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Traumatic Stress and Religion: Is there a Relationship? A Review of Empirical Findings

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ABSTRACT: Based on a history of close conceptual link, empirical studies are beginning to accumulate that investigate the relationship between trauma and religion. A review of empirical studies that examined the relationship between religion/spirituality and PTSD showed mixed findings (n = 11). Though the direction of association varied among studies, all but one study reported significant associations between the two. Factors that might have contributed to the mixed findings are discussed (e.g., measurements, research design). Overall, these results appear to be encouraging toward confirming the conceptual link between religion and trauma. Further research investigating the direction of causation and possible moderators of the association may contribute to a better understanding of the relationship between trauma and religion.

KEY WORDS: religion; spirituality; trauma; PTSD; review.

Introduction

Traumatic stress is a condition that affects up to 60% of men and 50% of women in the US (Schnurr & Green, 2004). One major risk of exposure to trauma is the development of Posttraumatic Stress Disorder (PTSD). In the US, approximately 8–14% of traumatized men and 20–31% of traumatized women develop PTSD, which is equivalent to prevalence rates of approximately 5–5% in men and 10–12% in women (Breslau, Davis, Andreski, & Peterson, 1991; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). As a result, much research has

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been devoted to the understanding of psychological trauma and identifying factors that may be associated with adaptation to and recovery from its adverse effects. Religion has long been thought of as a construct that may be closely associated with trauma adaptation, even though a systematic empirical investigation of this association did not begin until only recently.

Religion has often been perceived as a source of comfort, meaning, and purpose for those experiencing extremely difficult and negative life events. Some have proposed that religion serves to integrate the seemingly incomprehensible trauma into a "sacred order"—providing the knowledge that even the traumatizing events have a place within the order of a larger universe (e.g., Berger, 1990). Others have speculated that exposure to trauma may lead to changes in one's strength of religious faith, causing the person to abandon his/her faith or to embrace it even more (e.g., Fontana & Rosenheck, 2004). Though the conceptual link between religion and trauma appears to be sensible, empirical studies that may inform the literature on their potentially bidirectional relationships are just starting to emerge. The purpose of this paper is to review empirical studies that have examined the associations between religion and effects of trauma. More specifically, for the purpose of this review, we will focus on PTSD as an indicator of trauma impact and adaptation.

Method

A computer-based information search was conducted on the PsycINFO (1872–2004) and MEDLLINE (1966–2004) data bases, English language citations only. We crossed the search for religious key words (i.e., religious beliefs, religiosity, religion, spirituality, religious practices, religiousness, and religious coping) with the search for trauma key words (i.e., posttraumatic stress disorder, PTSD, emotional trauma, stress reactions, and psychological trauma). The criteria for inclusion in the final review were (a) publication in a peer-reviewed journal; (b) empirical studies; (c) use of quantitative measures for both religion and PTSD; and (d) results reported an examination of relationship between religion and PTSD measures. A total of 11 studies were identified that met inclusion criteria for this review.

Results

All of the 11 studies employed cross-sectional survey design. Table 1 shows a summary of findings from the studies reviewed in this paper. Overall, these studies used a wide range of measures for both religion/spirituality and trauma, which yielded what appear to be mixed findings for the relationship between the two. However, all but one study had reported significant associations (positive or negative) between measures of religion/spirituality and PTSD.

TABLE 1
Summary of Findings Reported in Reviewed Studies

Authors	Sample	Religion Measure	Trauma Measure	Association
Inverse Association				
Krejci et al. (2004)	Sexual trauma victims (n = 71) and controls (n = 25)	SWB	MPSS-SR	↑ SWB—↓ overall MPSS-SR; SWB did not differ between groups
Lee and Waters (2003)	College students (n = 61)	SWB	TSC-40	↑ SWB—↓ TSC
Sprang and McNeil (1998)	Family members of drunk driving victims (n = 171)	A Religious Scale	M-PTSD	↑ ARS—↓ M-PTSD
Positive Association				
Maercker and Herrle (2003)	Survivors of 1945 Dresden bombing (n = 47)	Belief in afterlife	IES; Trauma exposure	↑ Beliefs—↑ IES-avoidance for high trauma exposure, but not for low trauma exposure
Martz (2004)	Spinal chord injury patients (n = 313)	Spiritual/religious coping	PPTSD-R	↑ Spiritual/religious coping—↑ PPTSD-R
Plante and Manuel (1992)	College students (n = 86)	Strength of religious faith	IES	↑ Faith—↑ IES-Intrusion
Witvliet et al. (2004)	Veterans diagnosed with PTSD (n = 213)	Brief Religious Coping Scale	Davidson Trauma Scale for PTSD; M-PTSD	↑ pos. rel. cope—↑ DTS; ↑ neg. rel. cope—↑ DTS; ↑ neg. rel. cope—↑ M-PTSD

TABLE 1 *(Continued)*

Authors	Sample	Religion Measure	Trauma Measure	Association
Mixed Findings				
Astin et al. (1993)	Battered women (n = 53)	Intrinsic Religious Orientation (IR)	IES; SCL	↑ IR—↓ IES ↑ IR—↑ SCL
Connor et al. (2003)	Community sample (n = 1,200). Survivors of trauma, n = 648	General spiritual belief; Reincarnation belief	Severity subscale of the DTS	↑ General belief—↓ DTS; No significance for reincarnation belief
Falsetti et al. (2003)	Community (n = 64) and clinical (n = 56) samples from the DSM-IV Field Trial Study on PTSD	IRMS; CRBS	SCID	+PTSD status—reported being less religious on CRBS; No significance for IRMS
No Assoc				
Fontana and Rosenheck (2004)	Veterans (n = 1,385)	Change in religious faith	Mississippi Scale for Combat-Related PTSD	No significant relationship

SWB, Spiritual Well-Being Scale; MPSS-SR, Modified PTSD Symptom Scale-Self-Report; TSC-40, Trauma Symptom Checklist; M-PTSD, Mississippi Post-traumatic Stress Disorder Scale; IES, Impact of Event Scale; PPTSD-R, Purdue Post-traumatic Stress Disorder Scale; SCL, PTSD Symptom Checklist; DTS, Davidson Trauma Scale; TRS, Trauma-Related Stress; IRMS, Intrinsic Religious Motivation Scale; CRBS, Changes in Religious Beliefs Scale; SCID, Structured Diagnostic Interview for DSM-III-R.

Inverse associations

Three of the 11 studies reviewed in the paper reported measures of religion/spirituality to be inversely associated with measures of PTSD—higher scores on one measure were correlated with lower scores on the other. Of the three studies that reported such associations, two used a measure of spirituality. First, Krejci et al. (2004) compared sexual trauma victims with control subjects on self-reported measures of spirituality and PTSD symptoms. Spirituality was measured using the JAREL spiritual well-being scale that assessed the nature and depth of commitment to spiritual beliefs (sample items for the scale could not be located). PTSD symptoms were measured using the modified PTSD symptom scale-self-report (MPSS-SR). On the PTSD measure, control subjects responded to the PTSD scale based on the most stressful lifetime event. Results showed that high scores on spiritual well-being were associated with low scores on the MPSS–SR. This association remained significant after controlling for income and sexual trauma status, and did not differ between the sexual trauma victims and the control subjects.

Also, Lee and Waters (2003) assessed spiritual well-being and trauma symptoms in a college student sample. Students received packets containing various demographic, psychosocial, and well-being measures. Spirituality was measured using the Spiritual Well-Being Scale that assessed spiritual quality of life, sample items included: " I feel that life is a positive experience" and "I believe that God loves me and cares about me" (Paloutzian & Ellison, 1982). Trauma symptoms were assessed using the Trauma Symptom Checklist (TSC-40). Results indicated that scores on spirituality were inversely associated with scores on the TSC-40. The Spiritual Well-Being Scale remained a significant predictor of TSC-40 after controlling for stressful life experiences.

One of the three studies that reported an inverse association between religion/spirituality and PTSD used a measure of religion. Sprang and McNeil (1998) collected data on religious beliefs and PTSD symptomatology in primary family members of drunk driving victims. Adult family members of individuals who had been killed by a drunk driver were randomly selected to complete a questionnaire by mail. A Religion Scale was used to measure strengths of religious beliefs, sample items included: "A sound religious faith is the best thing in life" and "Prayer can solve many problems" (Bardis, 1961). The Mississippi Posttraumatic Stress Disorder scale (M-PTSD) was used to measure PTSD symptoms. Results indicated that controlling for social support, subjective health status, and gender, higher scores on religious beliefs were found to predict lower scores on PTSD symptoms.

Positive associations

Four of the 11 studies reviewed reported positive associations between measures of religion/spirituality and PTSD—higher scores on one measure were correlated with higher scores on the other. Two of the four studies used a measure of religious/spiritual *coping*. First, Martz (2004) measured spiritual/

religious coping using a single-time question: "To what extent do you utilize spiritual/religious resources to help you cope with your spinal disorder"? Survey packets were distributed to spinal chord injury patients that also assessed PTSD using the revised Purdue Posttraumatic Stress Disorder scale (PPTSD-R). Results showed that controlling for demographic variables (e.g., age, education, ethnicity), high scores on spiritual/religious coping were associated with high scores on the PPTSD-R.

The second study, Witvliet, Phipps, Feldman, and Beckham (2004), measured religious coping using the Brief Religious Coping Scale in a group of PTSD clinic outpatients. This religious coping scale has a positive religious coping factor (e.g., seeking spiritual support, collaboration with God in solving the problem) and a negative religious coping factor (e.g., appraisal of the problem as God's punishment, interpersonal religious discontent). The questionnaire packet also included two self-report measures of PTSD: the Davidson Trauma Scale for PTSD (DTS) and the Mississippi Scale for Combat-Related PTSD (M-PTSD). Results indicated that use of negative religious coping was associated with high scores on both the DTS and the M-PTSD. The use of positive religious coping was also associated with high scores on the DTS, but not associated with the M-PTSD.

One of the four studies that reported a positive relationship between religion/spirituality and PTSD measured "belief in after life" in a group of survivors of the Dresden bombing of February 1945 (Maercker & Herrle, 2003). Participants completed self-reported measures that included a three-item scale of belief in afterlife, the Impact of Event Scale-Revised (IES-R), and a Traumatic Exposure Checklist (TEC). The belief scale was "taken from the German Fear of Death Questionnaire" (Maercker & Herrle, 2003). An interaction between belief in afterlife and trauma exposure was reported for the IES-R avoidance scale. A strong belief in the afterlife was associated with high avoidance in the high trauma exposure group, while the reverse was found in the low trauma exposure group (i.e., strong belief—low avoidance).

Finally, one of the four studies that found a positive association between religion/spirituality and PTSD assessed "strengths of religious faith" in students at the onset of the Persian Gulf War (Plante & Manuel, 1992). Demographic questions included religious affiliation and questions concerning participant's strengths of religious faith. Sample items for the religious faith scale could not be located. The Impact of Event Scale (IES) was used to measure PTSD symptoms. The reported strength of religious faith was positively correlated with the intrusion subscale of the IES. In addition, being Catholic was positively associated with the total IES score.

Mixed associations

Three of the 11 studies reviewed in this paper reported both positive and negative associations in the same study or both significant and non-significant findings in the same study, depending on the measures used. Two of three

studies used multiple measures of religion/spirituality. First, Connor, Davidson, and Lee (2003) surveyed violent trauma survivors in community sample. Spirituality was measured by a scale of general spiritual beliefs (e.g., belief in the existence of a spiritual being or God) and a scale of reincarnation beliefs (e.g., belief in the influence of past lives). PTSD symptom severity was assessed using the severity subscale of the Davidson Trauma Scale (DTS). Results showed that only general spiritual beliefs were inversely associated with PTSD symptom severity.

Also, Falsetti, Resick, and Davis (2003) studied the relationship between religious beliefs and PTSD using individuals from community and clinical samples who participated in the DSM-IV Field Trial Study on PTSD. All of the participants in this study (community and clinical) were reported to have had experienced a high magnitude stressor as defined by DSM-III-R. The PTSD module of the Structured Diagnostic Interview for DSM-III-R (SCID) was used to assess PTSD status. The Intrinsic Religious Motivation Scale (IRMS) was used to assess depth of religious beliefs, sample items included: "My faith involves all of my life" and "In my life I experience the presence of the Divine" (Hoge, 1972). The Changes in Religious Beliefs Scale (CRBS) was used to assess changes in religious beliefs subsequent to trauma. The scale included both open- and close-ended items given during a structured interview. Controlling for demographic variables and number of traumas, individuals with positive PTSD status were significantly more likely than those with negative PTSD status to report a change in religious beliefs. Furthermore, this association was more pronounced in the community than in the clinical sample. No significant association was reported between the IRMS and PTSD status.

Finally, one of the three studies that reported mixed findings used a single-item Intrinsic Religiosity scale (IR) from the Age Universal Religious Orientation scale to assess religiousness (Astin, Lawrence, & Foy, 1993). The single item used in the study was: My whole approach to life is based on my religion (Gorsuch & McPherson, 1989). The study also used two measures to assess PTSD symptomatology. A sample of battered women completed the Impact of Event Scale (IES) and the PTSD Symptom Checklist (SCL). Intrinsic religiosity was found to be inversely associated with the IES, but positively associated with the SCL.

No association

Only one of the studies reviewed reported no significant associations between measures of religion/spirituality and PTSD symptoms. Fontana and Rosenheck (2004) studied a group of veterans who provided data for PTSD programs. Change in religious faith was measured as the difference between two items (i.e., "how much was religion a source of strength and comfort to you?")—one referring to the time of questionnaire survey, and the other to the time the veterans went into the military. Participants responded to both items at the same time—when the survey was conducted. The Mississippi Scale for Combat-

Related PTSD was used to assess PTSD symptoms. No significant association was reported between change in religious faith and PTSD symptoms.

Discussion

Despite of the close conceptual link between religion and traumatic stress, empirical studies investigating the potentially bi-directional relationship only began to emerge in the past decade, with an increasing number of studies within the last 3 years. Although this growing literature is yet to form a trend in any one direction, all but one of the studies reviewed in this paper reported significant associations between religion and PTSD. The mixed findings among these studies may be reflective of diversity in measurement and sampling, and are encouraging in identifying an association between religion and trauma.

Measurement

One explanation for the significant but mixed findings for religion/spirituality and PTSD may be that these multi-dimensional constructs were assessed using many different measures, particularly with regard to religion/spirituality. Religion/spirituality is a multifaceted construct that involves beliefs, practices, and social connections—any of which can be measured in a number of different ways. For example, the collective and organized nature of the many practices that characterize most religious activities may involve a social component that may or may not be part of a strictly spiritual exercise. Also, measurements designed to assess beliefs, and ones that are developed to evaluate activities, orientations/motivations, or changes in religion may be tapping into very different aspects of this highly complex construct.

The various measures of religion/spirituality used in the studies reviewed in this paper are somewhat representative of the multifaceted nature of this construct. In 11 studies, religion/spirituality was operationalized in 10 different ways, including spiritual beliefs, well-being, and coping; religious faith, beliefs, and coping; beliefs in the afterlife and reincarnation; intrinsic religious orientation, and change in religious faith. Furthermore, a measure such as religious coping consists of both positive and negative coping, which are expected to yield results in the opposite directions. Therefore, it may not be surprising that a review of such literature indicates mixed findings of associations. On the other hand, it is encouraging that given the number of measures used in these studies, all but one reported significant relationships between religion/spirituality and PTSD.

Sampling

Differences in sample characteristics may also contribute to the mixed findings presented in this review. The studies recruited participants who were

students, community residents, veterans, and survivors of various types of trauma. The types of trauma included in these studies ranged from personal events such as sexual violation or having a family member killed by drunk driver, to collective trauma such as the Gulf war and the Dresden bombing. Previous research has found that various types of trauma may have differential effects on trauma adaptation and well-being (e.g., Krupnick et al., 2004). Moreover, different trauma experiences may invoke event specific emotions and coping behaviors (e.g., Fontana & Rosenheck, 2004). Therefore, mixed results may be expected from a collection of highly diverse samples, such as ones reviewed in this paper.

Study design

All of the studies reviewed here used cross-sectional design, whereby participants were asked to respond to both religious/spiritual and PTSD questions at the same time point. A major limitation to this design is its insufficiency in establishing baseline measures, capturing change, and examining the direction of causation. However, given the highly unpredictable nature of trauma, it is extremely challenging to obtain baseline information pertaining to pre-trauma periods. These studies provided initial reports of possible associations between religion/spirituality and traumatic stress. Future research investigating the direction of impact between these constructs, perhaps employing a longitudinal design, will be of great importance.

Also, all 11 studies used the survey method of assessment. Descriptive associations among variables were reported from participants' self-reported measures. Again, it may require much creativity, effort, and care to design research that allows experimental manipulations of religion/spirituality or even distress (that reflects trauma), in order to determine the direction and perhaps context of causation between these two constructs. However, the religion and trauma literature will benefit much from reports of controlled laboratory studies that use an experimental design.

Finally, it may be worthwhile to note that none of the studies reviewed in this paper reported statistical control of time lapsed since trauma occurrence. The amount of time that has lapsed between trauma occurrence and questionnaire administration may be more relevant to personal trauma than it is to collective trauma, where a group of participants were exposed to the same traumatic event (e.g., 9/11 terrorist attack). Variance in time lapsed since trauma among study participants may be a potential confounding factor in religion/spirituality and trauma adaptation. Both religion/spirituality and coping with trauma are processes that require time to develop or progress. It may be important to distinguish effects that are products of natural passage of time and ones that are due to religion/spirituality and effective coping.

Moreover, examination of time lapsed since trauma may be particularly important in studies that ask participants to recall emotions or beliefs at the time of, or prior to, trauma occurrence. For example, in Fontana and

Rosenheck (2004), which is the only study that reported a non-significant finding between measures of religion and PTSD, change in religiousness was indirectly assessed by participants' self-report of both current and recall of religiousness at the time they went into military service. Such retrospective recall may be directly influenced by the passage of time, and would benefit from the inclusion of time laps as a covariate in the analyses.

Conclusions

Exposure to trauma may have an effect on people's religious beliefs and involvement, yet such beliefs and involvements may also function as resources for those struggling to cope with trauma. The directions of these associations, as well as the conditions under which they occur remain important research questions in the study of trauma and religion. Further investigation aimed at determining these associations may contribute to an understanding of the interrelationship between trauma and religion.

References

Astin, M. C., Lawrence, K. J., and Foy, D. W (1993). Posttraumatic stress disorder among battered women: Risk and resiliency factors. *Violence and Victims*, 8, 17–28.
Bardis, P (1961). A religion scale. *Social Science*, 36, 120–123.
Berger, P. L. (1990). The Sacred Canopy. New York: Anchor Books.
Breslau, N., Davis, G. C., Andreski, P., and Peterson, E. L (1991). Traumatic events and post-traumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, 48, 216–222.
Connor, K. M., Davidson, J. R. T., and Lee, L. C (2003). Spirituality, resilience, and anger in survivors of violent trauma: A community survey. *Journal of Traumatic Stress*, 16, 487–494.
Falsetti, S. A., Resick, P. A., and Davis, J. L (2003). Changes in religious beliefs following trauma. *Journal of Traumatic Stress*, 16, 391–398.
Fontana, A. and Rosenheck, R (2004). Trauma, change in strength of religious faith, and mental health service use among veterans treated for PTSD. *Journal of Nervous and Mental Disease*, 192, 579–584.
Gorsuch, R. L. and McPherson, S. E (1989). Intrinsic/extrinsic measurement: I/E-Revised and single-item scales. *Journal for the Scientific Study of Religion*, 28(3)348–354.
Hoge, D. R (1972). A validated intrinsic religious motivation scale. *Journal for the Scientific Study of Religion*, 11(4), 369–376.
Kessler, D. C., Sonnega, A., Bromet, E., Hughes, M., and Nelson, C. B (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry*, 52, 1048–1060.
Krejci, M. J., Thompson, K. M., Simonich, H., Crosby, R. D., Donaldson, M. A., Wonderlich, S. A., and Mitchell, J. E (2004). Sexual trauma, spirituality, and psychopathology. *Journal of Child Sexual Abuse*, 13, 85–103.
Krupnick, J. L., Green, B. L., Stockton, P., Goodman, L., Corcoran, C., and Petty, R (2004). Mental health effects of adolescent trauma exposure in a female college sample: Exploring differential outcomes based on experiences of unique trauma types and dimensions Psychiatry. *Interpersonal and Biological Processes*, 67, 264–279.
Maercker, A. and Herrle, J (2003). Long-term effects of the Dresden bombing: Relationships to control beliefs, religious belief, and personal growth. *Journal of Traumatic Stress*, 16, 579–587.
Martz, E (2004). Death anxiety as predictor of posttraumatic stress levels among individuals with spinal cord injuries. *Death Studies*, 28, 1–17.

Lee, S. S. and Waters, C (2003). Impact of stressful life experiences and of spiritual well-being on trauma symptoms. *Journal of Prevention and Intervention in the Community*, 26, 39–47.
Paloutzian, R. F. and Ellison, C. W. (1982). Loneliness, spiritual well-being and quality of life. In L. A. Peplau and D. Perlman (Eds.), *Loneliness: A Sourcebook of Current Theory, Research and Therapy* (pp. 224–237). New York: Wiley Interscience.
Plante, T. G. and Manuel, G. M (1992). The Persian gulf war: Civilian war-related stress and the influence of age, religious faith, and war attitudes. *Journal of Clinical Psychology*, 48, 178–182.
Resnick, H. S., Kilpatrick, D. G., Dansky, B. S., Saunders, B. E., and Best, C. L (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology*, 61, 984–991.
Schnurr, P. P. and Green, B. L. (2004). Trauma and Health: Physical Health Consequences of Exposure to Extreme Stress. Washing, DC: American Psychological Association.
Sprang, G. and McNeil, J (1998). Post-homicide reactions: Grief, mourning and post-traumatic stress disorder following a drunk driving fatality. *Omega*, 37, 41–58.
Witvliet, C. V. O., Phipps, K. A., Feldman, M. E., and Beckham, J. C (2004). Posttraumatic mental and physical health correlates of forgiveness and religious coping in military veterans. *Journal of Traumatic Stress*, 17, 269–273.