Archives of Suicide Research
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/usui20

Characteristics of Recent Suicide Attempters with and without Borderline Personality Disorder

Michele S. Berk [a], Elizabeth Jeglic [b], Gregory K. Brown [c], Gregg R. Henriques [d] & Aaron T. Beck [c]

[a] Department of Psychiatry, Harbor-UCLA Medical Center and the David Geffen School of Medicine, University of California, Los Angeles, CA, USA

[b] Department of Psychology, John Jay College of Criminal Justice, New York, NY, USA

[c] Psychopathology Research Unit, Department of Psychiatry, University of Pennsylvania,

[d] Department of Psychology, James Madison University, Harrisonberg, VA, USA

Published online: 02 Feb 2007.

To cite this article: Michele S. Berk, Elizabeth Jeglic, Gregory K. Brown, Gregg R. Henriques & Aaron T. Beck (2007) Characteristics of Recent Suicide Attempters with and without Borderline Personality Disorder, Archives of Suicide Research, 11:1, 91-104, DOI: 10.1080/13811110600992951

To link to this article: http://dx.doi.org/10.1080/13811110600992951

Archives of Suicide Research, 11:91–104, 2007

ISSN: 1381-1118 print/1543-6136 online
DOI: 10.1080/13811110600992951

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Taylor & Francis Group

Characteristics of Recent Suicide Attempters with and without Borderline Personality Disorder

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The present research compared recent suicide attempters with and without a diagnosis of Borderline Personality Disorder (BPD). One hundred and eighty recent suicide attempters, recruited in the Emergency Department, participated in extensive research interviews. Results showed that suicide attempters with BPD displayed greater severity of overall psychopathology, depression, hopelessness, suicidal ideation, past suicide attempts, and had poorer social problem solving skills than those without a BPD diagnosis. No differences were found between the groups regarding the intent to die or lethality associated with the index suicide attempt. These findings highlight the seriousness of BPD and the risk that individuals diagnosed with this disorder will attempt suicide.

Keywords borderline personality disorder, psychopathology, suicide attempts

Among individuals who have attempted suicide, those diagnosed with Borderline Personality Disorder (BPD) constitute a subgroup that is at particularly high risk for repeated suicidal behavior (see Linehan, Rizvi, Welch et al., 2000). BPD is the only personality disorder to have recurrent suicidal or self-injurious behavior as one of its diagnostic criteria (APA, 1994). Additionally, other key features of this disorder, such as impulsivity, have been associated with increased risk of suicide attempts (e.g., Brodsky, Malone, Ellis et al., 1997; Soloff, Lis, Kelly et al., 1994). Previous suicide attempts are the strongest predictor of completed suicide and suicide attempts in individuals with BPD (Paris, 1990; Paris, Nowlis, & Brown, 1989;) and rates of completed suicide range from 8% to 10% (APA, 2001). Therefore, increased knowledge of the clinical features associated with suicide attempts in this population is of importance for preventing future suicidal behavior.

Although several studies have examined characteristics of BPD that are associated with suicidal behavior among individuals diagnosed with the disorder (e.g., Brodsky, Malone, Ellis et al., 1997), there is limited research that compares recent suicide attempters with BPD to those without BPD. Because both previous suicide attempts and BPD independently increase the risk of suicide attempts, it is likely that individuals with BPD and a history of prior suicide attempts are at even greater risk. Hence, describing the nature of the pathology present in this

population is of public health significance. One study, conducted in Finland, compared individuals with and without personality disorders who engaged in recent self-injury behavior both with and without the intent to die (i.e., the study did not differentiate between suicide attempts and nonsuicidal self-injury). It was found that those with personality disorders had more previous episodes of self-injurious behavior and were more likely to have a lifetime history of psychiatric treatment, comorbid substance use disorders, and depressive disorders not otherwise specified than those without personality disorders (Suominen, Isometsa, Henriksson et al., 2000). In a related study, depressive symptoms, impulsivity, antisocial personality disorder, and older age significantly differentiated between borderline individuals with and without a lifetime history of suicide attempts (Soloff, Lis, Kelly et al., 1994).

In our previous research we found that multiple suicide attempters exhibited higher levels of psychopathology, suicidal behavior, and interpersonal conflicts than single suicide attempters (Forman, Berk, Henriques et al., 2004). Although this study controlled for the presence of BPD, it did not address the characteristics of suicide attempters with the BPD diagnosis. The present study sought to expand upon these findings and compared recent suicide attempters with and without a BPD diagnosis in order to determine the primary areas of pathology that describe suicide attempters with BPD.

Despite the severity of the sample as a whole, we predicted that, due to the chronic and pervasive nature of the pathology associated with BPD, recent suicide attempters diagnosed with BPD would demonstrate greater psychopathology, depressed mood, hopelessness, suicide ideation and past suicide attempts, and poorer social problem solving skills than those without BPD. Although suicidal behavior in BPD patients has been perceived to be attention seeking, these patients are at high risk for completed suicide (Paris, 2002). Hence, as in prior work (e.g., Suominen, Sometsa, Henriksson et al., 2000), we did not expect to find less suicide intent or lethality based on BPD status. To the extent that differences emerge based on BPD diagnosis in our sample of recent suicide attempters with an already high degree of impairment, the findings will highlight the severity of the borderline syndrome and the risk for suicidal behavior associated with the disorder.

METHOD

Participants

One hundred and eighty participants took part in the research, 65 (36%) of whom met diagnostic criteria for BPD. Demographic and clinical characteristics of the patients are presented in Table 1. The mean age of participants was 33.61 years ($SD = 9.45$, range = 18–64). Fifty-seven percent of the participants were female and ethnic membership was primarily African American (63%) and White (28%), with the remaining 9% being Latino, Asian American, Native American, or unspecified. Participants were primarily from an impoverished urban area and 80% reported annual incomes of less than $20,000.

Procedure

The majority of the participants took part in a randomized controlled trial which found significant reductions in subsequent suicide attempts following a brief cognitive therapy intervention versus enhanced usual care (Brown, Ten Have, Henriques et al., 2005). Additional participants were assessed at baseline as part of an earlier pilot version of the randomized trial, using identical procedures. Individuals presenting to the emergency department at the Hospital of the University of Pennsylvania after

TABLE 1. **Demographic Characteristics of Suicide Attempters with and without BPD**

	BPD		No BPD			
	m	***sd***	***m***	***sd***	***t***	***p***
Continuous variables						
Age	33.37	8.89	34.99	10.44	1.06	.29
	n	%	*n*	%	χ^2	*p*
Dichotomous Variables						
Gender (female)	45	69.2	59	51.3	5.19	.02*
Ethnicity						
Caucasian	18	27.7	34	29.6	4.23	.52
African-American	42	64.6	70	60.9		
Other	5	7.7	11	9.6		
Marital status						
Married	6	10.3	12	10.5	1.56	.82
Single	38	65.5	73	64.0		
Separated/divorced	11	19.0	19	16.7		
Widowed	3	5.2	10	8.8		
Unemployed	48	73.8	72	63.7	2.30	.62
Education	61	36.1	108	63.9	0.10	.95

having made a suicide attempt were approached for participation in the study. Suicide attempts were defined as a self-injurious behavior for which there is evidence that the person intended to kill himself/herself (O'Carroll, Berman, Maris et al., 1996). Individuals were excluded from participation if: (1) they were under the age of 16, (2) they were unable to understand the study procedures and give informed consent, (3) they had a significant medical condition that would limit participation (such as organic brain damage), and (4) they were unable to provide at least two contact people to aid in tracking for follow-up assessments. Eligible patients were provided with a complete description of the study and written informed consent was obtained from those who decided to participate. Trained master's and doctoral-level clinicians conducted extensive baseline assessments with each participant within 3 days but no longer than 3 weeks after the suicide attempt, for which the participant was paid $50. The baseline assessment battery included both clinician-administered and self-report measures, which are described below. Psychiatric diagnoses were determined by clinicians trained in administration of the *Structured Clinical Interview for the DSM-IV* (SCID; First, Spitzer, Gibbon et al., 1995) for Axis I and II disorders and by a study psychologist who reviewed symptoms.

Clinician-Administered Measures

Psychopathology. Participants were diagnosed using the *Structured Clinical Interview for the DSM-IV* (SCID; First, Spitzer, Gibbon et al., 1995), a diagnostic instrument based on DSM-IV diagnostic criteria for Axis I disorders. The SCID has been demonstrated to have good inter-rater reliability and validity (Segal, Hersen, & Van Hasselt, 1994). In addition, clinicians screened participants for Borderline Personality Disorder using the *Structured Clinical Interview for DSM-IV Axis II* (SCID-II; First, Gibbon,

Spitzer et al., 1997). Although all participants entered the study following a suicide attempt, clinicians only rated them as displaying "recurrent suicidal behavior, gestures, threats, or self-mutilating behavior" (DSM IV, 1994), one of the diagnostic criteria for BPD, if they reported repeated instances of these types of behaviors. The highest level of psychiatric, occupational, and social functioning achieved by the participant in the past year was assessed during the clinical interview using the *Global Assessment of Functioning* (GAF) Index (Axis V of the DSM-IV), ranging from 0 (severe impairment in functioning) to 100 (superior functioning). Clinicians also completed Axis III and IV diagnoses. The 24-item *Hamilton Rating Scale for Depression* (HAM-D; Hamilton, 1960) was used to rate the severity of depression during the past week. The HAM-D has good reliability and construct and predictive validity (Williams, 1988).

Suicidality. The 19-item *Scale for Suicidal Ideation* (SSI; Beck, Kovacs, & Weissman, 1979) assesses the intensity of the patient's specific attitudes, behaviors, and plans to commit suicide. Each item is rated on a 3-point scale ranging from 0 to 2. Suicidal ideation is assessed at two time points: 1) at the time or the interview (e.g., currently) and 2) at the time of the participant's most severe lifetime episode of suicidality. The *Suicide Intent Scale* (SIS; Beck, Morris, & Beck, 1974) is a 20-item interviewer assessment of the intensity of the wish to die associated with the index suicide attempt (e.g., expectation of fatality, precautions made against discovery). Each item is rated on a 3-point scale ranging from 0 to 2. Good internal consistency, inter-rater reliability, and concurrent, discriminant and predictive validity have been reported for the SSI and SIS (Beck, Beck, & Kovacs, 1975; Beck, Brown, & Steer, 1997; Beck, Schuyler & Herman, 1974). A non-summed item of the SIS, *Reaction to Attempt* measures attitudes toward the suicide attempt, and was used as an indicator of the degree to which individuals maintained an accepting, rather than a rejecting attitude about their recent suicide attempt. In this item, the interviewer assigns a score as follows: 0 = Sorry about attempt; feels foolish, ashamed, 1 = Accepts both attempt and failure, and 2 = Regrets failure of attempt. The *Lethality Scale* (Beck, Beck, & Kovacs, 1975) was used to rate the medical lethality of the suicide attempt, as reported by participants, on a scale from 0–10 (e.g., from "fully conscious and alert" to "comatose, all reflexes absent, respiratory depression with cyanosis or circulatory failure and shock or both"). There are 8 separate scales corresponding to the method of the attempt (shooting, jumping, drugs, etc.), and hence, data on the method of attempt was also obtained from this scale.

Finally, interviewers also recorded the number and dates of participants' past suicide attempts. As with the index suicide attempt, past suicide attempts were defined as self-injurious behavior with intent to die (O'Carroll, Berman, Maris et al., 1996).

Self-Report Measures

Psychopathology. Depression was measured using the 21-item *Beck Depression Inventory-II* (BDI; Beck, Steer, & Brown, 1996). Each of the items consists of four statements (scored from 0 to 3) reflecting increasing levels of severity for a particular symptom of depression. Participants' hopelessness was assessed using the *Beck Hopelessness Scale* (BHS; Beck & Steer, 1993), which consists of 20 true-false statements designed to assess the extent of positive and negative beliefs about the future. The BDI and the BHS have excellent psychometric properties (Beck & Steer, 1993; Beck, Steer, & Brown, 1996).

The 25-item *Social Problem-Solving Inventory-Revised* (SPSI-R; D'Zurilla & Nezu, 1990) was used to measure respondents' abilities to define social problems, generate

alternative solutions, make decisions, and implement solutions. The scale is comprised of 5 subscales (5 items each) that assess positive problem orientation, negative problem orientation, rational problem solving, and impulsive and avoidant problem solving styles. Studies suggest excellent test-retest and internal reliabilities, and good concurrent validity (D'Zurilla, Nezu, & Maydeu-Olivares, 2001).

The 12-item *Psychiatric History Form* asks the respondent to complete questions about their own and their family members' history of mental illness, suicide, substance abuse, and psychiatric treatment. In addition, it asks a series of yes/no questions about sexual and emotional abuse history. A demographic questionnaire was also administered to participants and included questions about age, marital ethnicity, marital status, and current employment status.

RESULTS

Demographics

Demographic differences between suicide attempters with and without BPD were examined using chi-square analyses for dichotomous variables and using a one-way ANOVA for the one continuous variable, age. As shown in Table 1, there were no significant differences between attempters with and without the BPD diagnosis on age, ethnicity, marital status, employment status, or education level and hence, differences in these demographics cannot account for any group differences observed. However, consistent with prior findings (Swartz, Blazer, George et al., 1990; Widiger & Weissman, 1991), participants with the BPD diagnosis were more likely to be female ($\chi^2 = 5.19$, $df = 1$, $p < .05$). Given this finding, all analyses were conducted using gender as a covariate. These results were compared to the results of an identical set of analyses that did not include gender as a covariate. We report the analyses that did not include gender as a covariate given that both sets of analyses yielded virtually identical results, unless otherwise noted.

Psychopathology

In order to examine differences in psychopathology between suicide attempters with and without BPD, relevant continuous variables (depression, hopelessness, number of Axis I diagnoses, and global functioning), were examined in a between-subjects multivariate analysis of variance (MANOVA), in order to reduce experiment-wide error. As shown in Table 2, the results support our hypothesis that suicide attempters with BPD would show greater psychopathology than those without BPD. The overall MANOVA for the psychopathology variables was significant, F (5, 167) = 7.94, $p < .0001$, and hence, individual one-way ANOVAs were conducted for each dependent variable. As shown in Table 2, individuals with a diagnosis of BPD were significantly more depressed as measured by the BDI and the HAM-D,[1] and significantly more hopeless as measured using the BHS. On average, both groups reported high levels of depression. Self-reported depression scores on the BDI were in the severe range for participants with BPD ($M = 39.17$) and in the upper end of the moderate range for those without BPD ($M = 27.35$), and clinician-rated depression scores using the HAM-D were in the severe range in both groups (BPD group,

[1]Because some of the items in the 24-item Ham-D are more likely to be endorsed by individuals with the BPD diagnosis (e.g., depersonalization and paranoia), we conducted the same MANOVA for psychopathology using the 17-item Ham-D, which does not include these items. The overall MANOVA was again significant, $F(5, 162) = 8.12$, $p < .0001$, and the individual ANOVA for the 17-item Ham-D was also significant, $F(1, 166) = 3.92$, $p < .049$.

TABLE 2. **Comparisons between Suicide Attempters with and without BPD on Continuous Variables**

Measures	**BPD ($n = 63$)**		**Non-BPD ($n = 110$)**				
Psychopathology	***m***	***sd***	***m***	***sd***	***F (df = 1,171)***	***p***	**Partial Eta^2**
Beck Depression Inventory	39.17	12.44	27.35	13.74	31.75	< .0001	.16
Hamilton Rating Scale for Depression	30.38	9.12	25.05	10.96	10.69	< .001	.87
Beck Hopelessness Scale	13.37	5.50	10.33	5.99	10.95	< .001	.80
Number of Axis I Diagnoses	3.17	0.91	2.51	1.03	17.72	< .0001	.89
GAF in Past Year	45.05	15.96	50.40	15.55	4.65	< .032	.90
	BPD ($n = 63$)		**Non-BPD ($n = 108$)**				
Suicidal Behavior	***m***	***sd***	***m***	***sd***	***F (df = 1,169)***	***p***	**Partial Eta^2**
Number of Lifetime Suicide Attempts	7.29	13.32	3.01	2.87	10.36	< .002	.26
Scale for Suicidal Ideation—Current	9.97	7.85	7.07	8.17	5.14	< .025	.03
Scale for Suicidal Ideation—Worst	28.73	4.36	27.19	5.75	3.40	< .067	.02
Suicide Intent Scale—Index Attempt	20.00	4.99	19.31	5.42	0.69	.41	.004
Lethality	3.11	2.36	3.50	2.12	1.23	.26	.007

	BPD ($n = 73$)		Non-BPD ($n = 96$)				
Social Problem Solving	***m***	***sd***	***m***	***sd***	***F (df = 1,160)***	***p***	**Partial Eta^2**
Social Problem Solving Inventory Revised—Total Score	41.85	12.36	50.35	14.76	12.59	< .001	.08

	BPD ($n = 55$)		Non-BPD ($n = 96$)				
SPSI-R Subscales	***m***	***sd***	***m***	***sd***	***F (df = 1,149)***	***p***	**Partial Eta^2**
Positive Problem Orientation	7.35	5.13	8.97	5.44	3.25	< .07	.021
Negative Problem Orientation	10.71	4.10	9.24	3.92	4.74	< .03	.031
Rational Problem Solving	6.53	5.25	8.58	5.53	5.01	< .03	.033
Impulsivity/Carelessness Style	9.29	3.85	8.51	3.85	1.44	< .23	.010
Avoidance Style	9.65	4.28	8.67	4.24	1.88	< .17	.012

$M = 30.38$; No BPD group, $M = 25.05$). While both groups on average received multiple diagnosis on Axis I, the group with the BPD diagnosis had more overall Axis I diagnoses than the group without the BPD diagnosis. Furthermore, although both groups exhibited serious impairment in global functioning, participants with BPD had significantly lower GAF scores.

As shown in Table 3, chi-square analyses were also conducted to determine differences between groups in the presence or absence of psychiatric diagnoses. These comparisons revealed that patients with a diagnosis of BPD exhibited greater frequencies of Bipolar I Disorder (most recent episode depressed) and Post-Traumatic Stress Disorder. No differences were found between groups for Major Depressive Disorder, Schizoaffective Disorder, Obsessive Compulsive Disorder, Generalized Anxiety Disorder, or Alcohol or Drug Abuse or Dependence. Those with a diagnosis of BPD were also more likely to have had past psychiatric hospitalizations and past psychiatric treatment. Finally, they reported significantly more childhood physical and sexual abuse.

Suicidal Behavior

In order to examine the differences in suicidality between suicide attempters with and without BPD, a series of continuous dependent variables related to suicidality including current and past suicidal ideation, suicidal intent at the time of the index attempt, lethality of the index attempt, and number of past suicide attempts were examined in a second MANOVA, which was significant, $F\ (5, 165) = 3.54$, $p < .005$. As shown in Table 2, individual ANOVAs showed that suicide attempters with BPD reported significantly higher levels of current suicidal ideation. They also reported a greater number of lifetime suicide attempts and, as shown in a separate chi-square analysis, were more likely to be multiple suicide attempters ($\chi^2 = 12.07$, $df = 1$, $p < .001$). As predicted, however, no differences were found between the two groups on suicidal intent for their index attempt or the overall lethality of the attempt, or the amount of planning prior to the attempt (examined by using a single item from the SIS; $\chi^2 = 1.67$, $df = 2$, $p = .44$). Suicide attempters with BPD were also significantly more likely to report feelings of

TABLE 3. **Comparisons between Suicide Attempters with and without BPD on Dichotomous Variables**

	BPD (n = 65)		**Non-BPD (n = 115)**			
Variable	***n***	%	***n***	%	χ^2	***P***
MDD	45	69%	91	79%	2.20	.14
Bipolar disorder	7	11%	3	3%	5.27	.02*
Schizoaffective disorder	5	8%	8	7%	.34	.86
PTSD	20	31%	19	17%	4.97	.03*
OCD	3	5%	3	3%	.519	.47
GAD	1	2%	3	3%	.22	.64
Alcohol abuse/dependence	20	31%	32	28%	.175	.68
Drug abuse/dependence	44	68%	63	55%	2.87	.09
Past psychiatric hospitalizations	54	83%	79	69%	6.89	<.01*
Past psychiatric treatment	48	74%	50	43%	16.6	<.01*
Past sexual abuse	31	48%	28	24%	10.36	<.01*

TABLE 4. **Methods Used in Index Suicide Attempts**

	BPD N = 63	Non-BPD N = 113	Entire Sample N = 176
Overdose	63%	75%	70%
Cutting	19%	13%	15%
Jumping	9%	6%	7%
Hanging	6%	1%	3%
Shooting	0	3%	2%
Drowning	0	1%	.5%
Missing	3%	1%	2.5%

$\chi^2 = 9.64, p < .14$

regret that their suicide attempt failed than suicide attempters without BPD ($\chi^2 = 15.53$, $df = 3$, $p < .001$). Finally, as shown in Table 4, no differences were found between groups on method of attempt ($\chi^2 = 9.64$, $df = 6$, $p < .14$), with overdose and cutting being the most common methods, respectively, in both groups.

Social Problem Solving

A one-way ANOVA was used to compare suicide attempters with and without BPD on social problem solving ability, using the overall SPSI-R score. As shown in Table 2, the results showed that attempters with BPD had significantly poorer social problem solving skills than those without BPD, $F(1, 145) = 12.59$, $p < .001$. In order to further break down these findings, a MANOVA was computed using each of the five subscale scores of the SPSI-R, and was significant, $F(5, 145) = 2.418$, $p < .039$. Hence, individual one-way ANOVAs were conducted for each subscale. As shown in Table 2, patients with the BPD diagnosis had significantly lower scores on Rational Problem Solving and significantly higher scores on the Negative Problem Orientation. However, including gender as a covariate in the analysis yielded a different pattern of results. The overall MANOVA remained significant, $F(5, 143) = 3.097$, $p < .011$, and ANOVAs conducted for the individual subscales showed that Negative Problem Orientation remained significant $F(1, 147) = 10.94$, $p < .001$, Rational Problem Solving was no longer significant, $F(1, 147) = 3.24$, $p < .07$, and Impulsivity/Careless style, $F(1, 147) = 5.65$, $p < .02$, and Avoidance style became significant, $F(1, 147) = 6.60$, $p < .01$. These results suggest that, across genders, patients with BPD are more likely to have a negative perception of their ability to solve problems, and use more impulsive and avoidant problem solving styles.

In addition, clinicians were more likely to rate participants with a BPD diagnosis as having problems with their partner or significant other ($\chi^2 = 8.30$, $df = 3$, $p < .05$) and general problems relating to others ($\chi^2 = 15.33$, $df = 3$, $p < .01$) on Axis IV.

Finally, in order to examine the relative impact of psychopathology, suicidality, and social problem solving in predicting BPD status among recent suicide attempters, we conducted a logistic regression analysis. The Ham-D, SSI, and SPSI-R variables were regressed on BPD status. The overall model was significant ($\chi^2 = 21.44$, df = 3, $p < .001$) and predicted BPD status correctly 63% of the time. Among all variables in the model, only SPSI-R significantly predicted BPD status ($B = -.043$, $Wald = 11.69$, $p < .001$).

DISCUSSION

The present study investigated characteristics of recent suicide attempters with and without a diagnosis of Borderline Personality Disorder. The sample as a whole was characterized by extremely high levels of psychopathology and psychosocial impairment. However, as predicted, it was found that recent suicide attempters with BPD demonstrated even greater severity across a number of variables associated with increased risk of suicidal behavior than those without BPD, including overall

psychopathology, depression, hopelessness, suicidal ideation, past suicide attempts, and social problem solving skills. These findings underscore the seriousness of the disorder and the risk that individuals diagnosed with this disorder will attempt suicide.

As noted, groups differed in severity of psychopathology. Suicide attempters diagnosed with BPD self-reported more depressive symptoms than those not diagnosed with BPD. Clinician ratings also showed that attempters with BPD had significantly more symptoms of depression during the week prior to the interview (although they did not meet criteria for Major Depressive Disorder more frequently). In addition, attempters with BPD were judged as having a greater number of Axis I diagnoses, more comorbid diagnoses of bipolar disorder (most recent episode depressed), and poorer global functioning than those without BPD. Severity of depressed mood in BPD has been shown to be a predictor of suicidal history, seriousness of suicidal intent, and lethality (Soloff, Lis, Kelly et al., 1994) and it has been argued that suicide attempts in individuals with BPD occur in response to intense subjective distress and emotional dysregulation (Linehan, 1993). Consistent with other work (Yen, Shea, Battle et al., 2002), suicide attempters with BPD were also more likely to be diagnosed with PTSD and to report histories of childhood abuse.

Suicide attempters with BPD were also more likely to be diagnosed with Bipolar I disorder, most recent episode depressed. This may be due to the high degree of overlap between the symptoms of both disorders (Delito, Martin, Riefkohl et al., 2001; Zimmerman & Mattia, 1999). Importantly, patients with either a diagnosis of BPD or bipolar disorder are at increased risk for suicide (APA, 1994) and the co-occurrence of bipolar disorder and BPD further increases this risk (Bowden & Maier, 2003).

Suicide attempters with BPD also reported more severe feelings of hopelessness than those without BPD; a variable which has been repeatedly documented in the literature as a risk factor for suicide attempts and completed suicide (e.g., Beck, Brown, Berchick et al., 1990; Beck, Brown, & Steer, 1989; Beck, Steer, Kovacs et al., 1985; Brown, Beck, Steer et al., 2000). Because hopelessness and depression were in part measured by self-report, results may have been influenced by differences in response styles between groups. However, taken together, these findings clearly indicate a heightened level of subjective distress and psychopathology among those diagnosed with BPD that places them at high risk for future suicidal behavior.

Results also yielded differences in suicidal behavior between groups. Attempters with BPD reported having made approximately three times more past suicide attempts than those without BPD, reported higher levels of suicide ideation soon after the index suicide attempt, and were more likely to indicate regret that the index suicide attempt failed. Both suicide ideation and past suicide attempts are risk factors for completed suicide (Brown, Beck, Steer et al., 2000; Harris & Barraclough, 1997) and multiple suicide attempts have been found to be associated with severe psychopathology above and beyond the borderline diagnosis (Forman, Berk, Henriques et al., 2004). Recent work has also shown that regret that the suicide attempt failed is a risk factor for completed suicide and is associated with increased levels of depression, hopelessness, and suicide intent (Henriques, Wenzel, Brown et al., 2005).

Importantly, participants did not differ in the degree of intent to die or lethality associated with the index suicide attempt based on BPD diagnosis, as found in prior work (Brodsky, Malore, Ellis et al., 1997; Suominen, Sometsa, Henriksson et al., 2000). Although repeated suicidal behavior is frequent in BPD patients, and can be associated with a desire to communicate distress to others as well as the intent to

die (Paris, 2002), these findings suggest that suicide attempts among BPD patients are no less dangerous than those without BPD and should not be assumed by clinicians to be nonserious or nonlethal in nature, as compared to patients with other types of disorders. Indeed, recent work found no differences in severity of suicide intent or lethality between patients with BPD and Major Depressive Disorder (Soloff, Lynch, Kelly et al., 2000).

Finally, attempters with BPD reported poorer social problem solving skills than those without BPD. Of importance, social problem solving deficits appeared to play a larger role in discriminating between suicide attempters with and without BPD than clinician-rated depression and suicidal ideation. Social problem solving, defined as the cognitive-behavioral process by which an individual develops coping strategies to manage life problems (D'Zurilla & Nezu, 1999), has been linked to suicide ideation and suicide risk (Chang, 2002; D'Zurilla, Chang, Nottingham et al., 1998). Triggers of suicide attempts among borderline patients are frequently interpersonal in nature (e.g., Brown, Beck, Steer et al., 2000) and suicide attempts in general often occur as a maladaptive means of solving life problems (e.g., Marx, Williams, & Claridge, 1992; Salkovskis, Atha, & Storer, 1990). These findings were confirmed in our study as suicide attempters were rated by clinicians as having more interpersonal difficulties than the non-attempters, and reported poorer problem solving skills. Specifically, patients with BPD were more likely to report having negative expectations about their ability to solve problems and using impulsive and avoidant problem solving styles. To the extent that suicide attempts occur as a means of solving problems, the poor social problem-solving skills reported by participants with BPD suggest an increased risk of future suicidal behavior among this population. Indeed, it has been argued that it is the combination of severe emotional distress and poor coping skills that underlies the self-harm behaviors seen in BPD (Linehan, 1993).

Of note, no significant differences emerged between groups in terms of age, education, ethnicity, martial status, or employment status, suggesting that these demographic variables cannot account for the present findings.

There are some limits to the generalizability of these findings. First, the representativeness of the sample is limited in that only those participants who sought treatment at an emergency department and chose to participate in the larger treatment outcome trial were included. Second, although this study suggests that suicide attempters with BPD may be at greater risk for subsequent suicidal behavior than those without BPD, prospective studies are needed to determine if there are differences in the rates of subsequent suicide attempts between groups and whether or not these differences are predicted by the elevated risk factors identified in attempters with BPD in the present research.

Overall, these results highlight the severity of the borderline syndrome and the elevation of risk factors for suicide attempts and completed suicide in this population. To the best of our knowledge, this is the first study to directly compare recent suicide attempters diagnosed with BPD to those not diagnosed with the disorder. Moreover, few studies have examined the clinical features of BPD among a predominately non-white, impoverished sample. This paper suggests that the prevalence of BPD in this urban sample of suicide attempters is high and may be related to the overall impairment observed in these patients. Of importance to clinicians, the results underscore the significant pathology present in this patient population and the need to make suicidality a primary target of treatment. The findings of this study suggest that interventions for individuals with BPD who engage in suicidal behavior should focus on

overcoming problem solving deficits, particularly as they pertain to interpersonal relationships. Moreover, treatment approaches that focus directly on decreasing suicidality, as well as on known risk factors for suicide such as depression, hopelessness, and suicidal ideation are most likely to be effective. Treatments containing these components, such as cognitive therapy for suicide attempters (Brown, Ten Have, Henriques et al., 2005; for a description of the treatment see Berk, Henriques, Warman et al., 2004; Henriques, Beck, & Brown, 2003) and BPD (Brown, Newman, Charlesworth et al., 2004), and dialectical behavior therapy (Linehan, 1993; Linehan, Armstrong, Suarez et al., 1991) have shown promise in treating this population. Psychoanalytically-oriented therapies such as attachment-based therapy (e.g., Bateman & Fonagy, 1999, 2001) and transference-focused therapy (Clarkin, Foelsch, Levy et al., 2001; Clarkin, Levy, Lenzenweger et al., 2004), which also address improving interpersonal relations, have also demonstrated potential in decreasing symptoms of BPD, including suicidal behavior.

AUTHOR NOTES

Michele S. Berk, Department of Psychiatry, Harbor-UCLA Medical Center and the David Geffen School of Medicine, University of California, Los Angeles, CA, USA.

Elizabeth Jeglic, Department of Psychology, John Jay College of Criminal Justice, New York, NY, USA.

Gregory K. Brown & Aaron T. Beck, Psychopathology Research Unit, Department of Psychiatry, University of Pennsylvania.

Gregg R. Henriques, Department of Psychology, James Madison University, Harrisonberg, VA, USA.

This research was supported by grants from the National Institute of Mental Health (R01 MH60915) and the Centers for Disease Control and Prevention (R37 CCR316866) to Aaron T. Beck, M.D.

Correspondence regarding this article should be addressed to Michele S. Berk, Ph.D., Harbor-UCLA Medical Center, 1000 W. Carson St., Box 498, Torrance, CA, 90509. Phone: (310) 222–1607. Fax: (310) 328–7217. E-mail: mberk@mednet.ucla.edu

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