

## Depressive Symptoms After Trauma *Is Self-Esteem a Mediating Factor?*

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**KEYWORDS:** Trauma; Self-esteem; depression; PTSD.

### ABSTRACT

Traumatic events have predicted depressive symptoms. Despite this consensus, it remains unclear as to whether the relationship between trauma and depression is consistently mediated by a negative cognitive schema, such as low self-esteem, or whether trauma influences mood independently of low self-esteem. This study tested these relationships while considering depressive symptom types. One hundred thirty-two students reported the number of traumatic events experienced and self-esteem and depression levels. Results indicated 2 depressive symptom types: “cognitive-affective” and “somatic.” Structural Equation Modeling tested an unmediated path from trauma to depressive symptoms and a path mediated by self-esteem. Results supported the unmediated relationship between trauma and “cognitive-affective” depressive symptoms, and did not support mediation by self-esteem. Findings are discussed in view of a dimensional rather than categorical approach to depression, and in consideration of alternative symptom clusters resulting from trauma in addition to those captured by posttraumatic stress disorder.

Negative life events, and more specifically traumatic life events, are associated with the onset of depressive symptoms (Kessler, 1997). Studies using community samples revealed that depressed individuals are more likely to have experienced severe negative life events than individuals without depression (Brown and Harris, 1978) and that past negative life events are more strongly associated with depression than anxiety (Eysenck et al, 2006). In a community sample of children, Cole et al. (2006) demonstrated support for a stress exposure model in which negative life events significantly predicted state and trait depression. Studies in clinical samples have also determined a relationship between life events and depression. Among patients with major depressive disorder, those who reported previous traumatic and negative life events had elevated levels of depressive symptoms (Monroe et al, 2001), and longer and more frequent depressive episodes (Zlotnick et al, 1997) compared with those who did not report previous traumatic life events.

Intervening cognitive factors have been examined to clarify the relationship between life events and depression (*i.e.*, negative self-schemas, Beck, 1967, 1976; attribution style, Metalsky et al, 1993; rumination, Nolen-Hoeksema and Morrow, 1991; rumination and social support, Nolen-Hoeksema and Davis, 1999;

rumination and mastery, Nolen-Hoeksema et al, 1999). Empirical research has consistently singled out self-esteem as a key factor influencing the relationship between life events and depression. To our knowledge, only 2 studies contradicted this trend (high rather than low self-esteem predicted hopelessness depression in HIV-positive patients, Johnson et al, 2000; life events but not self-esteem significantly predicted depression in African-American women, Warren, 1997). Otherwise, research has shown that high self-esteem is one of the factors that successfully discriminate well adjusted students with less depressive symptoms from students with more depressive symptoms (Dumont and Provost, 1999). Studies have also demonstrated that low self-esteem, life events, and a negative attribution style (attributing negative events to global and stable causes) have significantly predicted hopelessness and depressive symptoms in student samples (Metalsky et al, 1993; Robinson et al, 1995). Other investigations in student samples have revealed that low self-esteem and a negative attribution style predicted an increase in depressive symptoms in participants who experienced negative life events (Abela, 2002), and that attribution style and negative life events predicted higher depressive symptoms in boys with low self-esteem (Abela and Payne, 2003).

More recently, evidence has supported the notion that self-esteem is a mediating factor between life events and depression, thereby identifying low self-esteem as a risk factor for depression after stressful events. Studies in clinical samples showed that low self-esteem mediated the relationship between child abuse and depression (Stein et al, 2002), and between social support and depression in patients with chronic illness (Symister and Friend, 2003). Additional support has been observed in studies using student samples. For instance, self-esteem was identified as one of the mediating factors in the relationships between cumulative childhood trauma and depression onset in adulthood (Turner and Butler, 2003), environmental risk for depression and depression onset (Prelow et al, 2006), and parental conflict and depressive symptoms (Turner and Kopiec, 2006). Similar in nature to self-esteem, self-competence was shown to mediate (but not moderate) the relationship between negative life events and depression in adolescent students (Tram and Cole, 2000). In summary, the relationship between negative life events and depression has been empirically explored in terms of a more direct (or unmediated) link between the 2 variables, and in terms of an indirect link mediated by self-esteem.

The goal of the current study is to further evaluate the mediated and unmediated associations between traumatic life events and depression while expanding upon previous studies by accounting for depressive symptom types, by exploring the effect of cumulative negative life events, and by implementing Structural Equation Modeling (*SEM*). Very little research has empirically studied the impact of trauma on depressive symptom types. Factor analyses of the Beck Depression Inventory, 2nd edition (BDI-II; Beck et al, 1996a) using student samples revealed a two-factor structure corresponding to a “cognitive-affective” and a “somatic” factor (Beck et al, 1996a; Storch et al, 2004; Whisman et al, 2000). To our knowledge, only one study conducted by Monroe et al (2001) accounted for these symptom types in the context of negative life events while using data obtained from the first rather than the second version of the Beck Depression Inventory (BDI). Compared with depressed participants without prior negative life events, depressed participants with negative life events showed higher depression scores for “cognitive-affective” than “somatic” symptoms. This study did not, however, consider the indirect role of self-esteem on these depressive symptom types. Thus, it may be suggested that negative life experiences have a differential impact on depressive symptom types.

To our knowledge, this is the first study to examine the accumulation of traumatic events, the mediating role of self-esteem, and the expression of depressive symptoms while implementing *SEM*. Based on the literature to date, the current study hypothesized that the indirect path from cumulative trauma to depressive

symptoms classically mediated by low self-esteem is complemented by a second path that is not mediated by self-esteem.

## METHOD

### POPULATION AND PROCEDURE

One hundred thirty-two undergraduate students (16 men and 116 women) between 20 and 37 years of age ( $M = 24.85$ ,  $SD = 7.09$ ) (*cf.* Table 1) took part in the study<sup>1</sup> (*cf.* Appendix). Ninety-nine were native French speakers and 33 were fluent, non-native French speakers. In exchange for course credit, participants completed a packet of 13 questionnaires presented in a fixed order. Only several of these questionnaires were used in the current study. Other data have been presented elsewhere (Billieux et al, 2007a; Billieux et al, 2007b).

### MEASURES

#### Post-Traumatic Diagnostic Scale

The Posttraumatic Diagnostic Scale (PDS; Foa et al, 1997; French version by Brillon and Ceschi, 2005) is a self-report questionnaire that determines PTSD symptom severity according to DSM-IV-TR criteria (American Psychiatric Association, 2000). Only Part 1 was used, which presents 11 traumatic events (serious accident, natural disaster, sexual and nonsexual aggression, etc.) and asks the participant to endorse the event(s) experienced. An additional open question allowed individuals to describe any other traumatic event not already included in the previous list. The cumulative number of traumatic events was used for the analysis. Ninety-seven participants reported one or more traumatic events: 1 event ( $n = 27$ ), 2 events ( $n = 28$ ), 3 events ( $n = 14$ ), 4 to 8 events ( $n = 28$ ).

#### Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965; French version by Vallière and Vallerand, 1990), a self-report measure comprised of 10 statements (*i.e.*, "Sometimes I feel useless"), was administered. Participants indicated the intensity of their agreement to each statement on a 4-point Likert scale ranging from 1 "absolutely in disagreement" to 4 "absolutely in agreement." Cronbach's alpha for the scale was 0.91, indicating a good internal consistency. Self-esteem was examined to explore the individual's perceived level of self-worth after the occurrence of traumatic events. Although self-esteem is often described as a global feeling of self-worth, research shows that traumatic life events can also have a direct impact on self-attributions (Turner and Butler, 2003). In accordance with methodological suggestions indicating that mediational analysis should emphasize the temporal quality of variables (Kraemer et al, 2005), the current study evaluates self-esteem as a concept that evolves after the experience of traumatic events.

**TABLE 1. Population Characteristics**

Characteristics	
<i>N</i>	132

Age ( <i>M, SD</i> )	24.85 (7.09)
Female (%)	87.88
French speakers (%)	75.00
Traumatic events ( <i>M, SD</i> )	1.93 (1.74)
Self-esteem ( <i>M, SD</i> )	31.43 (5.82)
Depression, BDI-II total score ( <i>M, SD</i> )	11.28 (8.40)
Minimal <sup>a</sup> (%)	60.61
Mild <sup>a</sup> (%)	25.75
Moderate <sup>a</sup> (%)	9.09
Severe <sup>a</sup> (%)	4.55

<sup>a</sup>Depression severity levels per BDI-II total score (Beck et al., 1996b): minimal (0–11), mild (12–19), moderate (20–27), severe (28–63).

## Beck Depression Inventory

The BDI-II (Beck et al, 1996a; French translation by Beck et al, 1996b) is a self-report measure of 21 depressive symptoms. Three depression scores were generated. The BDI-II total score was calculated by summing the 21 items for a maximum of 63 points (Beck et al, 1996a; Beck et al, 1996b). In line with previous factor analysis studies that identified a “cognitive-affective” factor and a “somatic” factor (Beck et al, 1996a; Storch et al, 2004; Whisman et al, 2000), the following items were summed to create a “cognitive-affective” score: 1-sadness, 2-pessimism, 3-past failures, 4-loss of pleasure, 5-guilty feelings, 6-punishment feelings, 7-self-dislike, 8-self-criticism, 9-suicidal thoughts or wishes, 10-crying, 11-agitation, 12-loss of interest, 13-indecisiveness, 14-worthlessness, 17-irritability, and 21-loss of interest in sex. A “somatic” score was calculated by summing the remaining items: 15-loss of energy, 16-changes in sleeping pattern, 18-changes in appetite, 19-concentration difficulty, and 20-tiredness or fatigue. The calculations for Cronbach’s alpha for the total BDI-II score, the “cognitive-affective” score, and the “somatic” score were 0.90, 0.87, and 0.73, respectively. According to the BDI-II total score, approximately 86% of participants exhibited minimal to mild depression and 14% exhibited moderate to severe depression (*cf.* Table 1).

## Statistical Analysis

Factor analysis and *SEM* were performed using LIS-REL 8.72 (Jöreskog and Sörbom, 1993) with Full Information Maximum Likelihood, which neither replaces incomplete data nor eliminates participants with incomplete data (Arbuckle, 1996). Depressive symptom groups were evaluated using factor analysis, and self-esteem mediation was evaluated using *SEM*. For the purposes of this investigation, the definition of mediation by Baron and Kenny (1986) was employed, stating that mediation is supported when the strongest relationship between the independent and dependent variable is observed via the mediator. This relationship should remain strong even when a more direct path between the independent and dependent

variables is accounted for in the model.

The following fit indices were calculated: Chi-square ( $X^2$ ), Root Mean Square Error of Approximation (RMSEA), and the comparison RMSEA (cRMSEA). Low indices indicate a small difference between the estimated relationships and the relationships actually observed in the population. A nonsignificant chi-square indicates a good fit; however, significant values are frequently observed when analyzing self-report measures (Byrne, 1994).

The remaining fit indices, such as the RMSEA in particular, are essential when chi-square values are significant. The RMSEA measures the difference between the model and the sample data per degree of freedom (Jöreskog and Sörbom, 1993), with values below 0.05 indicating a close fit, below 0.08 indicating a reasonable fit, and below 0.10 indicating a mediocre fit (Byrne, 2001). The cRMSEA determines whether 2 models are significantly different and provides a confidence interval determining their closeness (Browne, 1992).

## RESULTS

### BDI-II Structure

Confirmatory factor analysis of the BDI-II data was performed using oblique, Promax-Rotated loadings. A one-factor structure, with the 21 items loading onto a single factor of depression, was compared against a two-factor solution comprised of “cognitive-affective” and “somatic” factors.

**TABLE 2.** Fit Indices for the Confirmatory Factor Analysis of the BDI-II

Model	$\chi^2$	df	RMSEA
1 Factor	369.49 *	189	0.085
2 Factors	351.77 *	188	0.081

\* $p < .001$ .

This two-factor solution is consistent with previous student sample findings (Beck et al, 1996a; Storch et al, 2004; Whisman et al, 2000). The items loaded onto the “cognitive-affective” and “somatic” factors correspond to those used to create the “cognitive-affective” and “somatic” scores previously described in the Methods section.

Chi-square values for the one- and two-factor structures were significant (*cf.* Table 2). The 2 models were then compared against each other to determine which model showed a superior data fit. The two-factor model's lower chi-square and RMSEA indices revealed that this structure had a significantly better fit to the data than the one-factor

structure:  $\Delta X^2(1) = 17.72$ ,  $p < .001$ ; cRMSEA point estimate = 0.357, CI = (0.197; 0.539). This two-factor structure was retained for subsequent analyses.

Table 3 displays Pearson correlations between cumulative trauma, self-esteem, scores of the 2 depressive symptom types, and the BDI-II total score. Confidence intervals are reported to provide a stricter measure of correlation significance instead of  $p$  values that are dependent on effect and sample size (Schmidt, 1996). For cumulative trauma, significant positive correlations are observed with “cognitive- affective” and “somatic” symptom scores and the BDI-II total score. Self-esteem correlated negatively with the 3 depression variables. Cumulative trauma did not correlate with self-esteem.

### SEM, Mediation of Self-Esteem

Figure 1 presents the 3 models that were tested and displays the standardized regression coefficients for the manifest variable “trauma” on the 3 latent factors, and the standardized covariances between the latent factors. The 2 depression factors were permitted to covary because they are groups of depressive symptoms derived from the same instrument. Model 1 estimated a singular indirect path to depressive symptoms through self-esteem. Model 2 added 2 direct paths to depression while controlling for relationships with self-esteem. As explained in greater detail below, Model 3 was created for model comparison reasons as a modification to Model 2 to determine whether the inclusion of only one direct link to “cognitive-affective” symptoms provided a better data fit.

Goodness of fit indices are provided in Table 4 with RMSEA indices signifying an acceptable fit. As Figure 1 demonstrates, the strongest relationships in Model 1 were between self-esteem and the 2 depressive symptom types, with the link to “cognitive-affective” symptoms ( $B = -0.78$ ) greater than the link to “somatic” symptoms ( $T = -0.65$ ). The relationship between cumulative trauma and self-esteem in Model 1 was considerably weaker and nonsignificant ( $T = -0.11$ ). In Model 2, the inclusion of direct links between trauma and depressive symptoms revealed a small relationship between trauma and “cognitive-affective” symptoms ( $T = 0.15$ ) and an even smaller nonsignificant relationship between trauma and “somatic” symptoms ( $T = 0.07$ ). The inclusion of these direct links resulted in only a minor reduction in the size of the regression coefficients for trauma with self- esteem, and for self-esteem with the 2 depressive symptoms.

The chi-square indices showed that the gain in fit for Model 2 was not worth the loss of 2 degrees of freedom :  $\Delta X^2 = 5.29$ ,  $p = 0.07$ . Model 2 did not, therefore, provide a statistically better fit to the data than Model 1. The relationship between trauma and “somatic” symptoms was then removed in Model 3 to see whether the decrease of only one degree of freedom would provide a better fit than Model 1. As observed in Models 1 and 2, the relationships between self- esteem and depressive symptoms in Model 3 remain the strongest and the relationship between trauma and self-esteem remains the weakest.

**TABLE 3.** Zero-Order Correlations Between Traumatic Events, Self-Esteem, and Depression Scores

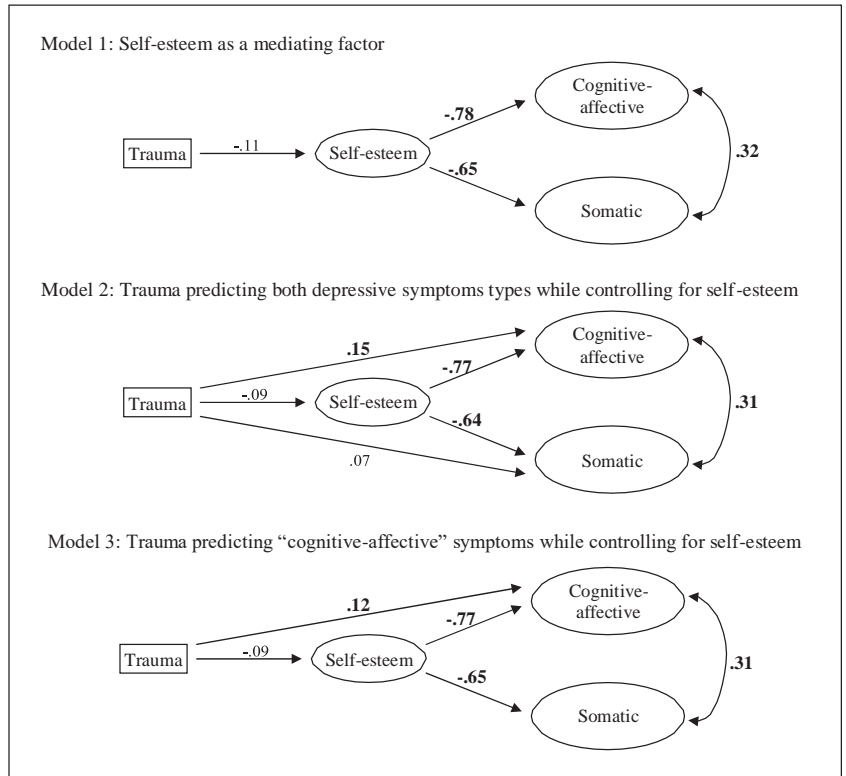
	1	2	3	4
1. Traumatic events	—	—	—	—
2. Self-esteem	-0.13 (-.29, .04)	—	—	—
3. “Cognitive-affective” score	0.23 <sup>a</sup> (.06, .39)	-0.67 <sup>a</sup> (-0.75, -0.56)	—	—

4. "Somatic" score	0.18 <sup>a</sup> (.01, .34)	—0.55 <sup>a</sup> —0.42)	(—0.65,	0.70 <sup>a</sup> (.60, .78)	—
5. BDI-II total score	0.23 <sup>a</sup> (.06, .39)	—0.68 <sup>a</sup> —0.58)	(—0.76,	0.98 <sup>a</sup> (.97, .99)	0.84 <sup>a</sup> (0.78, 0.88)

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N = 132.

~~aSignificant correlation: zero not included in the 95% confidence interval.~~



**FIGURE 1.** Structural equation models.

Note. Significant standardized regression coefficients appear in bold ( $p < .05$ ).

\* $p < .05$ .

**TABLE 4.** Fit Indices for Structural Equation Models

Model	$\chi^2$	df	RMS EA
Model 1	828.1 6*	461	.078
Model 2	822.8 7*	459	.077
Model 3	823.6 3*	460	.077

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. The removal of the link between trauma and “somatic” symptoms led to a small reduction in the size of the regression coefficient for trauma and

“cognitive-affective” symptoms ( $T = 0.12$ ), but this link nonetheless remained significant. The chi-square indices in

Table 4 and the cRMSEA revealed that although Model 1 and Model 3 are close in data fit, Model 3's fit is none-

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theless significantly better:  $Ay^2(1) = 4.53$ ,  $p < 0.05$ ; cRMSEA point estimate = 0.164, CI = 0; 0.357. In summary, Model 3, which includes one additional regres-

sion between cumulative trauma and “cognitive-affective” symptoms, provided a better fit to the data. Model 3, therefore, supports a link between traumatic events and “cognitive-affective” depressive symptoms that is not mediated by self-esteem.

## DISCUSSION

This study investigated the different paths between cumulative trauma and depressive symptom types, and the possible mediating effect of self-esteem. In line with previous findings (Monroe et al, 2001), the current study shows that traumatic events have a closer association with “cognitive-affective” depressive symptoms such as sadness, loss of pleasure, and self-dislike than “somatic” symptoms such as concentration difficulties and sleep disruptions. As expected, self-esteem was strongly related to both components of depression. However, contrary to previous studies (Prelow et al, 2006; Stein et al, 2002; Symister and Friend, 2003; Tram and Cole, 2000; Turner and Butler, 2003; Turner and Kopiec, 2006), trauma was not related to a reduced level of self-esteem. In summary, the findings support a stronger relationship between cumulative trauma and “cognitive-affective” symptoms of depression and a weaker relationship between cumulative trauma and “somatic” symptoms of depression. In addition, the results support a very weak relationship between cumulative trauma and self-esteem, whereas stronger relationships were observed between self-esteem and both depressive symptom types.

These findings raise 5 points worthy of discussion.

First, the observed relationship between trauma and “cognitive-affective” depressive symptoms suggests that this relationship is unmediated by

self-esteem. However, other factors that were not accounted for in this study may actually mediate this relationship. Previous studies have already identified potential mediators including rumination (Nolen-Hoeksema and Morrow, 1991), attribution style (Abela, 2002; Abela and Payne, 2003), quality of social support (Symister and Friend, 2003), and the presence or absence of ongoing daily stressors (Turner and Butler, 2003). It is evident that the presence of symptoms after trauma largely depends on the individual’s cognitive evaluation of the event (Ehlers and Clark, 2000). Thus, the link between trauma and depression is probably mediated by the outcome of several evaluation checks run by the person. A more stringent study of the participant’s appraisal of the event, such as the appraisals addressed in the Geneva Appraisal Questionnaire (QGA; Scherer, 2001), may shed light on the cognitive mediators between trauma and “cognitive-affective” symptoms of depression.

Second, our findings do not reveal an important link

between trauma and “somatic” symptoms. Taxometric studies of depression may be instrumental in interpreting this finding. In the context of the debate concerning the categorical or dimensional nature of depression, a study conducted by Beach and Amir (2003) explored the taxonomicity of symptoms characterizing the Involuntary Defeat Syndrome (IDS)

(*i.e.*, feelings of punishment and low self-regard) that revealed a dimensional solution, IDS symptoms (*i.e.*, sleep disturbance, appetite loss, and weight loss) revealed a categorical solution. This categorical taxon implies that the presence or absence of IDS symptoms indicates either a normal or pathological profile with no intermediate symptom variations. The taxonic nature of IDS symptoms is supported by theory proposing that IDS is a discontinuous disruption of normal biological functioning that occurs when the individual is confronted with severe threat (Beach and Amir, 2003). It is important to note that, contrary to the findings of Beach and Amir (2003), the taxonicity of IDS has been challenged by a subsequent studies indicating that IDS symptoms, like distress symptoms, are indeed dimensional in their distribution (Ruscio et al, 2004). Despite this contradictory data, if "somatic" symptoms do in fact represent a taxon with a specific cut-off between normal and pathological, it is unlikely that many students in the present sample would have reported pathological levels of "somatic" symptoms to the degree that individuals from a clinical sample would. For this reason, future investigations in a clinical population with the intention of targeting individuals affected by "somatic" symptoms may be more conclusive.

Although the present study cannot confirm the taxonicity of IDS and "somatic" symptoms in general, it contributes to the discussion concerning the behavior of different depressive symptom types after trauma. In terms of the current findings, trauma and "cognitive-affective"

with symptom severity varying according to the degree of accumulated trauma. "Somatic" symptoms, on the other hand, did not share a significant variation with accumulated trauma. A hypothesis that may explain this finding is that the presence of "somatic" symptoms represents the final stage in a process toward a more severe profile of symptomatology. IDS, which comprises "somatic" symptoms, represents a physical retreat from situations where strategies of submission and avoidance are unsuccessful and the individual has little hope of reprieve (Beach and Amir, 2003). It is possible that severe "cognitive-affective" symptoms may also trigger the onset of "somatic" symptoms by contributing to feelings of hopelessness. It may, therefore, be interesting to investigate the mediating role of "cognitive-affective" symptoms in the relationship between traumatic events and "somatic" symptoms. The fact that the links between trauma and "cognitive-affective" and "somatic" symptoms were assessed independently may explain why the relationship between trauma and "somatic" symptoms did not reach significance in the present study.

Third, self-esteem was found to be strongly associated with both depressive symptom types. This finding is in agreement with previous studies demonstrating the link between low self-esteem and depression (Brown and Harris, 1978; de Man et al, 2001). More importantly, this finding confirms the validity of the self-esteem measure chosen for the current study in light of the very weak link between cumulative trauma and self-esteem.

Fourth, our findings do not point toward a relationship between cumulative trauma and self-esteem. As argued by Breslau et al (1998), it is not excluded that a finer account of specific traumatic experiences would have been more instrumental than the lifetime trauma incidence score used in this study. In fact, it is possible that certain traumatic experiences affect self-esteem more than others. For instance, severe interpersonal trauma (i.e., rape, sexual molestation, being threatened with a weapon) may have a greater contribution to the onset of depression compared with less interpersonal traumatic events such as natural disaster (Breslau et al, 2000). On the same line of argument, the amount of time elapsed since the traumatic experience, age at the time of trauma, and the repetitive or nonrepetitive nature of the traumatic experience may change posttraumatic outcomes. Once more, we believe that the differential depressogenic effect of certain traumatic characteristics is dependent on appraisals induced by these event properties. Unfortunately, the sample used in the current study did not provide a sufficient incidence of events to allow for a finer analysis of event type. Future studies using a selected population may be more appropriate to investigate the role of specific event types and their distinct impact on self-esteem and depressive symptoms.

Furthermore, a more precise characterization of self-esteem may be beneficial in future studies. Global trait self-esteem is contrasted with the periodical fluctuations described in state self-esteem (Heatherton and Polivy, 1991). For the purposes of this study, we characterize self-esteem as a concept in constant evolution after the accumulation of certain life experiences. For this reason, self-esteem may not fall neatly into either state or trait category. On the one hand, our conceptualization of self-esteem may lean toward a trait characterization because we are concerned with the participants' global levels of self-esteem as opposed to temporary periodic fluctuations, and we therefore implemented a scale that is generally used for evaluating trait self-esteem. On the other

hand, our conceptualization of self-esteem may more closely resemble state characteristics because we are primarily concerned with the participants' self-esteem levels after having experienced the traumatic events reported at the time the questionnaire was administered, in which case we emphasize the mediating role of self-esteem as a concept that is modified as a result of trauma and subsequently leads to the expression of depressive symptoms. As this latter conceptualization corresponds more closely to state self-esteem, future studies may be enhanced by implementing a measure specifically targeting state self-esteem such as the State Self-Esteem Scale (Heatherton and Polivy, 1991).

It is not excluded that trauma and self-esteem are independent factors. Although previous research has revealed the damaging effects of cumulative adversity on self-esteem and subsequent depression (Turner and Butler, 2003), it may be possible that the severity of the event has an even more direct impact on depression. For instance, a study by Johnson et al. (2000) unexpectedly revealed that one of the factors predicting

hopelessness depression in HIV+ patients was high, rather than low, self-esteem. The authors hypothesized that severe events representing a chronic threat may render the buffering power of

self-esteem ineffective against depression (Johnson et al, 2000). Events that may be characterized as more severe may have a weaker relationship to self-esteem than events characterized as less severe. Thus, appraisal of event severity may be another possible mediator between trauma and depressive symptoms. Future investigations could determine event severity by assessing the individual's feelings of helplessness and horror, as specified by PTSD criterion A2 of the DSM-IV-TR (American Psychiatric Association, 2000). Evaluating both severity appraisal and self-esteem as mediators would determine the extent to which appraisals of severity are modulated by self-esteem or, alternatively, the extent to which appraisals of severity are directly related to depressive symptoms, therefore, questioning the protective role of self-esteem.

Fifth, our observation that "cognitive-affective" depressive symptoms are linked to lifetime trauma exposure supports the notion that depression shares symptoms with other trauma responses, most notably PTSD. These different symptom configurations may share common underlying vulnerabilities (Breslau et al, 2000). In accordance with proponents of the dimensional approach for depression (Hankin et al, 2005; Ruscio and Ruscio, 2000; Ruscio et al, 2004) and PTSD (Broman-Fulks et al, 2006; Ruscio et al, 2002), psychopathological reactions to trauma may be only quantitatively different from normal functioning or other disorder profiles in terms of symptom frequency and severity. In light of the current study findings and others revealing a two-factor solution for depression, one may conclude that the continuum also features symptom clusters within diagnoses that also vary in terms of their intensity.

In conclusion, the current study proposes that self-

esteem is not systematically a mediator between trauma and depressive symptoms. Trauma may, however, have relationships with certain depressive symptom types that are unmediated

by self-esteem. The findings demonstrate that trauma is differentially related to "cognitive-affective" and "somatic" symptoms of depression. On the one hand, trauma's relationship to "cognitive-affective" symptoms was unmediated, possibly suggesting a dimensional solution for this symptom type. On the other hand, trauma was not directly related to "somatic" symptoms. Additional research is needed to clarify the taxonicity of "somatic" symptoms. It is not excluded that "somatic" symptoms are found in more severely depressed individuals. Finally, controlling for event type and severity by using a selected population may enable studies to further investigate the relationship between trauma and self-esteem, and their relationships to depressive symptom types.

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**END NOTE 1**

<sup>1</sup>A replication of the factor analysis and *SEM* with female participants only ( $N = 116$ ) confirmed that gender type did not introduce significant variance, [( $y^2$ : BDI 1 factor = 361.19, BDI 2 factors = 341.73, Model 1 = 803.59, Model 2 = 797.90, Model 3 = 797.94), (RMSEA: BDI 1 factor = 0.086, BDI 2 factors = 0.082, Model 1 = 0.080, Model 2 = 0.080, Model 3 = 0.080)]. The model comparison results were the same as those using the total population, [(BDI 1

factor compared to BDI 2 factors:  $Ay^2(1) = 19.46$ ,  $p <$

0.001; cRMSEA pt estimate = 0.401, CI = (0.229; 0.594)),

(Model 1 compared to Model 3:  $Ay^2(1) = 5.65$ ,  $p <$  .05; cRMSEA pt estimate = 0.201, CI = (0.034; 0.404)). Fur-

thermore, independent samples *t*-tests did not reveal gender differences for cumulative trauma [ $t(130) = 0.93$ ,  $p = 0.354$ ], self-esteem [ $t(130) = 0.83$ ,  $p = .409$ ], cognitive-affective score [ $t(130) = -1.15$ ,  $p = 0.252$ ], somatic score [ $t(130) = -0.83$ ,  $p = 0.409$ ] and BDI total score [ $t(130) = -1.13$ ,  $p = 0.261$ ].

