

Clinical Features and Impairment in Women with Borderline Personality Disorder (BPD) with Posttraumatic Stress Disorder (PTSD), BPD Without PTSD, and Other Personality Disorders with PTSD

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Abstract: The aims of this study were to examine differences in clinical features, impairment, and types of childhood traumas among women with borderline personality disorder (BPD), women with BPD and posttraumatic stress disorder (PTSD), and those with other personality disorders and PTSD. Using baseline data from the Collaborative Longitudinal Study of Personality Disorders, 186 women were divided into 3 groups (BPD+PTSD, BPD, PTSD), based on structured diagnostic interviews for Axis I and Axis II disorders and compared on selected clinical variables. The additional diagnosis of PTSD in borderline women did not significantly increase the degree of borderline pathology and psychiatric morbidity but did significantly increase general dysfunction and the occurrence of hospitalization. The additional diagnosis of BPD in women with PTSD significantly increased the features of suicide proneness and impulsiveness. Both groups of women with PTSD reported significantly more types of childhood traumas relative to borderline women without PTSD. Consistent with other research, the findings

suggest that PTSD does not appear to alter the central features of BPD. The clinical implications of our findings are considered.

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The introduction of posttraumatic stress disorder (PTSD) and borderline personality disorder (BPD) into the DSM as Axis I and Axis II disorders, respectively, reflects theories that these two disorders are distinct. Conceptually, BPD has been considered a disorder that is stable, of long duration, can be traced to adolescence or early childhood, and may be caused by multiple factors. In contrast, PTSD has been viewed as a disorder that develops after exposure to severe trauma and is characterized by clusters of intrusive/hyperactivity and numbing/avoidant symptoms, which may or not persist.

Recently, studies have found high rates of comorbidity of PTSD in both patients (56%; Zanarini et al., 1998) and community subjects (approximately 30%; Swartz et al., 1990) with BPD as well as high rates of comorbid BPD among PTSD patients (68%; Shea et al., 1999). Also, researchers have postulated a common etiology for both disorders based on finding associations between childhood traumas, in particular childhood sexual abuse, and BPD as well as PTSD (Rowan et al., 1994; Ogato et al., 1990; Zanarini et al., 1997). Furthermore, the duration of both disorders can be longstanding (Kessler et al., 1995; Gunderson and Zanarini, 1987). Some research has reported that the average duration of an episode of PTSD is 18 years in a clinical sample (Zlotnick et al., 1999), a course of illness that rivals the persistence of BPD over long periods of time. Another commonality is that some investigators have noted that associated features of PTSD overlap with core traits of BPD such as affective instability, cognitive/perceptual disturbance, and

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interpersonal dysfunction (Gunderson and Sabo, 1993; van der Kolk et al., 1996). In light of these findings, trauma experts have proposed that BPD may be a complex variant of PTSD (e.g., Herman and van der Kolk 1987) and, therefore, the two disorders are not necessarily distinct from one another. In contrast, BPD experts continue to advocate for the independence of the two disorders, emphasizing that the maladaptive personality pattern of BPD stems from a complex interaction of both temperament and difficult childhood experiences that may include sexual abuse (Gunderson and Sabo, 1993; Zanarini, 2000).

Although the literature suggests a strong link between BPD and PTSD, there is limited knowledge concerning the nature or degree of pathology in individuals with comorbid BPD and PTSD. It is conceivable that because some features of PTSD and BPD may interface existing pathology intensifies with the presence of the other disorder. Only two studies exist to date that have explored whether PTSD and BPD are related disorders in terms of current symptomatology (Heffernan and Cloitre 2000; Zlotnick et al., 2002). One of these studies (Heffernan and Cloitre 2000) compared women with PTSD to those with PTSD and comorbid BPD on severity or frequency of PTSD symptoms, several other clinical features, and characteristics of childhood sexual abuse in a group of women selected for histories of sexual abuse. This study found that severity and frequency of PTSD symptoms were not significantly affected by BPD diagnosis; the PTSD+BPD group ($N = 26$) scored higher on measures of anger, dissociation, anxiety, and interpersonal problems than the PTSD only group ($N = 45$). Another finding of this study was that there were no differences between the two groups in most characteristics of sexual abuse, such as frequency, severity, or number of perpetrators (Heffernan and Cloitre, 2000). In the other study (Zlotnick et al., 2002), outpatients with comorbid BPD and PTSD were compared with those with BPD without PTSD, PTSD without BPD, and major depressive disorder without PTSD or BPD in severity of PTSD-related symptoms, borderline-related traits, and dysfunction. Results of this study suggest that the comorbid PTSD and BPD group did not evidence a more severe clinical profile in terms of number of PTSD symptoms, borderline features, or impairment than those with BPD or those with PTSD. Limitations of research, to date, include the use of a relatively small sample size, which may have resulted in a corresponding lack of power to detect true differences (Heffernan and Cloitre, 2000) and the failure to examine whether BPD and PTSD differ in features associated with both disorders (Heffernan and Cloitre, 2000; Zlotnick et al., 2002); in other personality disorder comorbidity (Heffernan and Cloitre, 2000; Zlotnick et al., 2002); or in types of childhood abuse other than sexual abuse (Heffernan and Cloitre, 2000; Zlotnick et al., 2002).

In sum, despite the findings that BPD and PTSD are highly comorbid and that some experts postulate that the two

disorders share common pathogenic factors as well as overlapping features, surprisingly little research has been conducted in these areas. Research findings on the clinical profile of individuals with comorbid BPD and PTSD could inform treatment strategies. Also, findings on which negative childhood events are related to BPD, PTSD, and BPD+PTSD may suggest origins of certain subtypes of BPD and suggest potential mechanisms for the pathology associated with each of the three diagnostic groups.

To replicate and extend the literature on BPD/PTSD comorbidity, the current study attempted to test whether women with BPD and comorbid PTSD compared with women with BPD without PTSD and to those with PTSD without BPD showed greater levels of borderline pathology and psychiatric morbidity (number of comorbid Axis I and Axis II disorders) in a study group of treatment-seeking women with personality disorders. Another aim was to examine whether there were differences among these groups of women in traits that have been associated with both disorders (affect dysregulation, suicide proneness, alterations in perception, mistrust, detachment, impulsivity, and interpersonal dysfunction; Herman, 1992; Gunderson and Sabo, 1993). Additionally, this study compared the three groups (BPD+PTSD, BPD, PTSD) on degree of psychosocial impairment. Finally, this study examined whether the three groups differed in the type of childhood traumas (*i.e.*, sexual abuse, physical abuse, verbal abuse, emotional abuse, neglect, and maltreatment from a primary caretaker). These childhood traumas were selected because they have been closely linked to both PTSD and BPD (Duncan et al., 1996; Rodrigues et al., 1996; Zanarini, 2000). It is possible that the high rates of childhood trauma found among borderline patients (Zanarini, 2000) may be attributable to a subgroup of borderline patients, that is, those with comorbid PTSD. Thus, this study will expand upon existing research in that it will examine whether BPD and PTSD share common features presumed to be related to both disorders and will explore the differential role of negative childhood events in BPD, PTSD, and BPD+PTSD.

METHODS

The present study is part of a larger study of the longitudinal course of personality disorders, the Collaborative Longitudinal Personality Disorders Study (CLPS). The aims, methods, and study groups of CLPS have been extensively described elsewhere (Gunderson et al., 2000; McGlashan et al., 2000). Below is a description of the measures and procedures relevant to the present report.

Participants

Participants were recruited from treatment clinics affiliated with the four CLPS sites. Additional individuals with a history of treatment were recruited from fliers and advertise-

ments. Participants between the ages of 18 and 45 were eligible to participate if they met criteria for schizotypal personality disorder, borderline personality disorder, avoidant personality disorder, obsessive-compulsive personality disorder, or a comparison group of major depressive disorder and no personality disorder (PD). Participants were excluded if they were currently psychotic; presented with a history of schizophrenia, schizophreniform, schizoaffective disorder or acute substance intoxication or withdrawal, or cognitive impairment; or had an IQ below 85. The current study includes the baseline data from a subgroup of those participants in the CLPS PD groups (*i.e.*, schizotypal, borderline, avoidant, or obsessive-compulsive personality disorders) who met diagnostic criteria for borderline personality disorder and/or current PTSD. Participants from the major depressive disorder and no PD comparison group and those with a history of PTSD who did not meet full diagnostic criteria for PTSD at baseline were excluded from the current report.

Assessment

Personality Disorders

The Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV; Zanarini et al., 1996) was used to assess the presence or absence of the 10 DSM-IV (American Psychiatric Association, 1994) personality disorders (PDs), as well as two appendix disorders (*i.e.*, passive-aggressive and depressive PD). The DIPD-IV is a semistructured interview with which clinicians rate participants' responses to questions about each diagnostic criteria on a 3-point scale (0 = not present, 1 = present but clinically insignificant, 2 = definitely present). The DIPD-IV was found to have generally good reliability in CLPS with median kappa of .68 for interrater reliability and .69 for test-retest reliability for BPD (Zanarini et al., 2000).

The DIPD-IV was also used to assess whether the three diagnostic groups differed in specific dimensions of borderline features. The dimensions were based on those factors that Sanislow et al. (2000) identified and then later confirmed using the DIPD-IV with the CLPS study group (Sanislow et al., 2002). These three factors are: 1) disturbed relatedness, *i.e.*, unstable relationships, identity disturbance, and chronic emptiness; 2) behavioral dysregulation, *i.e.*, impulsivity and suicidal and self-mutilating behavior; and 3) affective dysregulation, *i.e.*, affective instability, inappropriate anger, and efforts to avoid abandonment. Unit-weighted factor scores based on the mean of DIPD-IV items (scored on a 3-point scale) corresponding to each of the three latent dimensions implied by the three-factor model of BPD (Sanislow et al., 2002) were calculated. These constructs have also been associated with the proposed diagnosis of Complex PTSD, a disorder characterized by a cluster of psychological disturbances related to early trauma (Herman, 1992; van der Kolk et al., 1996).

Axis I Disorders

The Structured Clinical Interview for DSM-IV (SCID-I; First et al., 1996) was used to assess Axis I diagnoses. The SCID-I identifies lifetime and current occurrences of DSM-IV Axis I disorders. Within CLPS, the reliability of SCID-I diagnoses ranged from .57 to 1.00, with a median kappa of .76. Test-retest reliability ranged from .35 to .78, with a median kappa of .64. Interrater reliability kappa for PTSD was .88; test-retest kappa was .78 (Zanarini et al., 2000).

Childhood Experiences

The Revised Childhood Experiences Questionnaire (CEQ; Zanarini et al., 1989; Zanarini et al., 1997) was used to assess pathologic childhood experiences. The CEQ is a semistructured interview that assesses a range of positive and negative childhood experiences. Items from the chronic caretaker portion of the CEQ were collapsed to ascertain participants' childhood (*i.e.*, age 12 and under) histories of sexual abuse, physical abuse, verbal abuse, emotional abuse, and neglect.

Personality Traits and Temperament

The Schedule for Adaptive and Nonadaptive Personality (SNAP; Clark, 1993) is a 395 true-false item self-report instrument that includes 13 standardized scales for DSM-III-R personality dimensions, as well as 15 trait and temperament scales. The current report used the raw scores for SNAP trait and temperament scales that are relevant to the research question: mistrust; aggression; suicide proneness; eccentric perceptions (*e.g.*, depersonalization, derealization); detachment; and impulsivity. The trait and temperament scales have demonstrated good internal consistency (medians .76–.84) and test/retest reliability (medians of .79–.81) in previous research (Clark, 1993) and have demonstrated good internal consistency in the current study (.77–.90).

Psychosocial Impairment

The Longitudinal Interval Follow-Up Evaluation Baseline Version (LIFE-BASE; Keller et al., 1987) is a semistructured interview with established reliability (Warshaw et al., 1994) that assesses participants' psychosocial functioning and history of treatment at study intake. Information obtained from the LIFE-BASE in this study includes the DSM-IV Global Assessment of Functioning Scale (GAF) for the month prior to evaluation and history of psychiatric hospitalizations (*i.e.*, lifetime and 6 months prior to baseline assessment). Additionally, overall social adjustment was assessed with the Social Adjustment Scale-Self Report (SAS-SR; Weissman and Bothwell, 1976). The SAS-SR is composed of eight subscales (*e.g.*, functioning at work, in family unit) and a total adjustment score. Reliability of the SAS-SR has been

previously established (Edwards et al., 1978). The total adjustment score was used in the current report.

Data Analysis

Participants were divided into three groups: 1) those with BPD and current PTSD (BPD+PTSD), 2) those with BPD and no history of PTSD (BPD), and 3) those with current PTSD and a personality disorder other than BPD (PTSD). Data from the patients in CLPS comparison group (major depression and no personality disorder) and from those with a history of PTSD (but not a current diagnosis) were not analyzed. Participants with BPD+PTSD, BPD, and PTSD were compared on personality variables, severity of pathology, psychosocial impairment, and pathologic childhood experiences. Multivariate Analyses of Variance (MANOVA) was the primary data analytic strategy. If significant main multivariate effects were found, results were probed with tests of between subjects' effects. Tukey's HSD was used for all posthoc comparisons.

A series of four MANOVAs was run for sets of variables that are theoretically correlated. The first MANOVA compared the three groups on the BPD factors identified by Sanislow et al. (2002) described above (*i.e.*, disturbed relatedness, behavioral dysregulation, and affect dysregulation). Means on the DIPD-IV items that correspond to each of the three factors were compared. The second compared BPD+PTSD, BPD, and PTSD participants on their number of co-occurring Axis I disorders (excluding PTSD); number of co-occurring Axis II disorders (excluding BPD); and number of endorsed BPD diagnostic criteria. The next MANOVA compared participant's raw scores on six SNAP trait and temperament scales (*i.e.*, mistrust, aggression, self-harm, eccentric perceptions, detachment, and impulsivity) relevant to the current report. The final MANOVA compared participants' total social adjustment as defined by the SAS-SR and their GAF score from the month prior to evaluation. To further assess impairment, the three diagnostic groups' rates of at least one lifetime and recent (prior 6 months) psychiatric hospitalizations were compared using chi-squares.

The final group of analyses compared BPD+PTSD, BPD, and PTSD participants' experience of pathologic childhood experiences by a caretaker that occurred prior to age 13. Chi-squares were used to compare the three groups' experiences of sexual abuse, physical abuse, verbal abuse, emotional abuse, and neglect. An ANOVA was used to compare the three groups on the number of types of caretaker abuse they reported.

RESULTS

Demographics

A total of 266 participants from CLPS met criteria for BPD+PTSD, BPD, or PTSD. Of the 266 participants, 186

were female and 80 were male. A significant difference for gender was found between the three groups ($\chi^2 = 8.85, p = 0.012$). There were proportionally fewer men than women in the BPD+PTSD group. Only 16 (18.4%) male participants with BPD had comorbid PTSD. Because of the low number of male participants in the BPD and comorbid PTSD group, there was not enough power to detect any potential gender differences. Thus, subsequent analyses were conducted only with the data from the women participants.

For the 186 female participants, age ranged from 18 to 45 ($M = 31.52, SD = 7.94$). Participants were primarily Caucasian (68.3%), single (57.5%), and had completed some college (37.1%). No significant differences were found between the three groups for racial affiliation, marital status, education, or age.

BPD Features

The BPD+PTSD, BPD, and PTSD groups were compared on the empirically-derived borderline personality factors of affective dysregulation, behavioral dysregulation, and disturbed relatedness (Sanislow et al., 2002). A significant multivariate effect was found (Wilks' $\Lambda = .36, F = 39.72, p < 0.001$). Tests of between-subjects effects yielded significant differences for each BPD feature (Table 1). Specifically, women with BPD+PTSD and women with BPD scored significantly higher on disturbed relatedness, behavioral dysregulation, and affect dysregulation than women with only PTSD. Posthoc comparisons yielded no differences in personality features between the BPD with PTSD and BPD-only groups.

Severity of Pathology

When comparing participants' number of co-occurring Axis I (excluding PTSD) and Axis II (excluding BPD) disorders, as well as the number of endorsed BPD diagnostic criteria, a significant multivariate effect was found (Wilks' $\Lambda = .35, F = 41.78, p < 0.001$). Tests of between-subjects effects yielded significant differences for number of Axis I disorders and number of BPD diagnostic criteria (Table 1). Specifically, women with co-occurring BPD+PTSD met criteria for significantly more Axis I disorders than women with only PTSD, and women with BPD+PTSD and women with BPD met significantly more BPD criteria than women with PTSD. No significant differences were found between the BPD+PTSD and BPD groups.

Personality features. When comparing the three groups on six SNAP trait and temperament scales, a significant multivariate effect was found (Wilks' $\Lambda = .75, F = 4.62, p < 0.001$). Tests of between-subjects effects yielded significant differences for mistrust, suicide proneness, eccentric perceptions, and impulsivity (Table 1). Posthoc comparisons revealed that: 1) women with BPD+PTSD scored significantly higher on mistrust than did women with BPD, 2) the BPD+PTSD and the BPD groups scored significantly higher on

TABLE 1. Differences in Psychiatric Morbidity, Personality Traits, and Impairment across the Diagnostic Groups of Comorbid Borderline Personality Disorder (BPD) and Posttraumatic Stress Disorder (PTSD), BPD, and PTSD in Women^a

VARIABLE	BPD-PTSD (N = 71) M (SD)	BPD (N = 86) M (SD)	PTSD (N = 29) M (SD)	F
BPD Features				
Disturbed Relatedness Behavioral	1.69 (0.32) ^a	1.59 (0.35) ^a	0.87 (0.42) ^b	59.69**
Dysregulation	1.63 (0.49) ^a	1.50 (0.56) ^a	0.34 (0.38) ^b	70.24**
Affect Dysregulation	1.78 (0.26) ^a	1.68 (0.36) ^a	0.90 (0.53) ^b	67.99**
Severity of Pathology				
No. Axis I disorders ^b	2.73 (1.43) ^a	2.28 (1.52) ^{a,b}	1.79 (1.29) ^b	4.64**
No. Axis II disorders ^c	2.21 (1.88)	2.13 (1.78)	1.80 (0.73)	0.63
No. BPD criteria	7.01 (1.33) ^a	6.43 (1.32) ^a	2.00 (1.28) ^b	158.99**
Personality Features				
Mistrust	12.92 (4.33) ^a	10.47 (5.01) ^b	11.69 (4.77) ^{a,b}	5.25**
Aggression	8.87 (5.22)	8.59 (5.49)	6.48 (4.78)	2.25
Suicide Proneness	6.38 (1.99) ^a	5.40 (2.74) ^a	4.03 (2.35) ^b	9.92**
Eccentric Perceptions	8.44 (3.75) ^a	6.42 (3.65) ^b	8.41 (4.18) ^a	6.58**
Detachment	9.86 (4.12)	9.53 (4.42)	10.59 (3.76)	0.68
Impulsivity	8.80 (4.22) ^a	9.15 (4.56) ^a	6.52 (3.72) ^b	4.16*
Impairment				
Social Adjustment	2.73 (.44)	2.58 (.56)	2.61 (.53)	1.79
GAF	50.63 (7.08) ^a	55.67 (10.26) ^b	59.90 (7.43) ^c	13.14**
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>Chi-Square</i>
Hospitalizations				
Lifetime	55 (77.5) ^a	50 (58.1) ^b	6 (20.7) ^c	27.74**
Prior 6-months	29 (41.4) ^a	23 (26.7) ^b	0 (0) ^c	17.56**

* $p \leq .05$, ** $p \leq .01$ ^aTable includes results of univariate probes for four MANOVAs grouped by severity of pathology, BPD features, and personality features. Numbers with different superscripts significantly differ at $P \leq .05$ using Tukey's HSD.^bexcluding PTSD^cexcluding BPD

suicide proneness than did the PTSD group, 3) the BPD+PTSD and the PTSD groups scored significantly higher on eccentric perceptions than did the BPD group, and 4) women with BPD+PTSD and women with BPD scored significantly higher on impulsivity than did women with PTSD.

Psychosocial impairment.

When comparing the three groups' social adjustment and GAF scores, a significant multivariate effect was found (Wilks' $\Lambda = .87$, $F = 6.68$, $p < 0.001$). Tests of between-subjects effects found a significant difference for GAF scores (Table 1). Posthoc comparisons revealed that women in the BPD+PTSD group had significantly lower GAF scores than either the BPD or PTSD groups. Additionally, the BPD group had significantly lower GAF scores than the PTSD group. No

significant differences were found among the three groups on level of social adjustment. The three diagnostic groups were also compared on psychiatric hospitalizations (Table 1). Chi-Square analyses found that a higher percentage of the BPD+PTSD group had at least one lifetime hospitalization than either the BPD or PTSD groups. Additionally, a higher percentage of the BPD+PTSD group had at least one hospitalization in the 6 months before the evaluation than either the BPD or the PTSD groups. The BPD group also had greater rates of lifetime and current hospitalizations than the PTSD group.

Childhood Experiences. Sample size is reduced for the following analyses because of missing data on the CEQ ($N = 165$). A majority of the participants experienced some type of abuse from a primary caretaker prior to the age of 13 (88.5%).

TABLE 2. Differences in Pathological Child Experiences across the Diagnostic Groups of Comorbid Borderline Personality Disorder (BPD) and Posttraumatic Stress Disorder (PTSD), BPD, and PTSD in Women^a

VARIABLE	BPD-PTSD (N = 65)		BPD (N = 74)		PTSD (N = 26)		Chi-Square
	n	%	n	%	n	%	
Sexual Abuse	23	35.4 ^a	4	5.5 ^b	8	24.2 ^a	19.95**
Physical Abuse	33	50.8 ^a	21	28.4 ^b	15	57.7 ^a	10.33**
Verbal Abuse	48	73.8 ^a	30	40.5 ^b	19	73.1 ^a	18.70**
Emotional Abuse	53	81.5 ^a	34	45.9 ^b	17	65.4 ^a	18.89**
Neglect	59	90.8	61	82.4	21	80.8	2.48
		M (SD)		M (SD)		M (SD)	F
Number of Types of Abuse		>3.32 (1.63) ^a		2.03 (1.44) ^b		>2.96 (1.85) ^a	12.01**

^aNumbers with different superscripts significantly differ at $p < .05$ with post-hoc comparisons.
 ** $p \leq .01$.

For the BPD+PTSD and PTSD groups, higher rates of sexual abuse, physical abuse, verbal abuse, and emotional abuse were found than for the BPD group (Table 2). No differences in pathologic child experiences were found between the BPD+PTSD and PTSD groups. A significant difference was also found for the number of types of caretaker abuse (Table 2). The BPD+PTSD and PTSD groups experienced significantly more types of pathologic child experiences than the BPD group.

DISCUSSION

In a study group of treatment-seeking women with personality disorders, the main findings of this study were as follows: 1) in women with BPD, a comorbid diagnosis of PTSD did not significantly add to the association of degree of borderline pathology (*i.e.*, BPD factors) or psychiatric morbidity (*i.e.*, number of comorbid Axis I and Axis II disorders); 2) the additional diagnosis of PTSD in borderline women was significantly associated with increases in the features of eccentric perceptions and mistrust to levels comparable to those of nonborderline women with PTSD; 3) the additional diagnosis of BPD in women with PTSD was significantly related to increases in the features of suicide proneness and impulsiveness to levels comparable to borderline women without PTSD; 4) the additional diagnosis of PTSD in borderline women was significantly associated with worse general functioning, as well as increases in the occurrence of at least one lifetime hospitalization and at least one hospitalization in the last 6 months relative to the other two groups of women; and 5) in borderline women, the presence of PTSD was significantly associated with increased reports of caretaker sexual abuse, physical abuse, verbal abuse, and emotional abuse as well as number of types of caretaker abuse to

levels comparable to those of nonborderline women with PTSD.

This study's findings that borderline women with and without PTSD lacked significant differences in BPD factors and general psychiatric morbidity indicates that the presence of PTSD does little to augment existing borderline pathology or psychiatric morbidity in borderline patients. These findings are consistent with the results from other studies that have shown that degree of borderline pathology is similar for borderline patients with and without PTSD (Zlotnick et al., 2002) and greater in patients with comorbid BPD and PTSD than those with PTSD only (Heffernan and Cloitre, 2000; Zlotnick et al., 2002). A finding consistent with the Zlotnick et al. (2002) study was that those dimensions (*i.e.*, affect dysregulation, behavioral dysregulation, and disturbed relatedness) frequently associated with complex PTSD (Herman, 1992) were less severe in PTSD patients in the absence of a diagnosis of BPD. Possibly more comprehensive measures of these constructs, which are not limited to the diagnostic criteria for BPD, may yield different findings and support the contention that features of complex PTSD occur in individuals with PTSD without BPD. Prospective, longitudinal studies are obviously needed to address the temporal relationship between BPD and PTSD and whether the two disorders covary with each other.

Our finding was that of the characteristics that have been associated with both PTSD and BPD (*i.e.*, mistrust, aggression, suicide proneness, eccentric perceptions, detachment and impulsivity), suicide proneness and impulsiveness were more marked in both groups of borderline women than nonborderline women with PTSD. This suggests that suicide proneness and impulsiveness are personality features that distinguish BPD from PTSD in women with a personality

disorder. A contrasting finding in this study was that the level of eccentric perception, which includes the numbing symptoms of PTSD and the transient paranoid ideation and dissociative symptoms of BPD, was found to be greatest in both groups of women with PTSD relative to the group of borderline women without PTSD. Possibly elevated eccentric perceptions in borderline patients are related to the presence of a diagnosis of PTSD. In support of this view, research has found that persons with PTSD have higher levels of alterations in perceptions, a construct similar to eccentric perceptions, than persons without PTSD (van der Kolk et al., 1996). Because the current study used a study group of women with personality disorders, it is possible, however, that the prominent feature of eccentric perceptions found among women with PTSD was attributable to the presence of a personality disorder, such as schizotypal personality disorder. However, when we compared the three groups of women (BPD, BPD+PTSD, PTSD) controlling for schizotypal personality disorder, the findings remained the same, which suggests that this personality disorder was not contributing to the greater levels of eccentric perception found in the groups of women with PTSD. Additionally, because both groups of women with PTSD had similar histories of abuse, eccentric perceptions may arise from these early negative experiences.

Another finding of this study was that the BPD and comorbid PTSD group had a significantly higher degree of mistrust compared with the BPD without PTSD group. Additionally, because we also found that the PTSD without BPD group did not differ significantly from either of the other two groups, it appears that the increased mistrust in the borderline patients with PTSD is not a function of their PTSD diagnosis but perhaps the interaction of the two disorders. The lack of significant differences among the three groups in the level of detachment and aggression suggests that these are personality features that are common in women with BPD and/or PTSD or features found in women with personality disorders in general.

In this study, the results that borderline patients with or without PTSD have a lower general functioning and a greater occurrence of lifetime and recent psychiatric hospitalizations than PTSD patients without BPD indicates that it is the morbidity associated with BPD rather than PTSD that places patients at risk for hospitalization and in need of intense treatment. However, we found that of the three groups of patients, the group with both disorders (*i.e.*, BPD+PTSD) was most strongly related to poor overall functioning and at least one past or recent hospitalization. Having two disabling disorders (PTSD is also a disorder associated with considerable impairment; Greenberg et al., 1999) may be too overwhelming to manage and, hence, increase the need for intensive psychiatric intervention for this group of already vulnerable patients. Interestingly, we found comparable levels of social dysfunction among the three groups. One pos-

sible reason for this finding that the presence of PTSD has little impact on the social dysfunction of borderline patients is that both PTSD and BPD are chronic disorders that have severe effects on interpersonal relationships (Gunderson and Sabo, 1993; Whisman, 1999) and, therefore, the presence of a comorbid disorder does little to further diminish the existing level of social morbidity. A previous study has also shown that the additional diagnosis of PTSD in patients with BPD does little to increase social dysfunction compared with those with BPD without PTSD, although this prior study, in contrast to the current study, found no significant difference in number of previous hospitalizations between the groups of borderline patients with and without PTSD (Zlotnick et al., 2002). Divergent findings between this study and the latter study may be due to methodological differences, such as the current study selected for individuals with a personality disorder, whereas the previous study used a sample of general psychiatric outpatients (Zlotnick et al., 2002).

Although this current study found that the PTSD groups with and without BPD reported significantly more caretaker sexual abuse, physical abuse, verbal abuse, emotional abuse, and number of types of caretaker abuse than the BPD without PTSD group, the level of associated features between the two groups of women with PTSD were strikingly dissimilar. Perhaps, the mental health sequelae of these noxious childhood events manifests differently in these two groups of women. The findings suggest that early traumas may play more of a role in the development of PTSD than borderline pathology. Also, given our findings on caretaker abuse, it is possible that PTSD comorbidity may account for the high incidence of childhood abuse that, in prior studies, has frequently been reported in samples of borderline women (Zanarini, 2000). Additionally, our findings suggest that BPD with comorbid PTSD may have a separate etiology than BPD alone. Because most of our study group had multiple childhood traumas, it was not possible to examine the effects of a specific early trauma, like childhood sexual abuse, which may give rise to overlapping personality features in BPD and PTSD. Furthermore, the three groups of patients in this report may have had different characteristics of childhood traumas, such as duration or severity of trauma. In contrast to the other negative childhood experiences, the majority of patients reported childhood neglect across all three groups. This result suggests that childhood neglect is not specific to any one of these groups of patients. Alternatively, because this study used a sample in which all patients had a co-occurring personality disorder, childhood neglect, as opposed to other forms of abuse, may be a salient factor for personality disorders in general. Differences among the three groups may emerge in research with other clinical samples.

The question of whether BPD and the comorbid PTSD or PTSD alone share common pathogenic factors cannot be adequately addressed in this report because the index trauma

for the diagnoses of PTSD as well the onset and duration of the current episode of PTSD relative to BPD are unknown. Also, this study, due to its cross-sectional design, cannot infer any causal links between types of childhood traumas or premorbid disorders and subsequent psychopathology. Other limitations of our study warrant attention. The use of retrospective measure of childhood trauma raises the concern about the veracity of these memories. Additionally, because this report used a clinical study group (*i.e.*, treatment-seeking women with a personality disorder recruited from different sources), our findings may not generalize to other borderline populations, such as persons in the general community and men.

Regardless of these limitations, the findings of the present study contribute to a growing empirical literature, which demonstrates that PTSD does not appear to further compromise the core maladaptive features of BPD. The clinical implication of these findings is that interventions which target PTSD symptoms may not alleviate the co-occurring borderline pathology. Because this study found that the additional burden of PTSD in borderline patients appears to increase the need for psychiatric hospitalization and impact general functioning, clinicians treating borderline patients should routinely inquire about the presence of PTSD.

REFERENCES

- American Psychiatric Association (1994) *Diagnostic and statistical manual of mental disorders (4th ed.)*. Washington, DC: Author.
- Clark LA. (1993) *Schedule for Nonadaptive and Adaptive Personality (SNAP)*. Minneapolis, MN: University of Minnesota Press.
- Duncan RD, Saunders BE, Kilpatrick DG, Hanson RF, Resnick HS (1996) Childhood physical assault as a risk factor for PTSD, depression, and substance abuse: findings from a national survey. *Am J Orthopsychiatry*. 66:437–448.
- Edwards DW, Yarvis RM, Mueller DP, Zingale HC, Wagman WJ (1978) Test-taking and the stability of adjustment scales: can we assess patient deterioration? *Evaluation Quarterly*. 2:275–292.
- First MB, Spitzer RL, Williams JBW, Gibbon M (1996) *Structured Clinical Interview for DSM-IV (SCID)*. American Psychiatric Association, Washington, DC.
- Greenberg PE, Sisitsky T, Kessler RC, Finkelstein SN, Berndt ER, Davidson JR, Ballenger JC, Fyer AJ (1999) The economic burden of anxiety disorders in the 1990s. *J Clin Psychiatry*. 60:427–435.
- Gunderson JG, Sabo AN (1993) The phenomenological and conceptual interface between borderline personality disorder and PTSD. *Am J Psychiatry*. 150:19–27.
- Gunderson JG, Shea MT, Skodol AE, McGlashan TH, Morey LC, Stout RL, Zanarini MC, Grilo CM, Oldham JM, Keller MB (2000) The Collaborative Longitudinal Personality Disorders Study: development, aims, design, and sample characteristics. *J Personal Disord*. 14:300–315.
- Gunderson JG, Zanarini MC (1987) Current overview of the borderline diagnosis. *J Clin Psychiatry*. 48(Suppl):5–11.
- Heffernan K, Cloitre M (2000) A comparison of posttraumatic stress disorder with and without borderline personality disorder among women with a history of childhood sexual abuse: etiological and clinical characteristics. *J Nerv Ment Dis*. 188:589–595.
- Herman JL (1992) Complex PTSD: a syndrome in survivors of prolonged and repeated trauma. *J Trauma Stress*. 5:377–391.
- Herman JL, van der Kolk BA (1987) Traumatic antecedents of BPD. In BA van der Kolk (Ed.), *Psychological Trauma* (pp. 111–126). Washington, DC: Am Psychiatric Press.
- Kessler RC, Sonnega A, Bromet EJ, Hughes M, Nelson CB (1995) Post-traumatic stress disorder in the national comorbidity survey. *Arch Gen Psychiatry*. 52:1048–1060.
- Keller MB, Lavori PW, Friedman B, Nielson E, Endicott J, McDonald-Scott P, Andreason NC (1987) The Longitudinal Interval Follow-up Evaluation. *Arch Gen Psychiatry*. 44:540–548.
- McGlashan TH, Grilo CM, Skodol AE, Gunderson JG, Shea MT, Morey LC, Zanarini MC, Stout RL (2000) The Collaborative Longitudinal Personality Disorders Study: Baseline axis I/II and II/II diagnostic occurrence. *Acta Psychiatr Scand*. 102:256–264.
- Ogata SN, Silk KR, Goodrich S, Lohr NE, Westen D, Hill EM (1990) Childhood sexual and physical abuse in adult patients with borderline personality disorder. *Am J Psychiatry*. 147:1008–1013.
- Rodriguez N, Ryan SW, Rowan AB, Foy DW (1996) Posttraumatic stress disorder in a clinical sample of adult survivors of childhood sexual abuse. *Child Abuse Neglect*. 20:943–952.
- Rowan AB, Foy DW, Rodriguez N, Ryan S (1994) Posttraumatic stress disorder in a clinical sample of adults sexually abused as children. *Child Abuse Neglect*. 18:145–150.
- Sanislow CA, Grilo CM, McGlashan TH (2000) Factor analysis of the DSM-III-R borderline personality disorder criteria in psychiatric inpatients. *Am J Psychiatry*. 157:1629–1633.
- Sanislow CA, Grilo CM, Morey LC, Bender DS, Skodol AL, Gunderson JG, Shea MT, Stout RL, Zanarini MC, McGlashan TH (2002) Confirmatory factor analysis of DSM-IV borderline personality criteria: findings from the collaborative longitudinal personality study. *Am J Psychiatry*. 159:284–290.
- Shea MT, Zlotnick C, Weisberg RB (1999) Commonality and specificity of personality disorder profiles in subjects with trauma histories. *J Personal Dis*. 13:199–210.
- Swartz M, Blazer D, George L, Winfield I (1990) Estimating the prevalence of borderline personality disorder in the community. *J Personal Dis*. 4:257–272.
- van der Kolk BA, Pelcovitz D, Roth S, Mandel FS, McFarlane A, Herman JL (1996) Dissociation, somatization, and affect dysregulation: the complexity of adaptation to trauma. *Am J Psychiatry*. 153(Festschrift Supplement): 83–93.
- Warshaw MG, Keller MB, Stout RL (1994) Reliability and validity of the Longitudinal Interval Follow-up Evaluation for assessing outcome of anxiety disorders. *J Psychiatr Res*. 28:531–545.
- Weissman M, Bothwell S (1976) The assessment of social adjustment by patient self-report. *Arch Gen Psychiatry*. 33:1111–1115.
- Whisman MA. (1999) Marital Dissatisfaction and Psychiatric Disorders: Results from the National Comorbidity Survey. *J Abnorm Psychol*. 108:701–706.
- Zanarini MC (2000) Childhood experiences associated with the development of borderline personality disorder. *J Personality Disord*. 23:89–101.
- Zanarini MC, Frankenburg FR, Dubo ED, Sickel AE, Trikha A, Levin A, Reynolds R (1998) Axis I comorbidity of borderline personality disorder. *Am J Psychiatry*. 115:1733–1739.
- Zanarini MC, Frankenburg FR, Sickel AE, Young L (1996) *The Diagnostic Interview for DSM-IV Personality Disorders (DIPD-IV)*. Belmont, MA: McLean Hospital.
- Zanarini MC, Gunderson JG, Marino MF, Schwartz EO, Frankenburg FR (1989) Childhood experiences of borderline patients. *Compr Psychiatry*. 30:18–25.
- Zanarini MC, Skodol AE, Bender D, Dolan R, Sanislow C, Schaefer E, Morey LC, Grilo CM, Shea MT, McGlashan TH, Gunderson JG (2000) The collaborative longitudinal personality disorders study: reliability of Axis I and II diagnoses. *J Personal Disord*. 14:291–299.
- Zanarini MC, Williams AA, Lewis RE, Reich RB, Vera SC, Marino MF, Levin A, Yong L, Frankenburg F (1997) Reported pathological childhood experiences associated with the development of borderline personality disorder. *Am J Psychiatry*. 154:1101–1106.
- Zlotnick C, Warshaw M, Allsworth J, Shea MT, Pearlstein T, Keller MB (1999) Chronicity in PTSD and predictors of course of comorbid PTSD in patients with anxiety disorders. *J Traumatic Stress*. 12:89–100.
- Zlotnick C, Franklin L, Zimmerman M (2002) Is comorbid posttraumatic stress disorder and borderline personality disorder related to increased pathology and impairment? *Am J Psychiatry*. 159:1940–1943.