

# Dissociative Disorders and Suicidality in Psychiatric Outpatients

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**Abstract:** Although it is common for patients with dissociative disorders to report a history of suicide attempts, there is very little data systematically comparing suicidality in patients with dissociative disorders versus patients without these disorders. The subjects in our study were 231 patients consecutively admitted to an inner-city, hospital-based outpatient psychiatric clinic. Eighty-two of these patients completed structured interviews for dissociative disorders, borderline personality disorder, and trauma history (dissociative disorders interview schedule) and for posttraumatic stress disorder and substance abuse (Structured Clinical Interview for DSM-IV). Patients receiving a dissociative disorder diagnosis were compared with nondissociative patients on measures of self-harm and suicidality. Presence of a dissociative disorder was strongly associated with all measures of self-harm and suicidality. When we focused on patients with a history of multiple suicide attempts, significant associations were found between several diagnoses (dissociative disorder; borderline personality disorder; posttraumatic stress disorder; alcohol abuse/dependence) and multiple suicide attempter status. When these diagnoses were entered in a logistic regression, a highly significant association remained for dissociative diagnosis and multiple suicide attempter status (odds ratio, 15.09; 95% confidence interval, 2.67–85.32;  $p = 0.002$ ). Dissociative disorders are commonly overlooked in studies of suicidality, but in this population they were the strongest predictor of multiple suicide attempter status.

**Key Words:** Dissociative disorders, suicide, borderline personality disorder, posttraumatic stress disorder, childhood sexual and physical abuse, comorbidity.

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Clinical experience and epidemiological data have long suggested that dissociative disorders may be associated with a particularly high rate of suicidal behaviors. For instance, Putnam et al. (1986) and Ross (1997), in 3 large series of patients with dissociative identity disorder (DID), found that between 72% and 78% of DID patients reported a history of a suicide attempt. However, there has been little research as yet which systematically compares patients with dissociative disorders to patients without dissociative disorders with regard to suicidal behaviors.

A number of authors have approached this issue without assessing the presence or absence of dissociative diagnoses per se; instead, they examined the relationship between symptoms of dissociation, as measured by self-report, and measures reflecting self-injurious behavior (SIB) and/or suicidality (with “suicidality” referring to suicidal ideation and/or attempts). These reports are summarized in Table 1 (Akyuz et al., 2005; Brodsky et al., 1995; Dutra et al., 2005; Goodman et al., 2003; Kaplan et al., 1995; Maaranen et al., 2005; Matsumoto et al., 2004; Matsumoto et al., 2005; Shearer, 1994; van der Kolk et al., 1991; Yanik, 2002; Zlotnick et al., 1999; Zoroglu et al., 2003). All of these studies used either the Dissociative Experiences Scale (DES) (Carlson et al., 1993; van Ijzendoorn and Schuengel, 1996), the most widely used self-report measure of dissociative symptoms; the Adolescent Version of the DES (A-DES) (Armstrong et al., 1997); or a newer version of the DES called the DES-T, with the T standing for taxon (Waller et al., 1996). The DES-T attempts to isolate a subset of dissociative “taxon members” who report high levels of “pathological” dissociative symptoms which are unlikely to occur in patients without dissociative disorders, and thus may serve as a better measure of clinical dissociative pathology. These studies vary widely with regard to both the types of population being examined and the statistical approaches, and use a variety of outcome variables (e.g., history of suicide attempt; self-reported suicidal ideation; history of self-cutting); so it is difficult to make general statements about the findings. However, 2 observations which emerge are that dissociative symptoms are usually, but not always, associated with an increased level of SIB and/or suicidal behaviors; and that this association may be more likely to emerge when pathological dissociation, specifically, is considered.

Only 3 studies to date have assessed the relationship between the presence of a dissociative disorder diagnosis and SIB or suicide (also included in Table 1). Saxe et al. (2002), in the United States, screened an inpatient population with the

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**TABLE 1.** Previous Studies of Dissociation, Self-Harm and Suicidality

Study	Year	Location	Population	N	Measure	Association
<b>Suicidality</b>						
Kaplan et al.	1995	New York	Multiply traumatized outpatients	29	DES	++
Akyuz et al.	2005	Turkey	Female community sample	251	DES	Mixed
Maaranen et al.	2005	Finland	Community sample, age 25–64	2001	DES-T	+
Karadag et al.	2005	Turkey	Substance abuse inpatients	112	SCID-D	+
Sar et al.	2006	Turkey	Female community sample	628	SCID-D	+
<b>Self-injury</b>						
Brodsky et al.	1995	New York	Female BPD inpatients	60	DES	+
Zlotnick et al.	1999	Rhode Island	Outpatients	256	DES	++
Saxe et al.	2002	Massachusetts	Psychiatric inpatients	28	DDIS	+
Matsumoto et al.	2004	Japan	(Female) Chronic self-cutters, general outpatients, nonclinical volunteers	91	A-DES	Mixed
Matsumoto et al.	2005	Japan	Male juvenile prison inmates	796	A-DES	Mixed
<b>Both</b>						
van der Kolk et al.	1991	Massachusetts	BPD and Bipolar II outpatients	74	DES	Mixed
Shearer	1994	Maryland	Female BPD inpatients	62	DES	Mixed
Goodman et al.	2003	New York	Personality disordered outpatients	95	DES-T	Mixed
Zoroglu et al.	2003	Turkey	High school students	862	DES	++
Yanik et al.	2005	Turkey	Female outpatients	150	DES	+
Dutra et al.	2005	Massachusetts	Highly traumatized outpatients	120	DES-T	+

DES = Dissociative Experiences Scale; A-DES = Adolescent DES; DES-T = DES (Taxon); SCID-D = Structured Clinical Interview for DSM-IV Dissociative Disorders; DDIS = Dissociative Disorders Interview Schedule; + = positive; ++ = positive on both univariate analysis and on multivariate analysis controlled for childhood trauma; mixed = positive and negative results on different self-harm variable, or positive on one statistical analysis, negative on another.

DES and interviewed high- and low-scorers to identify 14 patients with a dissociative disorder diagnosis and 14 patients without a dissociative disorder diagnosis. The presence of a dissociative disorder was significantly associated with a history of SIB; data on suicide attempts were not reported. Sar et al. (2007) found in a large nonclinical sample of Turkish women that presence of a dissociative disorder diagnosis was highly correlated with a self-reported history of suicide attempt. In this group, dissociative disorder diagnosis was associated with suicide attempter status, whereas DES score was not. The authors note that in this study, only 40% of the subjects were literate and able to fill out the DES, possibly biasing the results. Similarly, Karadag et al. (2005) found that in a population of Turkish chemically dependent outpatients, presence of a dissociative disorder diagnosis was associated with self-reported history of a suicide attempt. No study to date has compared suicidal behavior in patients with and without a dissociative disorder diagnosis in a United States population.

Attempts to understand the relationship between dissociative disorders and suicidality are complicated by the extremely high comorbidity rate of these disorders. It has been well established that dissociative disorders tend to be highly comorbid conditions, including especially elevated co-occurrence with both posttraumatic stress disorder (PTSD) and borderline personality disorder (BPD) (Ross, 1997; Sar and Ross, 2006; Saxe et al., 1993), with comorbidity rates at times approaching 80%. PTSD, and especially BPD, are known to carry their own elevated risks of suicidal behaviors (Kessler, 2000; Oldham, 2006; American Psychiatric Association, 2003). As Saxe et al. (2002) remarked, ideally, attempts to define the relationship between dissociative disorders and

suicidality would attempt to discern the relative contributions of these comorbid disorders to the relationship with suicidality; previous research has largely failed to do so.

A further complication arises from the observation that dissociative disorders have been found to correlate highly with a history of childhood trauma (Foote et al., 2006; Putnam et al., 1985, 1986; Ross, 1997); in turn, histories of various types of childhood trauma have themselves been found in many studies to be predictive of adult suicidal and self-harming behaviors (Anderson et al., 2002; Fergusson et al., 1996; McCauley et al., 1997; Molnar et al., 2001; Read et al., 2001; Romans et al., 1995; Low et al., 2000; van der Kolk et al., 1991), with self-reported dissociation at times emerging as a mediating variable (Low et al., 2000; van der Kolk et al., 1991; Zoroglu et al., 2003). A number of studies have found bivariate relationships between dissociation and self-harm or suicidality; in some studies, this effect persists when childhood trauma history is controlled for (Kaplan et al., 1995; Zlotnick et al., 1999; Zoroglu et al., 2003); in others, controlling for childhood traumata diminishes or eliminates the association (Akyuz et al., 2005; Matsumoto et al., 2004, 2005; van der Kolk et al., 1991). Therefore, an accurate understanding of the relationship between suicidality and dissociative disorders requires that the possibly independent role of childhood trauma be addressed as well.

The inner-city outpatient population included in this study has been described in a previous publication which assessed the prevalence of dissociative disorders and their association with histories of childhood trauma (Foote et al., 2006). In the course of the prevalence study, we collected extensive data with regard to self-harm and suicidality, as

well as ascertaining the presence of a number of comorbid diagnoses. In this report, we describe the comorbidity associated with dissociative disorders in a general psychiatric outpatient population; examine the relationship between a number of diagnostic, demographic and historical variables and measures of suicidality and self-harm, with a particular focus on patients with a history of multiple suicide attempts; and attempt to define the relationship between dissociative disorders and suicidality. We believe this to be the first report on a United States population to systematically compare patients with dissociative disorders to other patients with regard to suicidality, and the first to analyze the relationship between dissociative disorder diagnosis and suicidality while accounting for the possible effect of comorbid diagnoses and childhood trauma.

## METHODS

The methods for this study have been described previously (Foote et al., 2006). Briefly, all English-speaking patients consecutively admitted to an inner-city, hospital-based outpatient psychiatry clinic between August 1996 and March 1998 were eligible for the study. At the time of intake, patients filled out several self-report and demographic measures (including the DES, described below). We attempted to contact all admitted patients and invited them to participate in a structured interview (the Dissociative Disorders Interview Schedule (DDIS) for DSM-IV, along with the PTSD module and the Substance Abuse module of the Structured Clinical Interview for DSM-IV, described below); each patient was paid \$20 for participating in the interview. Of 231 patients, 82 (35%) were contacted and interviewed. Reasons for not being interviewed included having no phone or being otherwise unable to be contacted ( $N = 78$ ), declining to be interviewed ( $N = 52$ ), or failing to appear for a scheduled interview ( $N = 19$ ). There were no patients who began the interview and failed to complete it. All of the patients who were interviewed provided written informed consent at the time of the interview, after the interview procedure had been explained. The informed consent form, and the overall study design, received the approval of the institutional review boards of Montefiore Medical Center and of the Albert Einstein College of Medicine.

The structured clinical interviews were performed by 3 raters, including the senior author (B.F.) and 2 advanced-degree clinicians who were trained in the use of the instrument by the senior author in a 20-hour training program in which videotapes and practice interviews were used. Videotapes of 10 study subjects were rated by the interviewers to assess interrater reliability. Interrater reliability was excellent ( $\kappa = 0.95$ ,  $N = 55$ ,  $p < 0.0001$  for all diagnoses, both dissociative disorder and other) among the 3 raters. The interviewers were blind to patients' self-report and clinical data.

Because the outpatient clinic where this study was conducted is not widely known for the treatment of dissociative disorders, specialized referrals were not expected to be a significant source of bias. Nevertheless, the small number of patients ( $n = 2$ ) who had been referred specifically because of a possible dissociative disorder diagnosis during the study period were excluded from the data set.

## Instruments

### Dissociative Experiences Scale

The DES is a widely used 28-item self-report measure for assessment of specific dissociative experiences (Carlson et al., 1993). In a 1996 meta-analysis, the DES was found to have a test-retest reliability of 0.78–0.93 (6 studies), an internal reliability ( $\alpha$ ) of 0.93 (16 studies), and a convergent validity ( $r$ ) of 0.67 (26 studies) (van Ijzendoorn and Schuengel, 1996).

### Dissociative Disorders Interview Schedule

The DDIS is a 131-item structured interview used to assess DSM-IV diagnoses of somatization disorder, major depression, BPD, alcohol and drug abuse, and the 5 DSM-IV dissociative disorders. It has been found to have good interrater reliability ( $\kappa = 0.68$ ) and a false positive rate of less than 1% for the diagnosis of DID (Ross et al., 1989). With our population, we frequently had the impression that the DDIS questions for diagnosing dissociative disorders (in which the DSM-IV criteria are essentially incorporated, verbatim) were poorly understood by our patients. To compensate for possible misunderstanding, we first asked each DDIS question exactly as worded, and this result was recorded; then, if the interviewer felt the patient might not have understood the question, the interviewer was permitted to ask the question again, adding explanations as necessary. This procedure yielded 2 diagnostic impressions: a strict DDIS rating and a clinical impression. If either diagnostic rating was negative, the diagnosis was scored as negative.

### PTSD Module of the Structured Clinical Interview for DSM-IV, Nonpatient Version (SCID-N-PV)

To assess PTSD, we administered the PTSD module of the SCID, Nonpatient Version (First et al., 1997). This instrument is commonly considered the "gold standard" for assessment of PTSD, and it has been shown that even when the interview was supplemented with a detailed trauma list, the SCID missed only 2% of PTSD diagnoses which emerged with the extra list (Franklin et al., 2002).

### Substance Abuse Module of the Structured Clinical Interview for DSM-IV (First et al., 1997)

The SCID is again considered the gold standard for ascertainment of substance abuse diagnosis; in a survey of addiction researchers and treatment providers undertaken by the National Drug Abuse Treatment Clinical Trials Network which compared several substance abuse assessment measures, the SCID was ranked as best (Forman et al., 2004b).

Analyses were performed using SPSS 11.0 statistical software. Chi square tests with Odds ratio (OR) calculations were performed to compare dichotomous demographic and diagnostic variables between the groups of interest (e.g., multiple suicide attempts versus one/zero suicide attempts). A logistical regression was performed to assess the predictive value of the diagnostic variables for amount of suicide attempts (multiple versus one/zero). Because of the small sample size ( $N = 82$ ), only the diagnostic variables shown to be significant in the previous Chi square analyses were input

as predictors into the regression model. A second logistical regression was performed to assess the predictive value of sexual and physical abuse history and dissociative diagnosis on amount of suicide attempts (multiple versus one/zero).

**RESULTS**

Two hundred thirty-one English speaking patients consecutively applied for treatment in the outpatient clinic during the study period. This population was largely Hispanic (50% [N = 107 of 216]), female (64% [N = 147 of 231]) and almost entirely Medicaid-insured (96% [N = 194 of 203]); a detailed account of demographic information is given in our previous report (Foote et al., 2006). Eighty-two patients completed the DDIS; the eighty-two completers did not differ from the 149 noncompleters on any demographic measure, nor on self-report measures of trauma and dissociation. Complete details on these comparisons are available in our previous report (30). Twenty-four (29%) of the interviewed patients were found to have a dissociative disorder diagnosis (dissociative amnesia, 10% [N = 8]; dissociative disorder NOS, 9% [N = 7]; DID, 6% [N = 5]; depersonalization disorder, 5% [N = 4]; dissociative fugue, 0% [N = 0]).

The twenty-four patients who completed the structured interview and were found to have a dissociative disorder diagnosis were compared with the 58 patients who were found to have no dissociative disorder diagnosis. The dissociative disorder group was found to have more suicidal and self-harm behaviors than the group without a dissociative disorder diagnosis on a number of specific variables (Table 2). These include history of self-harm (42% versus 12%,  $\chi^2 = 9.05$ ,  $df = 1$ ,  $p < 0.01$ ), history of repeated self-harm (33% versus 10%,  $\chi^2 = 6.34$ ,  $df = 1$ ,  $p < 0.05$ ), history of suicidal ideation (92% versus 46%,  $\chi^2 = 14.37$ ,  $df = 1$ ,  $p < 0.001$ ), chronic suicidal ideation (67% versus 12%,  $\chi^2 = 25.07$ ,  $df = 1$ ,  $p < 0.001$ ), history of a suicide attempt (71% versus 21%,  $\chi^2 = 18.67$ ,  $df = 1$ ,  $p < 0.001$ ), and history of multiple suicide attempts (67% versus 9%,  $\chi^2 = 30.02$ ,  $df = 1$ ,  $p <$

0.001). The dissociative disorder group was also found to have higher rates of several other psychiatric disorders (Table 2), namely major depressive disorder (96% versus 74%,  $\chi^2 = 5.09$ ,  $df = 1$ ,  $p < 0.05$ ), drug abuse or dependence (67% versus 38%,  $\chi^2 = 5.64$ ,  $df = 1$ ,  $p < 0.05$ ), BPD (83% versus 28%,  $\chi^2 = 21.42$ ,  $df = 1$ ,  $p < 0.001$ ), and PTSD (88% versus 21%,  $\chi^2 = 31.51$ ,  $df = 1$ ,  $p < 0.001$ ).

Within the group of 82 patients, 53 had never made a suicide attempt, 8 had a history of a single suicide attempt, and 21 had a history of more than 1 suicide attempt. We divided the group into 21 patients with a history of more than 1 suicide attempt (in this report, we will use the phrase “multiple-attempter” to refer these patients) and 61 patients who had made either 1 attempt or no attempts; we then used a Chi square test to compare the 21 multiple-attempter patients to the other 61 patients with respect to various demographic and diagnostic variables. Four diagnostic variables were found to be significantly associated with multiple suicide attempter status: alcohol abuse or dependence ( $n = 32$ ) [41% were multiple-attempters, OR, 3.59; 95% confidence interval (CI), 1.28–10.10;  $p = 0.019$ ]; BPD ( $n = 36$ ) (44% multiple-attempters, OR, 6.56; 95% CI, 2.10–20.46;  $p = 0.001$ ); PTSD ( $n = 33$ ) (48% multiple-attempters, OR, 8.28; 95% CI, 2.62–26.15;  $p < 0.001$ ); and dissociative disorder ( $n = 24$ ) (67% multiple-attempters, OR, 21.20; 95% CI, 6.08–73.95;  $p < 0.001$ ). Significant associations were also found for history of childhood sexual abuse (44% were multiple-attempters, OR, 5.53, 95% CI, 1.86–16.45;  $p = 0.002$ ) and history of childhood physical abuse (50% multiple-attempters, OR, 11.00, 95% CI, 3.23–37.43;  $p < 0.001$ ). The other diagnostic variables (drug abuse/dependence, major depression) and demographic variables (gender, ethnicity) tested were not significantly related to multiple suicide attempter status.

Because of our sample size, we could not meaningfully enter all variables in a regression analysis; therefore, we selected the 4 diagnoses that showed a significant bivariate association with multiple suicide attempter status, and en-

**TABLE 2.** Self-Harm, Suicidality and Comorbidity Associated With Dissociative Disorder Diagnosis

	Patients With Dissociative Disorder Diagnosis (n = 24)		Patients Without Dissociative Disorder Diagnosis (n = 58)		$\chi^2$
	n	%	n	%	
History of self-harm	10	42	7	12	9.05*
History of repeated self-harm	8	33	6	10	6.34**
History of suicidal ideation	22	92	27	46	14.37***
Chronic suicidal ideation	16	67	7	12	25.07***
History of suicide attempt	17	71	12	21	18.67***
History of repeated suicide attempts	16	67	5	9	30.02***
Major Depressive Disorder	23	96	43	74	5.09**
Borderline Personality Disorder	20	83	16	28	21.42***
Post-Traumatic Stress Disorder	21	88	12	21	31.51***
Drug Abuse or Dependence	16	67	22	38	5.64**
Alcohol Abuse or Dependence	12	50	20	34	1.72

\* $p < 0.01$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.001$ .

**TABLE 3.** Logistic Regression Analysis of Diagnoses Associated With Multiple Suicide Attempts

Predictor	Zero/One SA (N = 61)	Multiple SA (N = 21)	$\beta$	SE	OR	95% CI
Alcohol abuse diagnosis			1.313	0.69	3.72	0.96–14.44
No	42	8				
Yes	19	13				
BDPD diagnosis			0.556	0.76	1.74	0.39–7.74
No	41	5				
Yes	20	16				
PTSD diagnosis			0.215	0.85	1.24	0.24–6.49
No	44	5				
Yes	17	16				
Dissociative diagnosis			2.714	0.88	15.09	2.67–85.21*
No	53	5				
Yes	8	16				

\* $p < 0.01$ .

**TABLE 4.** Logistic Regression Analysis, Dissociative Disorder Diagnosis and Childhood Trauma History Associated With Multiple Suicide Attempts

Predictor	Zero/One SA (N = 61)	Multiple SA (N = 21)	$\beta$	SE	OR	95% CI
Childhood physical abuse			2.23	0.88	9.27	1.66–51.71*
No	44	4				
Yes	17	17				
Childhood sexual abuse			-0.53	0.89	0.59	0.10–3.35
No	42	6				
Yes	19	15				
Dissociative diagnosis			2.86	0.75	17.44	4.02–75.62**
No	53	5				
Yes	8	16				

\* $p < 0.05$ ; \*\* $p < 0.001$ .

tered them simultaneously in a logistic regression. The results appear in Table 3. BPD and PTSD were no longer significantly associated with multiple-attempter status; a trend ( $p = 0.058$ ) remained for alcohol abuse or dependence; and the association between dissociative disorder diagnosis and multiple-attempter status remained highly significant (OR, 15.09; 95% CI, 2.67–85.21;  $p = 0.002$ ).

Because interview-reported histories of childhood sexual abuse and childhood physical abuse also showed a bivariate association with multiple suicide attempter status, we performed a logistic regression in which these 2 forms of childhood trauma were entered simultaneously with dissociative disorder diagnosis. These results appear in Table 4. In this analysis, a history of childhood sexual abuse was no longer significantly associated with multiple-attempter status; a strong association remained for history of childhood physical abuse (OR, 9.27; 95% CI, 1.66–51.71;  $p = 0.011$ ) and for dissociative disorder diagnosis (OR, 17.44; 95% CI, 4.02–75.62;  $p < 0.001$ ).

### DISCUSSION

In this population, the presence of a dissociative disorder diagnosis conferred an enormously increased risk of

having a history of multiple suicide attempts, as well as greatly increased risk for a number of other self-harm variables. Presence of a dissociative disorder was the single strongest predictor of multiple suicide attempter status. Furthermore, although dissociative disorders were highly comorbid with PTSD and BPD, both of which also carry elevated risk of suicidality, regression analysis revealed that the dissociative disorders, and not the BPD or PTSD, accounted for the increased suicidality. Controlling for history of childhood abuse also did not change the strong association between dissociative disorder diagnosis and multiple suicide attempter status.

The statistical robustness of these findings stands in sharp distinction to the minimal attention that dissociative disorders have historically received in the suicide literature. For instance, the American Journal of Psychiatry's November 2003 Practice Guidelines for the Assessment and Treatment of Patients with Suicidal Behavior included 195 references concerning the relationship of specific psychiatric syndromes and symptoms to suicidal risk, without a mention of dissociative symptoms or diagnoses (American Psychiatric Association, 2003). This neglect is due in part to the omission of dissociative disorders from all of the large epidemiological

surveys (Epidemiological Catchment Area program; National Comorbidity Survey) (Regier et al., 1984; Kessler et al., 1994) to date. When dissociative disorders are not assessed, a potentially extremely important set of data is missed—for instance, in our study, failure to assess dissociative disorders would have led to the plausible but erroneous conclusion that PTSD and BPD were the most significant predictors of a history of multiple suicide attempts.

In this study, childhood physical abuse experiences and dissociative disorders independently contributed to the risk of multiple suicide attempter status, while the presence of a dissociative disorder diagnosis appeared to fully mediate the relationship between childhood sexual abuse and multiple-attempter status. A number of explanations for these relationships are possible, including the possibility that a dissociative diagnosis serves as an indicator of particularly severe and prolonged abuse, and/or the possibility that a dissociative disorder represents a particularly severe sequelum of abuse. Dissociation has been widely remarked to be an adaptation that allows a child to survive a psychologically intolerable but physically inescapable life situation. The authors' clinical experience would lead them to agree with this formulation; however, the present data highlight the other side of this story—that is, individuals who “adapt” by developing dissociative disorders are usually highly symptomatic, including suffering an extremely elevated risk of self-harm and suicide attempts. To consider an analogous situation: victims of a single episode of trauma have more psychiatric symptoms than nontraumatized individuals, but less symptoms than traumatized individuals who go on to develop PTSD—the development of PTSD is not typically seen as an “adaptive” phenomenon (Warshaw et al., 1993).

Previous studies have shown comorbidity itself—that is, the presence of multiple psychiatric diagnoses, independent of the specific diagnoses—to be associated with an increased risk of suicide (American Psychiatric Association, 2003). Herman's (1992) concept of Complex PTSD, further elaborated by van der Kolk as Disorders of Extreme Stress Not Otherwise Specified (van der Kolk et al., 1996), postulates that dissociative disorders are commonly found as part of a highly comorbid set of disorders and symptoms. In our study population, dissociative disorders were found to carry a high rate of comorbidity, and this may also account for some of the increased suicide risk found here.

This study has a number of limitations. First, we examined a specific, disadvantaged, largely Hispanic inner-city population, and caution is necessary before generalizing these findings to other populations. Also, only 35% of the consecutively admitted patients could be interviewed, largely because of logistical factors. Although no differences were found on demographic measures or on measures of trauma or dissociation between the interviewed patients and those not interviewed, this low percentage is still a possible source of error. Follow-up is inherently more difficult with outpatient populations, compared with inpatients, but participation in future studies could be improved by offering a larger financial incentive or by using a better method of tracking and contacting the patients. Additionally, our sample size did not

permit more sophisticated statistical analyses which might better elucidate the complexities of the relationships between the multiple related variables. Also, we combined all dissociative disorders for the purposes of statistical analysis; previous research suggests that certain dissociative disorders, especially depersonalization disorder, may be significantly different from disorders such as DID, and separate analyses, requiring a larger sample, might have yielded more precise delineations. Further, it should be noted that data on all variables, including childhood trauma history and suicide attempt history, were obtained by self-report, without independent verification.

Finally, there are potential shortcomings with the interview measures used in this study. Although the DDIS remains a well-validated and much-used measure of dissociative disorders, there seems to be an emerging consensus that the SCID-D-R (Structured Clinical Interview for DSM-IV Dissociative Disorders—Revised) (Steinberg, 1994) should be viewed as the “gold standard” instrument for diagnostic assessment of dissociative disorders (Brand et al., 2006); in addition, the DDIS was used in this study as the diagnostic instrument for BPD, and attempts to replicate these findings would be advised to use an instrument which has been specifically designed to make Axis II diagnoses, and which has been well-validated in that regard.

For this report, we chose to focus our statistical analyses on the outcome variable “history of >1 suicide attempt”; a number of different self-harm variables were bivariate associated with dissociative disorder diagnosis (Table 2), and could have been chosen as outcome measures. We chose to focus on multiple suicide attempter status for 2 reasons: it would seem to define a group of patients suffering from the most severe level of psychiatric disturbance (Forman et al., 2004a; Rosenberg et al., 2005), and thus illustrates a clinical point about the impact of dissociative disorders; also, the difference in prevalence rates for this variable (67% versus 9%) was the most striking. However, other outcome variables (for instance, history of self-injury) could have been chosen as well, and the multivariate analyses would have been somewhat different; reporting the analyses with all possible variables would have been beyond the scope of this single article. To summarize, when the same multivariate analyses were performed while using other outcome variables (suicidal ideation, chronic suicidal ideation, history of single suicide attempt, history of self-harm, history of greater than 1 episode of self-harm), dissociative disorder diagnosis almost always remained significantly associated at a level of at least 0.05, while other variables (e.g., BPD, alcohol abuse, history of childhood sexual abuse) attained significance in some analyses which was not found when using the outcome variable “history of multiple suicide attempts”.

## CONCLUSIONS

In this inner-city outpatient psychiatric population, the presence of a dissociative disorder was the strongest predictor of a history of self-harm and/or suicidality, especially of a history of multiple suicide attempts. Dissociative disorders were highly comorbid with several other disorders (such as

BPD and PTSD) that also predict suicidality. However, when these diagnoses were entered into a logistical regression with multiple-attempter status as the outcome measure, dissociative disorders continued to be strongly predictive, while the associations between BPD and PTSD and multiple-attempter status were no longer significant. These findings have several important implications. Clinically, they point to the enormous risk of suicidality which accompanies dissociative disorders, suggesting that greater efforts should be made to screen for these disorders, and highlighting the need for vigilant attention to safety issues when working with dissociative patients. Epidemiologically, results such as these make an emphatic case that future studies should include some measure of dissociation to account for the possible effects of these disorders on self-harm and suicidality. Finally, we would suggest that if replicated in a larger sample, a finding that dissociative disorders contribute much of the suicide risk traditionally attributed to BPD and other disorders would challenge us to reexamine the nature of the relationships between these disorders—conceptually, nosologically, and clinically.

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