

Posttraumatic stress symptoms, dissociation, and alexithymia in an Italian sample of flood victims

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Background: Several studies have demonstrated a significant association between dissociation and posttraumatic symptoms. A dissociative reaction during a traumatic event may seem to predict the later development of posttraumatic stress symptoms. Moreover, several researchers also observed an alexithymic condition in a variety of traumatized samples.

Methods: A total of 287 flood victims (men =159, 55.4%; women =128, 44.6%) with an age range of 17–21 years (mean =18.33; standard deviation =0.68) completed the following: Impact of Event Scale–Revised, Dissociative Experiences Scale II, Twenty-Item Toronto Alexithymia Scale, and Peritraumatic Dissociative Experiences Questionnaire.

Results: We found significant correlations among all variables. Linear regression showed that peritraumatic dissociation plays a mediator role between alexithymia, dissociation, and post-traumatic stress symptoms.

Conclusion: Our results seem to confirm the significant roles of both dissociation and alexithymia for the development of posttraumatic symptoms.

Keywords: peritraumatic dissociation, posttraumatic symptoms, PTSD

Introduction

Various traumatic experiences, such as a hurricane, earthquake, or traffic accident, may lead to the development of posttraumatic stress (PTS) syndromes. Several studies have recognized the significant role of pathological dissociation in the development of posttraumatic symptoms in traumatized individuals. For example, a meta-analysis performed by Lensvelt-Mulders et al¹ confirmed the existence of a positive relation between peritraumatic dissociation and PTS later in life, with an effect size of 0.401. According to these authors, although

This outcome suggests that experiencing dissociation during or shortly after a potentially traumatizing event increases the probability of PTS later in life, this should not be interpreted as proof for a causal relationship.¹

On the contrary, Murray et al² in investigating the relation between dissociative symptoms before, during, and after a trauma in two samples of 27 and 176 road traffic accident survivors found that persistent dissociation was a significant predictor of PTS symptoms. This controversial fact is complicated by those who maintain that dissociative reaction to an acute and severe traumatic event is related to alexithymia.^{3,4} For example, Monson et al⁵ in a total of 85 participants diagnosed with military-related posttraumatic stress disorder (PTSD), found that negative affectivity and alexithymic externally oriented thinking predicted PTSD symptoms.

The aim of our study was to evaluate interrelations among posttraumatic symptoms, alexithymia, dissociation, and peritraumatic dissociation in a sample of flood victims.

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Another aim was to investigate predictors of posttraumatic symptoms measured with the Impact of Event Scale–Revised (IES-R).

Methods

Participants and procedure

There were 287 participants (men=159, 55.4%; women=128, 44.6%) with an age range of 17–21 years (mean =18.33; standard deviation [SD] =0.68). The mean age of men was 18.47 years (SD =0.68), and that of women was 18.14 years (SD =0.64); mean ages were statistically different ($t=4.253$; $df=285$, $P<0.001$).

We randomly recruited a group of Italian victims of natural disaster (floods and mudslides) in 2009 in the city of Messina (Sicily, Italy). Self-reports were administered 27 months after the natural catastrophe.

Measures

Dissociative Experiences Scale II

The Dissociative Experiences Scale II (DES-II) is a 28-item self-report measure of psychological dissociation that is designed to be used as a screening instrument for dissociative disorders and to help determine the contribution of dissociation to psychiatric disorders. It has demonstrated good psychometric properties, such as adequate split-half reliability and test–retest reliability, as well as good convergent and discriminant validity.⁶ The Italian translation (Schimmenti et al, unpublished data, 2011) of the DES-II showed good internal consistency, good test–retest reliability, and good convergent validity in a mixed clinical and nonclinical sample. The Italian version of the DES-II showed good internal consistency ($\alpha=0.85$).

Twenty-Item Toronto Alexithymia Scale

The Twenty-Item Toronto Alexithymia Scale (TAS-20) is a 20-item self-report measure. Items are rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The TAS-20 is composed of three factors: 1) difficulty modulating and identifying feelings (DIF); 2) difficulty describing one's feelings to others (DDF); and 3) externally oriented thinking (EOT). Cutoff scores are as follows: ≤ 50 = no alexithymia, $51–60$ = borderline alexithymia, and ≥ 61 = alexithymia.⁷ The Italian version⁸ of the TAS-20 has good internal consistency ($\alpha=0.81$).

Impact of Event Scale – Revised

The Impact of Event Scale – Revised (IES-R) is a 22-item self-report used to assess the presence of posttraumatic syndromes. Items are rated on a five-point Likert scale ranging

from 0 (not at all) to 4 (extremely). This scale is composed of three subscales: avoidance, intrusion, and hyperarousal.⁹ The Italian version¹⁰ of the IES-R presents good internal consistency (intrusion, $\alpha=0.78$; avoidance, $\alpha=0.72$; and hyperarousal, $\alpha=0.83$).

Peritraumatic Dissociative Experiences

Questionnaire

The Peritraumatic Dissociative Experiences Questionnaire (PDEQ) is a ten-item self-report used to assess the presence of dissociative symptoms during or immediately after a traumatic event. Items are rated on a five-point Likert scale ranging from 1 (not at all true) to 5 (extremely true).¹¹ The Italian version (Craparo et al, unpublished data, 2013) of the PDEQ presents good internal consistency ($\alpha=0.81$).

Data analysis

Descriptive statistics were calculated for all participants. We used Pearson's coefficients to assess correlations among all the variables in our study. Linear regressions were calculated to examine predictors of posttraumatic syndromes. All analyses were conducted with SPSS 19.0.

Results

Table 1 shows mean scores and SDs for all variables.

The Pearson's correlation coefficients among variables showed significant associations of IES-R and its three factors (avoidance, intrusion, hyperarousal) with TAS-20 and its two factors (DIF and DDF), PDEQ, and DES-II (Table 2).

From the linear regression results (stepwise method) performed with IES-R as a dependent variable, PDEQ was found to explain 43.9% of the IES-R total score variance (beta unstandardized coefficient [B]=1.31, standard error [SE]=0.088, $\beta=0.664$, $t=14.95$, $P<0.001$).

Table 1 Mean score and SD for all variables

	Mean	SD
TAS-20	48.1	11.6
DIF	15.8	6.39
DDF	13.1	4.80
EOT	19.4	5.14
PDEQ	21.3	7.91
DES-II	25.5	17.8
IES-R	23.0	15.7
A/IES-R	7.9	6.15
I/IES-R	8.4	5.67
H/IES-R	6.8	5.93

Abbreviations: A/IES-R, avoidance subscale of IES-R; DDF, difficulty describing feelings; DES-II, Dissociative Experiences Scale II; DIF, difficulty identifying feelings; EOT, externally oriented thinking; IES-R, Impact of Event Scale – Revised; H/IES-R, hyperarousal subscale of IES-R; I/IES-R, intrusion subscale of IES-R; PDEQ, Peritraumatic Dissociative Experiences Questionnaire; SD, standard deviation; TAS-20, Twenty-Item Toronto Alexithymia Scale.

Table 2 Pearson's correlation coefficients

	IES-R	A/IES-R	I/IES-R	H/IES-R	DES-II	PDEQ	TAS-20	DIF	DDF	EOT
IES-R	–									
A/IES-R	0.884**	–								
I/IES-R	0.899**	0.707**	–							
H/IES-R	0.883**	0.693**	0.744**	–						
DES-II	0.357**	0.325**	0.319**	0.276**	–					
PDEQ	0.668**	0.577**	0.627**	0.635**	0.399**	–				
TAS-20	0.429**	0.384**	0.370**	0.408**	0.410**	0.424**	–			
DIF	0.421**	0.355**	0.384**	0.388**	0.419**	0.461**	0.776**	–		
DDF	0.330**	0.265**	0.289**	0.307**	0.226**	0.369**	0.712**	0.567**	–	
EOT	0.139*	0.172**	0.086	0.165**	0.146*	0.066	0.467**	0.035	0.034	–

Notes: **Correlation is significant at the 0.01 level (two-tailed). *Correlation is significant at the 0.05 level (two-tailed).

Abbreviations: A/IES-R, avoidance subscale of IES-R; DDF, difficulty describing feelings; DES-II, Dissociative Experiences Scale II; DIF, difficulty identifying feelings; EOT, externally oriented thinking; IES-R, Impact of Event Scale – Revised; H/IES-R, hyperarousal subscale of IES-R; I/IES-R, intrusion subscale of IES-R; PDEQ, Peritraumatic Dissociative Experiences Questionnaire; TAS-20, Twenty-Item Toronto Alexithymia Scale.

A second linear regression (stepwise method) was performed with peritraumatic dissociation as a dependent variable, and with both alexithymia and dissociation as independent variables. Data showed that a model composed of DIF, EOT, and DES-II explained 27.3% of the PDEQ score variance (Table 3).

Discussion

Our study confirmed that peritraumatic dissociation is a significant predictor of PTS. In accordance with literature,¹² pathological effects of dissociative reaction during a traumatic event seems to be significantly related to both dissociation and alexithymia. Specifically, DIF and dissociation are good predictors of peritraumatic dissociation, whereas EOT was a moderate predictor. We agree with those who consider the therapeutic implications of the association between alexithymia and PTS to be relevant. However, we believe that this association has to be focused on the first factor of the TAS-20: DIF. In fact, according to some authors,^{13–15} this alexithymic factor represents the core difficulty in modulating affects. Moreover, in accordance with the literature about relation between alexithymia and dissociation, we believe that a traumatic event may cause a pathological reaction in individuals with a preexistent tendency to use the dissociation

in a maladaptive way. From this point of view, we agree with those who consider alexithymia, and DIF, as a manifestation of dissociation of affects. Thus, we might suppose that, in our sample, peritraumatic dissociation is a maladaptive defense mechanism to modulate dissociated emotions.¹⁶

Limitations of our study include its correlational design and the use of only self-report measures. Future research should use clinical interviews to gather additional information on the psychopathological dimensions related to PTS symptoms.

Disclosure

The authors report no conflicts of interest in this work.

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Table 3 Summary of the linear regression analyses predicting PDEQ

Variable	B	SE	β	t	P
DIF	0.328	0.081	0.266	4.04	0.000
DES-II	0.112	0.025	0.252	4.51	0.000
EOT	0.259	0.101	0.157	2.56	0.011

Adjusted $R^2=0.273$

Abbreviations: B, beta unstandardized coefficient; DES-II, Dissociative Experiences Scale II; DIF, difficulty identifying feelings; EOT, externally oriented thinking; PDEQ, Peritraumatic Dissociative Experiences Questionnaire; SE, standard error.

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