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# The Relational Context of Aggression in Borderline Personality Disorder: Using Adult Attachment Style to Predict Forms of Hostility



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Attachment theory provides a framework for understanding and predicting critical aspects of aggression in the personality disorders. An association between borderline personality disorder (BPD) and insecure forms of adult attachment marked by high relationship anxiety has been repeatedly observed in the empirical literature. Aggression also has been linked to insecure attachment. The present study extends previous work by exploring the degree to which the underlying attachment dimensions of relationship anxiety and avoidance are associated in BPD with the following forms of hostility: (a) direct aggression (verbal or physical) initiated towards others, (b) expectation/perception of aggression from others (including "reactive" counteraggression when/if provoked), (c) aggression directed towards the self in the form of suicidality or parasuicidality, and (d) affective experience of irritability or anger. The issue was studied in a sample of 92 patients diagnosed with BPD. Results show significant association between more fearful forms of attachment (simultaneous presence of relationship anxiety and avoidance) and the more reactive form of aggression involving expectation of hostility from others. Self-harm was significantly associated only with relational avoidance while

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This study was supported in part by grants from the Borderline Personality Disorder Research Foundation to principal investigators Otto Kernberg, M.D., and John Clarkin, Ph.D.

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anger and irritability were associated only with relational anxiety. Implications for understanding relational aspects of BPD aggression in research and clinical work are discussed. © 2007 Wiley Periodicals, Inc., *J Clin Psychol* 64: 67–82, 2008.

Keywords: borderline personality disorder; attachment; aggression

Borderline personality disorder (BPD) is increasingly receiving research attention addressing its etiology, course, and treatment. It is a difficult clinical problem well-known for attendant risks of suicide and self-harm, affective instability, and patterns of idealization and devaluation in relationships. From a diagnostic perspective, BPD poses the problem of having considerable heterogeneity of features. Any combination of five (or more) of nine criteria is required for the diagnosis, producing up to 256 possible variant expressions of the disorder. In addition, BPD shows substantial overlap and comorbidity with all other personality disorders plus Axis I disorders including depression, anxiety, eating disorders, posttraumatic stress disorder, and substance abuse (McGlashan et al., 2000; Nurnberg et al., 1991; Oldham et al., 1992; Zanarini et al., 1998).

The usual clinical prototype of BPD involves a picture of impulsive aggression, suicidality and self-harm, extreme dysphoria, abandonment sensitivity, identity disturbance, and unstable, angry affect; however, these features do not apply equally to all BPD patients. Heterogeneity suggests that some individuals with BPD are suicidal, some not. Some BPD individuals may be aggressive to others, some not. Among the features thought to be “core” to BPD, impulsivity has been identified (Ball, Tennen, Poling, Kranzler, & Rounsaville, 1997; Critchfield, Levy, & Clarkin, 2004; Svrakic et al., 2002; Trull, 1992) as has aggression (Skodol et al., 2002), leading some to hypothesize presence of “impulsive aggression” as central to BPD. However, some empirical work has shown that aggression can vary substantially among BPD individuals depending on the precise definition and measure used (Critchfield et al., 2004).

Attachment theory provides a useful framework for understanding and predicting critical aspects of personality disorder (Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004; Crawford et al., 2006; Fonagy, 1999; Levy, 2005). The central observation linking BPD with attachment theory is that characteristic symptoms and problem behaviors are typically in relation to an interpersonal context or are otherwise precipitated by real or imagined events in relationships (Agrawal et al., 2004; Levy, 2005). Attachment theory views relational behavior as reflecting “internal working models” or “internalized representations” of self and others (Bowlby, 1973). These internalizations are essentially learned cognitive structures and behavioral patterns that develop from perceived early experiences with important attachment figures, usually a child’s parents. Attachment and related internalization of others is thought to be normative and evolutionarily adaptive. From early attachment experiences, a person gains important information about his or her identity and views of self and other as well as capacities for regulating internal experiences and behavioral patterns for maintaining proximity to others. The early learning is potentially modifiable by later learning and experience, but also is thought to shape perception of new events and relationships, thus persisting into adulthood.

Experience of aggression from caregivers has been conceptualized as a factor that compromises the ability to develop realistic and balanced views of self and others. Fonagy (1999) summarized, “in Bowlby’s formulation, aggression—or rather

dysfunctional anger—lies at the root of anxious attachment” (p. 12). According to theory, insecure attachments may be formed through internalization of abuse and neglect in the form of a relational template with potential to guide expectancies for similar abuse and/or rejection in future relationships (Critchfield & Benjamin, in press; Florsheim, Henry, & Benjamin, 2006; Fonagy, 1999; Levy, 2005). However, not all patients diagnosed with BPD have obvious abuse, neglect, or rejection in their histories, leading some to posit that high levels of constitutionally based aggression or negative affect also may interfere with early learning in such a way as to prevent an integrated view of self and others, ultimately producing a similar template for relational behavior containing strong elements of hostility and aggression (Gurvits, Koenigsberg, & Siever, 2000; Kernberg, 1984; Levy et al., 2006). Consistent with all these theories, an association between BPD (often characterized by early trauma as well as high levels of negative affect) and insecure forms of adult attachment marked by high relationship anxiety have been repeatedly observed in the empirical literature (Agrawal et al., 2004; Levy, Meehan, Weber, Reynoso, & Clarkin, 2005).<sup>1</sup>

Bartholomew and Horowitz (1991) first characterized the fearful style of adult attachment as having a negative view of the self in combination with negative views of close others. Florsheim et al. (1996) used an interpersonal framework to further refine the description, defining the fearful style in part as having expectations that close others will attack, reject, or blame. Consistent with these perspectives, Dutton (2002) noted that a frequent motivation for relational aggression is belief that the partner will abandon the abuser. Empirical work conducted by Dutton and colleagues (Dutton, 2002; Dutton, Saunders, Starzomski, & Bartholomew, 1994) has shown adult aggression against romantic partners to be associated with insecure attachment styles, particularly the fearful type—so much so that the term “angry attachment” has been proposed as an alternate descriptor. The same researchers also reported high levels of BPD in their partner-abusing samples.

Recent work has found that aggression is a useful concept for understanding the personality disorders when added to considerations of attachment style (Brennan & Shaver, 1998; Crawford et al., 2006; Levy, 2005). Crawford and colleagues (2006) found that Cluster B disorders are associated with high levels of relationship anxiety, avoidance, and aggression, with aggression distinguishing Cluster B from other relationally anxious personality disorders such as avoidant and dependent. They concluded that assessment of aggression may be necessary to differentiate personality disorders over and above information available from attachment style alone. They also called for more fine-grained work to understand the relation between aggression and attachment at the level of individual personality disorders.

The present study extends the work of Crawford et al. (2006) by exploring the degree to which individuals diagnosed with BPD exhibit particular attachment styles, and the degree to which the underlying attachment dimensions of relationship anxiety and avoidance are themselves associated with forms of aggression. We expect to replicate previous findings of high levels of insecure attachment in BPD, especially attachments marked by relational anxiety (i.e., preoccupied and fearful). Rather than assume that all forms of aggression are equivalent, we examine the construct separately for: (a) direct aggression (verbal or physical) initiated toward others, (b) expectation/perception of aggression from others (which includes “reactive” counteraggression when/if provoked),

<sup>1</sup>See Levy (2005) for a thorough review of theory and research on attachment in BPD.

(c) aggression directed toward the self in the form of suicidality or parasuicidality, and (d) affective experience of irritability or anger.

Our expectation is that these various forms of aggression will show differential levels of association with both adult attachment anxiety and avoidance for BPD, based in part on the work of Fonagy (1999) as well as Tweed and Dutton (1998). Each of these authors proposed differences in the attachment systems of males who initiate aggression in coldly calculated, instrumental ways versus those who commit violent acts in reaction to perceived threats of abandonment or rejection. Tweed and Dutton explored the issue empirically using cluster analysis with a sample of incarcerated male batterers. Two groups of batterers were identified as Instrumental and Impulsive subtypes, the latter showing high levels of borderline pathology on the MCMI-II (Millon, 1987) personality measure. Both groups endorsed high levels of the Preoccupied style, but the Impulsive group showed significantly higher levels of the Fearful style.

Expectation of difference between forms of aggression also is based on the interpersonal formulations of attachment provided by Florsheim et al. (1996), who used the Structural Analysis of Social Behavior Model (SASB; Benjamin, 1987) to refine attachment style descriptions. The SASB Model specifies three relational forms that aggression (or any other interpersonal behavior) may take. Behavior may be focused on others (e.g., directly attacking another physically or verbally), focused on the self in relation to others (e.g., acting warily apprehensive as if about to be attacked), or focused inward (e.g., self-harm). Florsheim et al. noted that expectation of attack and blame from others was associated with the fearful classification. This expectation differs from those with preoccupied (i.e., others expected to be distant or inaccessible) or dismissive (i.e., others expected to ignore but also to trust the individual) styles. Based on the previous empirical and theoretical work, we predicted that expectation and/or perception of aggression from others would be most strongly associated with a fearful adult attachment pattern among the present sample of predominantly female, BPD psychotherapy patients.

## Method

### *Participants and Procedure*

Trained interviewers, primarily postdoctoral fellows in psychology, conducted screening interviews and assessments with participants interested in receiving treatment as part of a randomized control trial (RCT) comparing three different psychotherapies for BPD. The sample of 92 participants included in the present analysis all received a diagnosis of BPD based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV;* American Psychiatric Association, 1994) criteria as assessed by the International Personality Disorders Examination (IPDE; Loranger, 1999). Participants were excluded if they met criteria for current untreated major depression, substance dependence,<sup>2</sup> mental retardation, or past or present history of schizophrenia, schizoaffective disorder, or bipolar I disorder. Exclusion criteria were assessed using the SCID-I interview for *DSM-IV* (First, Spitzer, Gibbon, & Williams, 1995). High levels of reliability were obtained for the number of *DSM-IV* BPD criteria met by each participant [single rater ICC(1,1) = .83]. A good level of reliability for categorical BPD diagnosis was

<sup>2</sup>Past major depression or past substance dependence were exclusionary criteria.

obtained using the five-criteria threshold ( $\kappa = .64$ ).<sup>3</sup> Of the 91 participants providing demographic detail (All but 1 of the 92 provided this data.), 85 (92.4%) were female. Regarding marital status, 7 (7.6%) were married, 40 (43.4%) were divorced, and 45 (48.9%) were single, never married. Participant age ranged from 18 to 50 years ( $M = 30.75$ ,  $SD = 7.89$ ). Racial/ethnic distribution of the sample was Caucasian ( $n = 62$ ; 68%), African American ( $n = 9$ ; 10%), Hispanic ( $n = 8$ ; 9%), Asian ( $n = 5$ ; 6%), and Other ( $n = 7$ , 8%). Of the 91 participants, 3 (3%) had less than a high-school education, 7 (8%) had a high-school diploma or GED, 35 (39%) had an associate's degree or some college, 29 (32%) had completed a bachelor's degree, and 17 (19%) had completed a graduate degree.

Certain *DSM-IV* diagnostic criteria assessed by the IPDE are particularly salient to this investigation. BPD Criterion 8, "inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)" was met by 73% of the sample (An additional 19% were judged to show subthreshold evidence.) BPD Criterion 5 regarding suicidal and parasuicidal behavior was met by 72% of the sample (An additional 16% were judged to show subthreshold evidence.) BPD Criterion 6 regarding reactivity of mood as experienced in "intense episodic dysphoria, irritability, or anxiety," was met by 93% of the sample (Another 6% showed subthreshold evidence.) More detail as to the broader RCT study is available elsewhere (Clarkin, Levy, Lenzenweger, & Kernberg, 2004, 2007; Critchfield, Levy, & Clarkin, 2007).

### Measures

Prior to randomization to a treatment cell, an extensive battery of self-report questionnaires and interview-based measures was administered individually. Adult attachment was assessed using the Experiences in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998). Scales from the following instruments also were selected due to their direct focus on forms of interpersonal aggression, suicidality, and irritable or angry affect: the Multidimensional Personality Questionnaire (MPQ; Tellegen, 1982; Tellegen & Waller, in press), the Inventory of Personality Organization (IPO; Clarkin, Foelsch, & Kernberg, 2001; Lenzenweger, Clarkin, Kernberg, & Foelsch, 2001), the Anger, Irritability, Assault Questionnaire (AIAQ; Coccaro, Harvey, Kupsaw-Lawrence, Herbert, & Bernstein, 1991), the Overt Aggression Scale-Modified for Outpatient (OASM; Coccaro et al., 1991), and the Suicide Attempt Self Injury Interview (SASII; Linehan, Comtois, Brown, Heard, Wagner, 2006).

*ECR Scale.* Brennan et al. (1998) showed that a two-dimensional model of anxiety and avoidance underlies most measures of adult attachment styles. The ECR is a 36-item self-report questionnaire assessing adult attachment style by tapping these two basic dimensions. Participants rate the extent to which each item is descriptive of their feelings in close relationships on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Eighteen items assess attachment anxiety, and 18 assess attachment avoidance. Reliability and validity data for the scales are strong, and have been presented elsewhere (Fraley, Waller, & Brennan, 2000; Sibley & Liu, 2004). In the current sample, Cronbach alphas were high for the 18 anxiety items (0.89) and the 18 avoidance items (0.91). As intended by the scale's creators, no

<sup>3</sup>This value, coupled with a high base rate of BPD for referrals to the study assured construction of a validity homogeneous sample with respect to this diagnosis (Critchfield, Levy, & Clarkin, 2007).

substantial association was found between the two scores,  $r = 0.17$ . Levy et al. (2005) explored an alternate factor structure using the BPD sample in this study; however, standard scoring of attachment types based on the two ECR dimensions will be used here in light of the limitations of that work, as well as to facilitate comparison with theory and empirical data elsewhere in the literature.<sup>4</sup>

*MPQ.* This questionnaire is a 300-item self-report instrument designed to assess a wide range of personality features tapped by 11 primary dimensions that combine to form three higher order factors. Test-retest correlations with this instrument have ranged from .82 to .92, with a median of .89. Two of the primary MPQ scales were selected for the present study: Aggression (toward others) and Alienation (i.e., tendency to see self as a victim, either of the provocations and malevolence of others or of bad luck). Twenty items make up the MPQ Aggression scale. High scorers have reported that they will hurt others for their own advantage, are physically aggressive, vindictive, like to frighten and discomfit others, and like violent scenes. The Aggression scale was observed to have an alpha coefficient of .84 in the present sample ( $M = 6.32$ ,  $SD = 4.42$ ). High scorers on the 20-item Alienation scale feel they are victims of bad luck, are mistreated, are the target of false rumors, and that others wish them harm. They also feel betrayed and used by "friends." Alpha for Alienation was .90 ( $M = 8.32$ ,  $SD = 5.58$ ).

*IPO.* The IPO contains 83 items rated on a Likert-type scale from 1 (never true) to 5 (always true). Items were developed to assess domains of functioning and experience relevant for discrimination of Borderline Personality Organization (BPO), a clinical construct that is broader than, but contains, BPD (Kernberg & Caligor, 2005). Two subscales will be used in the following analyses: Aggression and Moral Values. Aggression is a measure of aggressive attitudes and behaviors in BPO. The scale is similar in format and content to the MPQ Aggression scale with items such as "I have been told that I enjoy seeing other people suffer," and "I like having others afraid of me." However, the scale is broader in scope, containing items assessing the following facets of aggression: (a) aggression initiated towards others, (b) aggressive response to perceived provocation from others (e.g., "I have seriously harmed someone but it was in self-defense"), and (c) self-directed aggression (e.g., "It is a big relief to be able to hurt, cut or cause physical pain to myself"). While the IPO typically combines these facets of aggression into one value, the present study considers them separately based on the hypothesis that they may have different connections to internal working models of attachment in BPD. Psychometric inspection using both item and factor analysis within the present sample supports this strategy, with one exception: The single item assessing suicidality did not correlate well with any of the three facets, including self-harm, so it will also be investigated separately. Internal consistency values ( $\alpha$ ) for active, reactive, and self-directed facets were .83, .78, and .84, respectively, with correlations between facet scales all below  $r = .40$ , further suggesting distinctiveness among them.

The Moral Values scale of the IPO measures aggressive, hostile, and antisocial attitudes. Items include "Everybody would steal if they were not afraid of being

<sup>4</sup>The sample size is too small for conclusive statements about the optimal factor structure of attachment in BPD; however, scree plots and eigenvalues from factor analysis of the ECR in this sample support use of the standard two-dimensional solution in that two primary factors emerge after which a large drop in eigenvalues is observed. Levy et al. (2005) used the strategy of retaining all factors with eigenvalues  $> 1$  to generate an alternative factor structure.

caught” and “Since everybody is out to get things for themselves, it is better to be out for oneself than to be a sucker.” High-scoring participants endorse competitive, exploitative, and conflict-oriented expectancies for their relationships with others. Alpha in the present sample was .78. Overall psychometric performance and construct validity of the IPO were found to be acceptable in a previous study using the present sample (McClough, Lenzenweger, Clarkin, & Kernberg, 2002), matching its performance in two normative samples (Lenzenweger et al., 2001).

*AIAQ.* This questionnaire is a 42-item self-report measure rated on a 4-point Likert-type scale, ranging from “very uncharacteristic of me” to “very characteristic of me.” This measure assesses aggressive and hostile behaviors and attitudes for different time periods in a respondent’s life. As described by Coccaro et al. (1991), the AIAQ is intended to be a direct measure of impulsive-aggression. It incorporates items from the Buss-Durkee Hostility Inventory and the Affect Lability Scale that were found in previous research to be related to reduced serotonin functioning. The Direct Assault, Verbal Assault, Indirect Assault, Irritability, and Anger subscales were included for analysis, as they were rated for adult life (Alpha coefficients in the present sample are .86, .68, .79, .69, and .86, respectively). Coccaro et al. reported significant test-retest reliability results for these scales. Mean and *SDs* (in parentheses) for the current sample were: Direct Assault = 10.19 (7.15), Indirect Assault = 7.46 (3.53), Verbal Assault = 16.05 (5.32), Irritability = 20.89 (6.28), and Anger = 11.83 (5.35).

*OASM.* This interview-based measure assesses the frequency of aggressive events and irritability occurring in a specified time frame (in this case, the past month). Similar to the AIAQ, this measure was developed by Coccaro et al. (1991) as a specific measure of impulsive-aggression associated with neurobiological variables. Coccaro et al. reported high interrater reliability and significant test-retest reliability results for the measure. The OASM has separate subscales tapping (a) aggressive verbal behavior (in this sample,  $M = 52.93$ ,  $SD = 54.99$ ), (b) physical aggression towards objects ( $M = 15.98$ ,  $SD = 25.88$ ), (c) physical aggression towards people ( $M = 4.22$ ,  $SD = 10.83$ ), and (d) aggression towards the self ( $M = 27.28$ ,  $SD = 101.23$ ). In addition, irritability ( $M = 6.40$ ,  $SD = 1.89$ ) and suicidality ( $M = 2.95$ ,  $SD = 2.94$ ) also are measured. A scoring system involving weighted frequency counts makes internal consistency of the items difficult to assess. The interested reader is referred to the work of Coccaro et al. for more detail.

*SASII.* This interview assesses lifetime suicide attempts and self-injury episodes. For the purpose of this study, only reports of the lifetime frequency of each are compared to attachment variables. Mean (and *SDs*) of lifetime suicide attempts for the sample is 1.2 (1.8), with a nonnormal distribution ranging from 0 to 10 attempts ( $Mdn = 1.0$ ). Nonsuicidal self-harm showed wide variability and also showed a nonnormal distribution, with a mean of 71.6 (248.0), but a median of 1.5 episodes (range = 0–1350). Linehan et al. (2006) report strong concurrent validity of the SASII for the number of self-reported suicide attempts and self-injury episodes when compared to diary measures and hospital records.

## Results

### *BPD and Attachment*

BPD patients had strongly elevated relationship anxiety when compared to available norms for the ECR ( $M_{norms} = 3.64$ ,  $SD_{norms} = 1.33$ ;  $M_{bpd} = 5.34$ ,  $SD_{bpd} = 1.18$ );  $t(88) = 13.65$ ,  $p < .001$ . More similarity to norms was observed for BPD on the

relationship avoidance dimension, but still with significantly more avoidance ( $M_{\text{norms}} = 2.93$ ;  $SD_{\text{norms}} = 1.18$ ;  $M_{\text{bpd}} = 3.56$   $SD_{\text{bpd}} = 1.35$ );  $t(88) = 4.42$ ,  $p < .001$ . The sample as a whole thus shows strong presence of anxious attachment with a tendency toward a fearful attachment style.

### Attachment Dimensions and Aggression

Table 1 shows the correlation between each aggression-related scale and the two attachment dimensions. Aggression scales were organized conceptually, based on inspection of items in each scale, into the following types: (a) overt aggression initiated towards others, including behavioral measures of aggressive acts; (b) expectations of aggression and reported aggressive reactivity to others; (c) self-directed

Table 1

*Association Between Diverse Measures of Aggression and ECR Dimensions of Relationship Anxiety and Avoidance in a Sample of BPD Patients*

Instrument and scale	Relationship anxiety	Relationship avoidance
Overt, behavioral, other-directed aggression		
AIAQ: Indirect assault	.09	.12
AIAQ: Verbal assault	.19	.21*
AIAQ: Direct assault	-.05	.13
OASM: Verbal assault	-.09	.11
OASM: Assault against objects	-.15	.06
OASM: Assault against others	-.07	-.05
MPQ: Aggression	.16	.27**
IPO: Other-directed aggression	.30**	.08
Scales combined ( $\alpha = .74$ )	.09	.20
Expectation of hostility, aggressive response		
MPQ: Alienation	.45***	.23*
IPO: Reactive aggression	.49***	.22*
IPO: (Antisocial) Moral values	.43***	.30**
Scales combined ( $\alpha = .76$ )	.56***	.30**
Self-directed aggression		
Self-harm		
OASM: Assault against self	.16	.25*
IPO: Parasuicide	.29**	.23*
SASII: History of parasuicide	.05	.32**
Scales combined ( $\alpha = .76$ )	.20	.31**
Suicide		
OASM: Suicidality	-.15	-.10
IPO: Suicide	.15	.01
SASII: History of suicide	.08	.04
Scales combined ( $\alpha = .48$ )	.05	-.03
Anger, irritability		
AIAQ: Irritability	.43***	.23*
AIAQ: Anger	.29**	.10
OASM: Irritability	.22*	-.02
Scales combined ( $\alpha = .72$ )	.39***	.13

*Note.*  $N$  varies between 83 and 90 due to missing values. AIAQ = Anger, Irritability, Assault Questionnaire; IPO = Inventory of Personality Organization; MPQ = Multidimensional Personality Questionnaire; OASM = Overt Aggression Scale; SASII = Suicide Attempt Self Injury Interview.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



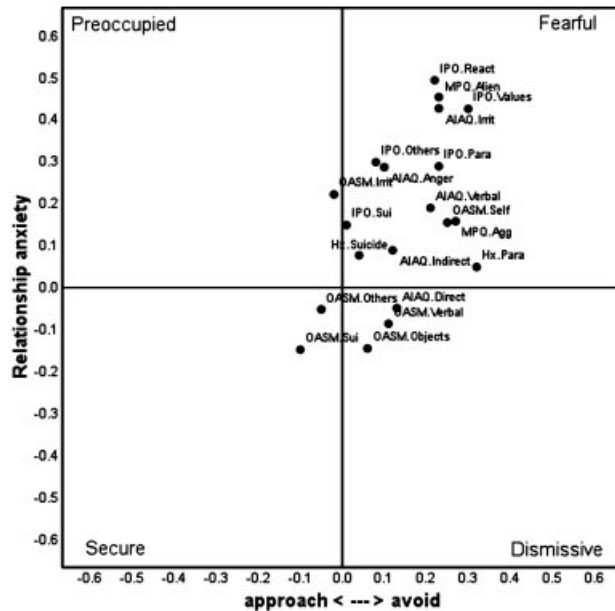


Figure 1. Aggression-related scales compared with ECR attachment dimensions in BPD. AIAQ = Anger, Irritability, Assault Questionnaire; Hx = Suicide Attempt Self Injury Interview; IPO = Inventory of Personality Organization; MPQ = Multidimensional Personality Questionnaire; OASM = Overt Aggression Scale; AIAQ.Anger = Anger; AIAQ.Irrit = Irritability; AIAQ.Verbal = Verbal Assault; AIAQ.Indirect = Indirect Assault; AIAQ.Direct = Direct Assault; Hx.Suicide = SASII Lifetime Suicide Attempts; Hx.Paras = SASII Lifetime Parasuicidality; IPO.React = Reactive Aggression; IPO.Values = Lack of Moral Values; IPO.Others = Other-Directed Aggression; IPO.Paras = Parasuicidality; IPO.Sui = Suicide Item; MPQ.Alien = Alienation; MPQ.Agg = Aggression; OASM.Others = Other-Directed Aggression; OASM.Self = Self-Directed Aggression; OASM.Irrit = Irritability; OASM.Verbal = Verbal Aggression; OASM.Sui = Suicidality; OASM.Objects = Aggression Towards Objects.

aggression; and (d) affective experience of anger and irritability. In addition to correlations for each individual aggression measure, a summary variable for each of the four general types of aggression also was computed.<sup>5</sup> To do this, individual scales were converted to standard scores for the sample, summed across each type of aggression, and then correlated with the attachment dimensions. Internal consistency of the summary measures appeared adequate, with the exception of suicidality (see Table 1). Correlations among these summary scales ranged from .01 to .65.

The same data found in Table 1 are graphically depicted in Figure 1 (for individual scales) and Figure 2 (summary variables) to demonstrate the relationship between types of aggression and the conceptual space defined by the two-dimensional model of adult attachment. An interesting pattern emerges involving a general tendency for

<sup>5</sup>The sample size is too small to conduct a conclusive factor analysis of the various aggression-related measures. A preliminary factor analytic inspection showed that suicidality and parasuicidality form factors that are distinct from each other and from the other measures. Affective measures for the most part also seemed to form a separate factor. A tendency for different scales from the same instruments to load together suggested strong effects related to method variance; however, as mentioned previously, method-specific item analysis of the IPO showed evidence in favor of the conceptual divisions used here and is encouraging. More work is needed to develop aggression measures sufficiently sensitive to relational context to test the conceptual divisions utilized as a frame for this report. Empirical justification for these distinctions is not attempted here, apart from inspection of alpha levels for the summary scales and observation of their performance in an attachment context.

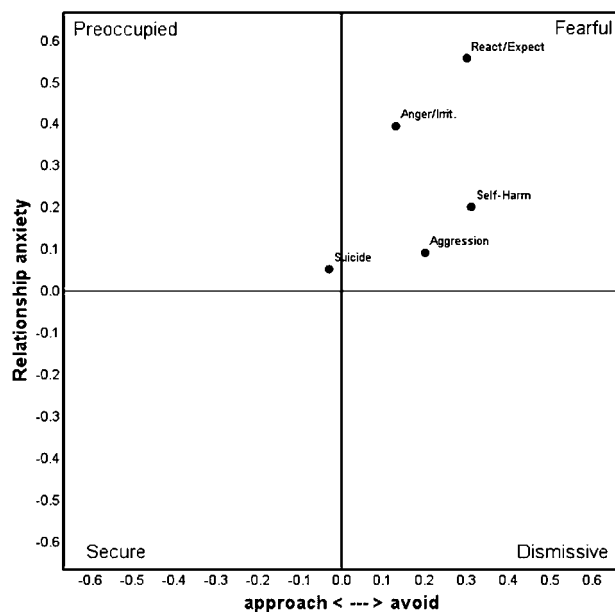


Figure 2. Summary measures of aggression types compared with ECR attachment dimensions in BPD. Aggression = Other-directed aggression measures; Anger/Irrit = Affective measures of anger and irritability; React/Expect = Aggressive reactivity and expectancy of aggression measures; Self-Harm = Parasuicidality measures; Suicide = Suicidality measures.

all forms of aggression to be associated with more fearful patterns of relating (i.e., associated with elevations in both Relationship Anxiety and Avoidance). As can be seen in Figures 1 and 2 and Table 1, association with both dimensions is strongest for measures that assess expectations of aggression from others and/or a tendency to respond aggressively. Measures of irritability and anger tend to correlate only with Relationship Anxiety while measures of self-directed aggression are associated only with Relationship Avoidance. Interestingly, this latter finding does not hold for suicide attempts but only for other forms of self-attack. Measures of overt behavioral aggression show nonsignificant or mixed association with the ECR attachment dimensions.

### Regression Analyses

Regression analyses were performed using each summary scale to predict aggression using both attachment dimensions simultaneously. These results are presented in Table 2. Consistent with inspection of the raw correlations, three of the five scales showed significant overall association with attachment. Attachment predicted 43% of variance in aggressive reactions and expectations while 15 and 18% of variance were predicted for self-harm and anger/irritability, respectively.

### Discussion

As predicted, aggression of various types shows a greater tendency to occur among BPD patients who experience higher levels of both anxiety and avoidance in their romantic or intimate relationships. This is particularly true for measures of hostile expectancy and aggressive response. Angry, irritable affect is significantly associated only with anxiety about relationships while self-harm is significantly predicted only by avoidance.

Table 2  
Regression Analyses Predicting Forms of Aggression From Basic Attachment Dimensions

Aggressive type	$R^2$	$F$	Predictors	$\beta$	$t$
Aggression	.05	2.23			
Aggressive reaction/expectancy	.43	32.44***	Anxiety	0.58	7.15***
			Avoidance	0.35	4.23***
Self-harm	.15	7.55***	Anxiety	0.23	2.26*
			Avoidance	0.33	3.32**
Suicidality	.00	.15			
Anger/irritability	.18	9.51***	Anxiety	0.41	4.15***
			Avoidance	0.16	1.64

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Aggression can be conceptualized in diverse ways and plays differing roles in the context of a relationship. For example, people diagnosed with BPD are often sensitive to relationship dynamics, fearing abandonment or rejection and engaging in frantic attempts to avoid it. In keeping with this, some patients may use aggression in attempts to control a significant other and avoid feared abandonment (Dutton, 2002). Alternatively, others may use aggression to prevent closeness and, in that way, minimize perceived risk of abandonment. Still others may derive a sense of importance or power through use of aggression. Aggression turned inward in the form of self-attack also may have implications for relationships, serving to punish the self for perceived failings as well as having potential to bring real or imagined forgiveness, sympathy, or rescue from important others. In still other circumstances, self-directed aggression can represent an indirect indictment or punishment of others who may care about the individual. Present results suggest that variability in internal models for relating intimately with others is differentially predictive of various forms of aggression. BPD patients with higher levels of anxiety and avoidance are those who are most likely to lash out when they feel provoked and also hold a view of others that makes them more likely to perceive provocation. Self-harm, somewhat in contrast, was associated with relational avoidance, but not with anxiety.

Overt aggressive behavior and enjoyment of intimidation, hostility, and aggression were less associated with attachment, showing mixed results across measures. One reason for this finding may be that these are more antisocial forms of aggression more characteristic of positive views of the self and negative views of others associated with a dismissive attachment style—a style quite rare in this treatment-seeking BPD sample. Another possible explanation is that unassessed heterogeneity of context or reason for aggression may have reduced correlations with attachment. For example, the OASM measures simple behavioral frequency of aggression in a given space of time, regardless of context. We recommend that future research focused on aggression and BPD includes assessment of the interpersonal context and perceived antecedents for aggressive behavior. More careful consideration of these factors combined with an understanding of patient attachment style should be useful for identifying those patients most at risk for violence against self or others and for identifying social dynamics that may increase that risk.

Recent and remote suicidality did not show significant association with attachment; however, other forms of self-harm did, suggesting important differences in the processes that lead to or sustain self-harm versus suicidality. We do not conclude that intimate relationships and attachment status play no role in suicidal behavior for BPD. The

present data suggest only that there may be no simple or consistent association between the two. It may be the case as with the direct forms of aggression that more contextual information is needed to understand their association.

An important limitation of this study is that it involves use of a primarily female sample that was well-educated and motivated for treatment. The current sample composition is typical of BPD patients seen in outpatient therapy. The findings should generalize to similar treatment settings; however, most prior research on aggression in BPD has involved male samples in more diverse settings. Nevertheless, the present finding that a more fearful attachment style is associated both with BPD and with higher levels of aggression is consistent with work focused on partner violence in male samples (Dutton et al., 1994). Work remains to be done to clarify whether the same pattern of results regarding subtypes of aggression would apply in a male BPD sample.

The subtypes of aggression employed in this study were derived conceptually, based in part on interpersonal models of relating. These distinctions are in need of further exploration and validation in the present context. Another possible set of groupings could be: affect, cognition, and behavior (with a subset of the latter directed toward the self, and another directed toward others). From this point of view, all scales from the MPQ and IPO might arguably be grouped together, given that they reflect an evaluation of attitudes and beliefs about aggression. By contrast, the AIAQ and the OASM focus more on the question of overt behavior. Using such a framework, our conclusions might be interpreted to suggest that attachment variables are more closely linked to cognitive components of aggressive experience than to behavior as such. This interpretation would be consistent with views of adult attachment as primarily reflecting an internal mental model of relationships. Prediction of overt behavior would likely be enhanced by stronger consideration of the social environment and context that is interacting with these internal models.

### *Clinical Implications*

It has been proposed that BPD involves disruptions of affect, identity, and reality testing not just in general but in context of interpersonal and relational dynamics (Agrawal et al., 2004; Benjamin, 1996; Levy, 2005). The present results suggest that more anxious and avoidant BPD patients may be more prone to perceive threat in a relationship (e.g., when a partner is critical or distant) and be more reactive to acts perceived as hostile. BPD patients who have more avoidant styles in intimate relationships are more likely to self-harm. The present findings take a first step in mapping some of the differentials between aggression and attachment-based relational experience. Greater degrees of refinement can be achieved by focusing future research on the issues of relational context, history of attachment, and the motives for aggressive acts when they occur.

Critchfield and Benjamin (in press) provide data demonstrating that interpersonal behaviors remembered and internalized from early relationships are often repeated in current relationships in one of three forms paralleling those used in this study with regard to aggression: Introjection (treating the self as one was once treated), Recapitulation (acting as if the early other was still present and in charge), and Identification (behaving as the early other person did). To the degree that internal working models develop in a context of perceived hostility or abuse, the early experiences may be repeated in the present in multiple forms as either (a) aggression towards others; (b) expectation, experience, or apprehension of aggression from others; or (c) self-directed aggression.

In the present data, self-directed aggression was associated with more relational avoidance. These patients may be repeating rejection perceived from important attachment figures as part of their self-harm. Similarly, fearfully attached individuals may more readily experience current others as being similar to perception of abusive/rejecting early attachment figures. It is possible that some may identify with early figures by becoming aggressive themselves. An attachment-based understanding of aggression, if further refined, could ultimately be used for psychosocial treatment planning by tracking the phenomenology of patients to discover links between remembered early relationships and current perceptions of others. Treatment could then focus on helping patients become aware of the repeated, attachment-linked patterns in their lives, differentiate from the impact of early attachments, and go on to form new templates for relationships and self-management. To the degree that aggression may be fueled by attachment-based internal working models, such an approach would have potential to reduce repetition of the patterns of interpersonal and self-directed aggression. Benjamin (2003) described such an approach using an interpersonally based case-formulation method to tailor treatments to the particular attachment history of a given patient. Existing treatments for BPD that have been shown to be efficacious also contain components that may serve the function of updating relational templates to varying degrees. For example, Levy and colleagues (2006) reported that the attachment-related indices of narrative coherence and reflective function are improved in BPD patients after treatment with Transference Focused Psychotherapy (Clarkin, Yeomans, & Kernberg, 1999). Future treatment studies in BPD also could focus on this general process of updating relational templates as a potential mediator and mechanism for treatment effectiveness with respect to aggression, aggressive reactivity, and self-harm.

### References

- Agrawal, H.R., Gunderson, J., Holmes, B.M., & Lyons-Ruth, K. (2004). Attachment studies with borderline patients: A review. *Harvard Review of Psychiatry*, 12, 94–104.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Ball, S.A., Tennen, H., Poling, J.C., Kranzler, H.R., & Rounsaville, B.J. (1997). Personality, temperament, and character dimensions and the DSM-IV personality disorders in substance abusers. *Journal of Abnormal Psychology*, 106, 545–553.
- Bartholomew, K., & Horowitz, L.M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology*, 61, 226–244.
- Benjamin, L.S. (1987). Use of the SASB dimensional model to develop treatment plans for personality disorders: I. Narcissism. *Journal of Personality Disorders*, 1, 43–70.
- Benjamin, L.S. (1996). *Interpersonal diagnosis and treatment of personality disorders* (2nd ed.). New York: Guilford Press.
- Benjamin, L.S. (2003). *Interpersonal Reconstructive Therapy: Promoting change in nonresponders*. New York: Guilford Press.
- Bowlby, J. (1973). *Attachment and loss: Separation* (Vol. 2). New York: Basic Books.
- Brennan, K.A., Clark, C.L., & Shaver, P. (1998). Self-report measures of adult romantic attachment. In J.A. Simpson & W.S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.
- Brennan, K.A., & Shaver, P.R. (1998). Attachment styles and personality disorders: Their connections to each other and to parental divorce, parental death, and perceptions of parental caregiving. *Journal of Personality*, 66, 835–878.

- Clarkin, J.F., Foelsch, P.A., & Kernberg, O.F. (2001). *The Inventory of Personality Organization*. White Plains, NY: The Personality Disorders Institute, Weill College of Medicine of Cornell University.
- Clarkin, J.F., Foelsch, P.A., Levy, K.N., Hull, J.W., Delaney, J.C., & Kernberg, O.F. (2001). The development of a psychodynamic treatment for patients with borderline personality disorder: A preliminary study of behavioral change. *Journal of Personality Disorders, 15*, 487–495.
- Clarkin, J.F., Levy, K.N., Lenzenweger, M.F., & Kernberg, O.F. (2004). The Personality Disorders Institute/Borderline Personality Disorder Research Foundation randomized control trial for borderline personality disorder: Rationale, methods, and patient characteristics. *Journal of Personality Disorders, 18*, 52–72.
- Clarkin, J.F., Levy, K.N., Lenzenweger, M.F., & Kernberg, O.F. (2007). Evaluating three treatments for borderline personality disorder: A multiwave study. *American Journal of Psychiatry, 164*(6), 922–928.
- Clarkin, J.F., Yeomans, F.E., & Kernberg, O.F. (1999). *Psychotherapy for borderline personality*. New York: Wiley.
- Coccaro, E.F., Harvey, P.D., Kupsaw-Lawrence, E., Herbert, J.L., & Bernstein, D.P. (1991). Development of neuropharmacologically based behavioral assessments of impulsive aggressive behavior. *Journal of Neuropsychiatry and Clinical Neurosciences, 3*, S44–S51.
- Crawford, T.N., Shaver, P.R., Cohen, P., Pilkonis, P.A., Gillath, O., & Kasen, S. (2006). Self-reported attachment, interpersonal aggression, and personality disorder in a prospective community sample of adolescents and adults. *Journal of Personality Disorders, 20*(4), 331–351.
- Critchfield, K.L., & Benjamin, L.S. (in press). Internalized representations of early interpersonal experience and adult relationships: A test of copy process theory in clinical and non-clinical settings. *Psychiatry*.
- Critchfield, K.L., Levy, K.N., & Clarkin, J.F. (2004). The relationship between impulsivity, aggression, and impulsive-aggression in borderline personality disorder: An empirical analysis of self-report measures. *Journal of Personality Disorders, 18*(6), 555–570.
- Critchfield, K.L., Levy, K.N., & Clarkin, J.F. (2007). The Personality Disorders Institute/Borderline Personality Disorder Research Foundation randomized control trial for borderline personality disorder: Reliability of Axis I and II diagnoses. *Psychiatric Quarterly, 78*(1), 15–24.
- Dutton, D.G. (2002). The neurobiology of abandonment homicide. *Aggression and Violent Behavior, 7*, 407–421.
- Dutton, D.G., Saunders, K., Starzomski, A., & Bartholomew, K. (1994). Intimacy-anger and insecure attachment as precursors of abuse in intimate relationships. *Journal of Applied Social Psychology, 24*, 1367–1386.
- First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1995). *Structured Clinical Interview for DSM-IV Axis I Disorders, Patient Edition (SCID-I/P, Version 2.0)*. New York: New York State Psychiatric Institute, Biometrics Research Department.
- Florsheim, P., Henry, W.P., & Benjamin, L.S. (1996). Integrating individual and interpersonal approaches to diagnosis: The structural analysis of social behavior and attachment theory. In F.W. Kaslow (Ed.), *Handbook of relational diagnosis and dysfunctional family patterns* (pp. 81–101). Oxford, England: Wiley.
- Fonagy, P. (1999). Male perpetrators of violence against women: An attachment theory perspective. *Journal of Applied Psychoanalytic Studies, 1*(1), 7–27.
- Fraley, R.C., Waller, N.G., & Brennan, K.A. (2000). An item-response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*, 350–365.

- Gurvits, I.G., Koenigsberg, H.W., & Siever, L.J. (2000). Neurotransmitter dysfunction in patients with borderline personality disorder. *Psychiatric Clinics of North America*, 23, 27–40.
- Kernberg, O.F. (1984). *Severe personality disorders*. New Haven, CT: Yale University Press.
- Kernberg, O.F. (1996). A psychoanalytic theory of personality disorders. In J.F. Clarkin & M.F. Lenzenweger (Eds.), *Major theories of personality disorder* (pp. 106–137). New York: Guilford Press.
- Kernberg, O.F., & Caligor, E. (2005). A psychoanalytic theory of personality disorders. In M.F. Lenzenweger & J.F. Clarkin (Eds.), *Major theories of personality disorder* (2nd ed., pp. 114–156). New York: Guilford Press.
- Lenzenweger, M.F., Clarkin, J.F., Kernberg, O.F., & Foelsch, P.A. (2001). The Inventory of Personality Organization: Psychometric properties, factorial composition, and criterion relations with affect, aggressive dyscontrol, psychosis proneness, and self-domains in a nonclinical sample. *Psychological Assessment*, 13, 577–591.
- Levy, K.N. (2005). The implications of attachment theory and research for understanding borderline personality disorder. *Development and Psychopathology*, 17, 959–986.
- Levy, K.N., Meehan, K.B., Kelly, K.M., Reynoso, J.S., Weber, M., Clarkin, J.F., & Kernberg, O.F. (2006). Change in attachment patterns and reflective function in a randomized control trial of transference-focused psychotherapy for borderline personality disorder. *Journal of Consulting and Clinical Psychology*, 74(6), 1027–1040.
- Levy, K.N., Meehan, K.B., Weber, M., Reynoso, J., & Clarkin, J.F. (2005). Attachment and borderline personality disorder: Implications for psychotherapy. *Psychopathology*, 38, 64–74.
- Linehan, M.M., Comtois, K.A., Brown, M.Z., Heard, H.L., & Wagner, A. (2006). Suicide Attempt Self-Injury Interview (SASII): Development, reliability, and validity of a scale to assess suicide attempts and intentional self-injury. *Psychological Assessment*, 18(3), 303–312.
- Loranger, A.W. (1999). *International personality disorder examination: DSM-IV and ICD-10 interviews*. Odessa, FL: Psychological Assessment Resources.
- McClough, J., Lenzenweger, M.F., Clarkin, J.F., & Kernberg, O.F. (2002, June). The Inventory of Personality Organization (IPO): A construct validity study with a borderline personality disorder sample. Paper presented at the meeting of the International Society for Psychotherapy Research, Santa Barbara, CA.
- McGlashan, T.H., Grilo, C.M., Skodol, A.E., Gunderson, J.G., Shea, M.T., Morey, L.C., et al. (2000). The collaborative longitudinal personality disorders study: Baseline axis I/II and II/II diagnostic co-occurrence. *Acta Psychiatrica Scandinavica*, 102, 256–264.
- Millon, T. (1987). *Millon clinical multiaxial inventory—II* (2nd ed.). Minneapolis: National Computer Systems, Inc.
- Nurnberg, H.G., Raskin, M., Levine, P.R., Pollack, S., Siegel, O., & Prince, R. (1991). The comorbidity of borderline personality disorder and other DSM-III-R axis II personality disorders. *American Journal of Psychiatry*, 148, 1371–1377.
- Oldham, J.M., Skodol, A.E., Kellman, H.D., Hyler, S.E., Rosnick, L., & Davies, M. (1992). Diagnosis of DSM-III-R personality disorders by two structured interviews: Patterns of comorbidity. *American Journal of Psychiatry*, 149, 213–220.
- Sibley, C.G., & Liu, J.H. (2004). Short-term temporal stability and factor structure of the revised experiences in close relationships (ECR-R) measure of adult attachment. *Personality and Individual Differences*, 36, 969–975.
- Skodol, A.E., Siever, L.J., Livesley, W.J., Gunderson, J.G., Pfohl, B., & Widiger, T.A. (2002). The borderline diagnosis II: Biology, genetics, and clinical course. *Biological Psychiatry*, 51, 951–963.

- Svrakic, D.M., Draganic, S., Hill, K., Bayon, C., Przybeck, T.R., & Cloninger, C.R. (2002). Temperament, character, and personality disorders: Etiologic, diagnostic, treatment issues. *Acta Psychiatrica Scandinavica*, 106, 189–195.
- Tellegen, A. (1982). Brief manual for the Multidimensional Personality Questionnaire. Unpublished manuscript, University of Minnesota, Minneapolis.
- Tellegen, A., & Waller, N.G. (in press). Exploring personality through test construction: Development of the Multidimensional Personality Questionnaire. Minneapolis: University of Minnesota Press.
- Trull, T.J. (1992). DSM-III-R personality disorders and the five-factor model of personality: An empirical comparison. *Journal of Abnormal Psychology*, 101, 553–560.
- Tweed, R.G., & Dutton, D.G. (1998). A comparison of impulsive and instrumental subgroups of batterers. *Violence and Victims*, 13(3), 217–230.
- Zanarini, M.C., Frankenburg, F.R., Dubo, E.D., Sickel, A.E., Trikha, A., Levin, A., & Reynolds, V. (1998). Axis II comorbidity of borderline personality disorder. *Comprehensive Psychiatry*, 39, 296–302.