionally, it remains unclear which specific, differential factors may contribute to the development of secondary psychopathy versus the development of BPD, as the symptoms of each clinical syndrome appear to be similar. More comprehensive research is warranted in order to gain a clearer picture of the shared etiological pathways between alexithymia, secondary psychopathy, and BPD.

REFERENCES

- American Psychiatric Association. (2011, January 21). DSM-5 Development: Proposed Draft Revisions to DSM Disorders and Criteria. Retrieved from <http://www.dsm5.org/proposedrevision/pages/proposedrevision.aspx?rid=16>
- Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1992). Reliability and validity of the Twenty-Item Toronto Alexithymia Scale, Poster presented at the 50th anniversary meeting of the American Psychosomatic Society, New York, April, 1992.
- Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994). The twenty-item Toronto Alexithymia Scale – II: Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research*, 38, 33-40.
- Berenbaum, H. (1996). Childhood abuse, alexithymia, and personality disorder. *Journal of Psychosomatic Research*, 41, 585-595.
doi:10.1016/S0022-3999(96)00225-5
- Bienfeld, D. (2007). Cognitive therapy of patients with personality disorders. *Psychiatric Annals*, 37, 133-139.
- Blackburn, R. (1996). Psychopathy, delinquency and crime. In A. Gale & J. A. Edwards (Eds.), *Physiological correlates of human behavior: Vol 3. Individual differences and psychopathology* (pp. 187-205). Orlando, FL: Academic Press.
- Blackburn, R. & Maybury, C. (1985). Identifying the psychopath: The relation of Cleckley's criteria to the interpersonal domain. *Personality and Individual Differences*, 6, 375-386.

doi:10.1016/0191-8869(85)90062-5

Bornovalova, M. A., Gratz, K. L., Delany-Brumsey, A., Paulson, A., & Lejuez, C. W. (2006). Temperamental and environmental risk factors for borderline personality disorder among inner-city substance users in residential treatment. *Journal of Personality Disorders, 20*, 218-231.

doi:10.1521/pedi.2006.20.3.218

Brinkley, C. A., Schmitt, W. A., Smith, S. S., & Newman, J. P. (2001). Construct validation of a self-report psychopathy scale: Does Levenson's self-report psychopathy scale measure the same constructs as Hare's psychopathy checklist-revised? *Personality and Individual Differences, 31*, 1021-1038.

doi:10.1016/S0191-8869(00)00178-1

Cale, E.M., & Lilienfeld, S.O. (2002). Histrionic personality disorder and antisocial personality disorder: Sex-differentiated manifestations of psychopathy? *Journal of Personality Disorders, 16*, 52-72.

doi:10.1521/pedi.16.1.52.22557

Campos, J. J., Campos, R. G., & Barrett, K. C. (1989). Emergent themes in the study of emotional development and emotion regulation. *Developmental Psychology, 25*, 394-402.

doi:10.1037/0012-1649.25.3.394

Carver, C. S. & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review, 97*, 19-35.

doi:10.1037/0033-295X.97.1.19

- Cecero, J. J. & Holmstrom, R. W. (1997). Alexithymia and affect pathology among adult male alcoholics. *Journal of Clinical Psychology*, 53, 201-208.
doi:10.1002/(SICI)1097-4679(199704)53:3<201::AID-JCLP2>3.0.CO;2-U
- Christopher, K., Lutz-Zois, C. J., & Reinhardt, A. R. (2007). Female sexual-offenders: Personality pathology as a mediator of the relationship between childhood sexual abuse history and sexual abuse. *Child Abuse & Neglect*, 31, 871-883.
doi:10.1016/j.chiabu.2007.02.006
- Cleckley, H. (1941). *The mask of sanity*. St. Louis, MO: Mosby.
- Cloitre, M., Koenen, K.C., Cohen, L.R., & Han, H. (2002). Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *Journal of Consulting and Clinical Psychology*, 70, 1067–1074.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York: Academic.
- Coid, J., & Yang, M. (2008). The distribution of psychopathy among a household population: Categorical or dimensional? *Social Psychiatry Psychiatric Epidemiology*, 43, 773-781.
- Coolidge, F. L. (1984). *Coolidge Axis II Inventory*. U.S. Copyright TXU 182-026, Washington, DC.
- Coolidge, F.L. (1993). *Coolidge Axis II Inventory: Manual*. University of Colorado at Colorado Springs.
- Coolidge, F.L., & Merwin, M. (1992). Reliability and validity of the Coolidge Axis II Inventory: A new inventory for the assessment of personality disorders.

Journal of Personality Assessment, 59, 223-238.

doi:10.1207/s15327752jpa5902_1

Davidson, K., Norrie, J., Tyrer, P., Gumley, A., Tata, P., Murray, H., & Palmer, S.

(2006). The effectiveness of Cognitive Behavior Therapy for Borderline Personality Disorder: Results from the Borderline Personality Disorder study of cognitive therapy (BOSCOT) trial. *Journal of Personality Disorders*, 20, 450-465.

Davidson, K. M., Tyrer, P., Tata, P., Cooke, D., Gumley, A., Ford, I., . . . Crawford, M. J.

(2009). Cognitive behaviour therapy for violent men with antisocial personality disorder in the community: An exploratory randomized controlled trial.

Psychological Medicine, 39, 569-577.

Declercq, F., Vanheule, S., & Deheegher, J. (2010). Alexithymia and posttraumatic

stress: Subscales and symptom clusters. *Journal of Clinical Psychology*, 66, 1076-1089.

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

Emmelkamp, P. M. G., Benner, A., Kuipers, A., Feiertag, G. A., Koster, H. C., & van

Apeldoorn, F. J. (2006). Comparison of brief dynamic and cognitive-behavioural therapies in avoidant personality disorder. *British Journal of Psychiatry*, 189, 60-64.

- Falkenbach, D., Poythress, N., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with types of aggression. *Personality and Individual Differences, 44*, 821-832.
doi:10.1016/j.paid.2007.10.012
- Falkenbach, D., Poythress, N., Falki, M., & Manchak, S. (2007). Reliability and validity of two self-report measures of psychopathy. *Assessment, 14*, 341-350.
doi:10.1177/1073191107305612
- Fowles, D. C. & Dindo, L. (2006). A dual-deficit model of psychopathy. In C. J. Patrick (Ed.), *Handbook of the Psychopathy* (pp. 14-34). New York: Guilford Press.
- Fox, H. C., Axelrod, S. R., Paliwal, P., Sleeper, J., & Sinha, R. (2007). Difficulties in emotion regulation and impulse control during cocaine abstinence. *Drug and Alcohol Dependence, 89*, 298-301.
doi:10.1016/j.drugalcdep.2006.12.026
- Frewen, P.A., Lanius, R.A., Dozois, D.J., Neufeld, W., Pain, C., Hopper, J., . . . Stevens, T. K. (2008). Clinical and neural correlates of alexithymia in posttraumatic stress disorder. *Journal of Abnormal Psychology, 117*, 171-181.
- Gay, M., Hanin, D., & Luminet, O. (2008). Effectiveness of a hypnotic imagery intervention on reducing alexithymia. *Contemporary Hypnosis, 25*, 1-13.
doi:10.1002/ch.344
- Gratz, K. L., Bornova, M. A., Delany-Brumsey, A., Nick, B., & Lejuez, C. W. (2007). A laboratory-based study of the relationship between childhood abuse and experiential avoidance among inner-city substance users: The role of emotional nonacceptance. *Behavior Therapy, 38*, 256-268.

doi:10.1016/j.beth.2006.08.006

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, 41-54.

doi:10.1023/B:JOBA.00000007455.08539.94

Gratz, K. L., Tull, M. T., Baruch, D. E., Bornovalova, M. A., & Lejuez, C. W. (2008). Factors associated with co-occurring borderline personality disorder among inner-city substance users: the roles of childhood maltreatment, negative affect intensity/reactivity, and emotion dysregulation. *Comprehensive Psychiatry*, 49, 603-615.

doi:10.1016/j.comppsy.2008.04.005

Grieve, R., & Mahar, D. (2010). The emotional manipulation psychopathy nexus: Relationships with emotional intelligence, alexithymia, and ethical position. *Personality and Individual Differences*, 48, 945-950.

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

doi:10.1037/1089-2680.2.3.271

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362.

doi:10.1037/0022-3514.85.2.348

- Hare, R. D. (2003). *The Hare Psychopathy Checklist—Revised manual* (2nd ed.). Toronto, Ontario, Canada: Multi-Health Systems.
- 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, 211-218.
doi:10.1037/1040-3590.1.3.211
- Haviland, M. G., Sonne, J. L., & Kowert, P. A. (2004). Alexithymia and Psychopathy: Comparison and Application of California Q-set Prototypes. *Journal of Personality Assessment*, 82, 306-316.
doi:10.1207/s15327752jpa8203_06
- Henry, J. D., Phillips, L. H., Crawford, J. R., Theodorou, G., & Summers, F. (2006). Cognitive and psychosocial correlates of alexithymia following traumatic brain injury. *Neuropsychologia*, 44, 62-72.
doi:10.1016/j.neuropsychologia.2005.04.011
- Henry, C., Mitropoulou, V., New, A. S., Koenigsberg, H. W., Silverman, J., & Siever, L. J. (2001). Affective instability and impulsivity in borderline personality and bipolar II disorders: Similarities and differences. *Journal of Psychiatric Research*, 35, 307-312.
doi:10.1016/S0022-3956(01)00038-3
- Herpertz, S.C., & Sass, H. (2000). Emotional deficiency and psychopathy. *Behavioral Sciences and the Law*, 18, 567-580.
doi:10.1002/1099-0798(200010)18:5<567::AID-BSL410>3.0.CO;2-8

- Herve, H. (2007). Psychopathic Subtypes: Historical and Contemporary Perspectives. In H. Hughes & J. C. Yuille (Eds.), *The Psychopath: Theory, Research, and Practice* (pp. 431-460). Mahwah, NJ: Erlbaum.
- Hiatt, K. D., & Newman, J. P. (2007). Behavioral evidence of prolonged interhemispheric transfer time among psychopathic offenders. *Neuropsychology*, *21*, 313–318.
- 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*, 276-288.
doi:10.1037/1040-3590.16.3.276
- Hofmann, S. G. & Kashdan, T. B. (2010). The Affective Style Questionnaire: Development and psychometric properties. *Journal of Psychopathology and Behavioral Assessment*, *32*, 255-263.
doi:10.1007/s10862-009-9142-4
- Hund, A.R., & Espelage, D.L. (2006). Childhood emotional abuse and disordered eating among undergraduate females: Mediating influence of alexithymia and distress. *Child Abuse and Neglect*, *30*, 393–407.
- Johnson, K. A., Zvolensky, M., Marshall, E. C., Gonzalez, A., Abrams, K., & Vujanovic, A. K. (2008). Linkages between cigarette smoking outcome expectancies and negative emotional vulnerability. *Addictive Behaviors*, *33*, 1416-1424.
doi:10.1016/j.addbeh.2008.05.001

- Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: The symptomatic and the idiopathic. *Journal of Criminal Psychopathology*, 3, 112-137.
- Karpman, B. (1948). The myth of the psychopathic personality. *American Journal of Psychiatry*, 104, 523-534.
doi:10.1176/appi.ajp.104.9.523
- Karpman, B. (1949). Psychopathy as a form of social parasitism-A comparative biological study. *Journal of Clinical Psychopathology*, 10, 160-194.
- Karpman, B. (1955). Iniquities and inconsistencies existing in criminal law and psychiatric testimony. *Archives of Criminal Psychodynamics*, 1, 397-444.
- Karukivi, M., Hautala, L., Kaleva, O., Haapasalo-Pesu, K., Liuksila, P., Joukamaa, M., & Saarijärvi, S. (2010). Alexithymia is associated with anxiety among adolescents. *Journal of Affective Disorders*, 125, 383-387.
doi: 10.1016/j.jad.2010.02.126
- Kehrer, C. A., & Linehan, M. M. (1996). Interpersonal and emotional problem solving skills and parasuicide among women with borderline personality disorder. *Journal of Personality Disorders*, 10, 153-163.
- Koenigsberg, H. W., Harvey, P. D., Mitropoulou, V., Schmeidler, J., New, A. S., Goodman, M., . . . Siever, L. J. (2002). Characterizing affective instability in borderline personality disorder. *The American Journal of Psychiatry*, 159, 784-788.
doi:10.1176/appi.ajp.159.5.784

- Kosson, D. S. & Newman, J. P. (1995). An evaluation of Mealey hypotheses based on psychopathy checklist-identified groups. *Behavioral and Brain Sciences*, 18, 562-563.
doi:10.1017/S0140525X00039832
- Kroner, D. G., & Forth, A. E. (1995). The Toronto Alexithymia Scale with incarcerated offenders. *Personality and Individual Differences*, 19, 625-634.
doi:10.1016/0191-8869(95)00116-N
- Krystal, H. (1979). Alexithymia and psychotherapy. *American Journal of Psychotherapy*, 33, 17-31.
- Lander, G. C., Lutz-Zois, C. J., & Porco, J.R. (2011, May). *The differential association between alexithymia and primary versus secondary psychopathy*. Paper presented at the meeting of the Midwestern Psychological Association, Chicago, Illinois.
- Laurenceau, J. P., Kleinman, B. M., Kaczynski, K. J., & Carver, C. S. (2010). Assessment of relationship-specific incentive and threat sensitivities: Predicting satisfaction and affect in adult intimate relationships. *Psychological Assessment*, 22, 407-419.
doi:10.1037/a0019231
- Lazarus, R. S. & Folkman, S. (1984). Coping and Adaptation. In W. D. Gentry (Ed.), *Handbook of Behavioral Medicine*, (pp. 282-325). New York: Guilford Press
- Levenson, M.R., Kiehl, K.A., & Fitzpatrick, C.M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology*, 68, 151-158.
doi:10.1037/0022-3514.68.1.151

- Linehan, M. M. (1993). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.
- Livesley, W. K., Jang, K. L., & Vernon, P. A. (1998). Phenotypic and genetic structure of traits delineating personality disorder. *Archives of General Psychiatry*, 55, 941-948.
doi:10.1001/archpsyc.55.10.941
- Lopez, M., Kosson, D. S., Weissman, D. H., & Banich, M. T. (2007). Interhemispheric integration in psychopathic offenders. *Neuropsychology*, 21, 82–93.
- Louth, S. M., Hare, R. D., Linden, W. (1998). Psychopathy and alexithymia in female offenders. *Canadian Journal of Behavioural Science*, 30, 91-98.
doi:10.1037/h0085809
- Luminet, O., Rim, B., Bagby, R. M., & Taylor, G. J. (2004). A multimodal investigation of emotional responding in alexithymia. *Cognition and Emotion*, 18, 741-766.
doi:10.1080/02699930341000275
- Luminet, O., Vermeulen, N., Demaret, C., Taylor, G. J., & Bagby, R. M. (2006). Alexithymia: Concept, measurement, and implications for treatment. *Journal of Research in Personality*, 40, 713-733.
doi:10.1016/j.jrp.2005.09.001
- Lykken, D. (1995). *The antisocial personalities*. Hillsdale, NJ: Lawrence Erlbaum.
- McCoy, W. K., & Edens, J. F. (2006). Do Black and White youths differ in levels of psychopathic traits? A meta-analysis of the Psychopathy Checklist measures. *Journal of Consulting and Clinical Psychology*, 74, 386-392.
- McHoskey, J. W., Worzel, W., & Syarto, C. (1998). Machiavellianism and

psychopathy. *Journal of Personality and Social Psychology*, 74, 1, 192-210.

doi:10.1037/0022-3514.74.1.192

Mealey, L. (1995). The sociobiology of sociopathy: An integrated evolutionary model. *Behavioral and Brain Sciences*, 18, 523-599.

doi:10.1017/S0140525X00039595

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, 450-463.

doi:10.1177/1073191108316888

Millon, T. & Davis, R. D. (1998). Ten subtypes of psychopathy. In T. Millon, E. Simonsen, M. Birket-Smith, & R. D. Davis (Eds.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 161-170). New York: Guilford.

Modestin, J., Furrer, R., & Malti, T. (2004). Study on alexithymia in adult non-patients. *Journal of Psychosomatic Research*, 56, 707-709.

doi:10.1016/S0022-3999(03)00125-9

Modestin, J., Furrer, R., & Malti, T. (2005). Different Traumatic Experiences are Associated with Different Pathologies. *Psychiatric Quarterly*, 76, 19-32.

doi:10.1007/s11089-005-5578-y

Monson, C.M., Price, J.L., Rodriguez, B.F., Ripley, M.P., & Warner, R.A. (2004). Emotional deficits in military-related PTSD: An investigation of content and process disturbances. *Journal of Traumatic Stress*, 17, 275-279.

- Morrison, D. & Gilbert, P. (2001). Social rank, shame and anger in primary and secondary psychopaths. *Journal of Forensic Psychiatry*, 12, 330-356.
doi:10.1080/09585180110056867
- Nemiah, J. C., Freyberger, H., & Sifneos, P. E. (1976). Alexithymia: A view of the psychosomatic process. In O. W. Hill (Ed.), *Modern trends in psychosomatic medicine* (pp. 430-439). London: Butterworths.
- Nemiah, J. C. & Sifneos, P. E. (1970). Psychosomatic illness: A problem in communication. *Psychotherapy and Psychosomatics*, 18, 154-160.
doi:10.1159/000286074
- Newman, J. P., Brinkley, C. A., Lorenz, A. R., Hiatt, K. D., & MacCoon, D. G. (2007). Psychopathy as psychopathology: Beyond the clinical utility of the Psychopathy Checklist — Revised. In H. Herve, & J. C. Yuille (Eds.), *The psychopath: Theory, research, and practice* (pp. 173–206). Mahwah, NJ: Lawrence Erlbaum Associates.
- Nigg, J. T., Silk, K. R., Stavro, G. & Miller, T. (2005). Disinhibition and borderline personality disorder. *Development and Psychopathology*, 17, 1129-1149.
doi:10.1017/S0954579405050534
- Ogloff, J. R. P., Wong, S., & Greenwood, A. (1990). Treating criminal psychopaths in a therapeutic community program. *Behavioral Sciences and the Law*, 8, 181–190.
- Paris, J. (2005). Borderline Personality Disorder. *Canadian Medical Association Journal*, 172, 1579-1583.

- Parker, J. D. A., Bagby, R. M., Taylor, G. J., Endler, N. S., & Schmitz, P. (1993).
Factorial validity of the 20-item Toronto alexithymia scale. *European Journal of Personality*, 7, 221-232.
doi:10.1002/per.2410070403
- Parker, J. D. A., Keightley, M. L., Smith, C. T., & Taylor, G. J. (1999). Interhemispheric transfer deficit in alexithymia: An experimental study. *Psychosomatic Medicine*, 61, 464-468.
- Parker, J. D. A., Taylor, G. J., Bagby, R. M., & Acklin, M. W. (1993). Alexithymia in panic disorder and simple phobia: A comparative study. *American Journal of Psychiatry*, 150, 1105-1107.
- Patrick, C. J. (1994). Emotion and psychopathy: Startling new insights. *Psychophysiology*, 31, 319-330.
doi:10.1111/j.1469-8986.1994.tb02440.x
- Paulhus, D.L. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology*, 46, 598-609.
doi:10.1037/0022-3514.46.3.598
- Paulhus, D.L. (1991). Measurement and control of response bias. In J.P. Robinson, P.R. Shaver, & L. Wrightsman (Eds.), *Measures of personality and social-psychological attitudes* (pp. 17-59). San Diego: Academic Press.
- Peebles, J., & Moore, J. (1998). Detecting socially desirable responding with the Personality Assessment Inventory: The Positive Impression Management Scale and the Defensiveness Index. *Journal of Clinical Psychology*, 54, 621-628.

doi:10.1002/(SICI)1097-4679(199808)54:5<621::AID-JCLP8>3.0.CO;2-N

Poythress, N., Edens, J., Lilienfeld, S., & Skeem, J. (2001). *Personality deviancy and antisocial behavior*. Unpublished grant proposal.

Poythress, N. G. & Skeem, J. L. (2006). Disaggregating psychopathy: Where and how to look for subtypes. In C. J. Patrick (Ed.), *Handbook of the psychopathy* (pp. 172-192). New York: Guilford.

Ross, S. R., & Rausch, M. K., (2001). Psychopathic attributes and achievement dispositions in a college sample. *Personality and Individual Differences*, 30, 3, 471-480.

doi:10.1016/S0191-8869(00)00038-6

Salminen, J. K., Saarijarvi, S., & Aarela, E. (1995). Two decades of alexithymia. *Journal of Psychosomatic Research*, 39, 803-807.

doi:10.1016/0022-3999(95)00153-X

Scherer, K. R., Wallbott, H. G., & Summerfield, A. B. (1986). Experiencing emotion: A cross-cultural study. *European Monographs in Social Psychology* (pp. 302). New York: Cambridge University Press.

Schmidt, F., McKinnon, L., Chattha, H. K., & Brownlee, K. (2006). Concurrent and predictive validity of the Psychopathy Checklist: Youth Version across gender and ethnicity. *Psychological Assessment*, 18, 393-401.

See, J. (2009). *Gender differences in psychopathy*. Unpublished manuscript, Department of Psychology, University of Dayton, Dayton, Ohio.

Siever, L. J. & Davis, K. L. (1991). A psychobiological perspective on the personality disorders. *The American Journal of Psychiatry*, 148, 1647-1658.

- Sifneos, P. E. (1973). The prevalence of "alexithymic" characteristics in psychosomatic patients. *Psychotherapy and Psychosomatics*, 22, 255-262.
doi:10.1159/000286529
- Sifneos, P. E. (1996). Alexithymia: Past and present. *The American Journal of Psychiatry*, 153, 137-142.
- Sifneos, P. E. (2000). Alexithymia, clinical issues, politics and crime. *Psychotherapy and Psychosomatics*, 69, 113-116.
doi:10.1159/000012377
- Skeem, J. L., 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, 395-409.
SocialPsychology, 68, 151-158.
doi:10.1037/0021-843X.116.2.395
- 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, 513-546.
doi:10.1016/S1359-1789(02)00098-8
- Skodol, A. E., Gunderson, J. G., Pfohl, B., Widiger, T. A., Livesley, W. J., & Siever, L. J. (2002). The borderline diagnosis I: Psychopathology, comorbidity, and personality structure. *Biological Psychiatry*, 51, 936-950.
doi:10.1016/S0006-3223(02)01324-0

- Stalenheim, E.G., & von Knorring, L. (1998). Personality traits and psychopathy in a forensic psychiatric population. *European Journal of Psychiatry*, 12, 83-94.
- Stingl, M., Bausch, S., Walter, B., Kagerer, S., Leichsenring, F., & Leweke, F. (2008). Effects of inpatient psychotherapy on the stability of alexithymia characteristics. *Journal of Psychosomatic Research*, 65, 173-180.
doi:10.1016/j.jpsychores.2008.01.010
- Stinson, J. D., Becker, J. V., & Sales, B. D. (2008). Self-regulation and the etiology of sexual deviance: Evaluating causal theory. *Violence and Victims*, 23, 35-51.
doi:10.1891/0886-6708.23.1.35
- Stober, J., Dette, D.E., & Musch, J. (2002). Comparing continuous and dichotomous scoring of the Balanced Inventory of Desirable Responding. *Journal of Personality Assessment*, 78, 370-389.
doi:10.1207/S15327752JPA7802_10
- Stockdale, K. C., Olver, M. E., & Wong, S. C. P. (2010). The psychopathy checklist: Youth version and adolescent and adult recidivism: Considerations with respect to gender, ethnicity, and age. *Psychological Assessment*, 22, 768-781.
- Swogger, M. T. & Kosson, D. S. (2007). Identifying subtypes of criminal psychopaths: A replication and extension. *Criminal Justice and Behavior*, 34, 953-970.
doi:10.1177/0093854807300758
- Szatmari, P., Georgiades, S., Duku, E., Zwaigenbaum, L., Goldberg, J., & Bennett, T. (2008). Alexithymia in parents of children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 38, 1859-1865.
- Taylor, G. J. (1984). Alexithymia: Concept, measurement, and implications for treatment. *The American Journal of Psychiatry*, 141, 725-732.

- Taylor, G. J., Bagby, R. M., & Parker, J. D. (1991). The alexithymia construct: A potential paradigm for psychosomatic medicine. *Psychosomatics: Journal of Consultation Liaison Psychiatry*, 32, 153, 164.
- Taylor, G. J., Bagby, R. M., & Parker, J. D. (1992). The Revised Toronto Alexithymia Scale: Some reliability, validity, and normative data. *Psychotherapy and Psychosomatics*, 57, 34-47.
doi:10.1159/000288571
- Troisi, A., D'Argenio, A., Peracchio, F., & Petti, P. (2001). Insecure attachment and alexithymia in young men with mood symptoms. *Journal of Nervous and Mental Disease*, 189, 311-316.
doi:10.1097/00005053-200105000-00007
- Trull, T. J., Widiger, T. A., Lynam, D. R., & Costa, P. T. (2003). Borderline personality disorder from the perspective of general personality functioning. *Journal of Abnormal Psychology*, 112, 193-202.
doi:10.1037/0021-843X.112.2.193
- Vassileva, J., Kosson, D. S., Abramowitz, C. & Conrad, P. (2005). Psychopathy versus psychopathies in classifying criminal offenders. *Legal and Criminological Psychology*, 10, 27-43.
doi:10.1348/135532504X15376
- Walsh, A. & Wu, H.H. (2008). Differentiating antisocial personality disorder, psychopathy and sociopathy: Evolutionary, genetic, and sociological considerations. *Criminal Justice Studies*, 21, 135-152.
doi:10.1080/14786010802159814

- Walters, G. D., Brinkley, C. A., Magaletta, P. R., & Diamond, P. M. (2008). Taxometric analysis of the Levenson Self-Report Psychopathy scale. *Journal of Personality Assessment, 90*, 491-498.
doi:10.1080/00223890802248828
- Webb, D., & McMurran, M. (2008). Emotional intelligence, alexithymia and borderline personality disorder traits in young adults. *Personality and Mental Health, 2*, 265-273.
doi:10.1002/pmh.48
- Wilkowski, B. M., & Robinson, M. D. (2008). Putting the brakes on antisocial behavior: Secondary psychopathy and post-error adjustments in reaction time. *Personality and Individual Differences, 44*, 1807-1818.
doi: 10.1016/j.paid.2008.02.007
- Wise, T. N., Mann, L. S., & Shay, L. (1992). Alexithymia and the five-factor model of personality. *Comprehensive Psychiatry, 33*, 147-151.
- Wood, R. L. I., & Williams, C. (2007). Neuropsychological correlates of organic alexithymia. *Journal of the International Neuropsychological Society, 13*, 471-479.
- Zackheim, L. (2007). Alexithymia: The expanding realm of research. *Journal of Psychosomatic Research, 63*, 345-347.
doi:10.1016/j.jpsychores.2007.08.011
- Zlotnick, C., Shea, M. T., Pearlstein, T., Simpson, E., Costello, E., & Begin, A. (1996). The relationship between dissociative symptoms, alexithymia, impulsivity, sexual abuse, and self-mutilation. *Comprehensive Psychiatry, 37*, 12-16.

doi:10.1016/S0010-440X(96)90044-9

Zonnevijlle-Bender, M. J. S., van Goozen, S. H. M., Cohen-Kettenis, P. T., van Elburg, A., & van Engeland, H. (2002). "Do adolescent anorexia nervosa patients have deficits in emotional functioning": Erratum. *European Child and Adolescent Psychiatry*, 11, 99.

doi:10.1007/s007870200018

APPENDIX A

Demographics Measure

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

1. Age: _____

2. Gender: Male Female

3. Ethnicity: Caucasian African American Latino/a
 Asian/Pacific Islander Native American Other

4. Year in School: Freshman Sophomore Junior Senior

5. Gross Family Income (yearly):

_____ Under 10,000 _____ 70,000 - 89,999

_____ 10,000 – 39,999 _____ 90,000 – 99,999

_____ 40,000 - 69,999 _____ Over 100,000

6. Please complete the following information for your primary caregiver (with whom you lived longest during your childhood) who completed the highest level of education.

Circle Highest Grade Completed in School:

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Grad/Prof Training

List any College Degrees _____

APPENDIX B

Levenson Self-Report Psychopathy Scale (LSRP)

Please answer the following questions using the scale below:

1= Disagree strongly

2= Disagree somewhat

3= Agree somewhat

4= Agree strongly

Primary Psychopathy

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

Secondary Psychopathy

- _____ 1. I find myself in the same kinds of trouble, time after time.
- _____ 2. I am often bored.
- _____ 3. I find that I am able to pursue one goal for a long time. **RS**
- _____ 4. I don't plan anything very far in advance.
- _____ 5. I quickly lose interest in tasks I start.
- _____ 6. Most of my problems are due to the fact that other people just don't understand me.
- _____ 7. Before I do anything, I carefully consider the possible consequences.
RS
- _____ 8. I have been in a lot of shouting matches with other people.
- _____ 9. When I get frustrated, I often "let off steam" by blowing my top.
- _____ 10. Love is overrated.

RS denotes reverse score items

APPENDIX C

Toronto Alexithymia Scale (TAS-20)

Directions: Please indicate how much you agree or disagree with each of the following statements by circling a number from 1 to 5 provided each statement.

1. I am often confused about what emotion I am feeling. **F1**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

2. It is difficult for me to find the right words for my feelings. **F2**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

3. I have physical sensations that even doctors don't understand. **F1**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

4. I am able to describe my feelings easily. **RS** **F2**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

5. I prefer to analyze problems rather than just describe them. **RS** **F3**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

6. When I am upset, I don't know if I am sad, frightened, or angry. **F1**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

7. I am often puzzled by sensations in my body. **F1**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

8. I prefer to just let things happen rather than to understand why they turned out that way. **F3**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

9. I have feelings that I can't quite identify. **F1**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

10. Being in touch with emotions is essential. **RS** **F3**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

11. I find it hard to describe how I feel about people. **F2**
Strongly disagree **1** **2** **3** **4** **5** *Strongly agree*

12. People tell me to describe my feelings more. **F2**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
13. I don't know what's going on inside me. **F1**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
14. I often don't know why I am angry. **F1**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
15. I prefer talking to people about their daily activities rather than their feelings. **F3**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
16. I prefer to watch "light" entertainment shows rather than psychological dramas. **F3**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
17. It is difficult for me to reveal my innermost feelings, even to close friends. **F2**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
18. I can feel close to someone, even in moments of silence. **RS** **F3**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
19. I find examination of my feelings useful in solving personal problems. **RS** **F3**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*
20. Looking for hidden meanings in movies or plays distracts from their enjoyment. **F3**
Strongly disagree *1* *2* *3* *4* *5* *Strongly agree*

RS denotes reverse score items

F1 denotes factor 1 items

F2 denotes factor 2 items

F3 denotes factor 3 items

APPENDIX D

Coolidge Axis II Inventory (CATI)

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

Antisocial Personality Disorder Scale	1	2	3	4
1. I have had a lot of different jobs in the last few years.	SF	MF	MT	ST
2. Before the age of 15, I was a big liar.	SF	MF	MT	ST
3. I am afraid to do things that might get me arrested. RS	SF	MF	MT	ST
4. Some people say that I take too many chances.	SF	MF	MT	ST
5. People make me angry.	SF	MF	MT	ST
6. When I fall in love, I’m usually the one who ends up hurt. RS	SF	MF	MT	ST
7. I have never hit anyone in any of my relationships. RS	SF	MF	MT	ST
8. People think I am tied to my job or work. RS	SF	MF	MT	ST
9. I pay back all my loans and debts. RS	SF	MF	MT	ST
10. Before the age of 15, I ran away from home overnight more than once.	SF	MF	MT	ST
11. Before the age of 15, I often started fist fights.	SF	MF	MT	ST

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

30. I would lie to hurt someone if I felt that they deserved it.	SF	MF	MT	ST
31. People have told me that I am too picky.	SF	MF	MT	ST
32. I would never frighten others to get them to do things I want them to do. RS	SF	MF	MT	ST
33. I have been sexually faithful to one person for more than one year. RS	SF	MF	MT	ST
34. I have never been accused of hurting, neglecting, or mistreating a child. RS	SF	MF	MT	ST
35. I have never been a bad parent. RS	SF	MF	MT	ST
36. When I lose a close friend, I feel finished or helpless. RS	SF	MF	MT	ST
37. I have gotten into trouble because of my drinking or drug problem.	SF	MF	MT	ST
38. I feel just fine if I hurt or treat someone badly.	SF	MF	MT	ST
39. I have used scams or conned people for money or pleasure.	SF	MF	MT	ST
Borderline Personality Disorder Scale	1	2	3	4
40. My feelings don't change a lot. RS	SF	MF	MT	ST
41. I wonder who I am most of the time.	SF	MF	MT	ST
42. I can get sad pretty quickly.	SF	MF	MT	ST
43. I try hard to not be alone.	SF	MF	MT	ST
44. I feel strong emotional feelings.	SF	MF	MT	ST
45. I am more calm than other people. RS	SF	MF	MT	ST
46. My moods change quite fast.	SF	MF	MT	ST
47. People tell me that I am a cold person.	SF	MF	MT	ST

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

RS denotes reverse score items.

APPENDIX E

Emotion Regulation Questionnaire (ERQ)

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1-----2-----3-----4-----5-----6-----7
strongly neutral strongly
disagree agree

1. _____ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. _____ I keep my emotions to myself.
3. _____ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. _____ When I am feeling *positive* emotions, I am careful not to express them.
5. _____ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. _____ I control my emotions by *not expressing them*.
7. _____ When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation*.
8. _____ I control my emotions by *changing the way I think about the situation I'm in*.
9. _____ When I am feeling *negative* emotions, I make sure not to express them.
10. _____ When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation*.

APPENDIX F

Difficulties in Emotion Regulation Scale (DERS)

Please indicate how often the following statements apply to you by writing the appropriate number from the scale below on the line beside each item:

1-----	2-----	3-----	4-----	5-----
almost never (0-10%)	sometimes (11-35%)	about half the time (36-65%)	most of the time (66-90%)	almost always (91-100%)

- _____ 1) I am clear about my feelings. **RS**
- _____ 2) I pay attention to how I feel. **RS**
- _____ 3) I experience my emotions as overwhelming and out of control.
- _____ 4) I have no idea how I am feeling.
- _____ 5) I have difficulty making sense out of my feelings.
- _____ 6) I am attentive to my feelings. **RS**
- _____ 7) I know exactly how I am feeling. **RS**
- _____ 8) I care about what I am feeling. **RS**
- _____ 9) I am confused about how I feel.
- _____ 10) When I'm upset, I acknowledge my emotions. **RS**
- _____ 11) When I'm upset, I become angry with myself for feeling that way.
- _____ 12) When I'm upset, I become embarrassed for feeling that way.
- _____ 13) When I'm upset, I have difficulty getting work done.
- _____ 14) When I'm upset, I become out of control.

- _____ 15) When I'm upset, I believe that I will remain that way for a long time.
- _____ 16) When I'm upset, I believe that I'll end up feeling very depressed.
- _____ 17) When I'm upset, I believe that my feelings are valid and important. **RS**
- _____ 18) When I'm upset, I have difficulty focusing on other things.
- _____ 19) When I'm upset, I feel out of control.
- _____ 20) When I'm upset, I can still get things done. **RS**
- _____ 21) When I'm upset, I feel ashamed with myself for feeling that way.
- _____ 22) When I'm upset, I know that I can find a way to eventually feel better. **RS**
- _____ 23) When I'm upset, I feel like I am weak.
- _____ 24) When I'm upset, I feel like I can remain in control of my behaviors. **RS**
- _____ 25) When I'm upset, I feel guilty for feeling that way.
- _____ 26) When I'm upset, I have difficulty concentrating.
- _____ 27) When I'm upset, I have difficulty controlling my behaviors.
- _____ 28) When I'm upset, I believe that there is nothing I can do to make myself feel better.
- _____ 29) When I'm upset, I become irritated with myself for feeling that way.
- _____ 30) When I'm upset, I start to feel very bad about myself.
- _____ 31) When I'm upset, I believe that wallowing in it is all I can do.
- _____ 32) When I'm upset, I lose control over my behaviors.
- _____ 33) When I'm upset, I have difficulty thinking about anything else.
- _____ 34) When I'm upset, I take time to figure out what I'm really feeling. **RS**
- _____ 35) When I'm upset, it takes me a long time to feel better.
- _____ 36) When I'm upset, my emotions feel overwhelming.

RS denotes reverse score items.

APPENDIX G

Balanced Inventory of Desirable Responding (BIDR)

Using the scale of 1 to 7 below, write a number beside each statement to indicate how much you agree with it.

Strongly Disagree	1	2	3	4	5	6	7	Strongly Agree
----------------------	---	---	---	---	---	---	---	-------------------

- _____ 1. My first impressions of people usually turn out to be right.
- _____ 2. It would be hard for me to break any of my bad habits. **RS**
- _____ 3. I don't care to know what people really think of me.
- _____ 4. I have not always been honest with myself. **RS**
- _____ 5. I always know why I like things. **SDE**
- _____ 6. When my emotions are aroused, it biases my thinking. **RS**
- _____ 7. Once I've made up my mind, other people can seldom change my opinion.
- _____ 8. I am not a safe driver when I exceed the speed limit. **RS**
- _____ 9. I am fully in control of my own fate.
- _____ 10. It's hard for me to shut off a disturbing thought. **RS**
- _____ 11. I never regret my decisions.
- _____ 12. I sometimes lose out on things because I can't make up my mind soon enough. **RS**
- _____ 13. The reason I vote is because my vote can make a difference.
- _____ 14. My parents were not always fair when they punished me. **RS**
- _____ 15. I am a completely rational person.
- _____ 16. I rarely appreciate criticism. **RS**
- _____ 17. I am very confident of my judgments.
- _____ 18. I have sometimes doubted my ability as a lover. **RS**
- _____ 19. It's all right with me if some people happen to dislike me.
- _____ 20. I don't always know the reasons why I like to do things. **RS**
- _____ 21. I sometimes tell lies if I have to. **RS**
- _____ 22. I never cover up my mistakes.
- _____ 23. There have been occasions when I have taken advantage of someone. **RS**
- _____ 24. I never swear.
- _____ 25. I sometimes try to get even rather than forgive and forget. **RS**
- _____ 26. I always obey laws, even if I'm unlikely to get caught.
- _____ 27. I have said something bad about a friend behind his or her back. **RS**

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

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

Items 1-20 of this measure are part of the SDE subscale, items 21-40 are part of the IM subscale.