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Borderline personality features and emotional reactivity: The mediating role of interpersonal vulnerabilities

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ABSTRACT

Background and Objectives: The purpose of this study was to examine the mediating role of interpersonal vulnerabilities in the association of borderline personality (BP) features with emotional reactivity to an interpersonal stressor.
Methods: For this study, female university students with high ($N = 23$), mid ($N = 23$), and low ($N = 22$) BP features completed the Inventory of Interpersonal Problems-Personality Disorders-25 (IIP-PD-25). Self-reported emotions, skin conductance responses (SCRs), interbeat intervals, and heart rate variability measured emotional reactivity to a social rejection stressor.
Results: BP features were positively associated with interpersonal dysfunction and predicted greater SCR reactivity and self-reported emotional reactivity. Interpersonal dysfunction mediated the association between BP features and physiological (SCRs), but not self-reported, emotional reactivity. In particular, scores on the interpersonal ambivalence subscale of the IIP-PD-25 mediated the association of BP features with SCR reactivity.
Limitations: This study examined BP features in a non-clinical sample, and relied on a relatively small sample. Furthermore, the design of the present study does not capture the potential transaction between interpersonal vulnerabilities and emotional dysfunction.
Conclusions: The findings of this study illuminate one potential mechanism underlying the heightened reactivity of persons with BP features to rejection, suggesting that interpersonal ambivalence plays a particularly important role in physiological reactivity.

1. Introduction

Emotional reactivity has been hypothesized to play a central role in borderline personality disorder (BPD; Gunderson, Zanarini, & Kisiel, 1996; Linehan, 1993). Emotional reactivity can be viewed as the intensity of an emotional response to stimuli, across one or more domains of emotional experience (subjective, physiological, or behavioural; Rothbart & Derryberry, 1981). Despite research suggesting that people with BPD exhibit overall greater negative affectivity (e.g., Henry et al., 2001; Levine, Marziali, & Hood; 1997), findings pertaining to emotional reactivity are mixed. In studies using ecological momentary assessment, BPD participants, compared with healthy controls, demonstrated more frequent shifts in negative affect (Stein, 1996; Stiglmayr et al., 2005), and high levels of negative affect (Links et al., 2007). Some studies have found higher self-reported emotional reactivity among BPD participants compared with participants with other personality disorders (Herpertz, Kunert, Schwenger, & Sass, 1998; Koenigsberg et al., 2002). In contrast, other findings suggested that participants with BPD exhibited greater self-reported negative affect overall, but not greater self-reported reactivity to a laboratory stressor, compared with clinical and healthy controls (Jacob et al., 2009). In the laboratory, some studies have found greater physiological reactivity (Ebner-Priemer et al., 2005) and lower parasympathetic reactivity (Austin, Riniolo, & Porges, 2007; Kuo & Linehan, 2009) among persons with BPD, compared with both psychiatric and non-psychiatric controls.

An emerging body of research has suggested that heightened emotional reactivity in BPD may occur primarily in response to interpersonal triggers. Research has found that precipitants of emotional distress in BPD are most commonly characterized by events associated with social rejection or abandonment among BPD participants (Stiglmayr et al., 2005). Daily interpersonal interactions have been associated with greater negative affect among

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individuals with BPD (relative to clinical and non-clinical controls; Stepp, Pilkonis, Yaggi, Morse, & Feske, 2009), particularly if these encounters carry risk for rejection or disapproval (vs. controls; Sadikaj, Russell, Moskowitz, & Paris, 2010). Furthermore, many of the self-destructive acts associated with BPD, such as impulsivity, suicide attempts, or non-suicidal self-injury (NSSI), may be triggered by interpersonal conflict, real or imagined (Levy, 2005). Studies suggest that both clinical (Limberg, Barnow, Freyberger, & Hamm, 2011; Schmahl, Vermetten, Zlzinga, & Bremner, 2004) and analogue (Chapman, Walters, & Dixon-Gordon, 2011; Dixon-Gordon, Chapman, Lovasz, & Walters, 2011; Tragesser, Lippman, Trull, & Barrett, 2008) samples of BPD may be especially emotionally and physiologically reactive to rejection and abandonment stimuli, in comparison to healthy controls. In addition, participants with BPD have exhibited delayed cortisol recovery following an interpersonal conflict in the laboratory, in comparison with healthy control participants (Walter et al., 2008). Research examining the mechanisms underlying the heightened reactivity of persons with BPD and BP features to interpersonal stressors would help to illuminate factors to address in treatment. Enduring patterns of interpersonal vulnerability, perhaps developed through invalidating developmental experiences, may cause individuals with BP features to be especially vulnerable and reactive to interpersonal stressors or triggers in the present.

Several domains of dysfunction in interpersonal functioning have been associated with BPD. Researchers have theorized that abandonment fears, rejection sensitivity, and intolerance of aloneness may underlie many of the interpersonal difficulties common to BPD (Gunderson & Lyons-Ruth, 2008), contributing to distress and maladaptive relational behaviours (Ayduk et al., 2008; Lejuez et al., 2003). In addition, BPD has been characterized by both outward-directed aggression (Barnow et al., 2009) and inward-directed anger, relative to both psychiatric and non-psychiatric controls (McCloskey et al., 2009; see Látalová & Praško, 2010). Such irritability or anger has been associated with relational difficulties among individuals with BPD (Critchfield, Clarkin, Levy, & Kernberg, 2008). Lejuez et al. (2003) found that both interpersonal sensitivity and interpersonal aggression were associated with BPD-related symptomology among undergraduates and patients in a residential substance use treatment facility. Moreover, among patients with BPD, associations have been found between BPD symptoms and interpersonal sensitivity, interpersonal ambivalence, interpersonal aggression, need for social approval, and lack of sociability (Stepp, Smith, Morse, Hallquist, & Pilkonis, 2012). Furthermore, attachment has long been considered to have implications in the development of BPD (Bornstein, Becker-Matero, Winarick, & Reichman, 2010; Gunderson & Lyons-Ruth, 2008; Levy, 2005), with fearful, ambivalent or preoccupied attachment strategies being common among those with BPD (Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004). Despite the wealth of research identifying specific domains of interpersonal dysfunction within BPD, it is unclear which, if any, of these domains may contribute to emotional reactivity in this population.

The aim of this study was to explore whether interpersonal vulnerabilities accounted for the association of borderline personality (BP) features with emotional reactivity to an interpersonal stressor. Given existing conceptualizations of emotion (e.g., Dasborough, Sinclair, Russell-Bennett, & Tombs, 2008; Rothbart & Derryberry, 1981), we examined emotional reactivity across experiential (via self-report) and physiological domains. We hypothesized that interpersonal difficulties would mediate the association of BP features with self-reported emotional reactivity and psychophysiological responses. As an exploratory question, we examined whether specific domains of interpersonal difficulties associated with BPD (lack of sociability, need for social approval, interpersonal ambivalence, interpersonal sensitivity and aggression; e.g., Stepp et al., 2008) accounted for these relationships of BP features with emotional reactivity.

2. Material and methods

2.1. Participants and recruitment

Participants in this study were 68 female undergraduates (M_{age} = 21.68, SD = 5.20). To ensure adequate representation of individuals with low and high levels of BP features, equal numbers of participants were recruited based on their level of BP features. Specifically, they were recruited based on their scores on an initial screening questionnaire, the Personality Assessment Inventory – Borderline Features Scale (PAI-BOR; Morey, 1991), resulting in 23 high-BP, 23 mid-BP and 22 low-BP participants in this study. Please see Table 1 for demographic data. Participants were compensated with $10 or course credit for completion of the laboratory procedures. All procedures were approved by a human subjects review committee, and all participants provided informed consent prior to participating in this study.

2.2. Self-report measures

2.2.1. Borderline personality features

BP features were assessed with the PAI-BOR (Morey, 1991), a self-report inventory that contains 24 items, each rated on a 4-point Likert-type scale. The PAI-BOR has been used to assess BPD features among undergraduates in several studies (Chapman, Leung, & Lynch, 2008; Chapman, Rosenthal, & Leung, 2009; Trull, 1995; 2001), and has demonstrated good psychometric properties (α = .92; rs = .88–.89) (Chapman et al., 2008, 2012). In the present study, the PAI-BOR demonstrated high internal consistency (α = .89) and good test-retest reliability (r = .82) over approximately two weeks. The cut-off of 38 used in the present study for the high-BP group was associated with a positive predictive power of .97 when referenced to a BPD diagnosis (Jacobo, Blais, Baity, & Harley, 2007). Conversely, the lower-level cut-off of 23 was chosen because this is the mean score reported for undergraduates (Morey, 1991), and the mid-BP group was made up of individuals who scored between 23 and 37.

2.2.2. Interpersonal difficulties

The Inventory of Interpersonal Problems-Personality Disorders-25 (IIP-PD-25) is a self-report inventory derived from the Inventory of Interpersonal Problems (IIP) for time efficient screening purposes (Kim & Pilkonis, 1999). Interpersonal problems are frequently the focus of psychotherapy, and the IIP was designed to identify sources of a patient's interpersonal distress (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). The underlying rationale for the IIP-PD-25 is that interpersonal problems are the best indicator of personality disorders. The IIP-PD-25 has five subscales: (a) Interpersonal Sensitivity, (b) Interpersonal Ambivalence, (c)

Table 1
Demographics.

Race/ethnicity	*N*	%
East Asian/Asian Canadian	30	44.1
Caucasian	26	38.2
Black/African Canadian	1	1.5
Middle Eastern/Arab	2	2.9
Other	5	7.4
More than one racial group	2	2.9
Chose not to answer	2	2.9