

Spirituality and Resilience in Trauma Victims

Julio F. P. Peres¹; Alexander Moreira-Almeida, M.D., Ph.D.^{2,3,4}; Antonia Gladys Nasello,
Ph.D.¹ and Harold G. Koenig, M.D., M.H.Sc⁴

¹Neuroscience and Behavior, Institute of Psychology, University of São Paulo, Brazil;

²Department of Psychiatry, University of São Paulo, Brazil;

³School of Medicine, Federal University of Juiz de Fora, Brazil;

⁴Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Geriatric Research, Education and Clinical Center, Veterans Affairs Medical Center, Durham, USA.

Corresponding author: Julio F. P. Peres

Address: Rua Maestro Cardim 887

São Paulo – SP – Brazil – ZIP 01323-001

Phone: 55 11 9983-8174 / FAX: 55 11 3284-8929

E-mail: julioperes@yahoo.com

Abstract

The way people process stressors is critical in determining whether or not trauma will be experienced. Some clinical and neuroimaging findings suggest that posttraumatic stress disorder (PTSD) patients experience difficulty in synthesizing the traumatic experience in a comprehensive narrative. Religiousness and spirituality are strongly based on a personal quest for understanding of questions about life and meaning. Building narratives based on healthy perspectives may facilitate the integration of traumatic sensorial fragments in a new cognitive synthesis, thus working to decrease post traumatic symptoms. Given the potential effects of spiritual and religious beliefs on coping with traumatic events, the study of the role of spirituality in fostering resilience in trauma survivors may advance our understanding of human adaptation to trauma.

Keywords: Religiousness, Spirituality, Resilience, Trauma, Stress, PTSD.

Introduction

There is a wide range of cognitive and behavioral responses and outcomes among trauma survivors. Researchers have shown a strong relationship between psychological trauma and the development of post-traumatic stress disorder (PTSD; Leskin et al.,

1998), simple phobia and social phobia (Magee, et al., 1996), borderline personality disorder (Van Der Kolk et al., 1994), somatoform disorder (Lamprecht & Sack, 2002), dissociative disorders (Ross et al., 1991), eating disorders (Tobin et al., 1995), self-mutilation, suicide, high-risk behaviors, substance abuse (Marshall et al., 2001; Schinagle, 2002), and major depression (Neria et al., 2002).

Although traumatic memories are mainly discussed in literature associated with PTSD, large numbers of traumatized people do not meet DSM-IV criteria for PTSD and other psychiatric disorders (Weiss et al., 1992). According to US studies, the lifetime prevalence of traumatic events capable of producing PTSD in susceptible subjects may reach 50% to 90%, but the prevalence of PTSD in the general population is about 8% (Vieweg et al., 2006). These data show that stressors in themselves, in most cases, do not lead to manifestation of psychological trauma. A high quality study based on a large community sample found that the risk of PTSD after a traumatic event was around 9% on average; the highest risk of PTSD was associated with torture or kidnapping (50.8%) (Breslau et al., 1998).

Several studies have shown that many people cope with traumatic or stressor events on the basis of their religious beliefs. A nationwide survey of stress reactions in the US after September 11th found that turning to religion (prayer, religion or spiritual feelings) was the second most common way of coping (90%), after talking with others (98%) (Schuster et al., 2001). Religious coping is also frequent in cases of severe disease (Koenig et al., 2001). In fact, many victims of stressful situations seek support from religion, professionals, literature, or from friends, while others emphasize silence, isolation, collapse and/or victimization (Spouse, 1999; Bonanno, 2004). Although there are significant qualitative differences in how traumatized and non-traumatized people process and categorize their experiences (McFarlane et al., 2002), there are basic questions that have yet to be answered. Why do 90% of trauma survivors not develop PTSD? What predicts the development of positive outcomes? Could these factors be helpful in treating psychological trauma patients?

Our aim in this critical essay is to bring together contributions from neurosciences, and clinical and epidemiological investigations that may provide insights into resilience in trauma survivors, specifically the potential role of spirituality.

Psychological Trauma and Neuroscience

Attempts to understand responses to trauma have turned to the contribution of personality factors. The way people process stressors is critical in determining whether or not trauma will be experienced (Peres et al., 2005). Neuroscience suggests that rather than memories, the brain stores traces of information that are subsequently used to create memories, but do not always express a completely factual picture of a past experience. Whenever an event is retrieved, it may undergo cognitive and emotional change. Moreover, neuroimaging studies of traumatic memories in PTSD have repeatedly shown reduced volume and activation of the hippocampus and left hemisphere. The structures showing low activation were the medial pre-frontal cortex, anterior cingulate, pre-frontal dorso-lateral cortex, hippocampus and Broca's area. The areas with highest activation were the para-hippocampal gyrus and the posterior cingulate, as well as the amygdala in specific symptom provoking paradigms (Bremner, 2002; Hull, 2002).

Smaller hippocampal volume and its decreased activation in PTSD individuals may be at least partly involved in the continuous dissociation and erroneous interpretation of information in relation to negative events (Gilbertson et al., 2002). It is believed that the hippocampus "creates" a cognitive map so that events may be categorized and data connected with other autobiographical information, thus playing a fundamental role in the process of synthesizing, integrating, learning, and evaluating experiences (Hull, 2002). Blockage of the integrative function of the hippocampus may favor fragmentation of traumatic experiences, corporal sensations, odors, and sounds that seem strange and isolated from other experiences in life (van der Kolk, 1997). Most PTSD research with activation paradigms showed accentuated activity of the amygdala when processing negative emotions such as fear (Hull, 2002). Decreased activity in the pre-frontal and anterior cingulate cortex was a concomitant observation in many of these studies. The pre-frontal cortex in primates and humans is involved in cognitive syntheses through robust projections to the amygdala (emotional memories), medial-temporal and thalamic (long-term memory) structures (Barbas, 2000). The lower level of pre-frontal cortical activity involved in reduced negative feedback from amygdala activity may obstruct

processing of cognitive syntheses, as well as represent a defective extinction of responses to fear and emotional deregulation in PTSD (Nutt and Malizia, 2004).

Functional studies also show a significant decrease in activity in Broca's area related to translation of personal experiences into a communicable language. This finding concurs with the difficulty PTSD individuals experience in synthesizing and assimilating a traumatic event to produce a structured narrative. Neuroimaging researches support the non-verbal nature of traumatic memories in PTSD volunteers and a more narrative-type expression of traumatic memories in non-PTSD volunteers (van der Kolk, 1997; Lanius et al., 2004). The narrative structure of memory is an indicator of prefrontal dependent cognitive processing (Hull, 2002). Building new narratives based on healthy perceptions may facilitate the integration of traumatic mnemonic traces and sensorial fragments in a new cognitive synthesis, thus working to decrease symptoms of PTSD (Peres et al., 2005).

Resilience

Trauma researchers have pointed to the importance of individual differences in resilience - the ability to go through difficulties and regain satisfactory quality of life - and vulnerability as key determinants of the intensity and duration of trauma-related symptoms. Some personality traits act as "protectors" of individuals exposed to extreme stress (Bonnano, 2004). Based on observations of survivors from Nazi concentration camps who were able to maintain good health and lead a good life despite all they had experienced, Antonovsk developed the concept of "sense of coherence" (SOC). SOC is based on three components: *comprehensibility* (life and its events make sense in cognitive terms, ability to comprehend the situation as a whole), *meaningfulness* (life makes sense emotionally, problems are seen as challenges rather than burdens), and *manageability* (ability to use available resources to deal with life events).

The SOC concept attempts to provide some pointers as to why people stay well despite stressful situations (Lindstrom and Eriksson, 2005), and although it has been in use for less than 30 years, it has been investigated in over 500 studies. A recent systematic review found that SOC was strongly related to better perceived health, particularly mental health. People with high SOC seem to be more resilient under stress

(Eriksson and Lindstrom, 2006). A decisive factor in developing resilience may be the way individuals perceive and process an experience. People who develop interpretative patterns of coping and attempt to modify the present positively may find it easier to overcome psychological traumas. Whereas patterns involving self-pity, abandonment, self-victimization and self-depreciation may intensify the negative emotions related to a traumatic memory and exacerbate psychological suffering (Peres et al., 2005).

Therefore an important point for psychotherapy may be to sensitize reinforcement of a traumatized individual's resilient traits by having patients access repertoires of such attitudes from their own history prior to trauma, or from other individuals who learned from traumatic experiences and developed on that basis. Spirituality and religiosity may also be cornerstones in reframing perception and constituting behavior. Good examples or precedents aligned with resilient attitudes, such as positive learning from experience, self-confidence and calmness in dealing with difficulties, may be harnessed for psychotherapy of trauma victims.

Hope and Spirituality

Hopelessness is a word often used by PTSD individuals to express their emotional state (Scher and Resick, 2005). Studies suggest that an increase in hope and decrease in despair and hopelessness may be critically important factors for better health and longevity. A prospective study of coronary heart disease (CHD) and optimism found that “a more optimistic explanatory style, or viewing the glass as half-full, lowers the risk of CHD in older men” (Kubzansky, Sparrow, Vokonas, & Kawachi, 2001, pp. 913–914) and discussed other research showing a link “between pessimism, hopelessness, and risk of heart disease” (Kubzansky et al., 2001, p. 910). A 30-year study reported that “a pessimistic explanatory style is significantly associated with mortality” (Maruta et al., 2000, p. 140).

When people become traumatized they often look for a new sense of meaning and purpose in their life. Spiritual or religious beliefs and practices are important components of almost all cultures. Religiosity and spirituality are strongly based on a personal quest to understand ultimate questions about life, meaning, and relationships with the sacred or

transcendent (Moreira-Almeida and Koenig, 2006). Religious frameworks and practices may have an important influence on how people interpret and cope with traumatic events.

Hundreds of studies have investigated the relationship between religious involvement and mental health. In most cases, they have found that higher levels of religious involvement are associated with greater well being and mental health (Moreira-Almeida et al., 2006). Positive religious coping has been associated not only with better physical and mental outcomes in medically ill patients (Koenig et al., 2001; Pargament et al., 2004), but also among trauma survivors such as people affected by large-scale floods (Smith et al., 2000).

However, religious coping is not always related to better outcomes. Negative religious coping (“wondered whether God had abandoned me”, “questioned God's love for me”, and "decided the devil made this happen") was associated with increased mortality in a 2-year longitudinal study of medically ill elderly inpatients, even after controlling for demographic, physical health, and mental health variables (Pargament et al., 2001).

A recent meta-analysis of 49 studies involving a total of 13,512 subjects investigated the association between religious coping and psychological adjustment to stress (Ano and Vasconcelles, 2005). Positive religious coping had a moderate positive relationship ($r=.33$) with positive psychological adjustment and a modest inverse correlation ($r=-.12$) with negative psychological adjustment to stress. On the other hand, negative religious coping showed a positive correlation ($r=.22$) with negative psychological adjustment. The authors stated that “different types of situations may have different implications for coping and psychological adjustment to stress.” However, this review did not provide descriptions of the types of the stressful situations involved. There is a need for more far-reaching research into the impact of the different forms of religious coping on adjustment to traumatic experiences.

A study that underscored possible connection between religion and trauma involved 1385 war veterans being treated for PTSD. Experiences of killing others and failing to prevent the deaths of fellow soldiers weakened their religious faith, and contributed independently as a significant predictor of more extensive use of VA mental health services. Severity of PTSD symptoms and social functioning were not as strongly

predictive of continued use of mental health services as weakened religious faith. The authors concluded, “veterans’ pursuit of mental health services appears to be driven more by their guilt and the weakening of their religious faith than by the severity of their PTSD symptoms or their deficits in social functioning.” The authors raised the possibility “that a primary motivation of veterans’ continuing pursuit of treatment may be their search for a meaning and purpose to their traumatic experiences.” This suggests that spirituality may be more central to the treatment of PTSD than usually thought (Fontana and Rosenheck, 2004).

Pargament (1997) proposed that religious coping may have something special to offer. “It may uniquely equip individuals to respond to situations in which they come face-to-face with the limits of human power and control and are confronted with their vulnerability and finitude”. Religious beliefs and practices may reduce loss of control and helplessness, provide a cognitive framework that can decrease suffering, and strengthen one’s purpose and meaning in the face of trauma. Religion can also provide a worldview that helps give purpose and meaning to suffering, besides hope and motivation.

The concept of religious coping involves several cognitive aspects. Examples of positive religious coping include benevolent reappraisal (seeking a lesson from God in the event); seeking spiritual support (searching for comfort and reassurance through God’s love and care); active religious surrender (doing what one can and then putting the rest in God’s hands); seeking spiritual connection (thinking about how life is part of a larger spiritual force), and seeking religious direction (prayed to find a new reason to live) (Pargament et al., 2004). A religious/spiritual belief system, by helping to interpret life events and giving them meaning and coherence, may contribute to the psychological integration of traumatic experiences (Koenig, 2006).

As discussed previously, neurofunctional studies suggest that psychological integration through a structured narrative seems to be a key factor in resilience to traumatic events. Future studies need to investigate the clinical and neurofunctional implications of these cognitive aspects of religious coping. Moreover, in addition to the cognitive dimension, religiousness may also help coping through social support, providing role models for suffering, and supporting healthy behaviors (ex: discouraging the use of alcohol and drugs) (Koenig et al., 2001; Koenig 2006).

There are multiple and sometimes unexpected pathways to resilience (Bonanno, 2004). Since hopelessness is a risk factor for PTSD as well as heightened vulnerability and helplessness (Scher and Resick, 2005), a reasonable assumption would be that the sense of holding and supporting may protect individuals exposed to traumatic events. Given the major impact of traumatic events, the increasing recognition of resilience factors and the potential effects of spiritual and religious beliefs on coping behavior, the study of the role of spirituality in fostering resilience in trauma survivors may advance our understanding of human adaptation to trauma.

Acknowledgement

Dr. Moreira-Almeida is supported by a post-doctoral fellowship provided by HOJE - Hospital João Evangelista, Brazil.

References

- Ano GG, Vasconcelles EB. Religious coping and psychological adjustment to stress: a meta-analysis. *J Clin Psychol*. 2005 Apr;61(4):461-80.
- Barbas, H. (2000). Connections underlying the synthesis of cognition, memory, and emotion in primate prefrontal cortices. *Brain Res Bull*, 15;52(5):319-30.
- Beck AT. The current state of cognitive therapy: a 40-year retrospective. *Arch Gen Psychiatry*. 2005 Sep;62(9):953-9.
- Bonanno, G. A. (2004). Loss, Trauma, and Human Resilience: Have We Underestimated the Human Capacity to Thrive After Extremely Aversive Events? *The American Psychologist*, 59, 20-28.
- Bremner, J. D. (2002). Neuroimaging studies in post-traumatic stress disorder. *Current Psychiatry Reports*, 4, 254-263.
- Breslau N, Kessler RC, Chilcoat HD, Schultz LR, Davis GC, Andreski P. Trauma and posttraumatic stress disorder in the community: the 1996 Detroit Area Survey of Trauma. *Arch Gen Psychiatry*. 1998 Jul;55(7):626-32.
- Eriksson M, Lindstrom B. Antonovsky's sense of coherence scale and the relation with health: a systematic review. *J Epidemiol Community Health*. 2006 May;60(5):376-81.
- Fontana A, Rosenheck R. Trauma, change in strength of religious faith, and mental health

- service use among veterans treated for PTSD. *J Nerv Ment Dis.* 2004 Sep;192(9):579-84.
- Gilbertson MW, Shenton ME, Ciszewski A, Kasai K, Lasko NB, Orr SP, Pitman RK. (2002). Smaller hippocampal volume predicts pathologic vulnerability to psychological trauma. *Nat Neurosci*, 5(11):1242-7
- Hull, A. M. (2002). Neuroimaging findings in post-traumatic stress disorder. Systematic review. *British Journal of Psychiatry*, 181, 102-110.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048-1460.
- Koenig HG, Larson DB, Larson SS. Religion and coping with serious medical illness. *Ann Pharmacother.* 2001 Mar;35(3):352-9.
- Koenig, H. G. (2006) *In the Wake of Disaster: religious responses to terrorism and catastrophe*. Philadelphia, Templeton Foundation Press.
- Kubzansky, L.D., Sparrow, D., Vokonas, P., & Kawachi, I. (2001). Is the glass half empty or half full? A prospective study of optimism and coronary heart disease in the Normative Aging Study. *Psychosomatic Medicine*, 63, 910–916.
- Lamprecht, F., & Sack, M. (2002). Posttraumatic stress disorder revisited. *Psychosomatic Medicine*, 64 (2), 222-237.
- Lanius, R.A., Williamson, P.C., Densmore, M., Boksman, K., Neufeld, R.W., Gati, J.S., & Menon, R.S. (2004). The Nature of Traumatic Memories: a 4-T FMRI functional connectivity analysis. *Am J Psychiatry*, 161 (1): 36-44.
- Leskin, G. A., Kaloupek, D. G., & Keane, T. M. (1998). Treatment for traumatic memories: review and recommendations. *Clinical Psychology Review*, 18, 983-1001.
- Lindstrom B, Eriksson M. Salutogenesis. *J Epidemiol Community Health.* 2005 Jun;59(6):440-2.
- Magee, W. J., Eaton, W. W., Wittchen, H. U., McGonagle, K. A., & Kessler, R. C. (1996). Agoraphobia, simple phobia, and social phobia in the National Comorbidity Survey. *Archives of General Psychiatry*, 53, 159-168.
- Marshall, R. D., Olfson, M., Hellman, F., Blanco, C., Guardino, M., & Struening, E. L. (2001). Comorbidity, impairment, and suicidality in subthreshold PTSD. *American Journal of Psychiatry*, 158, 1467-1473.

- Maruta, T., Colligan, R. C., Malinchoc, M., & Offord, K. P. (2000). Optimists vs. pessimists: Survival rate among medical patients over a 30-year period. *Mayo Clinic Proceedings*, 75, 140–143.
- McFarlane, A. C., Yehuda, R., & Clark, C. R. (2002). Biologic models of traumatic memories and post-traumatic stress disorder. The role of neural networks. *Psychiatric Clinics of North America*, 25 (2), 253-270.
- Moreira-Almeida A, Koenig HG. Retaining the meaning of the words religiousness and spirituality. *Soc Sci Med*. 2006
- Moreira-Almeida, A., Lotufo Neto, F., & Koenig, H. G. (2006). Religiousness and Mental Health: A review. *Revista Brasileira de Psiquiatria*, 28(3), in press.
- Neria, Y., Bromet, E. J., & Marshall, R. (2002). The relationship between trauma exposure, post-traumatic stress disorder (PTSD) and depression. *Psychological Medicine*, 32 , 1479-1480; author reply 1480-1483.
- Pargament KI, Koenig HG, Tarakeshwar N, Hahn J. Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: a two-year longitudinal study. *J Health Psychol*. 2004 Nov;9(6):713-30
- Pargament KI, Koenig HG, Tarakeshwar N, Hahn J. Religious struggle as a predictor of mortality among medically ill elderly patients: a 2-year longitudinal study. *Arch Intern Med*. 2001 Aug 13-27;161(15):1881-5.
- Pargament, K.I. (1997). *The Psychology of religion and coping: Theory, research, and practice*. New York: Guilford Press.
- Peres, J. F. P., Mercante, J. P. P. & Nasello, A. G. (2005) Psychological dynamics affecting traumatic memories: implications in psychotherapy. *Psychology and Psychotherapy: Theory, Research and Practice*, 78, 431-447
- Ross, C. A., Miller, S. D., Bjornson, L., Reagor, P., Fraser, G. A., & Anderson, G. (1991). Abuse histories in 102 cases of multiple personality disorder. *The Journal of Clinical Psychiatry*, 36, 97-101.
- Scher CD, Resick PA. (2005). Hopelessness as a risk factor for post-traumatic stress disorder symptoms among interpersonal violence survivors. *Cogn Behav Ther*, 34(2):99-107.
- Schinagle, M. (2002). Recurrent suicide attempts, self-mutilation, and binge/purge behavior: a case report. *Harvard Review of Psychiatry*, 10, 353-356.

- Schuster MA, Stein BD, Jaycox L, Collins RL, Marshall GN, Elliott MN, Zhou AJ, Kanouse DE, Morrison JL, Berry SH. A national survey of stress reactions after the September 11, 2001, terrorist attacks. *N Engl J Med*. 2001 Nov 15;345(20):1507-12.
- Spouse, L. (1999). The trauma of being a refugee. *Medicine, conflict, and survival*, 15, 394-403.
- Tobin, D. L., Molteni, A. L., & Elin, M. R. (1995). Early trauma, dissociation, and late onset in the eating disorders. *The International Journal of Eating Disorders*, 17, 305-308.
- Van Der Kolk BA, et. al. (1997) The Psychobiology of Traumatic Memory: Clinical Implications of Neuroimaging Studies *Ann New York Acad of Sci*, 821: 98-113.
- Van Der Kolk, B.A., Hostenler, A., Herron, N., & Fislser, R.E. (1994). Trauma and the development of borderline personality disorder. *Psychiatric Clinics of North America*, 17, 715-730.
- Vieweg WV, Julius DA, Fernandez A, Beatty-Brooks M, Hetteema JM, Pandurangi AK. Posttraumatic stress disorder: clinical features, pathophysiology, and treatment. *Am J Med*. 2006 May;119(5):383-90.
- Weiss, D. S., Marmar, C. R., Schlenger, W. E., Fairbank, J. A., Jordan, B. K., Hough, R. L., & Kulka, R. A. (1992). The prevalence of lifetime and partial stress disorder in Vietnam Theater veterans. *Journal of Traumatic Stress*, 5, 365-376.