

ORIGINAL ARTICLE

# Borderline personality disorder and dissociation - comparison with healthy controls

Petr PASTUCHA<sup>1,3</sup>, Jan PRASKO<sup>2,3,4,5</sup>, Tomas DIVEKY<sup>2,3</sup>, Ales GRAMBAL<sup>2,3</sup>, Klara LATALOVA<sup>2,3</sup>, Zuzana SIGMUNDOVA<sup>2,3</sup>, Anezka TICHACKOVA<sup>2,3</sup>

<sup>1</sup> Outpatient Department of Psychiatry, Valašské Meziříčí; <sup>2</sup> Department of Psychiatry, University Hospital Olomouc; <sup>3</sup> Faculty of Medicine, University Palacky Olomouc; <sup>4</sup> Prague Psychiatric Centre; <sup>5</sup> Centre of Neuropsychiatric Studies;

Correspondence to: doc. MUDr. Ján Praško, CSC., Department of Psychiatry, University Hospital Olomouc, I. P. Pavlova 6, 77 52 Olomouc, Czech Republic. E-MAIL: prasko@fnol.cz

Submitted: 2009-09-08 Accepted: 2009-10-15 Published online: 2009-12-20

Key words: **dissociative disorder; healthy controls; dissociation; anxiety; depression**

Act Nerv Super Rediviva 2009; 51(3-4): 146–149

ANSR51349A04

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## Abstract

**THE AIM** of our study is to examine if the dissociation, can influence intensity of psychopathology in patients suffering with borderline personality disorders and compare the level of dissociation of the patients with the data of healthy subjects.

**METHODS:** 24 patients suffering with borderline personality disorder (7 males and 17 females) and 31 healthy controls (9 males and 22 females) were included into the study. The patients were psychiatrically assessed and the subjective intensity of symptoms was evaluated by Beck Anxiety Inventory and Beck Depression Inventory. All participants were assessed with the Dissociative Experiences Scale (DES).

**RESULTS:** The two groups didn't differ in demographic variables like age, gender and education. Level of the psychological dissociation assessed with DES was not correlated with the severity of subjective anxiety symptoms, or with the severity of depression symptoms. Level of the psychological dissociation assessed with the subscale pathological DES was not correlated with the severity of subjective anxiety symptoms, but was correlated with the severity of depression symptoms ( $p < 0.05$ ). Patients had statistically significant higher mean score of DES and pathological DES than healthy controls ( $p < 0.0005$  resp.  $p < 0.005$ ).

**CONCLUSION:** Our results suggest that the level of psychological dissociation in borderline personality disorder patients is higher than in are matched healthy controls. The psychological dissociation measured with pathological DES subscale is correlated with level of depressive symptoms but not with level of anxiety symptoms.

## INTRODUCTION

Several studies confirmed the close association between borderline personality disorder and dissociation (Zanarini *et al* 2000; Paris & Zweig-Frank 1997; Spitzer *et al* 2006). Chronic, complex dissociative symptoms and disorders are common in borderline personality disorder (Ross 2007). Borderline patients have a wider range of dissociative experiences than are commonly recognized, including experiences of absorption and amnesia, as well as experiences of

depersonalization (Zanarini *et al* 2000). Dissociation is seen as a coping strategy to deal with strong anxiety states and with painful trauma experiences (Watson *et al* 2006; Ross 2007). Patients with borderline personality disorder demonstrated levels of dissociation that increased with levels of childhood trauma. These results support the hypothesis that traumatic childhood experiences engender dissociative symptoms later in life. Emotional abuse and neglect may be at least as important as physical and sexual abuse in the

development of dissociative symptoms (Watson *et al* 2006).

Previous research has indicated that dissociation might be a negative predictor of treatment outcome in cognitive behavioral therapy for patients with anxiety disorders. The level of dissociation can be one of the reasons for the treatment resistance in panic disorder patients (Ball *et al* 1997; Segui *et al* 2000; Gulsun *et al* 2007), like among the patients suffering with OCD (Praško *et al* 2008; Raszka *et al* 2008, 2009). Higher level of dissociation also predicts poorer outcome in inpatients with affective, anxiety and somatoform disorder participating in a brief psychodynamic psychotherapy (Spitzer *et al* 2007). It is suggested that dissociative subjects dissociate as a response to negative emotions arising in psychotherapy leading to a less favorable outcome. Additionally, dissociative patients may have an insecure attachment pattern negatively affecting the therapeutic relationship. Thus, dissociation may directly and indirectly influence the treatment process and outcome.

**Goals:** The aim of our study is to examine if the dissociation is connected with the subjective severity of symptoms in patients suffering with borderline personality disorder and if the intensity of dissociation is differ from the healthy controls.

**Hypotheses:** We hypothesized that the level of dissociation is generally higher in borderline personality disorder patients compared with controls. Working hypothesis said that borderline personality disorder patients suffer with higher level of dissociation, than healthy controls and that level of dissociation is associated with the subjective experienced severity of anxiety and depression.

## METHOD

24 patients with borderline personality disorder and 55 age matched healthy controls were included into the study.

Including criteria:

- ICD-10 research diagnostic criteria for borderline personality disorder
- Age 17–60 years
- Male and female

Excluding criteria:

- Depressive disorder (ICD-10 criteria for depressive disorder)
- Organic psychiatric disorder
- Psychotic disorder in history
- Substance dependence
- Serious somatic disease

**Assessment:** The intensity of the psychopathology was measured with BAI and BDI. Anxiety symptoms were evaluated with a self-administered 21-item scale – the Beck Anxiety Inventory (BAI; Beck *et al* 1988). The level of depressive symptoms was rated using the self-administered 21-item Beck Depression Inventory-II (BDI-II; Beck *et al* 1996). Psychological dissociative symptoms were examined using the Dissociative Experiences Scale (DES; Carlson & Putnam 1991, 1993). The DES is a self-administered 28-item inventory of psychological dissociation, where participants are asked to indicate on a visual analog scale how often they experience the dissociative symptoms (in percentage of time). The Czech version of the scale is comparable to the original version in terms of its test-retest reliability, validity and factor structure (Ptacek *et al* 2007). Pathological DES was measured by a Dissociative Experiences Scale Taxon (DES-T) based on the items of DES number 3, 5, 7, 8, 12, 13, 22, 27. These items measure identity alteration, depersonalization, derealization, discontinuation of awareness, dissociative amnesia, and auditory hallucinations.

**Ethical issues:** Investigation will be carried out in accordance with the latest version of the Declaration of Helsinki and ICH-GCP guidelines (International Conference on Harmonization, Good Clinical Practice). The local ethics committee approved the study and informal consent.

**Table 1:** Mean demographic and clinical variables

Patients variable	age	gender	education	DES	pat-DES	BAI	BDI
Number of values	24	24	24	24	24	24	24
Mean	27.46	1.708	1.958	63.6	13.21	28.38	31.67
Std. Deviation	9.66	0.4643	0.6903	48.71	14.64	10.84	10.52
Passed normality test	yes	no	yes	yes	yes	yes	yes
Controls variable	age	gender	education	DES	pat-DES		
Number of values	31	31	31	31	31		
Mean	27.65	1.71	2.194	21.29	2.887		
Std. Deviation	7.539	0.4614	0.4774	21.45	4.593		
Passed normality test	yes	no	no	yes	no		

**Table 2:** Comparison of sociodemographic and clinical characteristics of subjects with panic disorder and healthy subjects.

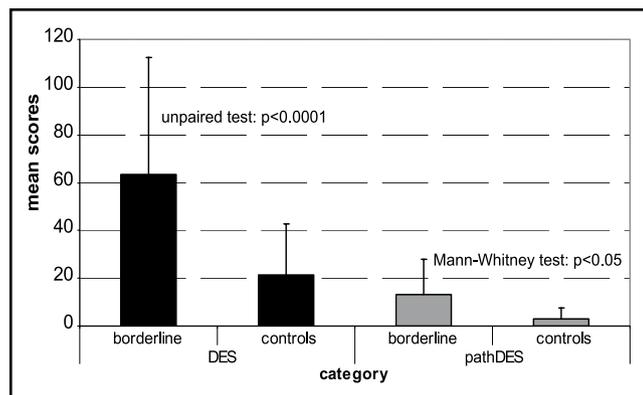
	Dissociative disorder (n=24)	Controls (n=31)	statistical significance
Age (years)	27.46 ± 9.659	27.65 ± 7.539	<sup>2</sup> n.s.
Gender: male / female	7:17	9:22	<sup>1</sup> n.s.
Education (basic/secondary/ university)	6:13:5	1:23:7	<sup>1</sup> n.s.
DES (average)	63.6 ± 48.71	21.29 ± 21.45	<sup>2</sup> p<0.0001
Pathological DES (average)	13.21 ± 14.64	2.89 ± 4.59	<sup>3</sup> p<0.05)
DES higher than 30	17	4	<sup>1</sup> p < 0.0001

Results are reported as account or mean ± SD. Abbreviations: DES – Dissociative Experiences Scale; ns – non significant; <sup>1</sup> – Pearson’s chi-squared test; <sup>2</sup> - Unpaired t-test; <sup>3</sup>- Mann Whitney test; <sup>4</sup> - Fisher’s exact test

**Table 3:** Spearman’s correlation coefficients between DES, pathological DES and BAI, BDI and age in panic disorder group

	BAI	BDI	age
DES (Pearson’s correlation)	0,3767 <sup>ns</sup>	-0,001371 <sup>ns</sup>	-0,05557 <sup>ns</sup>
Pathological DES (Spearman’s correlation)	0,3178 <sup>ns</sup>	0,4781*	-0,152 <sup>ns</sup>

<sup>ns</sup> non significant \* p<0.05



**Figure 1:** Comparison of mean DES between patient and controls

**Participants:** 24 patients with borderline personality disorder with age between 17 and 51 years (7 males and 17 females; mean age 27.46 ± 9.56 years) from the Out-patient department Valašské Meziříčí and Psychiatric department of the University Hospital Olomouc Centre, were recruited for this study. All of patients used psychotropic medication, mostly serotonin reuptake inhibitors (SRI’s). 31 healthy controls with age between 17 and 48 years (9 males and 22 females; mean age 27.65 ± 7.54 years) without any lifetime axis I diagnosis were recruited through local advertisement. All participants signed an informed consent before entering the study. The mean scores in DES, pathological DES, BAI and BDI are described in **Table 1**.

**Data analysis:** Patient’s demographic and baseline clinical characteristics were analysed using column

statistics. Normal distribution of the demographic and clinical variables was determined by the Shapiro-Wilk W test, with exception of path-DES in controls. Differences between patients with borderline personality disorder and healthy controls were analyzed using t-tests for independent groups and the Mann-Whitney test. The relationships between variables with normal distribution (age, BDI, BAI, DES) were calculated using Pearson correlation analysis, while Spearman correlation was used for variables with non-normal distribution of pathological DES. Linear regression with the DES score as dependent variable and age, gender, BDI, BAI scores as independent variables were carried out to identify the principal clinical variables which influence the severity of dissociative symptoms in borderline personality disorder patients. The same analyses with pathological DES score as dependent variable and age, gender, BAI, BDI scores as independent variables were performed to identify the principal clinical variables which influence dissociative symptoms in all participants. The level of significance was set at p<0.05. All analyses were conducted using STATISTICA 7.0 software.

## RESULTS

### Sociodemographic and clinical variables and the frequency of dissociative experiences between borderline personality disorder patients and healthy controls

Comparisons of the sociodemographic and clinical characteristics of borderline personality disorder patients and controls are shown in **Table 2**. No significant age, gender, and education differences were found between the groups. Patients had higher mean score of DES than healthy controls (means: 63.6 ± 48.71 respective 21.29 ± 21.45; unpaired t-test: p<0.0001). They had also more frequent severe dissociative states: 17 patients and only 4 of the healthy participants scored higher than 30 on the DES scale, which is cut-off point for severe dissociation (chi<sup>2</sup> test; p < 0.0001). Patients had also higher mean score of pathological DES than healthy controls (means: 13.21 ± 14.64 respective 2.89 ± 4.59; Mann-Whitney test: p<0.05). **Figure 1**.

Correlation analyses and linear regression in borderline personality disorder group

Pearson's and Spearman's correlations are presented in **Table 3**. No correlation between DES and level of anxiety or depression was found. But there was found the statistical significant associations between level of depression and scores of subscale – pathological DES.

Psychological dissociation measured with pathological DES was associated with the severity of depression symptoms measured with BDI (linear regression:  $r^2=0.2446$ ;  $F=7.125$   $DFd=22$ ;  $p<0,05$ ).

## DISCUSSION

Psychological dissociation assessed with the DES scale was no correlated with the severity of the subjective anxiety and depressive symptoms. Patients were experiencing several psychological dissociative symptoms more frequently than healthy controls, and the mean DES scores were significantly higher. The main hypothesis that dissociation is a coping strategy to deal with anxiety states we cannot confirm in patients with borderline personality disorder. Our results showed that some symptoms of dissociation are closely related to subjective depression than to anxiety symptoms in patients suffering with borderline personality disorder. There was correlation between subjective scores of depression and level of psychological dissociation measured by the subscale pathological DES. Our results are in agreement with the results of the study of depressive patients. Stable high dissociation was associated with an increase in the BDI score in depressive patients and recovery from high dissociation was associated with a decline in the BDI score at 3-year follow-up (Maaranen *et al* 2008).

Our study has substantial limitations that should be considered. To assess the level of dissociation, we used self-report questionnaires. Future research should corroborate these questionnaires with clinician-rated instruments. A further limitation of our study is the relatively small sample size. Patients, in contrast to the controls, were medicated and possible side-effects could explain part of the differences between patients with borderline personality disorder and healthy controls. In conclusion, our findings show the close relation of dissociative states with the level of depression in borderline personality disorder.

## Acknowledgment

This paper was supported by the research grant IGA MZ ČR NS 9752– 3/2008.

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