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[Articles]

Clinical Correlates of Self-Mutilation in a Sample of General Psychiatric Patients

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Abstract

The aims of this study were to examine whether certain axis I disorders characterized by impulsive aggression were associated with self-mutilative behavior and to evaluate the clinical correlates of self-mutilation in a sample of general psychiatric outpatients. Two hundred fifty-six outpatients were administered diagnostic interviews for axis I and axis II disorders. In addition, questionnaires that measured self-mutilative acts within the last 3 months, dissociation, and childhood abuse were completed. This study found that axis I disorders of substance abuse, posttraumatic stress disorder, and intermittent explosive disorder were significantly related to self-mutilative behavior, independent of borderline personality disorder and antisocial personality disorder. Also, a higher level of dissociation was related to self-mutilation, controlling for borderline personality disorder and childhood abuse. Outpatients with certain axis I disorders and those who dissociate may represent a sizable group of patients who are at risk for self-mutilative behavior.

Self-mutilation without delusions, hallucinations, or mental retardation involves deliberate harm to one's body and is usually not lethal in severity or intent (Favazza and Rosenthal, 1990; Kemperman et al., 1997). The literature on self-mutilation has focused mostly on self-mutilation in personality disorders, especially borderline personality disorder (BPD). Self-mutilation is a DSM-IV diagnostic criterion for BPD (American Psychiatric Association, 1994), and research has shown that up to 80% of BPD patients report histories of self-mutilation (Shearer et al., 1988). In contrast, the prevalence rate for self-mutilation among general psychiatric patients is about 4.3% (Phillips and Alkan, 1961).

Few studies have examined which of the axis I disorders are comorbid with self-mutilation. Self-mutilation has been conceptualized as a form of self-inflicted impulsive aggression (New et al., 1997), and impulsive aggression is associated with a spectrum of axis I disorders (Stein et al., 1993). Studies investigating the relation between self-mutilation and axis I disorders have used small numbers, unknown axis I diagnoses, or unstructured diagnostic assessments. Evans and Lacey (1992) surveyed 50 women attending an alcoholic treatment outpatient clinic and found that nearly 25% of the women reported self-cutting. Greenspan and Samuel (1989) presented a case study of three women with self-cutting behavior associated with rape-related post-traumatic stress disorder. A study of female self-mutilators with unspecified disorders showed a relationship between eating disorders and self-mutilation (Favazza and DeRosear, 1989).

Another neglected area of research is the clinical correlates of self-mutilation among patients not selected for BPD. Both clinical and empirical reports have suggested that self-mutilation is strongly associated with dissociative experiences in patients with BPD (Brodsky et al., 1995; Kemperman et al., 1997; Shearer 1994). It has been hypothesized that self-mutilation terminates the discomfort of dissociative experiences, in particular, deadness and depersonalization. To date, only two studies, have examined the relationship between dissociation and self-mutilation in patients not restricted to BPD (van der Kolk et al., 1991; Zlotnick et al., 1996). Both studies confirmed the significant role of dissociation in self-mutilation. However, these studies were limited as the one study did not specify the diagnostic composition of their sample (Zlotnick et al., 1996) and the other study (van der Kolk et al., 1991) used a sample of patients that comprised of a third of patients with BPD. Because dissociative phenomenon and self-mutilation are common characteristics of BPD, the high correlation between self-mutilation and dissociation found in these studies may have been attributable to the diagnosis of BPD. Childhood abuse is another factor that may explain the strong association of dissociation to self-mutilation as research has demonstrated a link between childhood abuse and dissociation (Zlotnick, 1997) as well as a relationship between childhood abuse and self-mutilation (Russ et al., 1993; Zweig-Frank et al., 1994).

Given the paucity of studies on self-mutilation in patients typically seen in clinical practice, one aim of the present study was to examine whether axis I disorders characterized by impulsive aggression were associated with self-mutilative behavior in a sample of treatment-seeking psychiatric patients. Another aim of the present study was to explore the strength of the relationship between dissociation and self-mutilation, independent of BPD and childhood abuse in psychiatric patients. To our knowledge, no study on self-mutilation with such a large sample size of general psychiatric patients and with rigorously defined axis I and axis II disorders has been previously reported.

Methods

The subjects for this study were 500 patients who attended a hospital-based outpatient practice and who consented to participate in a formal evaluation instead of a routine, unstructured clinical evaluation. Subjects in this study were administered the Structured Clinical Interview for DSM-IV (SCID) for axis I (First et al., 1996) and the Structured Interview for DSM-IV Personality (SIDP; Pfohl et al., 1997) by a trained diagnostic rater before their initial psychiatric evaluation. Of the total number of patients who attended the outpatient practice and received an intake evaluation, 60.3% participated in the study and were interviewed with the SCID and SIDP. Compared with the patients who were administered the SCID, patients who were not administered the SCID were significantly more often female (69.0% *vs.* 60.4%, $[chi]^2 = 6.03$, $p < .05$), widowed (13.4% *vs.* 2.4%, $[chi]^2 = 34.6$, $p < .001$), older (mean = 47.4, SD = 19.1 *vs.* mean = 38.8, SD = 13.1, $t = 7.01$, $p < .001$), and significantly less likely to have married (29.2% *vs.* 36.7%, $[chi]^2 = 4.34$, $p < .05$) and to have graduated high school (83.3% *vs.* 91.5%, $[chi]^2 = 9.44$, $p < .01$).

The present study selected those axis I disorders in which there was some prior empirical support for a relationship between the axis I disorder and self-mutilation (*i.e.,* eating disorder) or impulsive aggression was a feature of the axis I disorder (*i.e.,* posttraumatic stress disorder, substance abuse or dependence including nicotine use, and intermittent explosive disorder). In this study, current axis I disorders were used, that is, experiencing the diagnostic criteria at the time of the interview. The disorder, intermittent explosive disorder, was only included after the first 100 patients were interviewed because the module for this disorder was only constructed after the start of this study (see Zimmerman and Mattia, 1998 for more details).

During the course of the study, joint-interview diagnostic reliability information was collected on 17 patients. For the disorders diagnosed at least twice the majority of the Kappa coefficients were 1.0 (70%), and for the remaining diagnoses the Kappa coefficients ranged from .45 to .87. None of the 17 patients were diagnosed with the disorders of interest in this study, except for posttraumatic stress disorder (Kappa = 1.0) and BPD (Kappa = 1.0).

Throughout the study, all patients who were administered the SCID were given a booklet of questionnaires to complete at home and return by mail. Of the 500 patients, 256 (51%) of these patients completed the questionnaires on self-mutilation. The only difference in demographic variables (*i.e.,* ethnicity, age, sex, education, and marital status) between these two groups was that patients who completed the questionnaire on self-mutilation were older (mean = 40.57, SD = 14.03) than those who did not complete these measures (mean = 36.79, SD = 12.26; $t = 3.20$, $df = 255, 243$, $p = .001$). There were no significant differences between these two groups in terms of rates of major depression, various anxiety disorders, or any of the disorders of interest in this study. Thus, patients who did and did not return the questionnaires were diagnostically comparable.

This study has included those questionnaires that measure the variables of interest, namely, self-mutilation, dissociative experiences, and childhood abuse. As an index of self-mutilative acts, patients completed a self-report measure that asked whether they had deliberately tried to hurt themselves by engaging in various self-mutilative acts. The types of self-mutilative behaviors listed in the questionnaire were based on common self-mutilative acts reported in the literature. Patients were asked to rate the number of episodes of the self-mutilating behavior within the last 3 months on the following frequency scale: never, once, twice, or three times or more. Patients were categorized as nonmutilators if they reported never on any of the self-mutilative behaviors or self-mutilators if they reported one or more episodes of self-mutilation. Frequent self-mutilators were defined as three or more episodes of the behavior. The reliability of this measure was assessed by coefficient alpha and was found to be acceptable (alpha = .86). Although formal test-retest reliability or validity studies have not been established for this questionnaire (or any other measure of self-mutilation), some evidence of validity has been shown by demonstration of predicted relationships between presence and severity of self-mutilation and scores on measures of affect dysregulation, impulsivity, dissociation and childhood abuse in samples of adolescent and adult psychiatric patients (Zlotnick et al., 1996, 1997).

Dissociative symptoms were assessed by the Dissociative Experiences Scale (DES; Carlson and Putnam, 1993), an instrument that measures the frequency and severity of dissociative experiences. The DES has adequate test-retest reliability, good split-half reliability, and good clinical validity (Carlson and Putnam, 1993).

To assess childhood abuse, the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994) was used. The CTQ is a self-report questionnaire that retrospectively measures experiences of childhood abuse and neglect, and provides a continuous index of childhood abuse. The instrument has demonstrated good test-retest reliability as well as good convergent validity (Bernstein et al., 1994). Of the five empirically derived factors of the CTQ, physical and emotional abuse, emotional neglect, physical neglect, and sexual abuse, this study used the dimensions concerning sexual and physical abuse because the literature has consistently reported that childhood abuse is a correlate of self-mutilation (Zweig-Frank et al., 1994; Russ et al., 1993).

Data Analysis

Bivariate tests were conducted to compare differences on demographic variables (*i.e.,* age, education, gender, and ethnicity) between self-mutilators and nonmutilators. Bivariate tests were also used to examine differences between infrequent mutilators and frequent mutilators in rates of axis I disorders as well as degree of dissociation. A series of logistic regression analyses were used to assess the contribution of each of the selected axis I disorders to self-mutilation status. In each of these analyses, BPD and antisocial personality disorder were entered first to control for the aggressive impulsivity of personality pathology associated with self-mutilation (Feldman, 1988). Another logistic regression was used to assess the strength of the association between degree of dissociation; BPD and indexes of childhood physical and sexual abuse were controlled.

Results

Of the 256 study subjects, 57.8% (*N* = 148) were female and 42.2% (*N* = 108) were male. The average age of this sample was 40.58 (SD = 14.03). The subjects were predominantly Caucasian (91.8%), high school graduates (16.8%), and either married (48.4%) or single (28.9%).

The diagnostic composition of the sample of 256 patients consisted of 11.7% (*N* = 30) of subjects with posttraumatic stress disorder (PTSD), 7% (*N* = 18) of subjects with any eating disorder, 25.8% (*N* = 66) of subjects with any substance abuse/dependency, 3.1% (*N* = 8) of subjects with intermittent explosive disorder (IED), 13.3% (*N* = 34) of subjects with BPD, and 1.6% (*N* = 4) with antisocial personality disorder.

Of the 256 subjects, 85 (33.2%) reported engaging in self-mutilative acts within the last 3 months. Compared with nonmutilators, self-mutilators were significantly more often female (67% *vs.* 53%, $[chi]^2 = 4.59$, $df = 1$, $p = .03$), younger (mean = 35.31, SD = 11.46 *vs.* mean = 43.08, SD = 14.51; $t = 4.65$, $df = 84, 170$, $p = .000$), and less educated ($[chi]^2 = 14.85$, $df = 7$, $p = .04$). Among the 85 self-mutilators, 39 (45%) reported three or more episodes of self-mutilation. There were no demographic differences between infrequent mutilators and frequent mutilators.

Table 1 shows the rates of self-mutilation within each identified disorder and the differences in frequency of self-mutilation between patients with the selected axis I disorder relative to those without that disorder. Of the axis I disorders of interest, only patients with any eating disorder were not significantly different from those without any eating disorder in the frequency of self-mutilation. When we examined differences between infrequent mutilators versus frequent mutilators in rates of the identified axis I disorders, the only difference between the two groups was that frequent mutilators had a significantly higher rate of posttraumatic stress disorder than infrequent mutilators (66.7% *vs.* 33.3%; (2 = 4.46, *df* = 1, *p* = .03).

Disorder	Rate of self-mutilation	χ^2	*p*
Posttraumatic stress disorder (*N*=30)	18 60.0%)	10.64	.001
Intermittent explosive disorder (*N*=8)	6 (75.0%)	6.35	.01
Eating disorder (*N*=18)	8 (44.4%)	1.48	.224
Substance abuse/dependency (*N*=66)	34 (51.5%)	13.73	.000
Borderline personality disorder (*N*=34)	21 (61.8%)	15.35	.000
Antisocial personality disorder (*N*=4)	4 (100%)	8.03	.005

TABLE 1 Rates of Self-Mutilation in Patients with an Axis I or Axis II Disorder Compared with Patients without that Specific Axis I or Axis II Disorder

Logistic regression analyses showed that each of the disorders (*i.e.,* posttraumatic stress disorder, intermittent explosive disorder, and any substance use) was significantly associated with self-mutilative behavior, while controlling for covariates age, sex, education, and BPD (see Table 2).

	χ^2	SE	β	*df*	*p*
Posttraumatic stress disorder[a]	5.059	.4312	0.9700	6	.02
Intermittent explosive disorder[a]	4.691	.8537	1.849	6	.03
Substance abuse/dependency[a]	9.085	.3240	0.9765	6	.002
Dissociative experiences[b]	19.233	.0196	0.0858	7	.0001

[a]Adjusting for age, sex, education, borderline personality disorder, and antisocial personality disorder.

[b]Adjusting for age, sex, education, borderline personality disorder, childhood sexual abuse, and childhood physical abuse.

TABLE 2 Results of Logistic Regression Analyses Examining the Relationship of Specific Axis I Disorders and Dissociation to Self-Mutilation Status (*N* = 256)

Those with reported self-mutilative behavior had a significantly higher DES score (mean = 15.02, SD = 12.34) compared with nonmutilators (mean = 6.19; SD = 7.04; *t* = -6.08, *df* = 84, 170, *p* = .000). There were no significant differences in degree of dissociation between the infrequent mutilators versus frequent mutilators. A logistic regression found that higher scores on the DES was significantly related to self-mutilative behaviors, while controlling for age, BPD, sex, education, sexual abuse, and physical abuse (Wald [chi]^2 = 19.233, *df* = 7, *p* = .00001; see Table 2).

Discussion

The present study yielded several major findings. First, a relatively large percentage of our sample, psychiatric outpatients, reported recent acts of self-mutilation. Second, the disorders of substance abuse, posttraumatic stress disorder, and intermittent explosive disorder were significantly related to self-mutilative behavior, independent of BPD and antisocial personality disorder. Third, higher levels of dissociation were independently related to self-mutilation, controlling for BPD and childhood abuse. Fourth, frequent self-mutilators and infrequent self-mutilators had comparable levels of dissociation and similar rates of substance abuse and intermittent explosive disorder.

The percentage of patients who reported recent acts of self-mutilation in this study are substantially higher than the only other existing study that has examined the rate of self-mutilation in a sample of general psychiatric patients (Phillips and Alkan, 1961). In this earlier study, self-mutilation was not behaviorally operationalized and was determined by the head nurse of each psychiatric unit who was asked to list all patients who "tended to hurt themselves." Our results indicate that when treatment-seeking patients are asked directly about a broad range of specific self-mutilative behavior, at least a third will report engaging in such behavior. These findings suggest that among select groups of psychiatric patients the phenomenon of moderately severe and nonlethal self-mutilation may not be exclusive to BPD.

The higher frequency of self-mutilation among subjects with either substance abuse, intermittent explosive disorder, or posttraumatic stress disorder compared with psychiatric patients in general, is consistent with our initial hypothesis that self-mutilative behaviors are more likely to occur in axis I disorders characterized by impulsive aggression. A neurobiological model may be helpful in understanding these findings in that there is some evidence to suggest that serotonergic hypofunction correlates with impulsive aggression and self-mutilation (Simeon et al., 1992), and decreased serotonin functioning has been implicated in explaining the impulsivity seen in posttraumatic stress disorder (van der Kolk, 1997), impulse disorders (Stein et al., 1993), and substance abuse (Konopka et al., 1996). Neurobiological studies of self-mutilation may shed light on whether self-mutilation is an associated feature of these specific axis I disorders, as in BPD, or whether self-mutilation represents its own diagnostic entity, such as an impulse control or a "multi-impulsive personality" characterized by multiple patterns of self-injurious behaviors (Lacey and Evans, 1986).

The findings of a strong association between dissociation and self-mutilation, independent of abuse history and BPD, extends prior research by showing that the relationship between dissociation and self-mutilative acts is not exclusive to patients with BPD and cannot be explained solely by the presence of BPD and childhood abuse in general psychiatric patients. However, the correlational design of this study precluded any inferences concerning whether a dissociative state is a "protective" response to facilitate the self-mutilative act, whether self-mutilation terminates "numbness," or whether a dissociative state is a consequence of the self-mutilative act. Finally, it is possible that common vulnerability factors, such as insecure childhood attachments or biological disinhibition, are associated with both dissociation and self-mutilation.

The overall similarity between frequent and infrequent mutilators suggest that subtyping in terms of intensity of recent self-mutilative acts for moderate/superficial self-mutilators may not be heuristically or clinically useful. However, one study that examined differences between frequent and infrequent mutilators found that frequent mutilators reported more dissociative symptoms than infrequent mutilators in a sample of patients with BPD (Brodsky et al., 1995). Also, another study found that, among borderline patients, those with the most frequent course of self-mutilation had higher degrees of baseline dysphoria and less drug use during the month prior to the evaluation compared with those with a low pattern of self-mutilation (Sabo et al., 1995). Besides differences in diagnostic composition of samples that may have accounted for the discrepant results, the one study assessed lifetime episodes of self-mutilation (Brodsky et al., 1995), and the other study grouped self-mutilators according to frequency of acts over a 5-year time interval (Sabo et al., 1995). In contrast, the present study focused on current acts of self-mutilation.

Limitations of this study warrant attention. First, the study used a measure of self-mutilation with unknown psychometric properties. The establishment of validity and reliability of an instrument that assesses self-mutilation is an important area for future research. Second, in this study, joint-interview diagnostic reliability data were not obtained on any of the axis I disorders of interest with the exception of posttraumatic stress disorder and BPD. Thus, there is the possibility of rater bias that may have confounded our results. Another limitation of our study was that only half of the study patients chose to answer the self-mutilation questionnaire, which raises the concern of a sample bias.

In conclusion, our study indicates that there is a relatively high prevalence of recent self-mutilative behavior among treatment-seeking psychiatric patients, especially among those with substance abuse, posttraumatic stress disorder, and intermittent explosive disorder, and that dissociation is correlated with recent acts of self-mutilation independent of BPD and childhood abuse history. A clinical implication of these findings is that mental health professionals need to routinely inquire about various forms of self-mutilative acts in assessing treatment-seeking psychiatric patients and to address dissociative symptoms that may be contributing to the self-mutilative behavior, irrespective of the presence of BPD and childhood sexual or physical abuse.

References

American Psychiatric Association (1994)

Diagnostic and statistical manual of mental disorders (4th ed). Washington, DC: Author. [Context Link]

Bach-y-Rita G (1974) Habitual violence and self-mutilation.

Am J Psychiatry 131:1018-1020.

Bernstein DP, Fink L, Handelman L, Foote J, Lovejoy M, Wenzel K (1994) Initial reliability and validity of a new retrospective measure of child abuse and neglect.

Am J Psychiatry 151:1132-1136. Get It @ OU Libraries Bibliographic Links [Context Link]

Brodsky B, Cloitre M, Dulit R (1995) Relationship of dissociation to self-mutilation and childhood abuse in borderline personality disorder.

Am J Psychiatry 152:1788-1792. Get It @ OU Libraries Bibliographic Links [Context Link]

Carlson EB, Putnam FW (1993) An update on the dissociative experiences scale.

Dissociation 1:16-27. [Context Link]

Evans C, Lacey J (1992) Multiple self-damaging behavior among alcoholic women: A prevalence study.

Br J Psychiatry 161:643-647. Get It @ OU Libraries Bibliographic Links [Context Link]

Favazza A, Conterio K (1989) Female habitual self-mutilators.

Acta Psychiatry Scand 79:282-289. Get It @ OU Libraries

Favazza A, DeRosear L, Conterio K (1989) Self-mutilation and eating disorders.

Suicide Life-Threat Behav 19:352-361. Get It @ OU Libraries Bibliographic Links

Favazza A, Rosenthal, R (1990) Varieties of pathological self-mutilation.

Behav Neurol 3:77-85. Get It @ OU Libraries Bibliographic Links [Context Link]

Feldman MD (1988) The challenge of self-mutilation: A review.

Compr Psychiatry 29:252-269. Get It @ OU Libraries Bibliographic Links [Context Link]

First MB, Spitzer RL, Gibbon M, Williams JB (1996)

Structured Clinical Interview for DSM-IV Axis I Disorders, Nonpatient Edition (SCID-NP-V). New York: New York State Psychiatric Institute.

[Context Link]

Greenspan GS, Samuel SE (1989) Self-cutting after rape.

Am J Psychiatry 146:789-790. Get It @ OU Libraries Bibliographic Links [Context Link]

Hillbrand M, Krystal J, Sharpe K, Foster H (1994) Clinical predictors of self-mutilation in hospitalized forensic patients.

J Nerv Ment Dis 182:9-13. Ovid Full Text Get It @ OU Libraries Bibliographic Links

Kahan J, Pattison EM (1984) Proposal for a distinctive diagnosis: The deliberate self-harm syndrome (DSH).

Suicide Life Threat Behav 14:17-35. Get It @ OU Libraries Bibliographic Links

Kemperman I, Russ M, Shearin E, (1997) Self injurious behavior and mood regulation in borderline patients.

J Pers Disord 11:146-157. Get It @ OU Libraries Bibliographic Links [Context Link]

Konopka Lukas ZM, Cooper R, Crayton J (1996) Serotonin induced increases in platelet cytosolic calcium concentration in depressed, schizophrenic, and substance abuse patients.

Biol Psychiatry 39:708-713. Get It @ OU Libraries Bibliographic Links [Context Link]

Lacey JH, Evans CDH (1986) The impulsivist: A multi-impulsive personality disorder.

Br J Addict 8:641-649. [Context Link]

Linehan MM, Armstrong HE, Suarez A, Allmon D, Heard H (1991) Cognitive-behavioral treatment of chronically parasuicidal borderline patients.

Arch Gen Psychiatry 48:1060-1064. Get It @ OU Libraries Bibliographic Links

New AS, Trestman RL, Mitropoulou V, Benishay DS, Coccaro E, Silverman J, Siever L (1997) Serotonergic function and self-injurious behavior in personality disorder patients.

Psychiatry Res 69:17-26. Get It @ OU Libraries Bibliographic Links [Context Link]

Pfhol B, Blum N, Zimmerman M (1997)

Structured Interview for DSM-IV Personality. Washington, DC: American Psychiatric Press, Inc. [Context Link]

Phillips RH, Alkan M (1961) Some aspects of self-mutilation in the general population of a large psychiatric hospital.

Psychiatr Q 35:421-423. Get It @ OU Libraries Bibliographic Links [Context Link]

Russ MJ, Shearin EN, Clarkin JF, Harrison K, Hull JW (1993) Subtypes of self-injurious patients with borderline personality disorder.

Am J Psychiatry 150:1869-1871. Get It @ OU Libraries Bibliographic Links [Context Link]

Sabo AN, Gunderson JG, Najavits LM, Chauncey D, Kisiel C (1995) Changes in self-destructiveness of borderline patients in psychotherapy: A prospective follow-up.

J Nerv Ment Dis 183:6:370-376. Get It @ OU Libraries [Context Link]

Shearer SL, Peter CP, Quaytman MS, Wadman BE (1988) Intent and lethality of suicide attempts among female borderline inpatients.

Am J Psychiatry 145:1424-1427. Get It @ OU Libraries Bibliographic Links [Context Link]

Shearer SL (1994) Dissociative phenomena in women with borderline personality disorder.

Am J Psychiatry 151:1324-1328. Get It @ OU Libraries Bibliographic Links [Context Link]

Simeon D, Stanley B, Frances A, Mann JJ, Wichel R, Stanley M (1992) Self mutilation in personality disorders: Psychological and biological correlates.

Am J Psychiatry 148:1665-1671. Get It @ OU Libraries [Context Link]

Stein D, Hollander E, Liebowitz M (1993) Neurobiology of impulsivity and the impulse control disorders.

J Neuropsychiatry Clin Neurosci 5:9-17. Get It @ OU Libraries Bibliographic Links [Context Link]

Van der Kolk BA, (1997) The psychobiology of posttraumatic stress disorder.

J Clin Psychiatry 58:16-24. Get It @ OU Libraries Bibliographic Links [Context Link]

Van der Kolk BA, Perry JC, Herman JL (1991) Childhood origins of self destructive behavior.

Am J Psychiatry 148:1665-1671. Get It @ OU Libraries Bibliographic Links [Context Link]

Zimmerman M, Mattia JI (1998) Body dysmorphic disorder in psychiatric outpatients: Recognition, prevalence, comorbidity, demographic, and clinical correlates

Compr Psychiatry 39:265-270. Get It @ OU Libraries [Context Link]

Zlotnick C, Shea MT, Pearlstein T, Simpson E, Costello E, Begin A (1996) The relationship between dissociative symptoms alexithymia, impulsivity, sexual abuse and self mutilation.

Compr Psychiatry 37:12-16. Get It @ OU Libraries Bibliographic Links [Context Link]

Zlotnick C, Pearlstein T (1997) Validation of the structured interview for the disorders of extreme stress.

Compr Psychiatry 38:243-247. Get It @ OU Libraries Bibliographic Links

Zlotnick C, Donaldson D, Spirito A, Pearlstein T (1997) Affect regulation and suicide attempts in adolescent inpatients.

J. Am Acad Child Adolesc Psychiatry 36:793-798. [Context Link]

Zweig Frank H, Paris J, Guzder J (1994) Psychological risk factors for dissociation and self-mutilation in female patients with borderline personality disorders.

Can J Psychiatry 39:259-264. Get It @ OU Libraries Bibliographic Links [Context Link]

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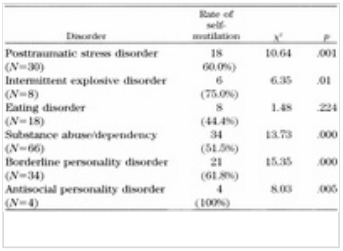

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Table 1

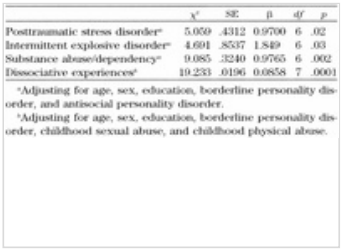

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Table 2

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