

Full Length Research Paper

Relationship trauma: Assessing the criteria of trauma in adult intimate abusive relationships

Tricia L. Orzeck^{1,2*} and Ami Rokach^{3,4}

¹Faculty of Education, University of British Columbia, British Columbia, Canada.

²Graduate Centre for Applied Psychology, Athabasca University, Alberta, Canada.

³Department of Psychology, The Centre for Academic Studies, Or Yehuda, Israel.

⁴Department of Psychology, York University, Toronto, Canada.

Accepted 1 March, 2011

The present study analyzed the factor structure of items related to trauma experienced in the context of an abusive intimate adult relationship. One hundred and twenty male and female participants who experienced an abusive traumatic relationship completed the post-traumatic stress syndrome (PTRS) questionnaire, a 40-item scale, measuring several dimensions of relationship trauma. The scale was shown to have strong reliability ($\alpha = 0.97$) with alphas between 0.70 and 0.96 for the varying factors. Seven meaningful factors resulted from an exploratory factor analysis used to assess the performance of items related to trauma symptomatology in abusive relationships. These factors included: Physiological Anxiety Responses, Safety/Trust, Hyperarousal, Emotional/Cognitive Dysregulation, Intimate Relational Changes, Emotional/Psychological Distress, and Loss/Isolation. The PTRS questionnaire appears to be a reliable and valid screening tool for relationship trauma.

Key words: Relationship, trauma, abusive relationships, post traumatic symptoms, factors.

INTRODUCTION

Trauma in abusive relationships often results in a complexity of symptoms manifesting through multiple systems: affective, behavioural, somatic, dissociative, relational, and self-attribitional (Zucker et al., 2006). This can be expressed through a wide range of clinical impairments, such as anxiety, depression, dissociation, personality disorders, and substance abuse, and is particularly prevalent when the abuse begins in childhood, is prolonged, and repetitive (Herman, 1992, 1997; van der Kolk et al., 2005). However, this form of complex trauma is not captured in the PTSD diagnosis (Herman, 1997; van der Kolk et al., 2005). Currently, the conceptualization of trauma typically focuses on the revised fourth edition of the Diagnostic and Statistical Manual of Mental Disorders ([DSM-IV-TR], APA, 2000) Post Traumatic Stress Disorder (PTSD) symptom criteria: re-experiencing, avoidance, and arousal in addition to the two-

tiered trauma exposure criteria, A. PTSD was largely developed from clinical observations rather than from an empirical foundation (Herman, 1992; Pelcovitz et al., 1997; Roth et al., 1997; van der Kolk et al., 2005), suggesting possible problems with current conceptualizations and measures assessing the criteria for trauma.

Trauma symptomatology and factor structure

A number of studies examining the factor structure of PTSD have been conducted, resulting in 2-factor, 3-factor, and 4-factor structures (Palmieri et al., 2007; Shelby et al., 2005), dependent on the measure and method used (Scher et al., 2008). These studies employed measures, such as the Clinician Administered PTSD Scale (CAPS), PTSD Checklist (PCL), and Posttraumatic Diagnostic Scale (PDS), that only used the 17 items of the DSM-IV criteria. Consequently, the resulting factor analyses were limited by the items sampled, and given the controversies and inconsistencies that are intertwined with the DSM-IV

*Corresponding author. E-mail: torzeck@interchange.ubc.ca

criteria, using these items as a basis for determining if an individual has trauma or, to determine the factor structure is inadequate. Shelby et al. (2005) suggested that the factor structure differs based on the type of trauma, particularly with differences on chronicity (that is, acute one-incident traumas vs. repeated trauma). Thus, widely used trauma instruments based on the DSM-IV criteria may not cover the complexity of interpersonal trauma and additional items need to be empirically tested (Courtois, 2008). Currently, there is no measure for complex trauma with a focus on adult intimate relationships nor is the symptomatology fully understood.

Alternate conceptualizations

There have been a number of conceptualizations proposed regarding interpersonal forms of trauma, ranging from harassment to battering. Burgess and Holmstrom's (1974) rape trauma syndrome was one of the earliest conceptualizations of trauma related to sexual attacks, although not necessarily consistent with intimate relationships. Walker (1979) called the violent reactions with which some women retaliated against their partners a 'battered women syndrome'. Walker (1994) also specified an adaptation to the DSM criteria, called Posttraumatic Stress Reaction and Disorder: Interpersonal Violence Diagnostic Criteria, to include changes in victim's cognitions about the world, the resultant depressive affect symptoms, and subsequent interpersonal changes. Vandervoort and Rokach (2003, 2004) described a variation of PTSD with respect to abusive intimate relationships, called Posttraumatic Relationship Syndrome (PTRS), including such symptoms as initial horror and rage, intrusions, arousal, and relational symptoms. None of these have received empirical support at this time.

One other conceptualization, Complex PTSD or Disorders of Extreme Stress Not Otherwise Specified (DESNOS) included such symptom categories as; alterations to affect regulation, self-perception, relational changes, and somatization (Herman 1992, 1997; Pelcovitz et al., 1997; van der Kolk et al., 2005). These categories were derived from the long-term effects of childhood abuse and trauma (van der Kolk and Courtois, 2005), but have not been verified solely in adult intimate relationships. Further, the Complex PTSD conceptualization includes all types of prolonged chronic trauma, such as hostages, prisoners of war, and religious cults (Herman, 1997) that may or may not be the same as those in adult intimate relationships.

Assessment of complex trauma

The Structured Interview for Disorders of Extreme Stress (SIDES) was developed as part of the DSM-IV field trials used to assess the relevance of the PTSD criteria to chronic interpersonal trauma (van der Kolk et al., 2005) and to

incorporate the range of trauma-related psychological problems not currently captured in PTSD (Pelcovitz et al., 1997). Four of the seven scales displayed moderate convergent validity when tested on child sexual abuse survivors (Zlotnick and Pearlstein, 1997). The validity of the remaining subscales and the factor structure has not been reportedly tested using empirical means nor verified for its utility in abusive *adult* relationships alone.

Other measures have been developed that include additional features associated with complex forms of trauma, such as the Detailed Assessment of Posttraumatic Stress (DAPS) and the Trauma Symptom Inventory (TSI). However, these were normed on groups including any type of chronic or acute trauma, with the DAPS also converging into a DSM-IV diagnosis. Thus, the relevant items and factor structure for assessing trauma in adult intimate abusive relationships are not yet fully determined.

Need for adult intimate relationship trauma measure

Pelcovitz et al. (1997) reported that later interpersonal violence was significantly different from disaster, suggesting the need to consider additional symptomatology for these groups and Ford (1999) found that Complex PTSD was substantially different from PTSD, since it could occur in the absence of a PTSD diagnosis. In efforts to address these complexities, the DSM-IV-TR has included some items related to interpersonal forms of trauma as 'associated features' (APA, 2000) and the tenth edition of the International Classification of Diseases (ICD-10) has included a category of 'lasting personality changes following catastrophic stress' (World Health Organization, 1990). At this current time, these features are not necessary for a trauma diagnosis and many individuals experiencing interpersonal trauma are assessed and treated, instead, for co-morbidities (Courtois, 2008) in the absence of a complex trauma conceptualization in the DSM-IV.

It is clear that further research is needed to clarify the criteria for interpersonal types of trauma and as van der Kolk et al. (2005) suggest, such research should extend beyond the PTSD focused outcome of trauma. No study-to-date in the academic literature has reported the factor structure of complex forms of trauma using empirical methods, particularly with a homogeneous group of individuals traumatized from abusive adult intimate relationships. The purpose of the present pilot study was to determine the salient items and factor structure of an instrument designed for adults experiencing relationship trauma occurring in the context of abusive intimate adult relationships.

METHODS

Samples and procedures

Participants that reported experiencing relationship trauma in an adult abusive intimate relationship were recruited from several Canadian

universities, community centers, and treatment clinics for substance abuse, family violence, and trauma. As such, some individuals were addicted to drugs and alcohol and many were involved in support groups. *Relationship trauma*, for the purposes of this study, is defined as the significantly devastating effects created from chronic abuse in an intimate relationship. It also exceeded an individual's mental capacity to handle the stress placed upon it (Everly, 1995). The definition of an adult abusive relationship in the present study was one in which any type of abuse, such as physical, sexual, emotional, psychological/mental, spiritual, or financial, occurs in the context of an intimate significant relationship with someone at the time considered to be a lover, life partner, or boyfriend/girlfriend, whether dating, common-law, or married.

Using a multi-method approach to assessment (Keane et al., 1985), participants were systematically assessed to have relationship trauma by their endorsement on several indices. An abusive relationship was considered traumatic if the participants responded affirmative to the statement, "I have been involved in a close personal relationship which traumatized me with a person who abused me", in addition to checking trauma type perceived to be from interpersonal abuse, and verifying clinical judgments from two doctoral level psychologists on the qualitative descriptions of trauma associated with abusive adult relationships. Participants meeting the criteria volunteered to complete an information and relationship history questionnaire and a posttraumatic relationship questionnaire.

Measure

The impetus for the posttraumatic relationship syndrome (PTRS) questionnaire was based on clinical cases of individuals presenting with trauma-like symptomatology from abusive relationships and outlined by Vandervoort and Rokach (2006). This questionnaire was developed after an extensive review of the literature and integrating the present authors' observations in clinical practice. The items on this scale were reflective of trauma symptomatology resulting from abusive adult intimate relationships and the relevant criteria embedded in previous conceptualizations (Herman, 1992; Vandervoort and Rokach, 2003, 2004) and derived from qualitative analyses (Orzeck, 2010; Orzeck et al., 2010). Such criteria included initial anger and rage at the perpetrator, physiological and emotional arousal, intrusive/re-experiencing symptoms, relational and cognitive changes. A 40-item questionnaire resulted, with each question scored on a 5-point Likert scale, ranging from 0 (not at all) to 5 (very often) regarding the amount a participant experienced that item.

Previous analyses by Rokach et al. (2010) assessed the construct validity of the posttraumatic relationship syndrome (PTRS) questionnaire with a sample of 211 participants. In that study, a MANCOVA resulted in significantly higher scores for relationship trauma participants when compared to a non-relationship trauma group on all of the PTRS subscales and on the total PTRS score. Using a discriminate classification analysis, the PTRS subscales correctly predicted 82% relationship trauma true-positive cases and 97% true-negative cases for relationship trauma but only predicted 54% PTSD-positive cases and 93% PTSD-negative cases. The overall efficiency of the classification was 88.6%. Sensitivity of the measure was found to be 97%, specificity was 81%, and the relative improvement over chance (RIOC) was 87%. The PTRS was found to be significantly positively correlated with both the TSI ($r = 0.685, p < .01$) and the DAPS ($r = .542, p < .01$).

Statistical analysis

An exploratory factor analysis was conducted on the 40-item PTRS questionnaire to determine, empirically, the factors representative of relationship trauma in this pilot study. Exploratory factor analyses (EFA) is one tool that can ascertain the best model alternatives prior to structural equation model testing (Bollen, 1989; Bollen and Long, 1993; Stevens, 2009). Given that no previous research has conducted any

type of factor analysis related solely to adult abusive relationships, nor have any previous conceptualizations attempted to generate factors empirically from items representing trauma symptomatology in this group, it is suggested by Gorusch (1983) that an exploratory factor analysis is the most appropriate method in order to generate an empirically based formulation. Further, this initial empirical work on factor items is necessary to ensure that the items are relatively pure measures of the underlying constructs and prevents misspecifications of any new model that might arise (Bollen, 1989; Stevens, 2009).

Principal components with oblique (promax) rotation was used to extract the factors, in order to strengthen the differentiation between loadings and increase interpretability, given the likely intercorrelations between factors (Gorusch, 1983), suggested by previous research in abuse and trauma. Both eigenvalues greater than 1 and the scree plot were examined to determine the resultant number of factors. As Stevens (2009) notes, both criterion can assist in deciding how many factors to keep, and that when the mean communalities are greater than 0.60, as they were in the present study ($M = 0.714$), either method is sufficient. Further, Hakistan et al. (1982) state that, either method is most credible when the Q/P ratio is less than 0.30 (Q is the number of factors; P is the number of variables). In the present study, a Q/P ratio of 0.175 was found for the PTRS questionnaire. Stevens (2009) and Gorusch (1983) also suggest that all factors that contribute to at least 70% of the total variance should be retained, and a minimum of 3 items, particularly when the construct is considered practically significant, as was the case in the present study.

Finally, based on the Cliff and Hamburger (1967) studies, critical values for acceptance of factor loadings were tested at a more stringent alpha of 0.01 and adjusted for various sizes of N. These authors suggest a conservative approach to doubling the standard error, and thus the critical value, particularly for smaller samples of less than one hundred participants. Gorusch (1983) suggests a minimum sample size of 100. For our study, the minimum value for statistical acceptance of items loading on specific factors for our sample size was determined to be 0.512 (Stevens, 2009) and kappa values set at 4. Thus, statistical adjustments were made to ensure that the sample size, factor loadings, and number of factors to retain were appropriate for this study. Internal reliability coefficients were calculated for each of the PTRS scales as well as the overall questionnaire.

RESULTS

Participants

Participants included 120 adults (48 male, 72 female) who experienced an abusive and traumatic adult intimate romantic relationship. The age of participants ranged from 21 to 55 years ($M = 35, SD = 8.4$), and education ranged from 6 to 20 years ($M = 12.6, SD = 2.7$). At the time of data collection, 39.7% of the subjects were single, 37.9% married/common-law, and 21.6% divorced or separated. All types of abuse were represented in the study: sexual (21%), physical (62%), emotional (78.4%), verbal (73.3%), financial (50%), spiritual (27.6%), and psychological/mental (72.4%). The traumatic abusive relationship lasted from 6 months to 23 years. Almost half of the participants (47%) also reported experiencing childhood abuse, primarily in the forms of physical and emotional abuse with childhood sexual abuse being the least frequent type.

Factor analysis

Results of the factor analysis suggested seven interpretable

Table 1. Intercorrelations among PTRS scales.

Scale	1 ($\alpha = 0.96$)	2 ($\alpha = 0.92$)	3 ($\alpha = 0.88$)	4 ($\alpha = 0.85$)	5 ($\alpha = 0.83$)	6 ($\alpha = 0.89$)	7 ($\alpha = 0.70$)
Physiological anxiety	1.000						
Safety/trust	0.498	1.000					
Hyperarousal	0.548	0.700	1.000				
Dysregulation	0.413	0.623	0.437	1.000			
Relational changes	0.507	0.671	0.561	0.466	1.000		
Distress	0.635	0.618	0.654	0.547	0.465	1.000	
Loss/isolation	0.416	0.549	0.472	0.497	0.529	0.508	1.000

*Scales are in descending order of the amount of variance accounted for by each factor. Cronbach alphas for each scale are included in parentheses.

factors, accounting for 71.4% of the total variance with all items included in the factor structure. No gender differences were found on the emerging factors and similar variances resulted when each gender group was analyzed alone. Communalities were generally greater than 0.6 with the exception of four items, ranging from 0.454 to 0.872 ($M = 0.714$). Bartlett's test of sphericity was significant ($\chi^2(780, N = 116) = 4141.288, p < .0001$), confirming that the factors were correlated and warranting an oblique rotation method (Gorusch, 1983; Stevens, 2009). Table 1 shows the intercorrelations among the seven scales and correlation of the seven scales to the total.

Factor 1 (Physiological Anxiety Responses), accounted for 43.4% of the variance (eigenvalue = 17.4), and was found to include items that assessed physical reactions to the presence or thoughts of the abusive partner (for example, "When I am in the presence of the person who abused or traumatized me, I experience breathing difficulties"). Factor 2 (Safety and Trust), accounted for 9.0% of the variance (eigenvalue = 3.6), and included items underlying an individual's sense of safety in the world and difficulties trusting others (for example, "I have difficulty trusting people I am close to" and "I do not feel safe in the world"). Factor 3 (Hyperarousal), accounted for 5.5% of the variance (eigenvalue = 2.2), including items such as restlessness and inability to concentrate (for example, "I feel hypervigilant, on guard, or on edge"). Factor 4 (Emotional/Cognitive Dysregulation), accounted for 4.0% of the variance (eigenvalue = 1.6), and included items related to increases in emotionality, continuous rumination about the abusive relationship, and attempts to numb the pain (for example, "I found myself to be more emotional after being abused or traumatized" and "I consciously, and regularly thought about the abusive relationship"). Factor 5 (Intimate Relational Changes), accounted for 3.8% of the variance (eigenvalue = 1.5) and included primarily changes in intimacy, as well as one item regarding recall (for example, "I am not interested in close/intimate relationships with anyone"). Factor 6 (Emotional and Psychological Distress), accounting for 3.0% of the variance (eigenvalue = 1.2) was found to include items related to initial anger and horror to the abuse or trauma, intrusions, and triggers (for example, "I experience disturbing dreams or nightmares about the

person that abused or traumatized me" and "I feel significant psychological distress in the presence of the person who abused or traumatized me"). Factor 7 (Loss and Isolation), accounted for 2.8% of the variance (eigenvalue 1.1), including items involving separation from friends as a result of the abusive relationship ("I have lost friends or am not as close to my friends since my involvement with the person who abused or traumatized me"). Table 2 lists the highest item factor loadings for the seven meaningful PTRS subscales.

Cronbach alphas were calculated for each subscale and ranged from 0.70 (Loss/Isolation) to 0.96 (Physiological Anxiety Responses). The internal consistency reliability for the overall questionnaire was found to be strong ($\alpha = 0.97$). The median corrected item-scale correlation was 0.66. Alpha values are included beside the scales showing the intercorrelations in Table 1.

DISCUSSION

Results of this study suggest that the PTRS questionnaire with its strong internal reliability can be a useful screening tool for the investigation of relationship trauma. We examined the factor structure of symptom items related to trauma experienced as a result of abusive intimate adult relationships. No other study to-date has assessed the item performance and relevant factors on a measure associated with the assessment of relationship trauma specifically for adult intimate abusive relationships.

The results suggest that both physiological and relational factors appear to be pertinent to a trauma diagnosis occurring in the context of abusive relationships, accounting for the greatest total variance. The physiological scale (Factor 1) included cardiopulmonary items, such as breathing difficulties, sweating, and shaking in association with the abusive and traumatizing partner. This scale accounted for the greatest amount of variance and suggests a relationship with the somatization of trauma experiences. It has been suggested by previous conceptualizations on complex trauma that somatization is a unique feature of chronic interpersonal trauma, above and beyond current PTSD symptomatology (Herman 1992; Orzeck, 2008a, b,

Table 2. Exploratory factor analysis of Mean subscale items for PTRS.

PTRS Items*	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Factor7
Item 1						0.680	
Item 2						0.565	
Item 3						0.804	
Item 4						0.802	
Item 5		0.697					
Item 6						0.794	
Item 7						0.727	
Item 8a	0.798						
Item 8b	0.909						
Item 8c	0.892						
Item 8d	0.878						
Item 9a	0.873						
Item 9b	0.907						
Item 9c	0.914						
Item 9d	0.918						
Item 10						0.722	
Item 11					0.545		
Item 12			0.820				
Item 13			0.754				
Item 14			0.615				
Item 15			0.877				
Item 16			0.786				
Item 17		0.763					
Item 18							0.796
Item 19		0.726					
Item 20		0.698					
Item 21		0.850					
Item 22		0.820					
Item 23		0.821					
Item 24							
Item 25							0.729
Item 26							0.745
Item 27					0.808		
Item 28					0.846		
Item 29					0.749		
Item 30					0.511		
Item 31					0.721		
Item 31				0.838			
Item 32				0.841			
Item 33				0.798			
Item 34		0.688					
Variance	43.4%	9.0%	5.5%	4.0%	3.8%	3.0%	2.8%
Eigenvalue	17.35	3.61	2.18	1.61	1.51	1.19	1.11

*Items are listed in the order corresponding with the questionnaire.

2010). Relational issues, including trust, changes in worldviews (Factor 2), sexual intimacy difficulties (Factor 5), and changes in support systems (Factor 7) were also found to be key components to relationship trauma. These

factors related to interpersonal changes and accounted for a total of 16% of relationship trauma. Given the fact that trauma from abusive relationships has a significant relational component, it is not surprising that a number of

factors address relational issues. Factor 2 is most related to cognitive changes associated with one's view of others. Janoff-Bulman (1992) noted that shattered world paradigms are a particularly salient aftereffect of interpersonal victimization. Van der Kolk et al. (2005) highlighted disruptions in safety and trust as commonly found with complex trauma cases. Walker (1994) also noted such interpersonal changes in battered women but considered these relational changes to include sexual components on the same factor, whereas in the present study, these items loaded on separate factors. Sexual symptoms were suggested to coincide with complex PTSD, although as part of somatization (Pelcovitz et al., 1997). Lastly, isolation and loss of support is viewed as one way for the abuser to maintain control and power over the victim (Herman, 1992), therefore, this factor also appears to be representative of trauma in the context of abusive relationships. Interestingly, these three factors did not load on one relational factor as previously suggested by Vandervoort and Rokach (2003), likely due to the different aspects of interpersonal disruptions that these factors assess.

One item that did not load well in comparison to other items was the item regarding recall of dreams. The reliability of this item also lowered the overall reliability of the factor, suggesting it should be dropped. This item is most related to the amnesia item in PTSD, previously shown to be particularly problematic (Palmieri and Fitzgerald 2005; Scher et al., 2008; Zucker et al., 2006). It is also related to the alterations in attention in Complex PTSD (Pelcovitz et al., 1997) but is thought to be less related to adult abusive relationships (Vandervoort and Rokach, 2003).

The remaining factors addressed components typically associated with PTSD, including arousal (Factor 3), dysregulation (Factor 4) which included an avoidance item, and distress (Factor 6) which included intrusive symptoms. The arousal items consisted of similar items commonly found in the DSM-IV-TR's (APA, 2000) criteria D of PTSD. Dysregulation included excessive emotionality, rumination, and one item completely opposite in terms of numbing the pain. Previous factor analyses on PTSD found that numbing and hyperarousal loaded on a similar factor (Simms et al., 2002). In this case, we found numbing and hyper-emotionality to load on the same factor, representing a similar phenomenon proposed by Foa et al. (1995) in that, effortful avoidance, works to counteract intrusive thoughts, and in this case, excessive emotionality. The remaining factor included similar intrusive symptoms to PTSD criteria B but it also included significant psychological distress, anger, and horror at the perpetrator. These additional items can still be reasoned to be intrusive but in the context of emotional intrusions.

Factors 3 to 7 accounted for similar variances, ranging from 3 to 5%, while the physiological and safety/trust factors appeared to be more salient in assessing relationship trauma. As Stevens (2009) noted, these factors should be retained when they have practical significance and that, factors with fewer items and high factor loadings (such as in Factor 7) should not be disregarded. All of these factors,

contributing to the minimum total variance of 70%, are meaningful to the various effects that this population group experiences. Clinically, it suggests that treatment of individuals traumatized from abusive relationships could be greatly enhanced by using this questionnaire, as it does not only indicate whether there is a good chance that the individual was abused in an intimate relationship, but more than that, it highlights the specific areas that the treatment provider needs to address and heal; particularly the physiological and safety/trust components, which are not routinely considered in trauma diagnoses. Further, avoidance was not as salient as currently considered in trauma conceptualizations, although, additional items would be suggested to confirm this in future research. Case studies and clinician's input may help in determining whether avoidance is, indeed, a major characteristic of the abused. Future studies may also examine gender differences with a larger sample to determine if the factors remain the same. The factors resulting in the present study differ substantially from the DSM-IV-TR criteria for PTSD and also differ in part from the suggested complex PTSD scales. Further research should seek to confirm the conceptualization of relationship trauma in order to enhance the treatment of individuals in abusive intimate relationships.

REFERENCES

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders (4th ed., Text Rev.)*. APA: Washington, DC.
- Bollen KA (1989). *Structural equations with latent variables*. Wiley: New York.
- Bollen KA Long JS (1993). *Testing structural equation models*. Sage: Newbury Park, CA.
- Burgess A, Holmstrom L (1974). Rape trauma syndrome. *Am. J. Psychia.*, 131: 981-986.
- Cliff N, Hamburger CD (1967). The study of sampling errors in factor analysis by means of artificial experiments. *Psychol. Bull.*, 68: 430-45.
- Courtois C (2008). Complex trauma, complex reactions: Assessment and treatment. *Psychol. Traum. Res. Prac. Pol.*, S(1): 86-100
- Everly GS (1995). *Psychotraumatology*. In Everly, Lating (Eds), *Psychotraumatology: Key papers and core concepts in posttraumatic stress*. Plenum: New York, pp. 9-26.
- Foa EB, Riggs DS, Gershuny BS (1995). Arousal, numbing, and intrusion: Symptom structure of PTSD following assault. *Am. J. Psychia.*, 152: 116-120.
- Ford D (1999). Disorders of extreme stress following war-zone military trauma: Associated features of posttraumatic stress disorder or comorbid but distinct symptoms? *J. Consul. Clin. Psychol.*, 67(1): 3-12.
- Gorusch, RL (1983), *Factor Analysis (2nd Ed.)*. Lawrence Erlbaum Associates: Hillsdale, NJ.
- Hakistan A, Rogers W, Cattell R (1982). The behavior of numbers factors rules with simulated data. *Multivar. Behav. Res.*, 17: 193-219.
- Herman J (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *J. Traum. Stress*, 5(3): 377-391.
- Herman J (1997). *Trauma and recovery*. Basic Books: New York.
- Janoff-Bulman R (1992). *Shattered assumptions: Toward a new psychology of trauma*. The free press: New York.
- Keane TM, Fairbank JA, Caddell JM, Zimering RT, Bender ME (1985). A behavioural approach to assessing and treating post-traumatic stress disorder in Vietnam veterans. In Figley (Ed), *Trauma and its wake*. Brunner/Mazel: New York, pp. 257-294.
- Orzeck T (2008a). Relationship trauma: A grounded theory investigation of women's traumatically abusive intimate relationship processes. *Diss. Abs. Int.*, 69(4-B): 2636.
- Orzeck T (2008b). Diagnostic considerations of relationship trauma in

- women: A variant of PTSD. A poster presentation at the 116th Amer. Psychol. Assoc. 2008 Convention in Boston, Massachusetts, August 14-17.
- Orzeck T (2010). Relationship trauma: When abuse becomes trauma in intimate relationships. VDM Publishing, Saarbrücken, Germany.
- Orzeck T, Rokach A, Chin J (2010). The effects of traumatic and abusive relationships. *J. Loss Traum.*, 14: 167-192.
- Rokach A, Orzeck T, Chin J (2010). Discrimination and validation of the post-traumatic relationship syndrome. *Psychol. J.*, 7(4): 128-140.
- Palmieri PA, Fitzgerald LF (2005). Confirmatory factor analysis of posttraumatic stress symptoms in sexually harassed women. *J. Traum. Stress*, 18: 657-666.
- Palmieri PA, Marshall GN, Schell TL (2007). Confirmatory factor analysis of posttraumatic stress symptoms in Cambodian refugees. *J. Traum. Stress*, 20: 207-216.
- Pelcovitz D, van der Kolk BA, Roth S, Mandel FS, Kaplan S, Resick P (1997). Development of a criteria set and a structured interview for disorders of extreme stress (SIDES). *J. Traum. Stress*, 10(1): 3-16.
- Roth S, Newman E, Pelcovitz D, Van der Kolk B, Mandel F (1997). Complex PTSD in victims exposed to sexual and physical abuse: Results from the DSM-IV-TR field trial for posttraumatic stress disorder. *J. Traum. Stress*, 10(4): 539-555.
- Scher C, McCreary D, Asmundson G, Resick P (2008). The structure of posttraumatic stress disorder symptoms in three female trauma samples: A comparison of interview and self-report measures. *J. Anx. Dis.*, 22: 1137-1145.
- Shelby RA, Golden-Kreutz DM, Andersen BL (2005). Mismatch of posttraumatic stress disorder (PTSD) symptoms and DSM-IV symptom clusters in a cancer sample: exploratory factor analysis of the PTSD checklist-civilian version. *J. Traum. Stress*, 18: 347-357.
- Simms LJ, Watson D, Doebbeling BN (2002). Confirmatory factor analyses of posttraumatic stress symptoms in deployed and nondeployed veterans of the Gulf War. *J. Abnorm. Psychol.*, 111: 637- 647.
- Stevens J (2009). *Applied multivariate statistics for the social sciences* (5th ed.). Routledge Academic: London England.
- Van-der-Kolk B, Courtois C (2005). Editorial comments: Complex Developmental Trauma. *J. Traum. Stress*, 18(5): 385-388.
- Van-der-Kolk B, Roth S, Pelcovitz D, Sunday S, Spinazzola J (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *J. Traum. Stress*, 18(5): 389-399.
- Vandervoort D, Rokach A (2003). Post-traumatic relationship syndrome: The conscious processing of the world of trauma. *Soc. Behav. Personal.* 31(7): 675-686.
- Vandervoort D, Rokach A (2004). Traumatic relationship: Is a new category for traumatization needed? *Current Psychol: Develop. Learn. Personal. Soc.* 23(1): 68-76.
- Vandervoort D, Rokach A (2006). Posttraumatic relationship syndrome: A case illustration. *Clin. Case Stud.*, 5: 231-247.
- Walker LE (1979). *The battered women*. Harper and Row Publishers: New York, NY.
- Walker LE (1994). *Abused women and survivor therapy: A practical guide for the psychotherapist*. APA: Washington, DC.
- World Health Organization (1990). *International classification of diseases and related health problems* (10th ed.). WHO: Geneva.
- Zlotnick C, Pearlstein T (1997). Validation of the Structure Interview for Disorders of Extreme Stress. *Comp. Psychia.*, 38(4): 243-247
- Zucker M, Spinazzola J, Blaustein M, van der Kolk B (2006). Dissociative symptomatology in posttraumatic stress disorder and disorders of extreme stress. *J. Traum. Dissoc.*, 7(1): 19-31.