Spiritual Transformation After Near-Death Experiences

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Traumatic events may lead to dramatic changes in spirituality. The objective of this study was to explore whether posttraumatic spiritual transformation results not just from the traumatic event, but from spiritual experience during the crisis. The hypothesis tested was that survivors of a brush with death who had spiritual "near-death experiences" have greater spiritual growth and lesser spiritual decline than survivors without near-death experiences. Two hundred thirty self-selected participants who had come close to death completed questionnaires that included the NDE Scale, the Spiritual Transformation Scale, and relevant demographic questions. Near-death experiencers reported greater spiritual growth than comparison survivors, and spiritual growth was correlated with depth of near-death experience. Spiritual decline was comparable in the two groups, and was not associated with depth of near-death experience. Near-death experiences thus are associated with greater posttraumatic spiritual growth but do not influence posttraumatic spiritual decline. The relevance of spiritual transformation to individuals' lives and well-being suggest that further research is warranted, and that strategies to promote spiritual growth be incorporated into therapeutic practice.

Keywords: spiritual transformation, near-death experience, spiritual growth, spiritual decline, posttraumatic growth

The term "spirituality" generally encompasses feelings, thoughts, experiences, and behaviors arising from a search for the divine or the ultimate, not necessarily reliant on religious institutions or doctrines but rather on a variety of experiences and states of awareness that involve transcendent values (Lancaster & Palframan, 2009). Whereas "religion" has the connotations of symbolic, codified practices, "spirituality" refers to a personal search for meaning and the transcendent (Denney, Aten, & Leavell, 2011).

Spiritual Transformation After Trauma

In the past decade, social scientists have focused increased attention on spiritual *transformation*, which can be defined as a fundamental *change* in the place of the sacred or the charac-

ter of the sacred as an object of significance in life, or a fundamental change in the pathways an individual takes to the sacred (Pargament, 2006). The term "sacred" in this sense refers to those things set apart from the ordinary and worthy of veneration and respect, and may be interpreted in either theistic or nontheistic terms (Pargament, 2006). Spiritual transformation implies a radical reorganization of identity, meaning, and purpose in life that may or may not entail religious conversion in the narrow sense (Lancaster & Palframan, 2009).

The National Spiritual Transformation Study noted that serious illness or accident was the primary impetus in spiritual transformation (Smith, 2006). The idea that life difficulties can lead to growth is not new and has pervaded literary, philosophical, mythical, and religious thinking for thousands of years (Denney et al., 2011). While there has been increasing interest in positive psychological responses to trauma, common models of posttraumatic growth generally focus on a limited range of processes and undervalue the spiritual domain (Bray, 2010; Lancaster & Palframan, 2009). However, for some people, response to traumatic events notably involves *spiritual* transformation, both in

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terms of the meaning given to posttraumatic changes and the new life values that may evolve (de Castella & Simmonds, 2012). Spiritual change has been documented after illness, physical or sexual assault, terrorist attack, and natural disaster (Schultz, Altmaier, Ali, & Tallman, 2014). Hood (1977) suggested that awareness of limits in a life-threatening situation facilitates transcendence, and that any situation that suddenly illuminates the limits of everyday reality can trigger a spiritual or mystical state, at least in mild form. Indeed, spiritual progress throughout history has been linked with struggle and dark nights of the soul (Wilde & Murray, 2009). Many major world religions, including Christianity, Hinduism, and Islam, consider suffering crucial to the development of wisdom, as well as to the cultivation of relationships with others and a higher being or ultimate reality (Shaw, Joseph, & Linley, 2005).

In addition to these powerful, life-affirming changes, however, the spiritual transformations after a traumatic event can also include deep and long-lasting destructive changes (Pargament, 2006); they can encompass spiritual decline as well as spiritual growth, and can be highly frightening, arousing and disillusioning (Schultz et al., 2014). Pargament (1997) highlighted the importance of both positive and negative aspects of spiritual coping in the face of trauma. Traumatic events may threaten an individual's world view, initiating a spiritual struggle (O'Rourke, Tallman, & Altmaier, 2008; Pargament, Murray-Swank, Magyar, & Ano, 2005). Confrontation with existential issues and questions about the meaning of a traumatic event can lead to intensified anguish (de Castella & Simmons, 2012), greater cynicism, and loss of faith (Shaw et al., 2005). In fact, although half of patients with posttraumatic stress disorder report no significant change in spirituality, 30% report spiritual decline, whereas only 20% report spiritual growth (Falsetti, Resick, & Davis, 2003).

Near-Death Experiences

Noyes (1972) noted that altered states of consciousness in people as they approach death often go through three sequential stages: resistance to dying, surrender and life review, and finally transcendence, a culminating phase including features typical of spiritual or mystical

experience. Noyes later characterized the mystical factor in the response to life-threatening danger as including a sense of great understanding, sense of harmony or unity, feeling of joy, revelation, enhanced visual imagery, life review, and a sense of being controlled by an outside force (Noyes & Slymen, 1978–1979).

Accounts of these vivid experiences with transcendental features occurring to people when they come close to death can be found in the folklore and writings of European, Middle Eastern, African, Indian, East Asian, Pacific, and Native American cultures (Kellehear, 2009). The term "near-death experience" and the acronym "NDE" were coined in 1975 for these altered states of consciousness on the threshold of death, and only since then have they been studied systematically (Holden, Greyson, & James, 2009). A series of prospective studies suggest that NDEs are reported by about 17% of cardiac arrest survivors (Zingrone & Alvarado, 2009). Near-death experiences and the existential issues they present for survivors were one example of the "other conditions that may be a focus of clinical attention" that led to the creation of the DSM V Code of "Religious or Spiritual Problem," raising clinicians' awareness of nonpathological spiritual distress (Scott, Garver, Richards, & Hathaway, 2003).

A recent review of 30 years of research concluded that demographic variables such as age, gender, ethnicity, education, occupation, socioeconomic status, and religion have no consistent association with the incidence of NDEs in general or of specific NDE features; and that the core NDE can occur after close brushes with death from any cause, including accidents in which the individuals believed they faced imminent death but were not in fact injured (Holden, Long, & MacLurg, 2009; Zingrone & Alvarado, 2009). Studies have found either no association or, on the other hand, variable associations between certain features of NDEs and proximity to death; this inconsistency may reflect differences in documentation of and criteria for closeness to death (Zingrone & Alvarado, 2009). There are cross-cultural variations among NDE narratives, but because these experiences are often described as ineffable, these variations may result from how NDEs are interpreted and verbalized in the context of the experiencers' religious, educational, linguistic, and cultural filters (Wilde & Murray, 2009).

A minority of NDEs, perhaps as many as 15–20%, are experienced as distressing rather than pleasurable, although this percentage is difficult to assess because distressing NDEs may be underreported out of fear, shame, social stigma, or reluctance to relive the experience or to burden others with it (Bush, 2009).

Many NDEs include features interpreted as spiritual, such as a sense of leaving the physical body and encountering nonphysical entities and environments, a sense of cosmic unity, transcendence of time and space, deeply felt positive mood, sense of sacredness, noetic quality or intuitive illumination, paradoxicality, ineffability, transiency, and persistent positive aftereffects (Greyson, 2006, in press). Spiritual experiences occurring in near-death situations resemble those that occur in other situations. NDE phenomenology and aftereffects share with the mystical experiences of 16th-century Roman Catholic mystics St. Teresa of Avila and St. John of the Cross the convergence of exceptional vividness, ecstatic out-of-body experience occurring in the context of incredible light, profound yet ineffable insights into the nature of being, direct and unimpeded transfer of thoughts from the transcendent, loss of fear of death, and healing transformations (Jones, 2010). Modern resuscitation techniques have made available to ordinary people these profound noetic experiences that formerly were available to people only on rare occasions.

Although near-death experiencers' beliefs before their NDE run the gamut from atheism to the devoutly religiosity, changes in beliefs, attitudes, and values after NDEs uniformly include enhanced self-esteem, concern, and compassion toward others, sense of meaning in life, interest in spiritual matters, feeling close to God, belief in life after death, and decreased interest in personal wealth and prestige (Noyes, Fenwick, Holden, & Christian, 2009). McLaughlin and Malony (1984) found that the occurrence and depth of a NDE bore no statistically significant relationship to religious belief or orientation before the NDE, but was strongly correlated with increased importance of religion after the NDE, which could manifest in intensified relationship with the divine, change in religious beliefs, or devaluation of organized religion in favor of a nondenominational spiritual perspective. Sutherland reported in neardeath experiencers a "dramatic change in religious affiliation, especially from organized religion, of whatever denomination, to no religion" (Sutherland, 1990, p. 24). After their NDE, 76% of near-death experiencers described themselves as "spiritual," an increase from 16% before their NDEs (Sutherland, 1990). However, because of the unpredictability of NDEs, experiencers may be unprepared and illequipped to cope with subsequent spiritual awakening, resulting in distressing challenges to their faith and lifestyle (Wilde & Murray, 2009).

Overview of the Study

Much of the research on posttraumatic spiritual change has used qualitative methods rather than recently developed quantitative instruments (Denney et al., 2011). Thus, despite abundant narrative reports of spiritual phenomena in traumatic events and changes in spirituality after such experiences, the question remains in what ways and to what degree such experiences may lead to spiritual transformation. Specifically, to what extent are posttraumatic spiritual growth and decline a result not just of the traumatic event, but of spiritual experience during the crisis, as occurs in NDE? This study was designed to answer that question by comparing responses on the Spiritual Transformation Scale (STS) (Cole, Hopkins, Tisak, Steel, & Carr, 2008) from a sample of individuals who had NDEs and from a comparable sample of individuals who had come close to death but did not have NDEs.

The primary hypothesis to be tested in this study is that survivors of a close brush with death who have NDEs will have greater spiritual growth and lesser spiritual decline than will survivors who do not have NDEs. A corollary hypothesis to be tested is that depth of the NDE, as measured by scores on the NDE Scale (Greyson, 1983), is associated with increased spiritual growth and decreased spiritual decline.

Method

Participants

Participants were 230 individuals who had spontaneously contacted the authors, after reading or hearing about their research, to share their accounts of their experiences when they had come close to death. No effort was made to advertise for or recruit participants. The inclusion criterion was self-report of an experience associated with a situation in which the individual considered his or her life to be seriously threatened. Of those 230 participants, 206 (90%) reported experiences that qualified as NDEs by scoring 7 or higher on the NDE Scale (1 *SD* below the mean; see below), whereas 24 (10%) reported experiences that did not.

The 230 participants in this study included 165 women (72%) and 65 men (28%). Whites comprised 88% of the sample; 9% reported their ethnicity as "mixed"; and the remaining 3% included African Americans, Asian Americans, Native Americans, Hispanics, and "other." In terms of religious identification, 40% identified as Protestant, 22% as Roman Catholic, 26% as atheists or agnostics, and 26% other identification, including Jewish, Muslim, Hindu, Buddhist, and "other." Participants' mean age at the time of the close brush with death was 29.6 years (range = 3 to 72 years; SD = 13.4), and mean time elapsed since that event was 34.4 years (range = 4 to 81 years; SD = 15.5).

With regard to the condition precipitating their life-threatening events, 69 (36%) reported a crisis during surgery, 50 (26%) reported an illness, 27 (14%) an accident, and 46 (24%) some other life-threatening event (e.g., child-birth complication, suicide attempt, homicide attempt, and allergic reaction). With regard to how close they had actually been to death, 66 (34%) reported they had lost vital signs or been declared dead, 67 (35%) reported a life-threatening illness or injury without loss of vital signs, and 60 (31%) did not regard their illness or injury in retrospect as a serious threat to life, even though they believed at the time they were close to death.

Procedure

Participants were mailed or e-mailed a brief questionnaire about their demographic background and details of their close brush with death, and two standardized, self-rated questionnaires: the NDE Scale and the STS. Participants were asked their gender, ethnic identification, religious identification, age at the time of the close brush with death, years elapsed since their close brush with death, condition precipitating the close brush with death, and how close

they had come to dying. Participants' self-reported answers were not verified by review of medical records or other external sources. Participants completed these questionnaires at a time and place of their choosing and returned them by mail or e-mail.

Measures

Near-death experience. The NDE Scale is a self-rated, 16-item, multiple-choice questionnaire developed to assess NDEs (Greyson, 1983). It has been shown to differentiate NDEs from other close brushes with death (Greyson, 1990); to correlate highly with Ring's Weighted Core Experience Index (Ring, 1984), an earlier measure of NDEs (r = .90, p < .001); and to have high internal consistency (Cronbach's $\alpha = .88$), split-half reliability (r = .84, p < .001), and test–retest reliability over a short-term period of 6 months (r = .92, p < .001) (Greyson, 1983) and over a long-term period of 20 years (r =.83, p < .001) (Greyson, 2007). A Rasch rating-scale analysis established that the NDE Scale yields a unidimensional measure, invariant across gender, age, intensity of experience, or time elapsed since the experience (Lange, Greyson, & Houran, 2004). Although the NDE Scale was developed as an ordinal scale without quantified anchor points, the fact that it satisfactorily fits the Rasch model suggests that, for all practical purposes, there do appear to be equal distances between the points of measurement that give the scale interval-level measurement properties (Wright & Masters, 1982).

The 16 items on the NDE Scale explore cognitive changes during the experience, such as a sense of revelation; affective changes, such as feelings of great peace; purportedly paranormal experiences, such as a sense of separation from the physical body; and transcendental experiences, such as an apparent encounter with a mystical being or presence. Scores on the NDE Scale can range from 0 to 32; the mean score of near-death experiencers is 15; and a score of 7, 1 *SD* below the mean, is generally used as a criterion for considering an experience to be a NDE (Greyson, 1983).

Spiritual transformation. The STS measures spiritual growth and spiritual decline (Cole et al., 2008). The Spiritual Growth subscale of the

STS refers to a stronger spiritual orientation related to world view, goals, sense of self, and relationships, whereas the Spiritual Decline subscale refers to a loss or weakening of spiritual association within these domains (Cole et al., 2008). No prior measure of posttraumatic change had assessed spiritual *growth* in a way that differentiated it from related but stable spiritual variables, such as a tendency to find spiritual meaning in traumatic events, that *do not reflect change* per se; and none had assessed spiritual decline in addition to spiritual growth (Cole et al., 2008).

The STS consists of 40 Likert-type questions written using nontheistic language to apply to religiously diverse respondents, with responses ranging from 1 (not at all true for you) to 7 (true for you a great deal): 29 items addressing spiritual growth and 11 addressing spiritual decline. Before starting, the participants are instructed to indicate the extent to which these statements are true for them since the index experience, whether or not they consider themselves spiritual and/or religious (Cole et al., 2008).

The Spiritual Growth subscale contains items such as "spirituality has become more important to me" and "I more often see my own life as sacred" (Cole et al., 2008). Internal consistency for this subscale was high (Cronbach's $\alpha=.98$), and test–retest reliability was good, with r=.85 (p<.001). The Spiritual Decline subscale contains items such as "I feel I've lost some important spiritual meaning that I had before" and "in some ways I think I am spiritually lost" (Cole et al., 2008). Internal consistency for this subscale was high as well (Cronbach's $\alpha=.86$), and test–retest reliability was also good, with r=.73 (p<.001) (Cole et al., 2008).

Statistical Analysis

The *t* tests were used to assess the associations between STS scores and gender, ethnicity, and presence of a NDE. Pearson correlation coefficients were used to assess the associations between STS scores and age at the time of the close brush with death, years elapsed since the close brush with death, and depth of NDE as measured by NDE Scale score. Analyses of variance were used to assess the associations between STS scores and religious identification, and self-reported closeness to death. All data analyses were performed using SPSS 21 (IBM, Armonk, NY).

Results

Near-Death Experience

Scores on the NDE Scale in this study ranged from 0 to 32, with a mean of 15.07 (SD=6.66) and a median of 15.00; Cronbach's α was .82. Data comparing near-death experiencers (those who scored 7 or higher) and nonexperiencers (those who scored less than 7) on potentially confounding variables are presented in Table 1. The two groups were statistically indistinguishable in terms of gender, ethnicity, religious identification, age at the time of the close brush with death, years elapsed since the close brush with death, and self-reported closeness to death.

Spiritual Growth

Scores on the STS Spiritual Growth subscale ranged from 29 to 203, with a mean of 147.6 (SD = 46.4) and a median of 158.9; Cronbach's α was .98. Data showing associations between Spiritual Growth and potentially confounding variables are presented in Table 2. Spiritual Growth in this sample was significantly higher among women than men, but did not differ with self-identified ethnicity, religious identification, age at the time of the close brush with death, or years elapsed since the close brush with death. Spiritual Growth increased with self-reported closeness to death, with those reporting loss of vital signs scoring significantly higher than those with serious illness or injury but no loss of vital signs and those reporting what was considered in retrospect a nonserious illness or injury.

Spiritual Decline

Scores on the STS Spiritual Decline subscale ranged from 11 to 77, with a mean of 22.4 (SD=11.1) and a median of 20.0; Cronbach's α was .84. Spiritual Decline scores were inversely correlated with Spiritual Growth scores (r=-.28, N=230, p<.001). Data showing associations between Spiritual Growth and potentially confounding variables are presented in Table 3. Spiritual Decline in this sample did not differ with gender, self-identified ethnicity, religious identification, age at the time of the close brush with death, years elapsed since the close brush with death, or self-reported closeness to death.

Table 1
Near-Death Experiences and Potentially Confounding Variables

Variable	NDErs	Non-NDErs	Statistic	p
Age at NDE	29.2 (±12.9)	33.6 (±17.1)	t = -1.56, df = 226	NS
Years elapsed since NDE	$35.2 (\pm 15.1)$	$37.5 (\pm 18.6)$	t = -0.70, df = 215	NS
Gender			$\chi^2 = 1.13, df = 1$	NS
Male	56 (27%)	9 (38%)		
Female	150 (73%)	15 (63%)		
Ethnicity			$\chi^2 = 0.30, df = 1$	NS
White	181 (88%)	22 (92%)		
Other	25 (12%)	2 (8%)		
Religious identification			$\chi^2 = 1.41, df = 3$	NS
Protestant	76 (41%)	7 (32%)		
Catholic	40 (22%)	4 (18%)		
Other denomination	48 (26%)	7 (32%)		
Atheist/agnostic	22 (12%)	4 (18%)		
Proximity to death			$\chi^2 = 4.17, df = 2$	NS
Loss of vital signs	68 (39%)	4 (21%)		
Serious illness/injury	53 (31%)	10 (53%)		
Not serious	53 (31%)	5 (26%)		

NDEs and Spiritual Growth

As shown in Figure 1, scores on the Spiritual Growth subscale were significantly greater for those participants who reported NDEs (M = 153.8, SD = 41.2) than for those who did not (M = 95.9, SD = 55.2) (t = 6.26, df = 228, p < .001). Scores on the Spiritual Growth subscale were positively correlated with NDE Scale scores among the entire sample (r = .45, N = 230, p < .001), and among those participants

who had NDEs (r = .33, N = 206, p < .001), but not among those who did not have NDEs (r = .07, N = 24).

NDEs and Spiritual Decline

As shown in Figure 2, scores on the Spiritual Decline subscale did not differ statistically between those participants who reported NDEs (M = 22.3, SD = 10.6) and those who did not (M = 23.6, SD = 15.1) (t = -0.52, SD = 228).

Table 2
Spiritual Growth and Potentially Confounding Variables

Variable	Spiritual growth	Statistic	p
Age at NDE		r =06, N = 228	NS
Years elapsed since NDE		r =05, N = 217	NS
Gender		t = -2.60, df = 228	.01
Male	$135.2 (\pm 51.0)$,	
Female	$152.6 (\pm 43.5)$		
Ethnicity		t = -0.88, df = 228	NS
White	$146.7 (\pm 46.9)$,	
Other	$155.0 (\pm 41.7)$		
Religious identification		F = 0.63; $df = 3,204$	NS
Protestant	$151.9 (\pm 43.8)$		
Catholic	$154.4 (\pm 38.4)$		
Other denomination	$144.7 (\pm 51.8)$		
Atheist/agnostic	$142.5 (\pm 52.5)$		
Proximity to death		F = 7.46; $df = 2, 190$.001
Loss of vital signs	$164.9 (\pm 36.9)$		
Serious illness/injury	$137.6 (\pm 46.9)$		
Not serious	$141.4 (\pm 50.2)$		

Table 3
Spiritual Decline and Potentially Confounding Variables

Variable	Spiritual decline	Statistic	p
Age at NDE		r =03, N = 228	NS
Years elapsed since NDE		r = .09, N = 217	NS
Gender		t = 0.14, df = 228	NS
Male	$22.6 (\pm 11.2)$		
Female	$22.4 (\pm 11.2)$		
Ethnicity		t = 0.55, df = 228	NS
White	$22.6 (\pm 11.6)$		
Other	$21.3 (\pm 7.6)$		
Religious identification		F = 0.34; $df = 3,204$	NS
Protestant	$22.3 (\pm 11.9)$		
Catholic	$22.0 (\pm 11.6)$		
Other denomination	$23.7 (\pm 11.8)$		
Atheist/agnostic	$21.3 (\pm 6.9)$		
Proximity to death		F = 0.77; $df = 2$, 190	NS
Loss of vital signs	$22.5 (\pm 12.3)$	•	
Serious illness/injury	$23.8 (\pm 12.0)$		
Not serious	21.3 (±8.8)		

Scores on the Spiritual Decline subscale were not significantly correlated with NDE Scale scores among the entire sample (r=-.08, N=230), among those participants who had NDEs (r=-.08, N=206), or among those who did not (r=-.24, N=24).

Discussion

The results of this study confirmed the first half of the primary hypothesis, that survivors of a close brush with death who have NDEs would have greater spiritual growth that would survi-

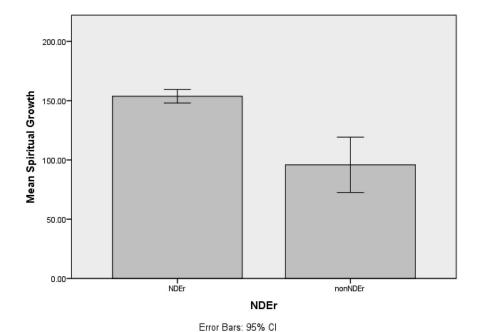


Figure 1. Spiritual Growth in participants with and without NDEs.

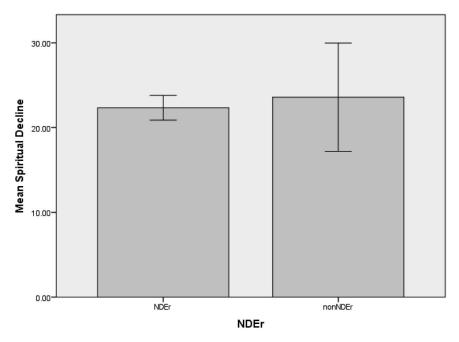


Figure 2. Spiritual Decline in participants with and without NDEs.

vors who do not have NDEs. Furthermore, the data confirmed the first half of the secondary hypothesis, in that the degree of spiritual growth was positively correlated with the depth of the NDE. These findings corroborate and extend the prior subjective reports of increased spiritual growth after NDEs (Greyson, 2006; Ring, 1984; Sutherland, 1990).

Scores on the STS Spiritual Growth subscale were substantially higher among near-death experiencers in this study than among prior samples of persons who had been "significantly wronged" by someone else (M = 123.0, SD =51.8; Schultz et al., 2014) or of persons diagnosed with cancer within 2 years (M = 109.0, SD = 49.3; Cole et al., 2008) or within 1 year of diagnosis (M = 111.7, SD = 50.5, Allmon, Tallman, & Altmaier, 2013). By contrast, participants in this study who had come close to death without NDEs showed substantially less spiritual growth than any of the prior samples. These differences suggest that the nature of the triggering event may exert an important influence on the degree of subsequent spiritual growth, as Schultz et al. (2014) speculated. This is consistent with prior research on among cancer survivors suggesting that more threatening illness was associated with greater spiritual growth (Cole et al., 2008) and that posttraumatic growth generally is associated with greater event stressfulness (Park, Cohen, & Murch, 1996).

The results of this study did not support the second half of the primary hypothesis, in that survivors who had NDEs did not have lesser spiritual decline than did survivors who did not have NDEs. Likewise, regarding the second half of the secondary hypothesis, spiritual decline showed no association with depth of NDE. Near-death experiences have been associated with decreased symptoms of posttraumatic stress after a traumatic event (Greyson, 2001). However, this mitigation of posttraumatic distress does not appear to extend to the domain of spiritual decline.

Scores on the Spiritual Decline subscale among both the near-death experiencers and the nonexperiencers in this study were lower than those reported for persons who had been "significantly wronged" by someone else (M = 31.9, SD = 18.1; Schultz et al., 2014), but higher than for persons diagnosed with cancer within 2 years (M = 16.1, SD = 8.1; Cole et al., 2008) or within 1 year (M = 18.5, SD = 9.6;

Allmon et al., 2013). These differences suggest that the nature of the traumatic event may influence the degree of subsequent spiritual decline, as Schultz et al. (2014) speculated.

Female gender and self-reported closeness to death were both associated with increased spiritual growth in this study. Prior research has demonstrated either higher scores on the Spiritual Growth subscale in women (Cole et al., 2008) or no gender difference at all (Allmon et al., 2013; Schultz et al., 2014). However, because neither of those variables was associated with NDE incidence or depth, those associations cannot explain the significant correlation between spiritual growth and NDE incidence or depth. No other confounding factor in this study was associated with spiritual growth, and none was associated with spiritual decline. Prior research has reported either a marginally significant decrease in Spiritual Growth subscale scores with age (r = -.16, p < .05; Cole at el.,2008) or no significant difference (Allmon et al., 2013); the decrease with age in this study was not statistically significant. Likewise, prior research has reported either higher Spiritual Growth subscale scores among Protestants than among Catholics (Cole et al., 2008) or no significant association between Spiritual Growth and religious affiliation (Allmon et al., 2013); in our sample, Catholics and Protestants were statistically indistinguishable in terms of spiritual growth. Finally, prior research has reported higher scores on the Spiritual Growth subscale among African Americans than among other ethnicities (Schultz et al., 2014); in our sample, White and non-White participants were statistically indistinguishable in Spiritual Growth, but the percent of non-White participants was too small to permit statistical comparisons among different ethnicities.

Positive changes in spirituality have been found to be more common long after a sexual assault than immediately after (Frazier, Conlon, & Glaser, 2001). Participants in this study were sampled between 4 and 81 years after a close brush with death, a considerably longer time frame than in prior research with the STS that sampled persons within 1 year or being diagnosed with cancer (Allmon et al., 2013) or within 2 years after being diagnosed (Cole et al., 2008), and within 5 years after being interpersonally wronged (Schultz et al., 2014). That distinction raises the question whether the in-

creased latency since the triggering event may have contributed to the higher scores on the Spiritual Growth subscale in the current study; however, within this study, time since the triggering event in this study varied from 4 to 81 years and was not significantly associated with spiritual growth. Prior research has also suggested that time since cancer diagnosis was not significantly associated with spiritual growth (Allmon et al., 2013).

This study provided further support for the STS as a helpful instrument for studying spiritual responses to traumatic events. The weak inverse relationship (r < .30) between the Spiritual Growth and Spiritual Decline subscales in this study suggests that the two subscales assess different concepts and not opposite poles of the same construct. Prior research has shown no significant correlation between the two subscales (Allmon et al., 2013; Cole et al., 2008; Schultz et al., 2014).

Limitations and Future Directions

The self-selection of participants in this study may have limited the generalizability of the findings. It is conceivable that near-death experiencers who have subsequent spiritual growth may be more likely to participate in research than those who do not, although participants within the study sample had a wide range of scores on the STS. The large majority of Whites and Christians among our sample limits our interpretation of the implications of these data for other ethnic or faith groups; the small numbers of non-Whites and followers of any particular faith other than Christianity precluded statistical analysis of the influence of those factors on spiritual change. Because near-death experiencers from different cultural or faith backgrounds may differ in their understanding of spiritual phenomena, it would be helpful to extend this research to include samples beyond the predominantly Christian White population in the current study.

This study assumed that NDEs are unitary phenomena, and indeed a Rasch rating-scale analysis of the NDE Scale lends statistical support to that unidimensional approach. However, it may be helpful in future research to distinguish between types of NDE, for example, between pleasurable and distressing NDEs, those associated with different kinds of near-death

crisis, or those occurring in the setting of specific religious or spiritual rituals (Hood & Williamson, 2011). This study showed that deeper NDEs are associated with *quantitatively* greater spiritual growth; it may be fruitful to look as well for *qualitative* differences in spiritual growth with increasing NDE stages. In addition, further research is needed to ascertain whether (and how) spiritual transformation may vary longitudinally and what individual and situational variables may predict spiritual growth and decline.

Clinical Implications

Spiritual growth is positively associated with emotional and spiritual well-being and coping, whereas spiritual decline is positively associated with emotional distress and negative coping, depressive symptoms, and negative affect (Cole et al., 2008; Visser, Garssen, & Vingerhoets, 2010). The association of spiritual decline with poorer outcomes suggests that instruments like the STS that assess decline as well as growth may be helpful in identifying trauma survivors who may need clinical attention. Spiritual transformation after a triggering event may be more therapeutic than maintaining the level of spirituality that existed before the event (Pargament et al., 2005). Thus, interventions to facilitate or enhance spiritual growth may be an important part of the clinical armamentarium.

Strategies for helping near-death experiencers and other patients facing death to integrate the spiritual implications of their experience have been developed by nurses (Corcoran, 2006; Duffy & Olson, 2007), social workers (Clark, 1984), psychiatrists (Dein, 2000; Greyson, 1997), psychologists (MacHovec, 1994; Rominger, 2013), hospice physicians (Kircher, 1995; Rousseau, 2003), and pastoral counselors (Bush, 2009, 2012; Nelson, 2000), as well as by an interdisciplinary committee of caregivers and experiencers (Greyson & Harris, 1987).

Beyond their applications in helping neardeath experiencers, interventions to promote spiritual growth may enhance psychotherapy for a wide range of problems. The American Center for the Integration of Spiritually Transformative Experiences provides on its website competency guidelines for mental health and other professionals working with clients in spiritual crises (http://www.aciste.org/index.php/resources-for-professionals) as well as links to other resources. Pargament (2007) suggested that integrating spirituality into psychotherapy requires therapists to have knowledge about spirituality and integrating techniques, openness to and tolerance of diverse forms of spirituality, awareness of their own spiritual values, and authenticity in relating to clients about spiritual issues.

In recent years, spiritually sensitive techniques have been incorporated into a variety of therapeutic systems, including psychoanalysis (Rizzuto, 2005), Jungian psychotherapy (Corbett & Stein, 2005), cognitive-behavioral therapy (Tan & Johnson, 2005), interpersonal psychotherapy (Miller, 2005), and humanistic psychotherapy (Elkins, 2005). Specific spiritual interventions and techniques have been elaborated that can be incorporated into a variety of systems (Aten & Leach, 2009; Cashwell & Young, 2011; Richards & Bergin, 2005; Sperry & Shafranske, 2005). Therapists working within any modality can facilitate posttraumatic psychological health by addressing spiritual transformation, acknowledging spirituality as an important coping factor, and providing safe environments for exploring spiritual questions and resources.

Conclusion

Spiritual growth after traumatic events can help survivors in their subsequent psychological and personal recovery (Shaw et al., 2005). These data suggest that posttraumatic spiritual growth is associated not only with surviving trauma, but with the occurrence and depth of spiritual NDEs during the triggering event. On the other hand, NDEs are not associated with increased spiritual decline after a traumatic event; nor do they appear to mitigate it. This study offers insight into spiritual transformation after a close brush with death. The relevance of spiritual transformation to individuals' daily lives and the associations with well-being suggest that further research along these lines is warranted, and that strategies to enhance spiritual growth can profitably by incorporated into therapeutic practice.

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