TRAUMA AND DISSOCIATIVE EXPERIENCES IN EATING DISORDERS

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ABSTRACT

This study investigates the relationship between trauma, dissociative experiences, and eating psychopathology in a group of eating disorder patients. The Dissociation Questionnaire (DIS-Q) and a semi-structured interview were used to assess 106 eating disorder patients at the start of an inpatient treatment program. DIS-Q scores were evaluated for the eating disorder patients and compared with the scores of 20 schizophrenic patients and 112 high school graduating students (controls). Of the eating disorder patients, 45.2% reported traumatic experiences. The highest trauma rate was reported by patients with bulimic symptoms. Significant differences were found in the prevalence of traumatic experiences between eating disorder patients and control subjects, but not between eating disorder and schizophrenic patients. The highest total DIS-Q scores were detected in bulimia nervosa and anorexia nervosa binge eating/purging type patients; the lowest DIS-Q scores were found in patients with binge eating disorder, schizophrenia, and controls. Eating disorder patients, in comparison with schizophrenic patients, reported significantly higher scores in identity confusion, loss of control, and absorption. However, the only dissociative features which seems to link trauma, dissociation, and eating disorders are identity confusion and loss of control, since absorption is not sensitive to the presence/absence of trauma.

INTRODUCTION

Recently several studies have reported a high incidence of past traumatic experiences (such as sexual and/or physical abuse) during the childhood and adolescence of patients with eating disorders (Chandara & Malla, 1989; Goldfarb, 1987; Oppenheimer, Howells, Palmer, & Chaloner, 1985; Palmer, Oppenheimer, Diagnon, Charloner, & Howells, 1990; Vanderlinden, Vandereychken, Van Dyck, & Vertomner, 1993; Waller, 1991; Waller, Ruddock, & Pitts, 1993). Some authors even assumed that there could be a more specific relationship between traumatic experiences and the development of eating disorder (Bulik, Sullwar, & Rorty, 1989; Hall, Tice, Beresford, Wooley, & Hall, 1989; Vanderlinden, 1993). Other researchers, instead, sternly criticized these studies for their methodology and concluded that evidence was lacking to support the theory that childhood sexual abuse is a risk factor in bulimia nervosa (Hope & Hudson, 1992). Hope and Hudson (1992) argued that the differences in sexual abuse rates were partly due to the definition of trauma employed in the various studies.

In 1994, Welch and Fairburn compared the rates of reported sexual abuse in a community study among clinical bulimic subjects, a psychiatric control population, and controls. They discovered that the rates of sexual abuse reported by bulimic subjects were similar to those with psychiatric disorders and concluded that the association between childhood sexual experiences and the development of eating disorder need not imply a causal and specific relationship between the two. Sexual abuse during childhood then can be best interpreted as just one among many factors that may increase the risk in the development of eating disorder (Garner, 1993). To better understand the possible link between childhood trauma and the development of an eating disorder, several authors have considered the possible mediating role of different factors including self-denigration, borderline personality disorder, disclosure experiences, and dissociation (Everill & Waller, 1995a).

The study of dissociation in the realm of eating disorder was overlooked until 1979, when Russell unveiled the presence of minor dissociative "hysterical" mechanisms in bulimic patients. However, only in the last decade has the relationship between dissociation and traumatic experiences in eating disorder been extensively studied. Torem (1986, 1987) underlined the possible influence of an ego-dissociation mechanism in the etiology and development of eating disorder. Vanderlinden et al. (1993) demonstrated that eating disorder patients (especially ones with bulimic

and atypical eating disorders) report significantly higher levels of dissociative experiences than normal control subjects and hypothesized that binge eating could function as a way of coping with feelings and memories associated with the trauma. Rosen and Petty (1994) discovered that dissociation of feelings and loss of control were significantly correlated to eating related subscales of the Bulimia Test and the Eating Disorder Inventory in a sample of college students.

Some preliminary data indicate that dissociation may act as a mediating factor between history of abuse and bulimic symptomatology (Everill & Waller, 1995a; McCarty, Goff, Baer, Ceoffe, & Herzog, 1994; Vanderlinden et al., 1993). A relationship between dissociation and other impulsive-like behaviors has also been reported (Demitrack, Putnam, Brewerton, Brand, & Gold, 1990; Van der Kolk, Perry, & Herman, 1991). It has been suggested that dissociation may be the primary defense mechanism thereby resulting in a "sense of deadness" (Van der Kolk et al., 1991). Consequently, there may be a need to block this negative effect through a specific stimulus. Binge eating and other impulsive behaviors (i.e., cutting) could provide this stimulation (Heaterton & Baumeister, 1991; Van der Kolk et al., 1991).

Another hypothesis is that dissociation precedes binge eating (Everill & Waller, 1995b); this interpretation advocates that the defense mechanism of dissociation, consequent to an early traumatic experience, would be used to deal with the subsequent stressful events, although it may become ineffective and maladaptive over time. However, dissociation would provide a temporary refocusing of attention. This may enable bulimic subjects to initiate binge eating without dealing with the long-term negative consequences of their behavior (e.g., weight gain, guilt, and self-deprecation) (Heatherton & Baumeister, 1991).

All of the above studies inspired us to investigate:

1) The presence of dissociative experiences in eating disorder patients compared with schizophrenic subjects and normal subjects;

2) The frequency and the types of trauma in eating disorder patients and their relationship with dissociation;

3) The frequency and severity of dissociative experiences in eating disorder patients.

The study included a group of obese patients with binge eating disorder since the relationship between trauma and dissociative experiences in binge eating disorder had not been studied before.

METHODS

Subjects

The subjects were 106 female patients consecutively hospitalized at the Eating Disorder Center in Garda, Italy. Their diagnostic characteristics were as follows: 52 anorexia nervosa patients (30 restricting type and 22 binge eating/purging type) according to *DSM-III-R* (American Psychiatric Association, 1987), 24 normal weight bulimia nervosa patients according to *DSM-III-R*, and 30 binge eating disorder patients, according to Spitzer et al. (1993). Binge eating disorder is a recently defined eating disorder that describes an eating disturbance of a person suffering from recurrent episodes of binge eating without characteristic compensatory behaviors of bulimia nervosa (i.e., vomiting and purging) (Spitzer et al., 1993). Recent studies have found that obese subjects with binge eating disorder report more psychological distress, depressive symptoms, and psychiatric disorders than obese non-bingers (Marcus et al., 1990; Yanovsky, Nelson, Dubbert, & Spitzer, 1993). Table 1 shows the age, body mass index (BMI = weight in kilograms divided by height squared in meters), length of illness, education level, living situation, and social class of all eating disorder patients.

The DIS-Q data of the patients were compared with a group of 20 female schizophrenics patients hospitalized in the psychiatric hospital of Ponton (Verona) diagnosed according to *DSM-III-R* (American Psychiatric Association, 1987) criteria (age 33.9 ± 7.1 years) and 112 female high school graduating students as controls (age 18.1 ± 0.8 years).

Measures

At the start of the inpatient treatment, patients' clinical histories were gathered with several questionnaires and a semi-structured interview for eating disorder patients. The Dissociation Questionnaire (DIS-Q; Vanderlinden et al., 1992, 1993a) was administered to assess dissociation. The DIS-Q is a 63-item self-reporting scale to measure dissociative experiences and has, besides a total score, four subscales:

1) Identity confusion and fragmentation (derealization and depersonalization);

2) Loss of control over behavior, thoughts and emotions;

3) Amnesia (memory lacunas);

4) Absorption (enhanced concentration, which is supposed to play an important role in hypnosis).

The DIS-Q has been demonstrated to have good construct validity and it is able to discriminate patients with dissociative pathology from all other psychiatric categories (Van-

TABLE 1
Patients' Clinical Data

	ANR (n = 30)	ANB (n = 22)	BN (n = 24)	BED (n = 30)
Age (years)	21.9 ± 6.0	24.9 ± 4.2	22.3 ± 2.7	36.4 ± 13.2
BMI	14.1 ± 2.6	15.3 ± 2.5	19.7 ± 3.3	33.0 ± 6.6
Length of illness (years)	3.9 ± 3.5	6.5 ± 4.3	5.9 ± 2.8	14.6 ± 10.2
Education				
Elementary school	0 (0%)	0 (0%)	0 (0%)	5 (17%)
Junior high school	12 (40%)	4 (18%)	9 (38%)	12 (40%)
High school	15 (50%)	15 (68%)	15 (62%)	12 (40%)
University	3 (10%)	3 (14%)	0 (0%)	1 (3%)
Living Situation				
Alone	2 (7%)	2 (9%)	0 (0%)	7 (23%)
With parents	26 (87%)	16 (73%)	23 (96%)	8 (27%)
With a partner	1 (3%)	3 (14%)	1 (4%)	13 (43%)
With a child	0 (0%)	1 (4%)	0(0%)	2 (7%)
Other situations	1 (3%)	0 (0%)	0 (0%)	0 (0%)
Social Class				
Low	11 (37%)	12 (55%)	11 (46%)	19 (63%)
Middle	17 (57%)	8 (36%)	10 (42%)1	0 (33%)
High	2 (6%)	2 (9%)	3 (12%)	1 (4%)

ANR = anorexia nervosa restricting type; ANB = anorexia nervosa binge eating/purging type; BN = bulimia nervosa; BED = binge eating disorder

derlinden, 1993b).

The presence of traumatic experiences was examined by means of a clinical interview and a self-report questionnaire for the eating disorders and schizophrenic patients and with a self-report questionnaire for the controls. In our study, only severe forms of trauma prior to the onset of the eating disorder were considered: incest (i.e., anything from fondling to genital penetration between a child and a family member); rape; physical abuse (i.e., repeated beating); and severe psychological abuses (i.e., harsh and repeated humiliations or complete neglect or abandonment in childhood).

Statistical Analysis

Statview 4.5 software was used. One way ANOVA and chi-squared (with continuity correction when appropriate) were performed.

RESULTS

Dissociative Experiences in Eating Disorder Subgroups Compared with Controls and Schizophrenic Subjects

Table 2 shows the DIS-Q scores of eating disorder patients compared with the control group and the schizophrenic subjects. Analysis of variance (ANOVA) and Scheffe's t-test were applied in order to compare the DIS-Q scores of eating disorder patients with the scores of the 112 female high school students and the 20 schizophrenic subjects.

ANOVA found significant differences between eating disorder patients, controls and schizophrenic subjects in the total DIS-Q ($F = 17.05$, d.f. = 5,232, $p < .0001$) and on the four subscales: identity confusion ($F = 29.62$, d.f. = 5,232, $p < .0001$); loss of control ($F = 7.43$, d.f. = 5,232, $p < .0005$); amnesia ($F = 4.96$, d.f. = 5,232, $p < .01$); and absorption ($F = 9.3$, d.f. = 5,232, $p < .0001$).

Post hoc testing showed significant differences on the following subscales:

1) Total DIS-Q between eating disorder patients and controls ($p < .0001$);

2) Identity confusion between eating disorder patients and controls ($p < .0001$), eating disorder patients and schizophrenic subjects ($p < .05$);

3) Loss of control between eating disorder patients and controls ($p < .005$), eating disorder patients and schizophrenic subjects ($p < .05$);

4) Amnesia between eating disorder patients and controls ($p < .05$);

5) Absorption between eating disorder patients and controls ($p < .005$), eating disorder patients and schizophrenic subjects ($p < .005$).

Dissociative Experiences in Eating Disorder Subgroups

Table 3 shows the DIS-Q scores of eating disorder subgroups. Analysis of variance (ANOVA) and Scheffe's t-test were applied in order to compare the DIS-Q score of eating disorder subgroups. ANOVA found notable differences between

TABLE 2
DIS-Q Scores for Controls, Schizophrenics, and Eating Disorders Patients

	N	TOTAL X	TOTAL SD	DIS-Q1 X	DIS-Q1 SD	DIS-Q2 X	DIS-Q2 SD	DIS-Q3 X	DIS-Q3 SD	DIS-Q4 X	DIS-Q4 SD
Controls	112	1.9	±0.5	1.6	±0.5	2.2	±0.6	1.5	±0.5	2.6	±0.5
Schizophrenics	20	2.0	±0.6	2.0	±0.7	2.1	±0.7	2.0	±0.6	2.3	±0.8
ED	106	2.4[c]	±0.7	2.4[cd]	±0.9	2.5[bd]	± 0.7	1.8[a]	±0.8	2.9[be]	±0.8

DIS-Q1 = identity confusion; DIS-Q2 = loss of control; DIS-Q3 = amnesia; DIS-Q4 = absorption; ED = eating disorders. One way ANOVA: a. p < .05 compared with controls; b. p< .005 compared with controls; c. p< .0001 compared with controls; d. p< .05 compared with schizophrenics; e. p < .005 compared with schizophrenics.

TABLE 3
DIS-Q Scores for Eating Disorders Patients

	N	TOTAL X	TOTAL SD	DIS-Q1 X	DIS-Q1 SD	DIS-Q2 X	DIS-Q2 SD	DIS-Q3 X	DIS-Q3 SD	DIS-Q4 X	DIS-Q4 SD
ANR	30	2.4	±0.9	2.5	±1.0	2.3[e]	±0.9	1.9	±1.0	3.1[d]	±0.8
ANB	22	2.5	±0.5	2.7[b]	±0.8	2.5	±0.5	1.9	±0.6	3.2[d]	±0.8
BN	24	2.7[c]	±0.7	2.7[c]	±0.9	2.9[a]	±0.7	2.1	±0.8	3.0[a]	±0.8
BED	30	2.0	± 0.6	1.9	±0.7	2.3	±0.7	1.5	± 0.7	2.3	±0.7

DIS-Q1 = Identity confusion; DIS-Q2 = loss of control; DIS-Q3 = amnesia; DIS-Q4 = absorption; ANR = anorexia nervosa restricting type; ANB = anorexia nervosa binge eating/purging type; BN = bulimia nervosa; BED = binge eating disorder. One way ANOVA: a. p < .05 compared with BED; b. p< .01 compared with BED; c. p< .005 compared with BED; d. p < .001 compared with BED; e. p< .05 compared with BN.

eating disorder subgroups in the total DIS-Q ($F = 5.1$, d.f. = 3, $p < .002$) and on the four subscales: identity confusion ($F = 6.2$, d.f. = 3, $p < .0006$); loss of control ($F = 3.8$, d.f. = 3, $p < .01$); amnesia ($F = 1.8$, d.f. = 5,232, p= n.s.); and absorption ($F = 8.1$, d.f. = 3, $p < .0001$).

Post hoc testing showed significant differences on the following subscales:

1) Total DIS-Q between subjects with bulimia nervosa and binge eating disorder ($p < .005$);
2) Identity confusion between subjects with bulimia nervosa and binge eating disorder ($p < .005$), subjects with anorexia nervosa binge eating/purging type and binge eating disorder ($p < .01$);
3) Loss of control between subjects with anorexia nervosa restricting type and binge eating disorder ($p < .05$), and between subjects with bulimia nervosa and binge eating disorder ($p < .05$);

TABLE 4
Frequency of Trauma in Controls, Schizophrenics, and Eating Disorder Subgroups

	Controls	Schizoph.	ANR	ANB	BN	BED
*Type of trauma***						
Incest	1 (0.8%)	0 (0%)	0 (0%)	3 (14%)	1 (4%)	(0%)
Sexual abuse+	2 (1.8%)	2 (10%)	2 (7%)	3 (14%)	3 (12%)	1 (3%)
Physical abuse	7 (6.2%)	2(10%)	2 (7%)	2 (9%)	2 (8%)	5 (17%)
Loss of family member	3 (2.6%)	0 (0%)	2 (7%)	2 (9%)	1 (4%)	5 (17%)
Psychological abuse	3 (2.6%)	4 (20%)	0 (0%)	4 (18%)	7 (29%)	3 (10%)

ANR = anorexia nervosa restricting type; ANB = anorexia nervosa binge eating/purging type; BN = bulimia nervosa; BED = binge eating disorder.
** = the expected values are too low to do a statistical analysis. + by others than family members*

TABLE 5
DIS-Q Scores and Types of Trauma for the Eating Disorder Group

		TOTAL		DIS-Q1		DIS-Q2		DIS-Q3		DIS-Q4	
	N	X	SD	X	SD	X	SD	X	SD	X	SD
Non-trauma	58	2.2	0.7	2.3	0.9	2.3	0.7	1.7	0.8	2.9	0.7
Trauma	48	2.6[a]	0.7	2.6[b]	1.0	2.7[a]	0.7	2.1a	0.9	2.9	0.9
Incest	4	2.8	0.6	3.1	0.9	3.0	0.5	2.1	0.3	3.2	0.3
Sexual abuse+	9	2.8	0.9	3.1	0.9	2.9	0.8	2.3	1.1	3.0	0.5
Physical abuse	11	2.2	0.6	2.2	0.8	2.3	0.7	1.7	0.6	2.9	0.6
Loss of family member	10	2.3	1.0	2.1	0.9	2.5	0.8	2.0	1.2	2.4	0.9
Psychological abuse	14	2.8	0.7	2.9	0.9	3.0	0.7	2.3	0.8	3.0	0.8

DIS-Q1 = Identity confusion; DIS-Q2 = loss of control; DIS-Q3 = amnesia; DIS-Q4 = absorption. One way ANOVA: a. p < .01 compared with non-trauma; b. p< .05 compared with non-trauma; + by others than family members.

4) Absorption between subjects with bulimia nervosa and binge eating disorder ($p < .001$), and between subjects with anorexia nervosa binge eating/purging type and binge eating disorder ($p < .001$).

Trauma and Dissociation

Table 4 examines the prevalence of types of trauma in controls, schizophrenics and eating disorder subgroup subjects. 46.2% (n=49) of eating disorder patients reported traumatic experiences. Significant differences emerged between eating disorder group and controls subjects in the prevalence of traumatic experiences (chi squared = 26.5, d.f. = 4, $p < .0001$), while no differences were found between eating disorder group and schizophrenics (chi squared =.26, DF=1, p=n.s.). The highest rate was demonstrated by those with bulimic behaviors and in schizophrenic subjects: anorexia nervosa binge eating/purging type 63.6% (n=14), bulimia nervosa 58% (n=14), binge eating disorder 50% (n=15), and schizophrenia 40% (n=8); whereas, trauma was less prevalent among anorexia nervosa restricting type 20% (n=6) and controls 14% (n=16).

ANOVA and Scheffe's t-test were used to evaluate the differences between subjects with and without a trauma history. Table 5 reports DIS-Q scores according to different forms of trauma. Trauma patients scored significantly higher than the non-trauma patients in terms of the total DIS-Q ($F = 6.15$, d.f. = 1,104, $p < .01$) and on the following subscales: identity confusion ($F = 4.19$, d.f. = 1,104, $p < .05$); loss of control ($F = 6.49$, d.f. = 1,104, $p < .01$) and amnesia ($F = 6.9$, d.f. = 1,104, $p < .01$). ANOVA marked significant differences between type of trauma on the total DIS-Q ($F = 2.46$, d.f. = 4,43, $p < .05$) and on the identity confusion subscale ($F = 2.99$, d.f. = 4,43, $p < .05$).

Eating Disorders and Dissociation: Frequency and Significance

In accordance with Vanderlinden's suggestion (1993 b), a cut-off score of 2.9 for the total DIS-Q was used to study the frequency and severity of dissociative experiences. Our data included 24 patients (22.6%) with severe dissociative symptoms, of whom 19 (52.7%) were subjected to severe traumatic experiences (4 sexual abuse, 1 incest, 5 severe psychological abuse, 4 physical abuse, 1 loss of family member), while eight patients in the study claimed to have never been exposed to trauma. Dissociative symptoms were more common in bulimia nervosa (37.5%) and in anorexia nervosa binge eating/purging type (31.8%) patients than in anorexia nervosa restricting type (20%) and binge eating disorder (3.3%) patients. Only 3.6% of the control group and 10% of schizophrenics patients reported severe dissociative experiences (score >2.9).

DISCUSSION

Our results support other studies suggesting that traumatic experiences are more prevalent in patients with bulimic behaviors (Bushnell, Wells, & Oakley-Browne, 1992; Pribor & Dinwiddie, 1992; Vanderlinden et al., 1993; Waller, 1991). According to our data, trauma experiences were more frequently reported by anorexia nervosa binge eating/purging type patients (66%) and bulimia nervosa patients (59%) than by anorexia nervosa restricting type patients (21%). It is interesting to note that an elevated rate of trauma experiences was also detected in obese patients with binge eating disorder (47%). These data seem to suggest that trauma could be a specific risk factor in the development of binge eating. The data also confirm that sexual abuse is more frequently reported in anorexia nervosa binge eating/purging type (28%) than in anorexia nervosa restricting type (7%). In contrast to some studies (Root & Fallon, 1988; Vanderlinden, 1993), a lower rate of sexual abuse (16%) and a higher rate of severe psychological abuse (29%) were found in bulimia nervosa. It is possible, however, that subjects with bulimia nervosa are less likely to remember their abusive sexual encounters than other traumatic experiences due to their dissociation tendency, as demonstrated by the high scores on the DIS-Q.

Eating disorder patients reported significantly higher prevalence of traumatic experiences in comparison with controls; however, the low prevalence of trauma found in controls could be explained by the fact that in this group traumatic experiences were evaluated only with a self-report questionnaire and not with a direct interview.

No significant differences on traumatic experiences were found between eating disorder and schizophrenic patients. This result is in accord with the finding of Welch and Fairburn (1994) which stated that the prevalence of traumatic experience is similar among patients with psychiatric disorders.

The DIS-Q scores obtained by our eating disorder and schizophrenic subjects are similar to the scores reported by Vanderlinden et al. (1993). Our findings reveal that eating disorder patients (especially those with bulimia nervosa and anorexia nervosa binge eating/purging type) report significantly higher levels of dissociative experiences than controls and schizophrenics subjects. These data could seem to support the hypothesis that a close association exists between trauma, dissociation, and bulimic behaviors. However, the higher level of dissociative symptoms found in eating disorder patients in comparison with control subjects could be explained by the fact that all the eating disorders patients were hospitalized, and it is well known that the stress of hospitalization can cause an increase in dissociative symptoms.

We have tried to overcome this by comparing hospitalized eating disorder patients with hospitalized schizophrenic subjects. Eating disorder patients reported significant high-

er scores in the three DIS-Q subscales: identity confusion and fragmentation, loss of control, and absorption.

In regard to a possible link between trauma, dissociation, and eating disorders, the dissociative features which seem to differentiate eating disorder patients from schizophrenic patients are identity confusion and fragmentation and loss of control. Absorption is not sensitive to the presence/absence of trauma. It is noteworthy that binge eating disorder patients have a high rate of traumatic experiences but show low levels of dissociative symptoms (similar to the DIS-Q scores for control subjects). A possible explanation is that binge eating disorder patients tend to have a less severe trauma history (i.e., sexual abuse is present in only 3% of the patients). Another reasoning could be that binge eating disorder patients resort to overeating and binging: the consequent weight gain may function as a physical barrier for sexual triggers, hence, they don't need to use a "dissociative coping style." Consequently, by becoming obese and sexually unattractive, they build a psychological and physical barrier to distance themselves from others.

In conclusion, our results show that in certain subgroups of eating disorder patients (subjects with bulimia nervosa and anorexia nervosa binge eating/purging type), but not in binge eating disorder subjects, a high prevalence of trauma is associated with a high level of dissociative experiences, especially identity confusion and fragmentation and loss of control. Our study, however, does not permit us to infer any causality between trauma, dissociation, and eating disorder symptomatology, and at this time, any possible causal link would be speculative. Further research is necessary to understand the role of trauma and dissociation in the etiology and development of eating disorder, which can only be understood by considering the role of such experiences within the context of the multifactorial nature of eating disorders (Garner, 1993). ■

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