Published in final edited form as:

J Psychiatr Pract. 2009 March ; 15(2): 133–140. doi:10.1097/01.pra.0000348366.34419.28.

Interpersonal Factors in Understanding and Treating Posttraumatic Stress Disorder

John C. Markowitz, M.D.^{1,2}, Barbara Milrod, M.D.², Kathryn Bleiberg, Ph.D.², and Randall D. Marshall, M.D.³

¹New York State Psychiatric Institute; Department of Psychiatry, Columbia University College of Physicians & Surgeons, New York, NY

²Weill Medical College of Cornell University, New York, NY

³Sepracor, Marlborough, MA

Abstract

Exposure to reminders of trauma underlies the theory and practice of most treatments for posttraumatic stress disorder (PTSD), yet exposure may not be the sole important treatment mechanism. Interpersonal features of PTSD influence its onset, chronicity, and possibly its treatment. The authors review interpersonal factors in PTSD, including the critical but underrecognized role of social support as both protective posttrauma and as a mechanism of recovery. They discuss interpersonal psychotherapy (IPT) as an alternative treatment for PTSD and present encouraging findings from two initial studies. Highlighting the potential importance of attachment and interpersonal relationships, the authors propose a mechanism to explain why improving relationships may ameliorate PTSD symptoms.

Keywords

posttraumatic stress disorders; anxiety disorders; interpersonal psychotherapy; exposure; avoidance

Interpersonal factors are extremely important in psychotherapy, regardless of the modality. A special contribution of interpersonal psychotherapy has been a primary focus on this dimension and the role of attachment throughout human development and distress. This guest psychotherapy column contributes an extensive literature review and the results of trials of interpersonal psychotherapy in ameliorating posttraumatic stress disorder.

Norman A. Clemens, MD

Confronting avoidance through exposure has constituted the central evidence-based paradigm for treating posttraumatic stress disorder (PTSD). Cognitive behavioral psychotherapies, which have demonstrated efficacy in treating PTSD and other anxiety disorders,¹ reduce PTSD symptoms through repeated imaginal and *in vivo* exposure to memories and environmental reminders of traumatic situations. This process promotes habituation to trauma, thereby

Direct correspondence to: John C. Markowitz, M.D., New York State Psychiatric Institute, 1051 Riverside Drive, Unit #129, New York, NY 10032, New York, NY 10032, jcm42@columbia.edu.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

reducing activation of fear networks that drive symptoms.² With repeated exposure, the patient organizes a more coherent narrative of the traumatic event. Research on conditioned responses, habituation, and extinction, and the replicated success of such therapies in outcome studies have made exposure the dominant explanatory model in PTSD therapeutics.

Almost all empirically tested psychotherapies for PTSD have relied on exposure techniques, dating back to Kardiner and Spiegel's treatment of World War II veterans.³ Prolonged exposure (PE), perhaps the best established evidence-based treatment for PTSD, has shown efficacy in multiple trials.⁴⁻⁶ It requires extensive emotional processing and narrative reconstruction of traumatic events in each therapy session as well as in daily home review of audiotaped sessions. Other treatments have demonstrated efficacy, including other cognitive behavioral therapies⁴⁻⁶⁻¹¹ and eye movement desensitization and reprocessing (EMDR).¹² Both EMDR and Horowitz' information-processing psychodynamic therapy¹³ are hybrid treatments incorporating cognitive behavioral techniques. All focus patients on consciously reviewing painful emotional details of their traumatic experiences. Consensus guidelines endorse PE, cognitive-behavioral therapy, and anxiety management as first-line psychotherapies for PTSD.¹⁴

Not since the heyday of psychoanalysis has a single theory so dominated a field as exposure-based theory does the psychotherapy of anxiety disorders today. Theoretical models of PTSD emphasize avoidance as a core symptom that prevents adaptive processing of trauma. Theoretically; such processing should preclude development of chronic PTSD symptoms.¹⁵⁻¹⁶ The goal of exposure-based therapies is to reverse avoidance. Through desensitization, modeling, reciprocal inhibition, or flooding, exposure-based therapies facilitate a focus on traumatic memories, and thereby promote cognitive and emotional integration of trauma. Foa and Kozak² noted that exposure as an anxiolytic treatment dates back to Freud and has emerged as "a common principle for...treatment...across schools of psychotherapy" (p. 20) for anxiety disorders. Recent American Psychiatric Association treatment guidelines for PTSD reinforce this focus: "The shared element [across efficacious treatments] of controlled exposure may be the critical intervention." (p. 5).¹⁷ The Institute of Medicine concurred.¹⁸

An unfortunate consequence of the success of the exposure-based therapy model has been the neglect of other potentially useful treatment paradigms for PTSD. To date, interpersonal factors have played a marginal role in PTSD treatment models. Yet core features of PTSD are intrinsically interpersonal. PTSD has deleterious effects on interpersonal relationships and psychosocial functioning. Interpersonal variables strongly influence the chronicity of PTSD.^{19,20} This article reviews the importance of interpersonal factors and social support in PTSD and speculates on an interpersonal treatment model that has shown initial promise.^{21,22}

DIAGNOSIS OF PTSD

PTSD has interpersonal aspects. In the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR) PTSD diagnostic criteria (p. 468), the avoidance symptom cluster includes avoiding "conversations associated with the trauma" and "people" who evoke traumatic memories. Individuals may have a "feeling of detachment or estrangement from others," show a "restricted range of affect," or have "irritability or outbursts of anger" in interpersonal contexts.²³ "Diminished interest or participation in significant activities" typically occurs in social settings. The criteria also include a "sense of a foreshortened future" with social aspects of life given as prime examples: "career, marriage, children."

The PTSD clinical literature describes a range of associated interpersonal features. Patients have dysregulated affect and become withdrawn, mistrustful, and "interpersonally hypervigilant"²¹ in social circumstances. PTSD compromises intimacy with others,²⁴ burdens

significant others,²⁵ and impairs social and marital functioning.^{26–29} Moreover, individuals with PTSD may fall into maladaptive interpersonal patterns that increase the risk of revictimization.^{26,27,30}

Anecdotal evidence suggests that interpersonal distortions and functional deficits are typical foci in community treatment of patients with severe childhood trauma and neglect. Such treatment models appear throughout the psychodynamic literature,^{31–34} suggesting a widespread if unresearched approach.

PRE-TRAUMA VULNERABILITY AND INTERPERSONAL PROCESSES

Although most people (50%–90%) encounter trauma during their lifetimes,^{35,36} only about 8% develop full PTSD.³⁵ Vulnerability to PTSD involves interaction of a biological diathesis, early childhood developmental experiences, and trauma severity. Predictor models have consistently found that childhood trauma, chronic adversity, and familial stressors increase the risk for PTSD and for its biological risk markers after a traumatic event in adulthood.^{37–39} The effect of childhood trauma, which is poorly understood, may reflect both traumatic experiences and attachment problems.^{40–42}

Formative Attachment Styles

Research demonstrates that prior trauma increases vulnerability to anxiety and other disorders,⁴³ but there is no consensus on explanatory mechanisms. Shared diatheses probably interact with both interpersonal trauma and neglect in childhood and with temperamental factors that influence behavior.^{37,44–46} Separation anxiety disorder and inhibited temperament in childhood specifically predict adult anxiety disorders.^{46,47} Several longitudinal studies have linked the diagnosis of separation anxiety and behavioral inhibition in early childhood to various anxiety disorders later in life.^{47–51} In one study, 30% of behaviorally-inhibited children subsequently developed anxiety disorders.⁵²

Another dyadic (interpersonal) variable, insecure mother-child attachment, contributes to children's development of clinical anxiety syndromes. In one study, 65% of 20 children aged 18 to 59 months, whose mothers had anxiety disorders, had behavioral inhibition (BI).⁵³ Of children with BI, 80% had insecure maternal attachments. Secure attachment was associated with less anxiety, a striking finding given the high rate of BI in this group. These results imply that insecure mother-child attachment contributed more than inhibited temperament to high risk for anxiety disorders.^{53–54} A longitudinal study of 172 mothers with anxiety disorders and their infants found a link between anxious/resistant attachment assessed in infancy and diagnosable DSM-IV anxiety disorders in adolescence.⁵⁵

Mothers of anxious children display more intrusive involvement and negative interactions (overinvolved parenting style) than mothers of children without psychiatric disorders.⁵⁶ Fonagy has elaborated the complex interactions between genetic predisposition and effects of anxious parenting in the first 3 years of life on subsequent development of anxiety disorders.⁵⁷ Vanderwerker et al. found that a retrospective diagnosis of childhood separation anxiety was associated with developing complicated grief, a disorder related to PTSD, in 283 recently bereaved individuals.⁵⁸

Thus research suggests that parenting styles and primary childhood relationships increase later risk of developing anxiety disorders, including PTSD. We speculate that premorbid insecure attachment and difficulty in establishing basic trust,⁴² due to biological predisposition and/or early life experiences, including trauma, leave individuals vulnerable to subsequent interpersonal disruptions after traumatic experiences, and hence to developing PTSD. Differing attachment styles will necessarily affect how individuals seek and benefit from social support,

which is perhaps the strongest predictor to date of whether an individual shows resilience after a traumatic experience or develops PTSD.^{59,60}

Attachment

Bowlby explored the developmental importance of social supports for adult psychopathology, studying the effects of secure and insecure childhood attachment on depressive vulnerability.^{61,62} Bowlby postulated an evolutionarily determined, instinctual human drive to form attachments that enhanced infants' survival by eliciting protective, caretaking behaviors from adults. Ethological research now supports this theory in species-specific behaviors.⁶³ As they develop, children begin to explore their environment, gradually decamping from the "secure base" of their attachment figure.⁶¹

Whereas secure attachment provides confidence both for exploration and eliciting support from relationships, conflicts in this early caregiving connection produce an insecure attachment style associated with adult vulnerability, such as fearful avoidance. Hence, loss of one's mother in the first decade of life is a risk factor for subsequent depression.^{64,65} Bowlby's social attachment theories resonate with Erikson's maturational phase of basic trust versus mistrust.⁶⁶ With regard to PTSD, secure attachment would bolster and insecure attachment would compromise the ability to confidently explore the environment—to risk "exposure" to trauma reminders and use available social supports to overcome initial fearful reactions.

Recent studies of attachment style and PTSD support this model. Stovall-McClough and Cloitre reported that unresolved childhood trauma increased the risk of a PTSD diagnosis seven-fold and was associated more with avoidant than dissociative PTSD symptoms.⁶⁷ Declercq and Palmans found that both adult attachment style and perceived social support moderated development of PTSD in 544 subjects exposed to a critical incident.⁶⁸ Fraley et al. found that adult survivors ($N = 45$) with secure attachment who were highly exposed to the events of September 11, 2001 described fewer PTSD and depressive symptoms on follow-up than those with insecure attachment.⁶⁹ Twaite and Rodriguez-Srednicki, studying 284 New Yorkers affected by 9/11, found that a history of childhood sexual or physical abuse increased the likelihood while secure attachment decreased the likelihood, of PTSD symptoms. Thus secure attachment protected against and potentially mediated the development of PTSD.⁷⁰

POST-TRAUMA FACTORS THAT CONTRIBUTE TO SYMPTOMS AND CHRONICITY

A major meta-analytic study showed that social factors play a key role in PTSD. Based on a careful meta-analysis of research on risk factors, Brewin et al. reported that "lack of social support" was the largest single predictor of developing PTSD after a traumatic event ($r = 0.40$).⁵⁹ Life stress ($r = 0.32$) and trauma severity ($r = 0.23$) were the next largest predictors. Gender, age, race, socioeconomic status, education, intelligence, psychiatric and family history, childhood abuse, and previous trauma were less important predictors. Ozer et al. replicated this finding in another meta-analysis: they found that posttraumatic perceived social support had a larger weighted average correlation (weighted $r = -0.28$, from 11 studies with a combined $N = 3,537$) with PTSD than five of the other six predictors they examined (excepting only peritraumatic dissociation, $r = 0.35$). The association between lack of perceived social support and PTSD strengthened as time elapsed between the traumatic event and the assessment of PTSD.⁶⁰ These findings suggest interpersonal factors, such as the ability to build and elicit support from social networks, promote adaptive responses to traumatic experiences. Conversely, lack of social support is a major risk factor for developing PTSD.

A large literature links social support to the onset of major depressive disorder (MDD) and schizophrenia. Absence of social support increases the risk of developing MDD, whereas its presence reduces this risk.⁶⁴⁻⁶⁵ Having a confidant has also been found to reduce the risk of depression.⁶⁵ Life stressors, including complicated bereavement, struggles in relationships (role disputes), upheavals in marital status, changes in housing, job status, or physical health (role transitions), and social isolation (interpersonal deficits), also increase the risk for MDD.⁶⁴⁻⁷¹ Events involving interpersonal loss occur in at least half of the cases of new onset panic disorder.⁷² A dysregulated or hostile interpersonal environment (high “expressed emotion”) predicts relapse in schizophrenia,⁷⁴ bipolar disorder,⁷⁵⁻⁷⁶ and MDD.⁷³ Thus social support may mediate several psychiatric disorders, including PTSD.

AN INTERPERSONAL APPROACH TO PTSD

Some patients with PTSD refuse exposure-based therapies, an unsurprising consequence of their anxious avoidance. PTSD treatment guidelines state: “Some trauma survivors are reluctant to confront trauma reminders and to tolerate the high anxiety and temporarily increased symptoms that sometimes accompany exposure. Thus, not everyone may be a candidate for exposure-based treatment” (p. 324).¹ A non-exposure-based, interpersonal model might effectively engage such patients in treatment. Little has been written, and only limited research has been done, on interpersonal approaches to the treatment of PTSD.³²⁻³³ Cloitre et al. developed a manualized, two-phase treatment that addresses interpersonal deficits in victims of childhood sexual abuse, with promising pilot findings.⁷⁷

Adapting Interpersonal Psychotherapy for PTSD

Interpersonal psychotherapy (IPT) is a time-limited treatment developed for the treatment of major depressive disorder.⁶⁴⁻⁷¹ Its demonstrated efficacy for MDD has led to its adaptation and testing for other psychiatric diagnoses.⁶⁴⁻⁷¹ IPT has been shown to build social skills.^{64, 78} Focusing on an interpersonal crisis, IPT aims to relieve symptoms by enhancing social functioning and recruiting social supports. Emphasizing the recognition and repair of interpersonal difficulties, IPT provides opportunities to reverse interpersonal avoidance, increase social support, undergo corrective emotional experiences with others that potentially modulate trauma-related interpersonal distortions, and improve demoralization and helplessness that inhibit motivation to overcome trauma-related fears.

We developed a manualized modification of IPT for PTSD^{21,79} that focuses on *how trauma (or PTSD) has compromised patients’ current interpersonal perspective and social functioning*. The central tenet of treatment is that *trauma impairs the individual’s ability to use the social environment to process environmental trauma*, shattering perceived environmental safety and poisoning trust in interpersonal relationships. Hence individuals with PTSD develop “interpersonal hypervigilance,”²¹ withdraw from or distance themselves within relationships, and restrict social activities. Experiencing the environment and relationships as dangerous then triggers maladaptive social functioning that helps to perpetuate PTSD. PTSD symptoms, in turn, reinforce social detachment and dysfunction. Treatment counters the perceived helplessness and shamefulness of PTSD with a sense of interpersonal competence, and redirects the patient’s attention from inner preoccupation with past trauma to coping with the immediate interpersonal outer world.

Empirical Evidence for IPT-PTSD

We conducted an open trial of 16 subjects with chronic PTSD (7.7 ± 9.9 [mean $\pm$ SD] years) using our manualized adaptation of IPT (data on the first 14 subjects were reported in Bleiberg and Markowitz²¹). The study involved 14 weekly IPT sessions that focused on daily interactions with family members, co-workers, and others in the patients’ environment rather

than on exposure. Of the 16 subjects with chronic PTSD, 15 (94%) completed treatment. Scores on the Clinician Administered PTSD Scale (CAPS),⁸⁰ a benchmark PTSD scale, fell from 66.3 ± 16.0 to 23.5 ± 16.1 ($p = 0.001$), with improvement across symptom clusters. Rate of treatment response, defined *a priori* as $\geq 50\%$ decrement in CAPS score, was 69%; and rate of remission, defined as CAPS score ≤ 20 , was 44%. Depression and anger were also reduced. 21 Interestingly, as patients improved, they spontaneously began to expose themselves to trauma reminders. Subjects also reported improved social functioning on the Social Adjustment Scale (SAS-SR),⁸¹ Inventory of Interpersonal Problems (IIP),⁸² and other measures.

These preliminary findings of this open trial require replication under controlled circumstances. With support from the National Institute of Mental Health, we are conducting a randomized controlled trial comparing three 14-week psychotherapies that each employ very different mechanisms for treating chronic PTSD:

1. Prolonged exposure, epitomizing exposure-based therapy;
2. IPT focusing on interpersonal sequelae of PTSD, rather than exposure to its traumatic trigger;
3. Relaxation therapy, emphasizing reduction of anxiety through relief of physical tension. This study will evaluate not only the efficacy of IPT for PTSD, but potentially how the different treatments work.

In a separate, randomized trial, Krupnick et al. treated 48 low-income, multiply traumatized women with chronic PTSD recruited from public family planning and gynecology clinics.²² Patients received either 16 2-hour sessions of group IPT or a waiting list condition. Mean CAPS scores fell from 65.2 ± 20.9 to 40.6 ± 16.9 with group IPT, with gains maintained at 4 month follow-up. In contrast, mean CAPS scores in the wait list group decreased from 62.6 ± 16.6 to 56.8 ± 12.2 on the CAPS. As in our individual IPT therapy, scores on the Hamilton Rating Scale for Depression⁸³ and on the IIP also improved.

DISCUSSION

Our current randomized controlled trial of IPT for PTSD administers instruments repeatedly over the course of psychotherapy to measure whether self-initiated exposure to trauma reminders or interpersonal change may mediate therapeutic improvement. Reflective Function, ^{42,84} an assessment that measures how individuals judge emotional aspects of relationships, their own emotions, and feeling states of others—i.e., a proxy for attachment—may provide a novel gauge of IPT's mechanism. We will also examine whether IPT increases Reflective Function (i.e., improves attachment).

Might secure childhood attachment and premorbid social support predict better posttraumatic social support, marking individuals with a better prognosis? Higher levels of perceived social support in adulthood may indicate better interpersonal skills, which might predict a more secure treatment alliance, a crucial outcome factor.^{85,86} Greater social support also suggests better integration into social networks, greater availability of help in the immediate environment—other presumably good prognostic signs. In contrast, insecure attachment increases the perceived risk in exploring one's environment, a pattern with negative implications for individuals with PTSD. Interpersonal aspects of PTSD deserve further exploration, as do treatment approaches that address this aspect of PTSD symptomatology.

Acknowledgments

Supported in part by grant MH079078 from the National Institute of Mental Health

References

1. Foa, EB.; Keane, TM.; Friedman, MJ., editors. Effective treatments for PTSD. New York: Guilford; 2000.
2. Foa EB, Kozak MJ. Emotional processing of fear: Exposure to corrective information. *Psychol Bull* 1986;99:20–35. [PubMed: 2871574]
3. Kardiner, A.; Spiegel, H. War stress and neurotic illness. New York: Hoeber; 1947.
4. Foa EB, Rothbaum BO, Riggs DS, et al. Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *J Consult Clin Psychol* 1991;59:715–723. [PubMed: 1955605]
5. Foa EB, Dancu CV, Hembree EA, et al. A comparison of exposure therapy, stress inoculation training, and their combination in reducing posttraumatic stress disorder in female assault victims. *J Consult Clin Psychol* 1999;67:194–200. [PubMed: 10224729]
6. Foa EB, Hearst-Ikeda D, Perry KJ. Evaluation of a brief cognitive-behavioral program for the prevention of chronic PTSD in recent assault victims. *J Consult Clin Psychol* 1995;63:948–955. [PubMed: 8543717]
7. Marks I, Lovell K, Noshirvani H, et al. Treatment of posttraumatic stress disorder by exposure and/or cognitive restructuring. *Arch Gen Psychiatry* 1998;55:317–325. [PubMed: 9554427]
8. Veronen, LJ.; Kilpatrick, DG. Stress management for rape victims. In: Meichenbaum, D.; Jaremko, ME., editors. Stress reduction and prevention. New York: Plenum; 1983.
9. Tarrier N, Pilgrim H, Sommerfield C, et al. A randomized trial of cognitive therapy and imaginal exposure in the treatment of chronic posttraumatic stress disorder. *J Consult Clin Psychol* 1999;67:13–18. [PubMed: 10028204]
10. Rothbaum, BO.; Meadows, EA.; Resick, P. Cognitive-behavioral therapy. In: Foa, EB.; Keane, TM.; Friedman, MJ., et al., editors. Effective treatments for PTSD. New York: Guilford; 2000. p. 60-83.
11. Monson CM, Schnurr PP, Resick PA, et al. Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *J Consult Clin Psychol* 2006;74:898–907. [PubMed: 17032094]
12. Chemtob, CM.; Tolin, DF.; van der Kolk, BA., et al. Eye movement desensitization and reprocessing. In: Foa, EB.; Keane, TM.; Friedman, MJ., editors. Effective treatments for PTSD. New York: Guilford; 2000. p. 139-154.
13. Horowitz, MJ. Stress response syndromes. third edition. Northvale, NJ: Aronson; 1997.
14. Foa EB, Davidson JRT, Frances A. The expert consensus guideline series: Treatment of posttraumatic stress disorder. *J Clin Psychiatry* 1999;60:15.
15. Blanchard EB, Hickling EJ, Barton KA, et al. One year prospective follow-up of motor vehicle accident victims. *Behav Res Ther* 1996;34:775–786. [PubMed: 8952120]
16. Marshall RD, Turner JB, Lewis-Fernandez R, et al. Predicting chronicity in Vietnam veterans with combat-related PTSD: New findings from the National Vietnam Veterans Readjustment Study. *J Nerv Ment Dis* 2006;194:275–278. [PubMed: 16614549]
17. American Psychiatric Association. Practice guideline for the treatment of patients with acute stress disorder and posttraumatic stress disorder. *Am J Psychiatry* 2004;161:3–31.
18. Institute of Medicine Committee on Treatment of PTSD. Treatment of posttraumatic stress disorder: An assessment of the evidence. Washington, DC: National Academy of Sciences; 2008.
19. Galea S, Ahern J, Resnick H, et al. Psychological sequelae of the September 11 terrorist attacks in New York City. *NEJM* 2002;346:982–987. [PubMed: 11919308]
20. Silver RC, Holman EA, McIntosh DM, et al. Nationwide longitudinal study of psychological responses to September 11. *JAMA* 2002;288:1235–1244. [PubMed: 12215130]
21. Bleiberg KL, Markowitz JC. Interpersonal psychotherapy for posttraumatic stress disorder. *Am J Psychiatry* 2005;162:181–183. [PubMed: 15625219]
22. Krupnick JL, Green BL, Stockton P, et al. Group interpersonal psychotherapy with low-income women with posttraumatic stress disorder. *Psychother Res* 2008;18:497–507. [PubMed: 18816001]
23. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, fourth edition, text revision. Washington, DC: American Psychiatric Association; 2000.

24. Riggs DS, Byrn CA, Weathers FW, et al. The quality of the intimate relationships of male Vietnam veterans: Problems associated with posttraumatic stress disorder. *J Trauma Stress* 1998;11:87–102. [PubMed: 9479678]
25. Beckham JC, Lytle BL, Feldman ME. Caregiver burden in partners of Vietnam war veterans with posttraumatic stress disorder. *J Consult Clin Psychol* 1996;64:1068–1072. [PubMed: 8916637]
26. Cloitre M, Scarvalone P, Difede JA. Posttraumatic stress disorder, self- and interpersonal dysfunction among sexually retraumatized women. *J Trauma Stress* 1997;10:437–452. [PubMed: 9246651]
27. Liang B, Williams LM, Siegel JA. Relational outcomes of childhood sexual trauma in female survivors: A longitudinal study. *J Interpersonal Violence* 2006;21:42–57.
28. Amaya-Jackson L, Davidson JR, Hughes DC, et al. Functional impairment and utilization of services associated with posttraumatic stress in the community. *J Trauma Stress* 1999;12:709–724. [PubMed: 10646189]
29. North CS, Nixon SJ, Shariat S, et al. Psychiatric disorders among survivors of the Oklahoma City bombing. *JAMA* 1999;282:755–762. [PubMed: 10463711]
30. Davidson JRT, Hughes D, Blazer D, et al. Posttraumatic stress disorder in the community: An epidemiological study. *Psychol Med* 1991;21:1–19. [PubMed: 2047485]
31. Alexander PC, Anderson C. An attachment approach to psychotherapy with the incest survivor. *Psychotherapy* 1994;31:665–675.
32. Pearlman LA, Courtois CA. Clinical applications of the attachment framework: Relational treatment of complex trauma. *J Trauma Stress* 2005;18:449–459. [PubMed: 16281242]
33. Jordan, JV.; Kaplan, AG.; Miller, JB., et al. *Women's growth in connection: Writings from the Stone Center*. Wellesley, MA: Stone Center; 1991.
34. Herman, J. *Trauma and recovery*. New York: Basic Books; 1997.
35. Kessler RC, Sonnega A, Bromet E, et al. Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry* 1995;52:1048–1060. [PubMed: 7492257]
36. Breslau N, Kessler RC, Chilcoat HD, et al. Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma. *Arch Gen Psychiatry* 1998;55:626–632. [PubMed: 9672053]
37. Koenen KC, Moffitt TE, Poulton R, et al. Early childhood factors associated with the development of post-traumatic stress disorder: Results from a longitudinal birth cohort. *Psychol Med* 2007;37:181–192. [PubMed: 17052377]
38. Otte C, Neylan TC, Pole N, et al. Association between childhood trauma and catecholamine response to psychological stress in police academy recruits. *Biol Psychiatry* 2005;57:27–32. [PubMed: 15607297]
39. Resnick HS, Yehuda R, Pitman RK, et al. Effect of previous trauma on acute plasma cortisol level following rape. *Am J Psychiatry* 1995;152:1675–1677. [PubMed: 7485635]
40. Laor N, Wolmer L, Mayes LC, et al. Israeli preschoolers under Scud missile attacks: A developmental perspective on risk-modifying factors. *Arch Gen Psychiatry* 1996;53:416–423. [PubMed: 8624185]
41. Laor N, Wolmer L, Mayes LC, et al. Israeli preschool children under Scuds: A 30-month follow-up. *JAACAP* 1997;36:349–356.
42. Fonagy P, Bateman A. The development of borderline personality disorder--A mentalizing model. *J Pers Disord* 2008;22:4–21. [PubMed: 18312120]
43. Heim C, Nemeroff CB. The role of childhood trauma in the neurobiology of mood and anxiety disorders: Preclinical and clinical studies. *Biol Psychiatry* 2001;49:1023–1039. [PubMed: 11430844]
44. Marquenie LA, Schade A, van Balkom AJ, et al. Origin of the comorbidity of anxiety disorders and alcohol dependence: Findings of a general population study. *Eur Addict Res* 2007;13:39–49. [PubMed: 17172778]
45. Kessler RC, Davis CG, Kendler KS. Childhood adversity and adult psychiatric disorder in the US National Comorbidity Survey. *Psychol Med* 1997;27:1101–1119. [PubMed: 9300515]
46. Yehuda R, Halligan SL, Grossman R. Childhood trauma and risk for PTSD: Relationship to intergenerational effects of trauma, parental PTSD, and cortisol excretion. *Dev Psychopathol* 2001;13:733–753. [PubMed: 11523857]

47. Nemeroff CB. Neurobiological consequences of childhood trauma. *J Clin Psychiatry* 2004;65:18–28. [PubMed: 14728093]
48. Biederman J, Rosenbaum JF, Bolduc-Murphy EA, et al. A 3 year follow-up of children with and without behavioral inhibition. *J Am Acad Child Adolesc Psychiatry* 1993;32:814–821. [PubMed: 8340303]
49. Rutter M, Sandberg S. Epidemiology of child psychiatric disorder: Methodological issues and some substantive findings. *Child Psychiatry Hum Dev* 1985;15:209–233. [PubMed: 3899538]
50. Rosenbaum JF, Biederman J, Bolduc-Murphy EA, et al. Behavioral inhibition in childhood: A risk factor for anxiety disorders. *Harv Rev Psychiatry* 1993;1:2–16. [PubMed: 9384823]
51. Pine DS. Child-adult anxiety disorders. *J Am Acad Child Adolesc Psychiatry* 1994;33:280–281. [PubMed: 8150802]
52. Biederman J, Rosenbaum JF, Hirshfeld DR, et al. A three-year follow-up of children with and without behavioral inhibition in young children with parents with and without psychiatric disorders. *Arch Gen Psychiatry* 1990;47:21–26. [PubMed: 2294852]
53. Manassis K, Bradley S, Goldberg S, et al. Behavioural inhibition, attachment and anxiety in children of mothers with anxiety disorders. *Can J Psychiatry* 1995;40:87–91. [PubMed: 7788623]
54. Hirshfeld-Becker DR, Biederman J, Faraone SV, et al. Lack of association between behavioral inhibition and psychosocial adversity factors in children at risk for anxiety disorders. *Am J Psychiatry* 2004;161:547–555. [PubMed: 14992982]
55. Warren SL, Huston L, Egeland B, et al. Child and adolescent anxiety disorders and early attachment. *JAACAP* 1997;36:637–644.
56. Hudson JL, Rapee RM. Parent-child interactions in clinically anxious children and their siblings. *J Clin Child Adolesc Psychol* 2002;31:548–555. [PubMed: 12402573]
57. Fonagy P. The human genome and the representational world: The role of early mother-infant interaction in creating an interpersonal interpretive mechanism. *Bull Menninger Clin* 2001;65:427–448. [PubMed: 11531137]
58. Vanderwerker LC, Jacobs SC, Parkes CM, et al. An exploration of associations between separation anxiety in childhood and complicated grief in later life. *J Nerv Ment Dis* 2006;194:121–123. [PubMed: 16477190]
59. Brewin CR, Andrews B, Valentine JD. Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. *J Consult Clin Psychol* 2000;68:748–766. [PubMed: 11068961]
60. Ozer EJ, Best SR, Lipsey TL, et al. Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychol Bull* 2003;129:52–73. [PubMed: 12555794]
61. Bowlby, J. Attachment and loss. New York: Basic Books; 1973.
62. Bowlby J. Developmental psychiatry comes of age. *Am J Psychiatry* 1998;145:1–14. [PubMed: 3276225]
63. Hofer, MA. An evolutionary perspective on anxiety. In: Roose, SP.; Glick, RA., editors. *Anxiety as symptom and signal*. Hillsdale, NJ: Analytic Press; 1995. p. 17-38.
64. Klerman, GL.; Weissman, MM.; Rounsaville, BJ., et al. *Interpersonal psychotherapy of depression*. New York: Basic Books; 1984.
65. Brown, GW.; Harris, T. *The social origins of depression: A study of psychiatric disorder in women*. New York: Free Press; 1978.
66. Erikson, E. *Childhood and society*. New York: Norton; 1950.
67. Stovall-McClough KC, Cloitre M. Unresolved attachment, PTSD, and dissociation in women with childhood abuse histories. *J Consult Clin Psychol* 2006;74:219–228. [PubMed: 16649866]
68. Declercq F, Palmans V. Two subjective factors as moderators between critical incidents and the occurrence of post traumatic stress disorders: Adult attachment and perception of social support. *Psychol Psychother* 2006;79:323–337. [PubMed: 16945195]
69. Fraley RC, Fazzari DA, Bonanno GA, et al. Attachment and psychological adaptation in high exposure survivors of the September 11th attack on the World Trade Center. *Pers Soc Psychol Bull* 2006;32:538–551. [PubMed: 16513805]

70. Twaite JA, Rodriguez-Srednicki O. Childhood sexual and physical abuse and adult vulnerability to PTSD: The mediating effects of attachment and dissociation. *J Child Sex Abus* 2004;13:17–38. [PubMed: 15353375]
71. Weissman, MM.; Markowitz, JC.; Klerman, GL. Comprehensive guide to interpersonal psychotherapy. New York: Basic Books; 2000.
72. Milrod B, Leon AC, Shear MK. Can interpersonal loss events precipitate panic disorder? *Am J Psychiatry* 2004;161:758–759. [PubMed: 15056531]
73. Barrowclough C, Hooley JM. Attribution and expressed emotion: A review. *Clin Psychol Rev* 2003;23:849–880. [PubMed: 14529701]
74. Pharoah FM, Rathbone J, Mari JJ, et al. Family intervention for schizophrenia. *Cochrane Database Syst Rev*. 2000;(2) CD000088.
75. Rosenfarb IS, Miklowitz DJ, Goldstein MJ, et al. Family transactions and relapse in bipolar disorder. *Fam Process* 2001;50:5–14. [PubMed: 11288369]
76. Johnson SL, Winett CA, Meyer B, et al. Social support and the course of bipolar disorder. *J Abnorm Psychology* 1999;108:558–566.
77. Cloitre M, Koenen KC, Cohen LR, et al. Skills training in affective and interpersonal regulation followed by exposure: A phase-based treatment for PTSD related to childhood abuse. *J Consult Clin Psychol* 2002;70:1067–1074. [PubMed: 12362957]
78. Weissman MM, Klerman GL, Prusoff BA, et al. Depressed outpatients: Results one year after treatment with drugs and/or interpersonal psychotherapy. *Arch Gen Psychiatry* 1981;38:52–55.
79. Weissman, MM.; Markowitz, JC.; Klerman, GL. Clinician's quick guide to interpersonal psychotherapy. New York: Oxford University Press; 2007.
80. Blake DD, Weather FW, Nagy LM, et al. The development of a clinician-administered PTSD scale. *J Trauma Stress* 1995;8:75–90. [PubMed: 7712061]
81. Weissman MM, Bothwell S. Assessment of social adjustment by patient self-report. *Arch Gen Psychiatry* 1976;33:1111–1115. [PubMed: 962494]
82. Horowitz LM, Rosenberg SE, Baer BA, et al. Inventory of interpersonal problems: Psychometric properties and clinical applications. *J Consult Clin Psychol* 1988;56:885–892. [PubMed: 3204198]
83. Hamilton M. Development of a rating scale for primary depressive illness. *Br J Soc Clin Psychol* 1967;6:278–296. [PubMed: 6080235]
84. Rudden M, Milrod B, Target M, et al. Reflective functioning in panic disorder patients: A pilot study. *J Am Psychoanal Assn* 2006;54:1339–1343.
85. Krupnick JL, Sotsky SM, Simmens S, et al. The role of the therapeutic alliance in psychotherapy and pharmacotherapy outcome: Findings in the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *J Consult Clin Psychol* 1996;64:532–539. [PubMed: 8698947]
86. Wampold, BE. The great psychotherapy debate: Models, methods and findings. Mahwah, NJ: Lawrence Erlbaum; 2001.