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# Emotional Dysregulation and Borderline Personality Disorder: Explaining the Link between Secondary Psychopathy and Alexithymia

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## SECONDARY PSYCHOPATHY AND ALEXITHYMIA

Emotional Dysregulation and Borderline Personality Disorder: Explaining the Link between  
Secondary Psychopathy and Alexithymia

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## Abstract

Research explaining the overlap between psychopathy and alexithymia is in its infancy. A study by Lander, Lutz-Zois, Rye, and Goodnight (2012) revealed a significant positive correlation between secondary, but not primary, psychopathy and alexithymia. However, little is known about what accounts for this differential association. Because both alexithymia (Webb & McMurrin, 2008) and secondary psychopathy (Blackburn, 1996) have been linked to Borderline Personality Disorder (BPD), the current study sought to determine if emotional processing deficits characteristic of BPD could explain the link between secondary psychopathy and alexithymia. The results supported the hypothesis that BPD would mediate the association between secondary psychopathy and alexithymia. Implications, limitations, and future directions are discussed.

## Emotional Dysregulation and Borderline Personality Disorder: Explaining the Link Between Secondary Psychopathy and Alexithymia

Psychopathy, a term first coined by Hervey Cleckley (1941), is a personality pattern marked by persistent antisocial behavior (e.g., theft or violent behavior) as well as interpersonal and affective deficits such as callousness, manipulation, lack of empathy, and difficulty forming meaningful attachments with others (Hare, 2003). Scholars have begun to speculate about a possible link between psychopathy and alexithymia (Kroner & Forth, 1995; Louth, Hare, & Linden, 1998). Alexithymia is a clinical syndrome characterized by difficulty in describing feelings to others and in identifying and distinguishing between feelings and bodily sensations of emotional arousal (Taylor, Bagby, & Parker, 1992). Because of these difficulties in describing and identifying feelings, persons with alexithymic characteristics are thought to experience interpersonal deficits such as problems in forming social attachments, understanding the emotions of others, and displaying empathy. Researchers have noted similar characteristics between psychopathy and alexithymia such as lack of empathy, difficulties with introspection and in interpreting emotions, aggressiveness, and lack of close interpersonal relationships (Haviland, Sonne, & Kowert, 2004; Kroner & Forth, 1995). The purpose of the current study was to better understand the relationship between alexithymia and two subtypes of psychopathy, primary and secondary.

Karpman (1941) first distinguished between primary and secondary psychopathy, asserting that persons with secondary psychopathy were prone to experience negative affect and to form emotional bonds with others. Further, he argued that primary psychopathy might largely represent a heritable deficit, whereas secondary psychopathy may represent a combination of genetics and maladaptive environmental characteristics (e.g., childhood maltreatment). More

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modern research also implicates neuroanatomical abnormalities, with primary psychopathy being tied to subcortical deficits (i.e., fear sensitivity), and secondary psychopathy being tied to prefrontal cortex deficits (i.e., executive functions including attention and planning) (Fowles & Dindo, 2006). Numerous studies have found patterns of correlations between Factor 1 (i.e., interpersonal and affective impoverishment) or Factor 2 (i.e., impulsivity and an antisocial lifestyle) of the Psychopathy Checklist-Revised (PCL-R; Hare, 2003) and other variables that are that are theoretically consistent with the primary versus secondary psychopathy distinction (see Fowles & Dindo, 2006 and Skeem, Johansson, Andershed, Kerr, & Louden, 2007 for a more complete review). For instance, whereas persons who score high on Factor 1 have been found to be likely to demonstrate narcissistic traits, emotional detachment, social dominance, and low levels of anxiety, persons high on Factor 2 demonstrate borderline traits, social deviance, impulsivity, and high levels of anxiety. Despite the growing body of literature supporting a 2-factor model of psychopathy, an important caveat is that some theorists have argued that more elaborate typologies are more in line with factor analytic studies of psychopathy (e.g., Williams, Paulhus, & Hare, 2007).

In one of the first studies to examine the link between these psychopathy and alexithymia, Louth et al. (1998) found 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; however, no relationship between Factor 1 and the TAS was found. Kroner and Forth (1995) found a similar pattern of associations. Due to the fact that some research indicates that Factor 1 might roughly coincide with primary psychopathy and Factor 2 with secondary psychopathy (Hicks, Markon, Patrick, Krueger, & Newman, 2004), the findings

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by Louth et al. (1998) and Kroner and Forth (1995) suggest that a positive relationship may exist between alexithymia and secondary, but not primary psychopathy.

A recent study by Lander, Lutz-Zois, Rye, and Goodnight (2012) found direct evidence for these differential associations between alexithymia and primary versus secondary psychopathy. Specifically, using two different methods of assessing primary versus secondary psychopathy, they found that alexithymia was significantly positively associated with secondary, but unrelated to primary psychopathy. Despite the empirical research linking alexithymia and secondary psychopathy together, it remains unclear why alexithymia is related to secondary psychopathy, but not primary psychopathy. This differential relationship is intriguing because one might initially expect that because primary psychopathy is more closely associated with deficits in affective processing on laboratory tasks (e.g., Patrick, Zempolich, & Levenston, 1997), primary rather than secondary psychopathy would demonstrate a stronger relationship with alexithymia. Hence, understanding what accounts for the differential relationship observed in Lander et al. (2012) may deepen our understanding of the distinction between primary and secondary psychopathy, especially as it applies to a “sub-clinical,” non-criminal sample (Mahmut, Homewood, & Stevenson, 2008).

Several studies also highlight conceptual similarities between alexithymia and secondary psychopathy. For example, typical individuals with secondary psychopathy and alexithymia are anxious and submissive (Haviland et al., 2004; Skeem et al., 2007). In contrast, individuals with primary psychopathy are thought to be much less prone to experiencing anxiety, and tend to be rather cunning (Karpman, 1949). In addition, the results of multiple studies suggest that those with secondary psychopathy and alexithymia exhibit lower levels of emotional intelligence and less control over emotions and impulses in comparison to primary psychopathy (Haviland et al.,

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2004; Ross, Lutz, & Bailey, 2004; Vidal, Skeem, & Camp, 2010). The characteristics that alexithymia and secondary psychopathy share could be summarized as deficits in emotion regulation, a set of problems characteristic of Borderline Personality Disorder (BPD; Blackburn, 1996; Webb & McMurrin, 2008).

BPD is characterized by severe interpersonal disruptions, impaired coping skills, and difficulty regulating emotions, especially negative ones (Kehrer & Linehan, 1996). Interestingly, researchers have found that some symptoms of affective disruption and interpersonal struggles characteristic of BPD resemble those of secondary psychopathy (Stalenheim & von Knorring, 1998). Further, because BPD is characterized in part by problems identifying and distinguishing between emotions, alexithymia is thought to be a common characteristic of BPD (e.g., Modestin, Furrer, & Malti, 2004). The difficulties embodied in alexithymia could themselves be considered one aspect of emotional dysregulation, as effective affect regulation may first hinge on adequate emotional awareness and understanding (e.g., Berenbaum, 1996). Taken together, the available research identifies BPD tendencies, especially deficits in affect regulation, as the common thread that ties secondary psychopathy and alexithymia together.

The current study was designed to determine if BPD tendencies and the associated symptoms of emotional dysregulation, in part, account for the relationship between alexithymia and secondary psychopathy found in the study conducted by Lander et al. (2012). Consistent with the results of Lander et al. (2012), we hypothesized that alexithymia would not be correlated with primary psychopathy, but would be positively associated with secondary psychopathy. We also hypothesized that emotional dysregulation and BPD tendencies would mediate the association between secondary psychopathy and alexithymia.

## **Method**

### Participants

One hundred undergraduate students, 53 men, 46 women, and one unspecified, from a medium-sized private university in the Midwest completed study measures in exchange for credit in their introductory psychology course. The number of participants recruited was based on a power analysis in which we assumed a medium effect size and a power of .80 (Cohen, 1988). The participants' ages ranged from 18 to 22 years old, with an average age of 19 (SD = .99). The ethnic composition was 88% Caucasian, 4% African American, 3% Asian/Pacific Islander, 2% Latino, 1% Native American, and 2% other racial or ethnic groups.

### Measures

The measures used were chosen because of their strong psychometric properties and wide-use in assessing the constructs of interest in the current study. Descriptive statistics for the continuous variables, including Cronbach's alphas can be found in Table 1. With the exception of secondary psychopathy and self-deceptive enhancement, which were in the questionable range, the alpha values ranged from acceptable to excellent (Kline, 1999).

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Insert Table 1 about here

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**Primary and secondary psychopathy.** The Levenson Self-Report Psychopathy Scale (LSRP; (Levenson, Kiehl, & Fitzpatrick, 1995) is a 26-item self-report measure which measures both primary and secondary psychopathy; the primary psychopathy subscale has 16 items and is designed to assess the interpersonal and affective features of psychopathy, while the secondary subscale includes 10 items and is designed to assess impulsivity and other antisocial behaviors (Miller, Gaughan, & Pryor, 2008). Research has found good test-retest reliability (Lynam,



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Whiteside, & Jones, 1999). However, studies have found mixed support for the discriminant and convergent validity of the two subscales (Brinkley, Schmitt, Smith, & Newman, 2001; Lilienfeld & Fowler, 2006).

**Alexithymia.** The Toronto Alexithymia Scale (TAS-20; Taylor et al., 1992) is a 20-item self-report measure designed to tap three different factors to correspond to the distinct facets of alexithymia: Difficulty identifying feelings and distinguishing them from bodily sensations of emotion (Factor 1), Difficulty describing feelings to others (Factor 2), and An externally oriented style of thinking (Factor 3; Parker, Bagby, Taylor, Endler, & Schmitz, 1993). This measure has shown high internal consistency (Henry, Phillips, Crawford, Theodorou, & Summers, 2006) and strong support for convergent and discriminant validity (Bagby, Taylor, & Parker, 1994).

**Borderline Personality Disorder Tendencies.** The Coolidge Axis II Inventory (CATI; Coolidge, 1984) was used as a measure of BPD tendencies in this study. The CATI is a self-report measure of DSM personality disorders, and consists of 200 items. For the current study, only the BPD scale was utilized, a convention used in previous studies (e.g., Sprague & Verona, 2010), resulting in a total of 23 questions assessing BPD. The CATI has demonstrated good reliability and validity (Cale & Lilienfeld, 2002; Coolidge & Merwin, 1992).

**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), (2) Lack of emotional clarity (Clarity), (3) Difficulties controlling impulsive behaviors when distressed (Impulsive), (4) Difficulties engaging in goal-directed behavior when distressed (Goal), (5) Nonacceptance of negative emotional responses (Nonacceptance), and (6) Limited access to effective emotion regulation strategies (Strategies).

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This measure has been found to have high internal consistency and good validity (Fox, Axelrod, Paliwal, Sleeper, & Sinha, 2007).

**Social Desirability.** The Balanced Inventory of Desirable Responding (BIDR) is a 40-item instrument used to measure the two components of social desirability: self-deceptive enhancement (SDE; i.e., responding to items with an unconscious positive bias) and impression management (IM; i.e., responding to items with a conscious positive bias) (Paulhus, 1984; Stober, Dette, & Musch, 2002). We included this measure because dishonesty is a concern among persons with psychopathic attributes (Lilienfeld & Fowler, 2006) in an attempt to statistically correct for this possible tendency. The BIDR has been shown to have acceptable internal consistency and good concurrent validity (Laurenceau, Kleinman, Kaczynski, & Carver, 2010).

### **Procedure**

Data collection began following ethics approval from the Institutional Review Board of the university from which the data was collected. Participants read an informed consent form, then completed a demographic sheet and the packet of questionnaires via the psychology department's research website. Upon completion of measures, participants were thanked and debriefed in an online form.

## **Results**

### **Data Analytic Strategy**

**Preliminary Analyses.** Mean substitution was used for missing values. To assess for potential confounding variables, zero-order correlations between age or social desirability and secondary psychopathy were conducted. Two t-tests were also calculated using sex or race as the grouping variable and secondary psychopathy as the criterion variable. Because of the small

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number of individuals who reported an ethnicity different from Caucasian, the ethnicity variable was collapsed into two groups: Caucasian and Non-Caucasian. The zero-order correlations revealed significant negative relationships between secondary psychopathy and age,  $r = -.21, p < .05$ , the SDE subscale,  $r = -.26, p < .05$ , and the IM subscale,  $r = -.46, p < .01$ , such that persons higher in age or either type of social desirability scored lower on secondary psychopathy. Because SDE is quite conceptually similar to the construct of alexithymia, this variable was not controlled for in the primary analyses in order to avoid partialing out an essential “piece” of the alexithymia variable. Thus, only age and IM were controlled for in the primary analyses. Independent-sample t-tests showed no significant group differences between ethnicity,  $t(98) = -.58, p > .05$ , or sex and secondary psychopathy,  $t(99) = 1.45, p > .05$ .

In order to assess for problems with multicollinearity, partial correlations were calculated between the primary study variables while controlling for significant demographic variables and social desirability. Problems with multicollinearity, which would be indicated by coefficients greater or equal to .80 (Leahy, 2000), were not identified with any of the primary study variables (see Table 2). However, fairly strong relationships were observed between emotional dysregulation and both alexithymia and BPD tendencies. The tolerance and variance inflation factor values also did not suggest problems with multicollinearity for any of the study variables.

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Insert Table 2 about here  
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**Hypothesis 1.** Hypothesis 1 was tested through the same partial correlations described above. Support for our hypothesis would be indicated by a significant partial correlation between

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alexithymia and secondary psychopathy, but a non-significant correlation between alexithymia and primary psychopathy.

**Hypothesis 2.** Preacher and Hayes's (2008) bootstrapping procedure was used to test Hypotheses 2 rather than Baron and Kenny's (1986) four step technique, because unlike other mediation analysis methods, bootstrapping is not limited by the assumption of multivariate normality. Alexithymia was entered as the predictor variable, BPD tendencies and emotional dysregulation as the mediators, significant demographic variables and social desirability as covariates, and secondary psychopathy as the criterion. In support of Hypothesis 2, the bootstrap confidence intervals (of 95 percent) were expected to exclude values of zero.

**Primary Analyses**

In support of Hypothesis 1, the partial correlation between alexithymia and both primary and secondary psychopathy indicated that secondary psychopathy was significantly positively correlated with alexithymia such that those who scored higher in secondary psychopathy also scored higher in alexithymia (see Table 2). No significant correlation was found between primary psychopathy and alexithymia.

The results of the bootstrapping analysis (Hypothesis 2) indicated that while borderline personality tendencies mediated the relationship between alexithymia and secondary psychopathy, 95% bootstrap CI of = .0222 to .1540, emotional dysregulation did not serve as a mediator, 95% bootstrap CI of = -.0645 to .1044 (see Figure 1). The significant relationship between alexithymia and secondary psychopathy when controlling for BPD tendencies and emotional dysregulation implies that the mediation was partial rather than full.

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Insert Figure 1 about here

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### Discussion

The results of the current study replicated the finding from Lander et al. (2012) that alexithymia was significantly, positively associated with secondary psychopathy, but not primary psychopathy (Hypothesis 1). Thus, our results add to the growing body of research supporting the validity of the distinction between primary and secondary psychopathy generally (e.g., Hicks et al., 2004; Poythress & Skeem, 2006), as well as the construct validity of the primary and secondary subscales of the LSRP specifically. Our results add to the developing literature on the validity of self-report measures of primary and secondary psychopathic features in non-clinical populations by demonstrating differential patterns of correlations with theoretically relevant variables (Douglas et al., 2012). Our results also extended the finding of Lander et al. (2012) in a theoretically important way by demonstrating that BPD tendencies partially mediated the relationship between alexithymia and secondary psychopathy (Hypothesis 2). This suggests that BPD tendencies may partially explain the conceptual link between secondary psychopathy and alexithymia. While emotional dysregulation did not serve as a mediator when entered simultaneously with BPD tendencies, it did when entered separately. This result makes sense in view of the high correlation as well as conceptual overlap with BPD tendencies.

The findings that BPD tendencies partially mediate the association between alexithymia and secondary psychopathy could help inform clinicians of the most effective treatment modalities for persons with these clinical syndromes. For example, 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, Poythress, Edens, Lilienfeld, & Cale, 2003; Skeem et al., 2007). Therefore, results of

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this study 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 Dialectical Behavior Therapy (DBT) has been shown to be most effective in treating BPD (e.g., Linehan, 1987), the current results suggest that these techniques might be useful for the treatment of persons with attributes of secondary psychopathy as well. The fact that DBT has shown promise in the treatment of Antisocial Personality Disorder, a disorder thought to be the behavioral manifestation of secondary psychopathic trait, further points to the potential usefulness of DBT in the treatment of secondary psychopathy (Galietta, Fineran, Fava, & Rosenfeld, 2010). Clearly, treatment outcome studies explicitly testing this assumption would be a useful direction for future research.

Although the results of this study deepen our understanding of the associations between alexithymia and primary versus secondary psychopathic attributes in a non-criminal sample, it is likely that those on the more pathological end of the psychopathy and the alexithymia spectrums were underrepresented in this sample. Related, this sample was lacking in diversity regarding variables such as age, ethnicity, and socioeconomic status. Future research is needed replicating the current findings with more diverse community samples and clinical samples (e.g., prison or inpatient and outpatient psychiatric patients). Further, the Cronbach's alpha value of secondary psychopathy subscale of the LSRP was in the questionable range. Some studies also call into question the ability of the LSRP to adequately distinguish between primary and secondary psychopathy (see Lilienfeld & Fowler (2006) for a more complete review). For instance, while the primary psychopathy subscale has been found to correlate solely with Factor 1 of the PCL-R, the secondary psychopathy subscale has been found to be correlated with both Factors. Moreover, researchers have noted several problems inherent in the use of self-report measures, in

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general, to assess psychopathy including dishonesty or lack of insight among individuals with psychopathic attributes (Lilienfeld & Fowler, 2006). Future research should validate our results with other methods of assessing this construct such as other-report, physiological measures, and observational measures.

Additionally, while several characteristics and symptoms (e.g., problems with emotion regulation) are 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. Related, more research could focus on understanding the types of emotional regulation strategies used by persons with the clinical syndromes investigated in the current study. Further research could also explore the commonalities and differences in the cognitive structure and content of persons with alexithymia, primary versus secondary psychopathy, and BPD tendencies.

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 tend to be shared characteristics of these constructs (e.g., Skeem et al., 2003). More comprehensive research is warranted in order to gain a clearer picture of the shared and distinct etiological pathways of these constructs. Finally, future research could benefit from examining moderators of the relationships between negative childhood factors (e.g., abuse or neglect) and the development of alexithymia, secondary psychopathy, or BPD. In sum, this study is an important, but preliminary, investigation into the

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distinct and overlapping characteristics of the closely linked disorders and syndromes that can be further explored in future studies in this field.



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