

Chapter 6

Perspectives on Posttraumatic Growth

Braj Bhushan

History is full of stories of people witnessing positive changes after suffering and trauma. Published literature in psychology and allied disciplines have consistently reported evidence for ‘constructive confrontation’ (Schaefer and Moos 1992), ‘positive changes in outlook’ (Joseph et al. 1993), ‘benefit finding’ (Affleck and Tennen 1996; Davis et al. 1998; Taylor 1983), ‘stress related growth’ (Park et al. 1996), ‘posttraumatic growth (PTG)’ (Tedeschi and Calhoun 1996), ‘perceived benefit’ (McMillen and Fisher 1998), ‘thriving’ (Abraido-Lanza et al. 1998), ‘positive by-products’ (McMillen et al. 2001), and positive adaptation (Linley 2003) and ‘growth through adversity’ (Joseph and Linley 2005) in the aftermath of a traumatic life event. Of them ‘posttraumatic growth’ is the commonly used terminology by most researchers. Tedeschi et al. (1998) have conceptualized posttraumatic growth as ‘a significant beneficial change in cognitive and emotional life that may have behavioral implications as well’ (p. 3). Further, it involves ‘such fundamental changes or insights about living that it does not appear to be merely another coping mechanism’ (p. 3).

Understanding Posttraumatic Growth

It is true that a large number of people remain unaffected by traumatic events (Bonanno 2004, 2005). However, here the focus is on those who report one or the other type of change after experiencing some type of trauma in their life. As known to everyone, the initial focus was on the identification of symptoms of posttraumatic stress disorder (PTSD), but since last two decades or so the positive outcome of trauma (posttraumatic growth or PTG) has also attracted attention of researchers. In this context two

B. Bhushan (✉)

Department of Humanities & Social Sciences, Indian Institute of Technology, Kanpur, India
e-mail: brajb@iitk.ac.in

developments are worth mentioning. First, a group of researchers felt the need to redefine posttraumatic stress arguing that posttraumatic reactions are ‘normal reactions experienced by people in response to stressful and traumatic situations, indicative of need for cognitive-emotional processing, rather than an abnormal state of mind’ (Joseph and Williams 2005, p. 426). Second, 30–90% of the people experiencing traumatic life events were found to report PTG (Tedeschi et al. 1998).

Empirical research gives three different perspectives on trauma and PTG. Studies have reported negative (Evers et al. 2001), positive (Lev-Wiesel and Amir 2003) and no correlation (Powell et al. 2003; Solomon et al. 1999; Ursano et al. 1986) between the symptoms of distress and growth. As evident here, the first perspective suggests negative correlation between distress and growth. The other perspective suggests a two-dimensional response to traumatic stressors where growth and distress coexist. It has been advocated that distress and growth coexist and PTG emerges as a byproduct of posttraumatic struggle and not the trauma itself (Tedeschi and Calhoun 1995, 2004). However, high score on one does not necessitate low score on the other. Hence, these two outcomes remain unrelated though they exist in the same individual at the same time. Morris et al. (2005) also found coexistence of trauma and growth. Further, perceived severity of trauma was found to be associated with higher growth. The third perspective lends support to positive correlation between distress and PTG. This view argues benefit finding and growth as a function of traumatic life experiences. Empirical support for this viewpoint has been extended by many researchers (Hussain and Bhushan 2011a; Pargament et al. 1998; Park et al. 1996; Snape 1997).

Mostly, researchers have either examined PTSD or PTG in their studies barring few who have simultaneously examined both (Linley et al. 2008; Salsman et al. 2009). The relationship between the two posttraumatic outcomes—posttraumatic stress and posttraumatic growth have also been examined. Based on their study of survivors of fires, earthquakes and floods, Saccinto et al. (2013) have reported positive relationship between avoidance and intrusion-hyperarousal symptoms and PTG. Examining the different roles of peri and post trauma experiences, they found that peritraumatic panic predicted both, posttraumatic intrusion-hyperarousal symptoms as well as PTG. On the other hand, posttraumatic intrusion-hyperarousal symptoms mediated the relationship between peritraumatic panic symptoms and posttraumatic growth. Measuring direct as well as indirect exposure to ongoing terrorism, Palmer et al. (2012) have reported positive relationship of exposure of family members to terror to PTS and PTG, both. They further found that PTS mediated the indirect relationship between subjective exposure and PTG. This endorses the importance of emotional suffering in PTG.

It is well understood that PTG is moving beyond the pre-trauma state rather than returning to the baseline. Few variables such as gender, perceived stress and trauma severity have been reported to predict positive (PTG) and negative (PTSD) outcomes in the same direction. On the other hand, few variables such as personality, mood, social support and coping behaviour have been reported to show mixed or opposite directionality. Hence, understanding the trajectory of posttraumatic growth seems to be important. This chapter is a small attempt to do so.

Survivors of a catastrophic event largely report positive change in their self-perception. They also report such changes in their relationships with others. Above all, they report change in their life philosophy as well. In terms of self-perception, one feels stronger despite vulnerability following the trauma. Openness, increased compassion and greater valuing of loved ones are the changes visible in the interpersonal relationship. Change in life philosophy gets reflected in increase in religiosity/spirituality, change in life priorities and appreciation of each and every day of one's life. Few studies have tried to relate PTG and severity of trauma. This is typically referred to as dose-response. Researchers have contested that trauma severity and PTG has an inverted U-shaped relationship with moderate trauma leading to high level of PTG than low or high level of trauma. This has been found in veterans of the Vietnam War (Fontana and Rosenheck 1998) and survivors of 11 September 2001 terrorist attacks in New York (Butler et al. 2005).

However, one also has to factor in other findings and viewpoints. It has been argued that human response to extreme stress has a mixture of resilience and vulnerability. Some researchers did not find relationship among PTG, well-being, flourishing and distress (Chan and Rhodes 2013). Another viewpoint contests that growth is possible only when individuals are deeply involved in translating growth cognitions to growth actions. Hobfoll et al. (2007) have talked about action-focused growth saying that 'positive benefit in posttraumatic growth' was found 'only when individuals were deeply involved in translating growth cognitions to growth actions' (p. 345).

Comparable Constructs

Literature in psychology is full of theories that explain human adaptive capability. The dispositional optimism by Carver and Scheier (1999), internal locus of control by Rotter (1966), self-efficacy by Bandura (1982), hardiness by Kobasa (1979) and Antonovsky's sense of coherence (1987), all of them have relevance to posttraumatic outcomes. Let us succinctly look at the constructs that are close to PTG. The 'wholistic framework' of Valent (1999) explains trauma and its outcome in terms of process, parameters and depth where process describes nature of the trauma, parameters elucidates its context and depth explicates its effect. Tennen and Affleck (1998) has explained the role of optimism in posttraumatic growth. Dispositional optimism has been found to positively correlate with enhanced coping and adjustment (Carver 1998). Locus of control (Rotter 1966) describes contingency between behaviour and outcome inasmuch as internal locus of control contingency envisage problem-focused coping, thus facilitating positive adaptation in a traumatic situation. Maercker and Herrle (2003) studied the survivors of the February 1945 Dresden bombing and found that those experiencing PTG were the ones who had high internal locus of control. Self-efficacy is defined as the 'belief in one's capability to organize and execute the course of action required to manage prospective situations' (Bandura 1997, p. 2). The self-efficacy theory (Bandura 1982) talks about one's belief in own

capabilities. This belief encourages coping behaviour. Kobasa's theory of hardiness (Kobasa 1979) and Antonovsky's (1987) sense of coherence have also been found to foster better adaptation to traumatic life experiences.

Westphal and Bonanno (2007) have pointed out that the researchers 'implicitly or explicitly equate PTG with resilience or even consider PTG superior to resilient outcomes' (p. 420). Rutter (1985) opined that 'the promotion of resilience does not lie in an avoidance of stress, but rather in encountering stress at a time and in a way that allows self confidence and social competence to increase through mastery and appropriate responsibility' (p. 608).

Medical sociologist Aaron Antonovsky (1923–1994) developed the construct 'sense of coherence'. Based on his work on Holocaust survivors he propounded the theory of salutogenesis (Antonovsky 1987) which talks about association between stress, health and coping. According to him sense of coherence is 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured and predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement' (Antonovsky 1987, p. 19). In terms of assessment, sense of coherence scale has three subscales—comprehensibility, manageability and meaningfulness. Comprehensibility measures the extent to which one can derive sense from the adversity whereas manageability is the degree of perception of the available resources and its worth in meeting the challenges. Finally, meaningfulness reflects the feeling of worthiness in the engagement with the posed challenges. It is important to note that two of the constructs, hardiness and self-efficacy, do find place in sense of coherence.

According to Waysman et al. (2001) 'those who view themselves as in charge of their fate (control), who are committed to meaningful goals and activities (commitment), and who view their stress as a surmountable challenge are more likely in the long run to integrate the trauma into their lives and to enjoy a satisfactory level of adjustment' (p. 545).

Distinct Nature of PTG Studies

PTG studies are unique in certain ways. If you look at the nature of sample chosen for studying PTG, you would find almost all types of distressing experiences covered by them. For instance, life-threatening ailments such as cancer and HIV/AIDS have been very well studied with all inherent variations. Researchers have studied PTG in a wide range of cancer patients such as prostate cancer (Kinsinger et al. 2006), testicular cancer (Rieker et al. 1989), melanoma (Dirksen 1995) and bone marrow transplant (Tallman et al. 2007; Widows et al. 2005). Stanton et al. (2006) reviewed studies on PTG in cancer patients published between 1960 and 2004. They found prevalence of PTG varying between 53 (Taylor et al. 1984)

and 83% (Sears et al. 2003) in breast cancer patients and 95% of adult survivors of childhood cancer (Wasserman et al. 1987). Similarly, Tallman et al. (2007) found that the constituents of growth (perceived benefit finding) by prostate cancer survivors were life perspective, relationships, self-perception, health, new directions and religious/spiritual changes.

Besides ailments, many other unique human experiences have also been carried out by researchers. Study of military combat, prisoner of wars (POWs), political imprisonments, refugee displacement and other types of rare life experiences have also been researched by psychologists. Table 6.1 broadly summarizes the traumatic life events studied by PTG researchers.

There are many studies reporting posttraumatic stress in soldiers citing multiple stressors and their effect. Researchers have reported PTG in the soldiers who served during World War II, Korean War, Gulf War I, Vietnam War and Israeli operations, just to mention a few. The deployment experiences of soldiers have been found to correlate with PTG. Johnson et al. (2007) studied deployment conditions (pre-deployment, deployment and post-deployment) and their effect on posttraumatic growth in a sample of Gulf War I veterans. They found that post-deployment conditions predicted certain aspects of PTG. Perceived threat appeared as the strongest predictor of appreciation of life. Another post-deployment variable, social support, predicted relating to others and personal strength dimensions of growth. Studies investigating combat exposure and PTG have reported mixed findings. The findings are bidirectional in a sense that some researchers argue that higher combat exposure leading to growth while some argue the opposite. Combat exposure also

Table 6.1 Summary of empirical research on posttraumatic growth

Traumatic life event	Researchers
Bereavement	Davis et al. (1998)
Bone marrow transplantation	Fromm et al. (1996)
Breast cancer	Cordova et al. (2001), Taylor (1983), Weiss (2002)
Childhood sexual abuse	McMillen et al. (1995)
Refugees and immigrants	Weiss and Berger (2006), Powell et al. (2003)
Gulf War I Veterans	Johnson et al. (2007)
Prisoners of war	Solomon and Dekel (2007)
Relief workers	Bhushan and Kumar (2012)
Chronic illness	Abraido-Lanza et al. (1998)
Disaster	McMillen et al. (1997)
HIV infection	Updegraff et al. (2002)
Military combat	Fontana and Rosenheck (1998)
Myocardial infarction	Affleck et al. (1987)
Parenting child with leukaemia	Best et al. (2001)
Refugees	Hussain and Bhushan (2011a, b, 2013), Powell et al. (2003)
Sexual assault	Frazier et al. (2001)
Shipwreck	Joseph et al. (1993)

has inbuilt perceived threat associated with it and some researchers contest that this is also associated with PTG (Fontana and Rosenheck 1998). Cordova et al. (2001) have reported association between growth and higher degree of life threat. It has been advocated that when one faces mortality, he/she re-evaluates and redefines life goals and priorities. This, in turn, result into PTG (Tedeschi and Calhoun 1995).

Interestingly, there are studies reporting growth and accepting war exposure as an important developmental milestone (Dohrenwend et al. 2004; Elder et al. 1991; Gade 1991). Studying World War II and Korean War veterans, Aldwin et al. (1994) observed linear relationship between combat and positive outcomes such as coping and perspective on life.

Psychologists have also studied ex-prisoners of war (POWs) and the effect of such experiences. Studies have mostly focused on PTSD (Sutker and Allain 1996; Tennant et al. 1997), anxiety and depression (Engdahl et al. 1991), hypochondria (Klonoff et al. 1976), alcoholism (Beebe 1975) and other negative outcomes. But this is only one half of the story. Solomon and Dekel (2007) examined the Israeli ex-POWs for both, PTSD and PTG and found evidence for PTG on all five dimensions of PTGI. Studies have reported positive changes in ex-POWs. 90% of the American air-force officers held as POWs in Vietnam reported positive changes as a result of captivity (Sledge et al. 1980). These changes included greater understanding of self and others and change in priorities in life. Similar positive experiences have been reported by Israeli ex-POWs and war veterans (Solomon et al. 1999).

The sufferings associated with participation in political movements have not been very well studied in psychology. Researchers have argued that traumatic stress during political activities is likely to increase 'psychological preparedness' for trauma (Basoglu et al. 1997; Ehlers et al. 2000). Maercker and Zöllner (2004) studied East German former political prisoners and found that 72% of them reported examples of PTG following their imprisonment.

Besides combat, the other rare human experience studied by PTG researchers is of the Holocaust survivors. In a unique study Lev-Wiesel a and Amir (2003) examined 97 Holocaust child survivors born after 1930 in Israel to understand the relationship between posttraumatic symptoms, perceived social and personal resources, and posttraumatic growth. The findings indicated inverse relationship between PTSD symptoms and personal resources. The dimensions of PTG were also positively correlated with arousal. The researchers concluded that those exhibiting arousal of PTSD symptoms might experience better growth. Further, social support also affected the level of new possibilities of PTG.

The other unique group studied by researchers is the refugees. Refugees are defined as people who 'owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country' (The 1951 Refugee Convention). These special groups of human beings have also

attracted the attention of psychologists working on PTG. Powell et al. (2003) studied PTG in the refugees settled in Sarajevo, Bosnia and Herzegovina. The recent studies have reported PTG in people experiencing refugee-related torture and trauma prior to migrating to Australia (Barrington and Shakespeare-Finch 2013a), Tibetan refugees staying in Dharamshala (Hussain and Bhushan 2011b, 2013) and refugee citizens of Cote d'Ivoire living in asylum in Liberia (Gregory and Prana 2013).

One can see the wide range of rare human experiences covered under the ambit of PTG research.

Indian Studies on PTG

Although the nuances of PTG can very well be seen in the Indian religious traditions, culture and literature, survey of the scientific literature in psychology reveal that not many researchers have shown interest in studying PTG in India. Search through EBSCO in October 2013 shows only five publications pertaining to PTG from India (Bhushan and Kumar 2012; Hussain and Bhushan 2011a, b, 2013; Thombre et al. 2010). Bhushan and Kumar (2012) had examined PTG in Tsunami relief volunteers. Thombre et al. (2010) examined PTG in 61 cancer patients from the city of Pune. Hussain and Bhushan (2011a, b, 2013) examined PTG in the Tibetan refugees staying in Dharamshala.

During our study of the Tibetan refugees (Hussain and Bhushan 2011a), we realized that the traumatic experiences of this population had very distinctive features. Besides survival, trauma and deprivation/uncertainty, ethnic concern such as ethnic discrimination and destruction of the place of worship were also major source of trauma for them (Hussain and Bhushan 2009). The uniqueness of this group has also been reported by other researchers (Terheggen et al. 2001). Our qualitative investigation of Tibetan refugees using semi-structured interviews (Hussain and Bhushan 2013) showed that irrespective of uninterrupted encounter with trauma, people report positive experiences learnt from adverse life experiences. We found three major themes related to PTG—change in outlook, personal strength, and meaningful relationships. Changes in outlook comprised themes such as acceptance, responsibility, compassion, and optimism. Increased intimacy and meaningfulness in relationship were other reported changes. Personal strength included themes such as self-reliance, self as survivor, and experience of success and achievement. Their narratives clearly reflected the deep impression of the law of karma on their thought and behaviour.

PTG as a Cognitive Output

It has been argued that PTG is an outcome of cognitive and emotional struggle. It has also been argued that the variation in cognitive or affective processing after a traumatic event predispose the survivors to PTSD (Tolin and Foa 2006). The type of coping strategy adopted after stressful life experiences is also supposed to be mediated by cognitive emotional processing strategy (Hussain and Bhushan 2011b) which offer the coping function (Garnefski et al. 2001, 2002). The Janus-face model of PTG talks about two coexisting components—a self-transcending constructive component and a self-deceptive illusory component. As elucidated by Zöllner and Maercker (2006a), with the passage of time the constructive component grow while the illusory component diminishes. This allows successful coping to happen.

As mentioned above, Hobfoll et al. (2007) have emphasized on the relationship between action and PTG by endorsing action as the key to PTG. According to them ‘PTG may serve the role of a cognitive coping strategy following extreme stress, but not translate to actual change in positive posttraumatic functioning’ (Hobfoll et al. 2007, p. 361). Some researchers consider PTG as a cognitive process not necessarily leading to action. However, the possibility of action is not overruled in the cognitive framework (Maercker and Zöllner 2004; Zöllner and Maercker 2006b).

Ruminative thoughts and their impact on behaviour has also been examined. According to Martin and Tesser (1996) rumination is ‘a class of conscious thoughts that revolve around a common instrumental theme and that recur in the absence of immediate environmental demands requiring the thought’ (p. 7). Rumination has been conceptualized as chronic past oriented self-focus that is mostly associated with neurotic personality. Elaborating individual differences in attention to the negative and positive aspects of events, Noguchi et al. (2006) have suggested that self-reported attention to negative information is positively associated to negative affectivity, neuroticism and behavioural inhibition system and inversely related to optimism. On the other hand, self-reported attention to positive information correlates to positive effect, extraversion, behavioural approach system and optimism. Attention bias, whether positive or negative, is an indicator of our cognitive processing style. It shows our tendency to selectively attend either negative or positive aspects of any life event.

It can be assumed that negative attention bias may adversely affect trauma-related rumination, thus predicting PTSD symptoms whereas positive attention bias is likely to exert positive influence on rumination resulting in PTG. This makes it evident that the valence of attention bias and hence the cognitive processing style might help plot the trajectory of the negative (PTSD) and positive (PTG) outcomes of a traumatic event. Chan et al. (2011) found positive correlation between cancer related positive rumination and PTG. Lepore (2001) have reported that the cognitive processing of cancer mediated adjustment of the individuals to the disease. Calhoun et al. (2000), Calhoun and Tedeschi (2006) have advocated co-occurrence of intrusive and deliberate rumination inasmuch as in the first case

one recollects the negative experiences of the traumatic event but in the second case one deliberately ruminates and derives sense out of the traumatic event. According to Mansell (2000), acquisition of new information or voluntary appraisal modifies lower order attention bias, thus influencing changes in higher order schema.

Cognitive theories (Segerstrom et al. 2003; Watkins 2008) suggest that the valence of thought is crucial for determining the effect of rumination. The cognitive processes underlying posttraumatic outcomes signify that ruminative thoughts determine the negative as well as the positive effect. Repetitive recollection of stressor and negative appraisal of it is proven to be one of the sources of PTSD (Ehlers and Clark 2000). On the other hand, rumination is needed to rebuild the schemas that get shattered by the traumatic experience (Tedeschi and Calhoun 2004). Calhoun et al. (2000) and Calhoun and Tedeschi (1998) advocate that rumination is essential to actively think and derive meaning out of what had happened and this is important for PTG. Several researchers have endorsed that premeditated event-related rumination with focus on the positive aspects foster PTG (Bower et al. 1998; Calhoun et al. 2000; Taku et al. 2008; Watkins 2008).

However, besides cognitive component PTG needs to be understood and examined with respect to emotional, social and behavioural components.

Correlates of PTG

Researchers have examined many variables for their possible association with PTSD as well as PTG. Studies show that PTSD symptoms are correlated to negative self-cognitions (Bryant and Guthrie 2007), negative global beliefs (Dunmore et al. 1999), pessimistic attributional style (McCormick et al. 1989), neuroticism and introversion (Lauterbach and Vrana 2001) whereas PTG is correlated to optimism, hope and extraversion (Zoellner and Maercker 2006). In an interesting research, Bayer-Topilsky et al. (2013) found positive religious coping and living status without a partner as predictors of PTG, optimism expectations, social support and other religious factors did not relate to PTG. Meta-analytic studies have identified optimism, social support, religiosity/spirituality, coping styles, especially acceptance coping, reappraisal coping, religious coping and seeking support coping, as strong correlates of PTG. Among them, optimism and social support have moderate effect whereas coping styles such as positive reappraisal and religious coping have high association with PTG. Looking at the relationship of PTG and these factors and their predictive power in terms of the effect size, acceptance coping has small, social support has medium, optimism and spirituality has moderate, and religious coping and positive reappraisal coping have a strong predictive power. Of these factors, here the focus would be only on religious orientation, social support and gender. The selection of these correlates is guided by the importance of these factors in the Indian setting.

Religious Orientation

In our day-to-day interaction, religiosity and spirituality are interchangeably used. However, psychologists establish distinction between them. Where belief on any kind of worship is considered as an indicator of religiosity, spirituality refers to a broad array of personal experiences that does not require obligations, commitments and practices that are typically coupled with religiosity. Religion has been defined as a ‘system of beliefs, practices, customs and ceremonies rooted in a culture; a view of the individual’s relationship to the universe; a moral and ethical code; and a community of adherents providing social relationships’ (Sacks 1985, p. 27) whereas spirituality engages one in ‘transcendental values, meaning, experience, and development; for knowledge of an ultimate reality; for a belongingness and relatedness with the moral universe and community; and for union with immanent, supernatural powers that guide people and the universe for good or evil’ (Siporin 1985, p. 199). As defined by Wink and Dillon (2002) ‘spirituality connotes the self existential search for ultimate meaning through an individualized understanding of the sacred’ (p. 79). Researchers have made further distinction between practice-oriented and seeking-oriented spirituality (Wuthnow 1998). Similarly, religiosity has also been classified as intrinsic and extrinsic religious orientation. The former is self-transcendental whereas the later is self-oriented in nature (Allport and Ross 1967). Besides these two dimensions, quest religion has also been talked about. Quest religion refers to ‘the degree to which a person’s religion involves an open ended, responsive dialogue with existential questions raised by the contradictions and tragedies of life’ (Batson and Ventis 1982).

Empirical research on PTG has largely not shown interest in looking at spirituality and religiosity separately. Studies confirm that religious and spiritual beliefs can grow following trauma and are helpful in overcoming the traumatic experience (Khouzam 2000; Park et al. 1996; Rudnick 1997). The qualitative as well as quantitative data indicate religious belief as a catalyst of the process of PTG (Emmons et al. 1998; Fallot 1997). Based on the meta-analysis of 103 studies, Prati and Pietrantonio (2009) have endorsed the relationship between spirituality and religious coping and PTG.

While measuring religious involvement in the context of PTG, different dimensions of religiosity has been assessed by different researchers. Most of the researchers have used intrinsic and extrinsic religiosity as variables in their study (Hall et al. 1994). Park et al. (1996) have reported strong association between intrinsic religiosity and PTG. Some researchers have defined intrinsic religiosity as an end in itself (Maltby and Lewis 1996). Calhoun et al. (2000) found that two aspects of quest religion—readiness to face existential questions and openness to religious change—were associated with PTG. Considering the fact that intrinsic, extrinsic and quest religion are all global indicators of religion, it remained a challenge to measure religiosity and trace the pathway to PTG.

Schuster et al. (2001) surveyed American people after 11 September 2001 terrorist attacks. They found that 90% of their sample showed increased inclination towards their religious faith. In an interesting study, Ullman (1982) compared converts and religiously affiliated non-converts and found that converts recollected more childhood trauma describing their childhood and adolescence less happy. As anticipated, human beings do elicit diverse behaviour. In the aftermath of traumatic experience, some people show loss of religious commitment with increased cynicism (Schwartzberg and Janoff-Bulman 1991) while some do not show any change (Overcash et al. 1996). Siegel and Schrimshaw (2000) assessed stress-related growth in women who were either HIV positive or were living with AIDS. These women reported spirituality as a means of finding meaning in life, initially by holding God responsible for not safeguarding them and then by deepening their faith which gave a sense of peace.

Let us examine the issue of assessment of religiosity/spirituality that has been used in PTG studies. Studies attempting quantitative assessment of PTG have mostly used The Posttraumatic Growth Inventory (PTGI) (Tedeschi and Calhoun 1995, 1996). This is a 21-item measure with five subscales—appreciation of life, relating to others, new possibilities, personal strength and spiritual change. In fact, the ‘spiritual change’ subscale of the PTGI consists of two items. The first one states that ‘I have a stronger religious faith’ and the second one states ‘A better understanding of spiritual matters’. Many researchers consider this as an abrupt combination that needs to be resolved (cf. Hill and Pargament 2003). Development of RCOPE (Pargament et al. 2000) was important in this aspect as it measured both the positive and negative aspects of religious coping. This tool considers working collaboratively with God and considering death as a passage to heaven as positive religious coping, whereas questioning religious beliefs and feeling punished by God as negative religious coping. Pargament et al. (1998) found association between PTG and religious coping, both positive as well as negative. However, this study did not detail as to which positive and negative subscales were correlated with PTG. The correspondence between PTG and religious coping (the subscales of RCOPE) has been given by Koenig et al. (1998). They found correlation between all the 12 aspects of positive and six of the nine aspects of negative religious coping with PTG. However, the correlation coefficients of negative religious coping were weaker, less consistent and sometimes negative. Pargament et al. (2000) findings also corroborated these findings.

It has been accepted that ‘religion or spirituality can provide a unifying philosophy of life and serve as an integrating and stabilizing force that provides a framework for interpreting life’s challenges and provides a resolution to such concerns as suffering, death, tragedy and injustice’ (Emmons et al. 1998, p. 175). It seems that in the process of deriving meaning in life one also develops greater existential awareness (Yalom and Lieberman 1991), thus becoming more religious/spiritual. Traumatic events are also instrumental in developing one’s faith.

Social Support

Social support is another variable of importance for two reasons, one it is supposed to influence coping in the aftermath of a crisis and two, it is something that can be built or strengthened in the system to maximize benefit to the victims and survivors. It is also important as it defines the inherent nature of collectivist cultures. Social support has been identified as a significant environmental resource that positively affects outcomes after a life crisis (Schaefer and Moos 1998; Tedeschi and Calhoun 2004). As stated by Tedeschi and Calhoun (2004), ‘supportive others can aid in posttraumatic growth by providing a way to craft narratives about the changes that have occurred, and by offering perspectives that can be integrated into schema change’ (p. 8). Almedom (2005) has categorically stated that the type, time and level of social support available to the survivors might determine outcomes of a traumatic event.

Social support influences coping behaviour finally leading to personal growth. Acceptance and reappraisal coping are likely to be affected by the available support. On one hand acceptance help adapt to situations that cannot be changed whereas on the other hand positive reappraisal of the event is the beginning of PTG (Schaefer and Moos 1998; Zöllner and Maercker 2006a, b).

Gender

Many studies have reported gender difference in PTG with women reporting higher levels of growth compared to men (Park et al. 1996; Tedeschi and Calhoun 1996). These findings have largely remained consistent irrespective of the nature of trauma and tool used to measure it. For instance, gender difference have been reported for cancer, HIV/AIDS, terrorism, and natural disasters (Bellizzi 2004; Jang 2006; Milam 2004; Milam et al. 2005). In terms of usage of tool, Park et al. (1996) used the Stress-Related Growth Scale (SRGS) whereas Tedeschi and Calhoun (1996) had administered the Posttraumatic Growth Inventory (PTGI). However, the findings of all these studies endorsed difference between males and females.

Studies attempting meta-analysis to examine this gender difference have also confirmed it. For instance, the meta-analysis by Helgeson et al. (2006) found the level of posttraumatic growth in women slightly higher than the men with a small effect size ($r = 0.08, p < 0.001$). Vishnevsky et al. (2010) also performed a meta-analysis with 16,076 participants drawn from 70 studies. They also found moderate gender difference ($g = 0.27, 95\% \text{ CI} = 0.21 - 0.32$) with women reporting more PTG compared to men. It may be interesting to note that these studies largely included trauma such as cancer, bereavement, terrorism, natural disaster and mixed nature of trauma and were conducted on samples drawn from the United States of America, United Kingdom, Australia and Turkey. What was also interesting was the fact that the reported level of PTG increased with a rise in the mean age of the women sample.

One of the reasons cited in studies is that women engage more in ruminative thoughts. The other explanation is that they perceive the severity of traumatic events more and this could lead to more self-reported growth (Tedeschi and Calhoun 1996).

Many researchers have examined the occurrence of PTG in women-specific experiences. Studying PTG in 60 women who were around 33 years of age and had experienced intimate partner violence, Cobb et al. (2006) found that despite negative psychological outcomes they reported PTG. Their mean PTG score on PTGI was higher than the reported mean scores by survivors of breast cancer (Weiss 2002) or victims of violent crime (Peltzer 2000). Other studies pertaining to intimate partner violence have also reported similar findings (Draucker 2001; McCann and Pearlman 1990). Another study examining changes in 22 women who had terminated their relationship due to abusive violence also found increased interpersonal relationship, self-awareness and religiosity besides few other changes (Senter and Caldwell 2002). Such studies have also reported relationship between severity of abuse and appreciation of life dimension of PTG. Konrad (2006) found that mothers of children who acquired disabilities reconstructed meaning of care giving and compassion in the aftermath of this experience, thus reporting PTG. It is important to note that in this study none of the mothers reported PTSD. Konrad (2006) has nicely summarized it stating that 'PTG does not diminish or contradict the burden and suffering experienced by caregivers, nor is it meant to silence the very real and difficult emotions brought about by bearing witness to a child's struggles and distress. Rather, it is meant to add to the complexity, richness, and fuller appreciation of our understanding of the caregiver experience' (p. 109). Amongst breast cancer survivors PTG have also been studied by researchers. On one hand (Naidich and Motta 2000) PTSD was reported in 20% women with breast cancer whereas PTG was in the range of 53% (Taylor et al. 1984) to 84% (Collins et al. 1990). The reported growth is mostly in terms of appreciation of life, change in priorities, improvement in relationship, and positive changes in religious beliefs.

It is important to note that there are few studies reporting no gender difference or opposite relationship (Hooper 2003; Polatinsky and Esprey 2000). Some researchers have observed that women also perceive threat and loss of control more than men including intense fear, intrusion, avoidance, panic and anxiety (Olf et al. 2007). This predisposes them to a higher prevalence rate of PTSD.

We have already talked about PTG with reference to rumination. Some studies have shown that women engage more in premeditated and threatening rumination (Treyner et al. 2003). As premeditated rumination is more productive in nature than threatening rumination, they experience more posttraumatic stress as well as report more PTG (Janoff-Bulman 2006; Tedeschi and Calhoun 2004). Another important factor could be the predominant coping style. Women show increased likelihood of using emotion-focused coping (de Ridder 2000). This could, in turn, be instrumental in facilitating PTG. The association between PTG and emotion-focused coping strategies, including positive reappraisal, acceptance, and denial has been reported (Helgeson et al. 2006) by researchers. Problem and emotion-focused coping has also been found to correlate with PTG (Prati and Pietrantonio 2009).

Assessment of PTG

The current trend of assessment examines a construct using statistical methods and in few cases it is also supplemented by neuropsychological evidences. Let us examine PTG in the light of these two methods.

Psychometric Viewpoint

Development of an appropriate measure is always a difficult task, especially when it is supposed to be administered across cultures. This is true for the assessment of PTG as well. Several psychometric tools have been developed to measure ‘growth’. This includes Benefit Finding Scale (Mohr et al. 1991; Tomich and Helgeson 2004), Perceived Benefit Scale (McMillen and Fisher 1998), Posttraumatic Growth Inventory (PTGI) (Tedeschi and Calhoun 1996), Stress Related Growth Scale (SRGC) (Park et al. 1996), Thriving Scale (Abraido-Lanza et al. 1998) and Changes in Outlook Questionnaire (Joseph et al. 2005). Few researchers have used open-ended measures (Bower et al. 1998). For some reasons most of the studies on PTG have either used the PTGI or SRGC. Between them also, PTGI has been mostly used by researchers. Both, Benefit Finding Scale and Perceived Benefit Scale assess a range of ‘benefits’ but not all of them are associated with post-traumatic growth. Changes in Outlook Questionnaire is the most recent measure compared to the rest. It measures positive as well as negative changes. The open-ended measures have not been extensively validated. It is equally important to know the nature of sample on which these PTG measures were administered to develop the tool. PTGI was built with undergraduate students (Tedeschi and Calhoun 1996), Perceived Benefit Scale with adults involved in church activities (McMillen and Fisher 1998) and Thriving Scale with Latinas suffering from chronic illness (Abraido-Lanza et al. 1998). The very difference in the nature of the sample could have affected the structural conceptualization of the construct.

The PTGI (Tedeschi and Calhoun 1996) is the most widely used tool to assess PTG. This 21-item measure has five subscales—appreciation of life, relating to others, new possibilities, personal strength and spiritual change. With respect to the factor structure of the measures of PTG, Joseph et al. (2004) have argued that these measures have used eigen values-greater-than-one criterion for determining the number of components. As large number of variables lead to larger eigen value (Zwick and Velicer 1986), scree test seem a more reliable indicator (Cattell 1966). The five-factor model of PTGI was an outcome of principal components analysis used while developing it and many researchers have accepted this without redoing the factor analysis (e.g., Peltzer 2000; Polatinsky and Esprey 2000). Powell et al. (2003) analysed the factor structure and found that PTGI items loaded on three factors—changes in self/positive life attitude, philosophy of life and relating to others. Morris et al. (2005) conducted a study on 219 Australian participants and

used exploratory factor analyses with principal components analysis (with varimax rotation) to find out the factor structure of PTGI. The findings were similar to the original scale with the items mostly falling into the same five dimensions. Morris et al. (2005) have argued that replication of factor structure irrespective of rotation method and additional items (the researchers had added three items pertaining to spiritual change) conforms the robustness of PTGI as a psychological tool. Barrington and Shakespeare-Finch (2013b) performed confirmatory factor analysis and found adequate five-factor fit.

However, there are exceptions. Polatinsky and Esprey's (2000) study did not support the five factors structure of PTGI. They also did not find sex difference in PTG. Studies examining construct validity of PTGI have reported conflicting results (Weinrib et al. 2006; Frazier and Kaler 2006; Smith and Cook 2004). Further, the factor structure of PTGI need not be the same in different cultures (Ho et al. 2004; Taku et al. 2007; Weiss and Berger 2006).

The other concern related to PTGI is the wording of the instructions. The instructions given to participants ask them to recall a specific crisis and then respond whether changes on any of the items in the five areas was caused by that event or not. Some researchers contest that linking PTGI items to a specific crisis causes positive bias in the respondents whereby they overestimate their growth. Taylor (1983) described this process as self-enhancing thinking. The alternative to this could be responding to items by revisiting recent changes in one's life rather than anchoring it to a specific event. Smith and Cook (2004) adopted two methods to measure PTG using PTGI. In the first case, participants were asked to identify a specific stressful event and respond to the items of PTGI whereas in the second case participants were asked to rate the positive changes experienced over the last four years. This study yielded satisfactory reliability and construct validity. The findings also indicated that PTG reports were higher when the responses were not linked to a specific event. One of the noteworthy observation of this study was that when items of PTGI are responded with respect to a specific event the degree of growth is underestimated 'to a small but significant degree' (Smith and Cook 2004, p. 356), especially on two dimensions—'personal strength' and 'relating to others'.

It is evident that researchers have assessed PTG using retrospective self-reports in their studies adopting cross-sectional designs. Cohen et al. (1998) have suggested that the self-reported level of PTG should be analysed with some amount of skepticism. Bonnano (2005) has pointed out that self-reports might reflect real changes or it could be a reattribution while looking backward during the process of recovery. Hence, PTG might echo self-protective and self-enhancing processes (McFarland and Alvaro 2000; Wilson and Ross 2001). Joseph (2011) has argued that 'distinction needs to be made between experiences that survivors themselves perceive to be growthful and changes that are growthful in a way consistent with theory and empirical evidence on what constitutes positive functioning' (p. 844).

An inherent problem with the self-report measures is a possible disparity between questionnaire and the real outcomes. Although there are arguments that actual as well as perceived change after the trauma contribute to reported PTG (Ransom et al. 2008), few researchers endorse the need for additional validation

(Tomich and Helgeson 2004). It has been argued that the scores on the questionnaires might not correspond to actual growth (Frazier and Kaler 2006; Ransom et al. 2008) and the growth scores of self-reported questionnaires might reflect ‘illusory perceptions of temporal change’ (McFarland and Alvaro 2000, p. 340) to some extent. However, this inherent limitation of self-report measures does not completely defy the existence of PTG. In order to validate the concept of growth, Park et al. (2006) and Weiss (2002) compared the obtained scores on self-reported measures of PTG with the reports from significant others and found moderate correlation between self-reports and informant reports.

The other concern related to PTGI is the inclusion of religiosity. In fact, the ‘spiritual change’ subscale of the PTGI consists of two items—‘A better understanding of spiritual matters’ and ‘I have stronger religious faith’. This implies that when total score is used for statistical analyses it implies higher religious coping by default. Hence, PTGI total score confound with the measures of religious coping. Considering religiosity and spirituality within the ambit of PTG has another problem, the direction of change. It has been observed that in the aftermath of tragedy and suffering some people reconcile their religious beliefs thus deepening their faith whereas some challenge it. In their study of PTG amongst the survivors of September 11 attack in New York, Poulin et al. (2009) found that of the 1382 participants 9.3% reported increase in religious benefits. Although the reported benefit is perceived as growth, it does not necessarily mean deepening of the faith. Challenging one’s own religious belief and thus lessening of faith is also growth (Shaw et al. 2005). An atheist might consider such perceived growth as illusion. According to Joseph (2011), ‘it cannot be universally agreed whether increased religiosity and spirituality, is a positive or a negative outcome’ (p. 845). Psychometrically speaking, assessment of religious and spiritual change needs to be measured without assuming linear relationship between its increase and positive functioning.

However, religiosity has been found to foster PTG. The other measure used to assess religiosity/spirituality in PTG studies is RCOPE (mentioned above). Moussa and Bates (2011) have reported that various subscales of the RCOPE (Pargament et al. 2000) correlate with PTG.

Neuropsychological Viewpoint

Studies exploring the neuropsychological correlates of PTG are sparse. Studying PTG in survivors of severe traffic accidents, Rabe et al. (2006) found correlation between EEG alpha power asymmetry of the left frontal brain and the PTGI score. Further, anterior asymmetry was associated with different dimensions of PTGI. Four dimensions of PTGI, namely, new possibilities, changed relationships, appreciation of life and personal strength were associated with relative activities of the left fronto-central areas of the brain. Relative left frontal activity is considered an indication of goal-directed approach tendencies (Davidson 1995).

Hence, it can be construed that there are neuropsychological evidence in favour of PTG as a cognitive-motivational process that reflects in the form of new perspectives. It is also important to note that the spiritual change dimension did not show significant correlation.

Looking Forward

Having discussed these issues, findings and concern, it is equally important to examine the new areas of exploration in the field of PTG. An unanswered question related to PTG is the issue of temporality. Although a wide range of trauma-inducing situations have been studied for their negative and positive effects, there is still no consensus on the time needed after the event to experience such positive changes. Polatinsky and Esprey (2000) have reported positive correlation between time since trauma and PTG. In their study of bereaved parents they found that two factors of PTGI, namely New Possibilities and Appreciation of Life, was highly correlated with the time passed since the trauma. It has also been argued that for certain events growth might take relatively less time to get reflected whereas in certain other events (such as child abuse) growth requires substantial time to be evident (McMillen et al. 1995). In terms of temporality, Helgeson et al. (2006) found that the strength of PTG and positive outcomes was high after a passage of at least two years since the traumatic event. The days to come are likely to answer this and many other issues.

References

- Abraido-Lanza, A. F., Guier, C., & Colon, R. M. (1998). Psychological thriving among Latinas with chronic illness. *Journal of Social Issues, 54*, 405–424.
- Affleck, G., & Tennen, H. (1996). Construing benefits from adversity: Adaptational significance and dispositional underpinnings. *Journal of Personality, 64*, 899–922.
- Affleck, G., Tennen, H., Croog, S., & Levine, S. (1987). Causal attribution, perceived benefits, and morbidity after a heart attack: An 8-year study. *Journal of Consulting and Clinical Psychology, 55*, 29–35.
- Aldwin, C. M., Levenson, M. R., & Spiro, A. (1994). Vulnerability and resilience to combat exposure: Can stress have lifelong effects? *Psychology and Aging, 9*, 34–44.
- Allport, G. W., & Ross, J. M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology, 5*, 432–443.
- Almedom, A. M. (2005). Resilience, hardiness, sense of coherence, and posttraumatic growth: All paths leading to “light at the end of the tunnel”? *Journal of Loss and Trauma, 10*, 253–265.
- Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco, CA: Jossey-Bass.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist, 37*, 122–147.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Barrington, A., & Shakespeare-Finch, J. (2013a). Posttraumatic growth and posttraumatic depreciation as predictors of psychological adjustment. *Journal of Loss & Trauma, 18*, 429–443.

- Barrington, A. J., & Shakespeare-Finch, J. (2013b). Working with refugee survivors of torture and trauma: An opportunity for vicarious post-traumatic growth. *Counselling Psychology Quarterly*, *26*, 89–105.
- Basoglu, M., Mineka, S., Paker, M., Aker, T., Livanou, M., & Gök, S. (1997). Psychological preparedness for trauma as a protective factor in survivors of torture. *Psychological Medicine*, *27*, 1421–1433.
- Batson, C. D., & Ventis, W. L. (1982). *The religious experience: A social psychological perspective*. New York: Oxford University Press.
- Bayer-Topilsky, T., Itzhaky, H., Dekel, R., & Marmor, Y. N. (2013). Mental health and posttraumatic growth in civilians exposed to ongoing terror. *Journal of Loss & Trauma*, *18*, 227–247.
- Beebe, G. W. (1975). Follow up studies of World War II and Korean War prisoners: Morbidity, disability, and maladjustment. *American Journal of Epidemiology*, *10*, 400–422.
- Bellizzi, K. M. (2004). Expressions of generativity and posttraumatic growth in adult cancer survivors. *International Journal of Aging and Human Development*, *58*, 267–287.
- Best, M., Streisand, R., Catania, L., & Kazak, A. E. (2001). Parental distress during pediatric leukemia and Posttraumatic Stress Symptoms (PTSS) after treatment ends. *Journal of Pediatric Psychology*, *26*, 299–307.
- Bhushan, B., & Kumar, J. S. (2012). A study of posttraumatic stress and growth in the tsunami relief volunteers. *Journal of Loss & Trauma*, *17*, 113–124.
- Bonnano, G. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist*, *59*, 20–28.
- Bonnano, G. (2005). Resilience in the face of potential trauma. *Current Directions in Psychological Science*, *14*, 135–138.
- Bower, J. E., Kemeny, M. E., Taylor, S. E., & Fahey, J. L. (1998). Cognitive processing, discovery of meaning, CD4 decline, and AIDS-related mortality among bereaved HIV-seropositive men. *Journal of Consulting and Clinical Psychology*, *66*, 979–986.
- Bryant, R. A., & Guthrie, R. M. (2007). Maladaptive self-appraisals before trauma exposure predict posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology*, *75*, 812–815.
- Butler, L. D., Blasey, C. M., Azarow, J., McCaslin, S. E., Garland, R. W., Chen, X.-H., et al. (2005). Posttraumatic growth following the terrorist attacks of September 11, 2001: Cognitive, coping, and trauma symptom predictors in an internet convenience sample. *Traumatology*, *11*, 247–267.
- Calhoun, L. G., Cann, A., Tedeschi, R. G., & McMillan, J. (2000). A correlational test of the relationship between posttraumatic growth, religion, and cognitive processing. *Journal of Traumatic Stress*, *13*, 521–527.
- Calhoun, L. G., & Tedeschi, R. G. (1998). Posttraumatic growth: Future directions. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 215–238). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Calhoun, L. G., & Tedeschi, R. G. (2006). The foundations of posttraumatic growth: an expanded framework. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth* (pp. 3–23). New Jersey: Lawrence Erlbaum Associates Inc.
- Carver, C. S. (1998). Resilience and thriving: Issues, models, and linkages. *Journal of Social Issues*, *54*, 245–266.
- Carver C. S., & Scheier, M. F. (1999). Optimism. In C. R. Snyder (Ed.), *Coping: The psychology of what works* (pp. 182–204). New York: Oxford University Press.
- Cattell, R. B. (1966). The scree test for the number of factors. *Multivariate Behavioural Research*, *1*, 140–161.
- Chan, M. W. C., Ho, S. M. Y., Tedeschi, R. G., & Leung, C. W. L. (2011). The valence of attentional bias and cancer-related rumination in posttraumatic stress and posttraumatic growth among women with breast cancer. *Psycho-Oncology*, *20*, 544–552.
- Chan, C. S., & Rhodes, J. E. (2013). Religious coping, posttraumatic stress, psychological distress, and posttraumatic growth among female survivors four years after hurricane Katrina. *Journal of Traumatic Stress*, *26*, 257–265.

- Cobb, A. R., Tedeschi, R. G., Calhoun, L. G., & Cann, A. (2006). Correlates of posttraumatic growth in survivors of intimate partner violence. *Journal of Traumatic Stress, 19*, 895–903.
- Cohen, L. H., Hettler, T. R., & Pane, N. (1998). Assessment of posttraumatic growth. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 23–42). Mahwah, NJ: Erlbaum.
- Collins, R., Taylor, S., & Skohan, L. (1990). A better world or a shattered vision? Changes in perspectives following victimization. *Social Cognition, 8*, 263–285.
- Cordova, M. J., Cunningham, L. L. C., Carlson, C. R., & Andrykowski, M. (2001). Posttraumatic growth following breast cancer: A controlled comparison study. *Health Psychology, 20*, 176–185.
- Davidson, R. J. (1995). Cerebral asymmetry, emotion, and affective style. In R. J. Davidson & K. Hugdahl (Eds.), *Brain asymmetry* (pp. 361–387). Cambridge, MA: MIT Press.
- Davis, C. G., Nolen-Hoeksema, S., & Larson, J. (1998). Making sense of loss and benefiting from the experience: Two construals of meaning. *Journal of Personality and Social Psychology, 75*, 561–574.
- de Ridder, D. (2000). Gender, stress and coping: Do women handle stressful situations differently from men? In L. Sherr & J. St. Lawrence (Eds.), *Women, health and the mind* (pp. 115–135). Chichester, UK: Wiley.
- Dirksen, S. R. (1995). Search for meaning in long-term cancer survivors. *Journal of Advanced Nursing, 21*, 628–633.
- Dohrenwend, B., Neria, Y., Marshall, R., Lewis-Fernandez, R., Turner, J., Turse, N., et al. (2004). Positive tertiary appraisals and posttraumatic stress disorder in U.S. male veterans of the war in Vietnam: The roles of positive affirmation, positive reformulation, and defensive denial. *Journal of Consulting and Clinical Psychology, 72*, 417–433.
- Draucker, C. B. (2001). Learning the harsh realities of life: Sexual violence, disillusionment, and meaning. *Health Care for Women International, 22*, 67–84.
- Dunmore, E., Clark, D. M., & Ehlers, A. (1999). Cognitive factors involved in the onset and maintenance of posttraumatic stress disorder (PTSD) after physical or sexual assault. *Behaviour Research and Therapy, 37*, 809–829.
- Ehlers, A., Boos, A., & Maercker, A. (2000). Predictors of chronic PTSD following political imprisonment: The role of mental defeat, alienation, and perceived permanent change. *Journal of Abnormal Psychology, 109*, 45–55.
- Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*, 319–345.
- Elder, G., Gimbel, C., & Ivie, R. (1991). Turning points in life: The case of military service and war. *Military Psychology, 3*, 215–231.
- Emmons, R. A., Colby, P. M., & Kaiser, H. A. (1998). When losses lead to gains: Personal goals and the recovery of meaning. In P. T. P. Wong & P. S. Fry (Eds.), *The human quest for meaning: A handbook of psychological research and clinical applications* (pp. 163–178). Mahwah, NJ: Lawrence Erlbaum.
- Engdahl, B. E., Page, W. F., & Miller, T. W. (1991). Age, education, maltreatment, and social support as predictors of chronic depression in former prisoners of war. *Social Psychiatry and Psychiatric Epidemiology, 26*, 63–67.
- Evers, A. W. M., Kraaimaat, F. W., Van Lankveld, W., Jongen, P. J. H., Jacobs, J. W. G., & Bijlsma, J. W. J. (2001). Beyond unfavorable thinking: The illness cognition questionnaire for chronic diseases. *Journal of Consulting and Clinical Psychology, 69*, 1026–1036.
- Fallot, R. D. (1997). Spirituality in trauma recovery. In M. Harris & C. Landis (Eds.), *Sexual abuse in the lives of women diagnosed with serious mental illness* (pp. 337–355). Amsterdam, Netherlands: Harwood Academic Publishers.
- Fontana, A., & Rosenheck, R. (1998). Psychological benefits and liabilities of traumatic exposure in the war zone. *Journal of Traumatic Stress, 11*, 485–505.
- Frazier, P., Conlon, A., & Glaser, T. (2001). Positive and negative life changes following sexual assault. *Journal of Consulting and Clinical Psychology, 69*, 1048–1055.
- Frazier, P. A., & Kaler, M. E. (2006). Assessing the validity of self reported stress-related growth. *Journal of Consulting and Clinical Psychology, 74*, 859–869.

- Fromm, K., Andrykowski, M. A., & Hunt, J. (1996). Positive and negative psychosocial sequelae of bone marrow transplantation: Implications for Quality of Life assessment. *Journal of Behavioral Medicine, 19*, 221–240.
- Gade, P. (1991). Military service and the life-course perspective: A turning point for military personnel research. *Military Psychology, 3*, 187–199.
- Garnefski, N., Kraaij, V., & Spinhoven, Ph. (2001). Negative life events, cognitive emotion regulation and depression. *Personality and Individual Differences, 30*, 1311–1327.
- Garnefski, N., Kraaij, V., & Spinhoven, Ph. (2002). *Manual for the use of the cognitive emotion regulation questionnaire*. Leiderdorp, The Netherlands: DATEC.
- Gregory, J. L., & Prana, H. (2013). Posttraumatic growth in Côte d'Ivoire refugees using the companion recovery model. *Traumatology, 19*, 223–232.
- Hall, T. W., Tisdale, T. C., & Brokaw, B. F. (1994). Assessment of religious dimensions in Christian clients: A review of selected instruments for research and clinical use. *Journal of Psychology and Theology, 22*, 395–421.
- Helgeson, V. S., Reynolds, K. A., & Tomich, P. L. (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology, 74*, 797–815.
- Hill, P. C., & Pargament, K. I. (2003). Advances in the conceptualization and measurement of spirituality and religion: Implications for physical and mental health research. *American Psychologist, 58*, 64–74.
- Ho, S. M. Y., Chan, C. L. W., & Ho, R. T. H. (2004). Posttraumatic growth in Chinese cancer survivors. *Psycho-Oncology, 13*, 377–389.
- Hobfoll, S. E., Hall, B. J., Canetti-Nisim, D., Galea, S., Johnson, R. J., & Palmieri, P. A. (2007). Refining our understanding of traumatic growth in the face of terrorism: Moving from meaning cognitions to doing what is meaningful. *Applied Psychology, 56*, 345–366.
- Hooper, L. M. (2003). Parentification, resiliency, secure adult attachment style, and differentiation of self as predictors of growth among college students. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 64*, 1493.
- Hussain, D., & Bhushan, B. (2009). The development and validation of Refugee Trauma Experience Inventory. *Psychological Trauma: Theory, Research, Practice, and Policy, 1*, 107–117.
- Hussain, D., & Bhushan, B. (2011a). Cultural factors promoting coping among Tibetan refugees: a qualitative investigation. *Mental Health, Religion & Culture, 14*, 575–587.
- Hussain, D., & Bhushan, B. (2011b). Posttraumatic stress and growth among Tibetan refugees: The mediating role of cognitive-emotional regulation strategies. *Journal of Clinical Psychology, 67*, 720–735.
- Hussain, D., & Bhushan, B. (2013). Posttraumatic growth experiences among Tibetan refugees: A qualitative investigation. *Qualitative Research in Psychology, 10*, 204–216.
- Jang, L. (2006). The 9–21 earthquake: A study of the effects of Taiwanese cultural factors on resilience. *Dissertation Abstracts International: Section A: Humanities and Social Sciences, 66*, 2723.
- Janoff-Bulman, R. (2006). Schema-change perspectives on posttraumatic growth. In L. G. Calhoun & R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 81–99). Mahwah, NJ: Erlbaum.
- Johnson, R. J., Hobfoll, S. E., Hall, B. J., Canetti-Nisim, D., Galea, S., & Palmieri, P. A. (2007). Posttraumatic growth: Action and reaction. *Applied Psychology: An International Review, 56*, 428–436.
- Joseph, S. (2011). Religiosity and posttraumatic growth: A note concerning the problems of confounding in their measurement and the inclusion of religiosity within the definition of posttraumatic growth. *Mental Health, Religion & Culture, 14*, 843–845.
- Joseph, S., & Linley, P. A. (2005). Positive adjustment to threatening events: An organismic valuing theory of growth through adversity. *Review of General Psychology, 9*, 262–280.
- Joseph, S., Linley, P. A., Andrews, L., Harris, G., Howle, B., Woodward, C., et al. (2005). Assessing positive and negative changes in the aftermath of adversity: Psychometric evaluation of the Changes in Outlook Questionnaire. *Psychological Assessment, 17*, 70–80.

- Joseph, S., Linley, P. A., & Harris, G. J. (2004). Understanding positive change following trauma and adversity: Structural clarification. *Journal of Loss and Trauma, 10*, 83–96.
- Joseph, S., & Williams, R. (2005). Understanding posttraumatic stress: Theory, reflections, context and future. *Behavioural and Cognitive Psychotherapy, 33*, 423–441.
- Joseph, S., Williams, R., & Yule, W. (1993). Changes in outlook following disaster: The preliminary development of a measure to assess positive and negative responses. *Journal of Traumatic Stress, 6*, 271–279.
- Khouzam, H. R. (2000). Religious mediation and its effect on posttraumatic stress disorder in a Korean War veteran. *Clinical Gerontologist, 22*, 125–131.
- Kinsinger, D. P., Penedo, F. J., Antoni, M. H., Dahn, J. R., Lechner, S., & Schneiderman, N. (2006). Psychosocial and sociodemographic correlates of benefit-finding in men treated for localized prostate cancer. *Psycho-Oncology, 15*, 954–961.
- Klonoff, H., Clark, C., Horgan, J., Kramer, P., & McDougall, G. (1976). The MMPI profile of prisoners of war. *Journal of Clinical Psychology, 32*, 623–627.
- Kobasa, S. C. (1979). Stressful life events, personality and health: An inquiry into hardiness. *Journal of Personality and Social Psychology, 37*, 1–11.
- Koenig, H. G., Pargament, K. I., & Nielsen, J. (1998). Religious coping and health status in medically ill hospitalised older adults. *Journal of Nervous and Mental Disease, 186*, 513–521.
- Konrad, S. C. (2006). Posttraumatic growth in mothers of children with acquired disabilities. *Journal of Loss and Trauma, 11*, 101–113.
- Lauterbach, D., & Vrana, S. (2001). The relationship among personality variables, exposure to traumatic events, and severity of posttraumatic stress symptoms. *Journal of Traumatic Stress, 14*, 29–45.
- Lepore, S. J. (2001). A social-cognitive processing model of emotional adjustment to cancer. In A. Baum & B. Andersen (Eds.), *Psychosocial interventions for cancer* (pp. 99–118). Washington, DC: American Psychological Association.
- Lev-Wiesel, R., & Amir, M. (2003). Posttraumatic growth among holocaust child survivors. *Journal of Loss & Trauma, 8*, 229–237.
- Linley, P. A. (2003). Positive adaptation to trauma: Wisdom as both process and outcome. *Journal of Traumatic Stress, 16*, 601–610.
- Linley, P., Joseph, S., & Goodfellow, B. (2008). Positive changes in outlook following trauma and their relationship to subsequent posttraumatic stress, depression, and anxiety. *Journal of Social and Clinical Psychology, 27*, 877–891.
- Maercker, A., & Herrle, J. (2003). Long-term effects of the Dresden bombing: Relationships to control beliefs, religious coping, and personal growth. *Journal of Traumatic Stress, 16*, 579–587.
- Maercker, A., & Zöllner, T. (2004). The Janus face of posttraumatic growth: Towards a two component model of posttraumatic growth. *Psychological Inquiry, 15*, 41–48.
- Maltby, J., & Lewis, C. A. (1996). Measuring intrinsic and extrinsic orientation toward religion: Amendments for its use among religious and non-religious samples. *Personality and Individual Differences, 21*, 937–946.
- Mansell, W. (2000). Conscious appraisal and the modification of automatic processes in anxiety. *Behavioural and Cognitive Psychotherapy, 28*, 99–120.
- Martin, L. L., & Tesser, A. (1996). Clarifying our thoughts. In R. S. Wyer (Ed.), *Ruminative thought: Vol. 9. Advances in social cognition* (pp. 189–209). Mahwah, NJ: Erlbaum.
- McCann, I. L., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy and transformation*. New York: Brunner/Mazel.
- McCormick, R. A., Taber, J. I., & Kruegelbach, N. (1989). The relationship between attributional style and posttraumatic stress disorder in addicted patients. *Journal of Traumatic Stress, 2*, 477–487.
- McFarland, C., & Alvaro, C. (2000). The impact of motivation on temporal comparisons: Coping with traumatic events by perceiving personal growth. *Journal of Personality and Social Psychology, 79*, 327–343.

- McMillen, J. C., & Fisher, R. H. (1998). The perceived benefits scales: Measuring perceived positive life changes after negative events. *Social Work Research, 22*, 173–187.
- McMillen, C., Howard, M. O., Nower, L., & Chung, S. (2001). Positive by-products of the struggle with chemical dependency. *Journal of Substance Abuse Treatment, 20*, 69–79.
- McMillen, J. C., Smith, E. M., & Fisher, R. H. (1997). Perceived benefit and mental health after three types of disaster. *Journal of Consulting and Clinical Psychology, 65*, 733–739.
- McMillen, C., Zuravin, S., & Rideout, G. (1995). Perceived benefits from child sexual abuse. *Journal of Consulting and Clinical Psychology, 63*, 1037–1043.
- Milam, J. E. (2004). Posttraumatic growth among HIV/AIDS patients. *Journal of Applied Social Psychology, 34*, 2353–2376.
- Milam, J. E., Ritt-Olson, A., Tan, S., Unger, J., & Nezam, E. (2005). The September 11th 2001 attacks and reports of posttraumatic growth among a multiethnic sample of adolescents. *Traumatology, 11*, 233–246.
- Mohr, D. C., Dick, L. P., Russo, D., Pinn, J., Boudewyn, A. C., Likosky, W., et al. (1991). The psychosocial impact of multiple sclerosis: Exploring the patient's perspective. *Health Psychology, 18*, 376–382.
- Morris, B. A., Shakespeare-Finch, J., Rieck, M., & Newbery, J. (2005). Multidimensional nature of posttraumatic growth in an Australian population. *Journal of Traumatic Stress, 18*, 575–585.
- Moussa, M. M., & Bates, G. W. (2011). A preliminary investigation of Lebanese students' strategies for coping with stressful events. *Mental Health, Religion, & Culture, 14*, 489–510.
- Naidich, J. B., & Motta, R. W. (2000). PTSD-related symptoms in women with breast cancer. *Journal of Psychotherapy in Independent Practice, 1*, 35–54.
- Noguchi, K., Gohm, C. L., & Dalsky, D. J. (2006). Cognitive tendencies of focusing on positive and negative information. *Journal of Research in Personality, 40*, 891–910.
- Oloff, M., Langeland, W., Draijer, N., & Gersons, B. P. R. (2007). Gender differences in posttraumatic stress disorder. *Psychological Bulletin, 133*, 183–204.
- Overcash, W., Calhoun, L. G., Cann, A., & Tedeschi, R. G. (1996). Coping with crises: An examination of the impact of traumatic events on religious beliefs. *Journal of Genetic Psychology, 157*, 455–464.
- Palmer, G. A., Graca, J. J., & Occhietti, K. E. (2012). Confirmatory factor analysis of the posttraumatic growth inventory in a veteran sample with posttraumatic stress disorder. *Journal of Loss & Trauma, 17*, 545–556.
- Pargament, K. I., Koenig, H. G., & Perez, L. M. (2000). The many methods of religious coping: Development and initial validation of the RCOPE. *Journal of Clinical Psychology, 56*, 519–543.
- Pargament, K. I., Smith, B. W., Koenig, H. G., & Perez, L. M. (1998). Patterns of positive and negative religious coping with major life stressors. *Journal for the Scientific Study of Religion, 37*, 710–724.
- Park, C. L., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 71–105.
- Park, C. L., Mills-Baxter, M. A., & Fenster, J. R. (2006). Posttraumatic growth from life's most traumatic event: Influences of elder's current coping and adjustment. *Traumatology, 11*, 297–306.
- Peltzer, K. (2000). Trauma symptom correlates of criminal victimization in an urban community sample. *Journal of Psychology in Africa, 10*, 49–62.
- Polatinsky, S., & Esprey, Y. (2000). An assessment of gender differences in the perception of benefit resulting from the loss of a child. *Journal of Traumatic Stress, 13*, 709–718.
- Poulin, M. J., Silver, R. C., Gil-Rivas, V., Holman, E. A., & McIntosh, D. N. (2009). Finding social benefits after a collective trauma: Perceiving societal changes and well-being following 9/11. *Journal of Traumatic Stress, 22*, 81–90.
- Powell, S., Rosner, R., Butollo, W., Tedeschi, R. G., & Calhoun, L. G. (2003). Posttraumatic growth after war: A study with former refugees and displaced people in Sarajevo. *Journal of Clinical Psychology, 59*, 71–83.
- Prati, G., & Pietrantonio, L. (2009). Optimism, social support, and coping strategies as factors contributing to posttraumatic growth: A meta-analysis. *Journal of Loss & Trauma, 14*, 364–388.

- Rabe, S., Zöllner, T., Maercker, A., & Karl, A. (2006). Neural correlates of posttraumatic growth after severe motor vehicle accidents. *Journal of Consulting and Clinical Psychology, 74*, 880–886.
- Ransom, S., Sheldon, K. M., & Jacobsen, P. B. (2008). Actual change and inaccurate recall contribute to posttraumatic growth following radiotherapy. *Journal of Consulting and Clinical Psychology, 76*, 811–819.
- Rieker, P. P., Fitzgerald, E. M., Kalish, L. A., et al. (1989). Psychosocial factors, curative therapies, and behavioral outcomes. A comparison of testis cancer survivors and a control group of healthy men. *Cancer, 64*, 2399–2407.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, 1–28.
- Rudnick, A. (1997). Psychotherapeutic effects of religion. *Psychosomatics, 38*, 576–578.
- Rutter, M. (1985). Resilience in the face of adversity: Protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry, 147*, 598–611.
- Saccinto, E., Prati, G., Pietrantonio, L., & Pérez-Testor, C. (2013). Posttraumatic stress symptoms and posttraumatic growth among Italian survivors of emergency situations. *Journal of Loss & Trauma, 18*, 210–226.
- Sacks, J. M. (1985). Religious issues in psychotherapy. *Journal of Religion and Health, 24*, 26–30.
- Salsman, J., Segerstrom, S., Brechting, E., Carlson, C., & Andrykowski, M. (2009). Posttraumatic growth and PTSD symptomatology among colorectal cancer survivors: A 3-month longitudinal examination of cognitive processing. *Psycho-Oncology, 18*, 30–41.
- Schaefer, J. A., & Moos, R. H. (1992). Life crisis and personal growth. In B. N. Carpenter (Ed.), *Personal coping: Theory, research and application* (pp. 149–170). Westport, CT: Praeger.
- Schaefer, J., & Moos, R. (1998). The context for posttraumatic growth: Life crises, individual and social resources, and coping. In R. Tedeschi, C. Park, & L. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 99–126). Mahwah, NJ: Erlbaum.
- Schuster, M. A., Stein, B. D., Jaycox, L. H., Collins, R. L., Marshall, G. N., Elliot, M. N., et al. (2001). A national survey of stress reactions after the September 11th, 2001 terrorist attacks. *New England Journal of Medicine, 345*, 1507–1512.
- Schwartzberg, S. S., & Janoff-Bulman, R. (1991). Grief and the search for meaning: Exploring the assumptive worlds of bereaved college students. *Journal of Social and Clinical Psychology, 10*, 270–288.
- Sears, S. R., Stanton, A. L., & Danoff-Burg, S. (2003). The yellow brick road and the emerald city: Benefit finding, positive reappraisal coping, and posttraumatic growth in women with early-stage breast cancer. *Health Psychology, 22*, 487–497.
- Segerstrom, S. C., Stanton, A. L., Alden, L. E., & Shortridge, B. E. (2003). A multidimensional structure for repetitive thought: what's on your mind, and how, and how much? *Journal of Personality and Social Psychology, 85*, 909–921.
- Senter, K. E., & Caldwell, K. (2002). Spirituality and the maintenance of change: A phenomenological study of women who leave abusive relationships. *Contemporary Family Therapy, 24*, 543–564.
- Shaw, A., Joseph, S., & Linley, P. A. (2005). Religion, spirituality, and posttraumatic growth: A systematic review. *Mental Health, Religion, & Culture, 8*, 1–11.
- Siegel, K., & Schrimshaw, E. W. (2000). Perceiving benefits in adversity: Stress-related growth in women living with HIV/AIDS. *Social Science and Medicine, 51*, 1543–1554.
- Siporin, M. (1985). Current social work perspectives on clinical practice. *Clinical Social Work Journal, 13*, 198–217.
- Sledge, W. H., Boydston, J. A., & Rabe, A. J. (1980). Self-concept changes related to war captivity. *Archives of General Psychiatry, 37*, 430–443.
- Smith, S. G., & Cook, S. L. (2004). Are reports of posttraumatic growth positively biased? *Journal of Traumatic Stress, 17*, 353–358.
- Snape, M. C. (1997). Reactions to a traumatic event: The good, the bad, and the ugly? *Psychology, Health and Medicine, 2*, 237–242.

- Solomon, Z., & Dekel, R. (2007). Posttraumatic stress disorder and posttraumatic growth among Israeli ex-POWs. *Journal of Traumatic Stress, 20*, 303–312.
- Solomon, Z., Waysman, M., & Neria, Y. (1999). Positive and negative changes in the lives of Israeli former prisoners of war. *Journal of Social and Clinical Psychology, 18*, 419–435.
- Stanton, A. L., Bower, J. E., & Low, C. A. (2006). Posttraumatic growth after cancer. In: L. G. Calhoun, R. G. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice*. Mahwah, NJ: Erlbaum.
- Sutker, P. B., & Allain, A. N. (1996). Assessment of PTSD and other mental disorders in World War II and Korean Conflict POW survivors and combat veterans. *Psychological Assessment, 8*, 18–25.
- Taku, K., Calhoun, L. G., Cann, A., & Tedeschi, R. G. (2008). The role of rumination in the coexistence of distress and posttraumatic growth among bereaved Japanese university student. *Death Studies, 32*, 428–444.
- Taku, K., Calhoun, L. G., Tedeschi, R. G., Gil-Rivas, V., Kilmer, R. P., & Cann, A. (2007). Examining posttraumatic growth among Japanese university students. *Anxiety Stress and Coping, 20*, 353–367.
- Tallman, B. A., Altmaier, E., & Garcia, C. (2007). Finding benefit from cancer. *Journal of Counselling Psychology, 54*, 481–487.
- Taylor, S. E. (1983). Adjustment to threatening events: A theory of cognitive adaptation. *American Psychologist, 38*, 1161–1173.
- Taylor, S. E., Lichtman, R., & Wood, J. (1984). Attributions, beliefs about control, and adjustment to breast cancer. *Journal of Personality and Social Psychology, 46*, 489–502.
- Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering*. Thousand Oaks, CA: Sage.
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress, 9*, 455–471.
- Tedeschi, R. G., & Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry, 15*, 1–18.
- Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (1998). Posttraumatic growth: Conceptual issues. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 1–17). Mahwah, NJ: Erlbaum.
- Tennant, C. C., Fairley, M., Dent, O. F., Sulway, M. R., & Broe, G. A. (1997). Declining prevalence of psychiatric disorder in older former prisoners of war. *Journal of Nervous and Mental Disease, 185*, 686–689.
- Tennen, H., & Affleck, G. (1998). Personality and transformation in the face of adversity. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Positive changes in the aftermath of crisis* (pp. 65–98). Mahwah, NJ: Erlbaum.
- Terheggen, M. A., Stroebe, M. S., & Kleber, R. J. (2001). Western conceptualizations and eastern experience: A cross-cultural study of traumatic stress reactions among Tibetan refugees in India. *Journal of Traumatic Stress, 14*, 391–403.
- Thombre, A., Sherman, A. C., & Simonton, S. (2010). Posttraumatic growth among cancer patients in India. *Journal of Behavioral Medicine, 33*, 15–23.
- Tolin, D. F., & Foa, E. B. (2006). Sex differences in trauma and posttraumatic stress disorder: A quantitative review of 25 years of research. *Psychological Bulletin, 132*, 959–992.
- Tomich, P. L., & Helgeson, V. S. (2004). Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology, 23*, 16–23.
- Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research, 27*, 247–259.
- Ullman, C. (1982). Cognitive and emotional antecedents of religious conversion. *Journal of Personality and Social Psychology, 43*, 183–192.
- Updegraff, J. A., Taylor, S. E., Kemeny, M. E., & Wyatt, G. E. (2002). Positive and negative effects of HIV infection in women with low socioeconomic resources. *Personality and Social Psychology Bulletin, 28*, 382–394.

- Ursano, R. J., Wheatley, R. D., Sledge, W., Rabe, A., & Carlson, E. (1986). Coping and recovery styles in the Vietnam era prisoner of war. *Journal of Nervous and Mental Disease, 174*, 707–714.
- Valent, P. (1999). *Trauma and fulfillment therapy: A wholist framework*. Philadelphia, PA: Brunner/Mazel.
- Vishnevsky, T., Cann, A., Calhoun, L. G., Tedeschi, R. G., & Demakis, G. J. (2010). Gender differences in self-reported posttraumatic growth: A meta-analysis. *Psychology of Women Quarterly, 34*, 110–120.
- Wasserman, A. L., Thompson, E. I., Wilimas, J. A., & Fairclough, D. L. (1987). The psychological status of survivors of childhood/adolescent Hodgkin's disease. *American Journal of Diseases of Children, 141*, 626–631.
- Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134*, 163–206.
- Waysman, M., Schwarzwald, J., & Solomon, Z. (2001). Hardiness: An examination of its relationship with positive and negative long term changes following trauma. *Journal of Traumatic Stress, 14*, 531–548.
- Weinrib, A. Z., Rothrock, N. E., Johnsen, E. L., & Lutgendorf, S. K. (2006). The assessment and validity of stress-related growth in a community-based sample. *Journal of Consulting and Clinical Psychology, 74*, 851–858.
- Weiss, T. (2002). Posttraumatic growth in women with breast cancer and their husbands: An intersubjective validation study. *Journal of Psychosocial Oncology, 20*, 65–80.
- Weiss, T., & Berger, R. (2006). Reliability and validity of a Spanish version of the posttraumatic growth inventory. *Research on Social Work Practice, 16*, 191–199.
- Westphal, M., & Bonanno, G. A. (2007). Posttraumatic growth and resilience to trauma: Different sides of the same coin or different coins? *Applied Psychology: An International Review, 56*, 417–427.
- Widows, M. R., Jacobsen, P. B., Booth-Jones, M., & Fields, K. K. (2005). Predictors of posttraumatic growth following bone marrow transplantation for cancer. *Health Psychology, 24*, 266–273.
- Wilson, A. E., & Ross, M. (2001). The frequency of temporal-self and social comparisons in people's personal appraisals. *Journal of Personality and Social Psychology, 78*, 928–942.
- Wink, P., & Dillon, M. (2002). Spiritual development across the adult life course: Findings from a longitudinal study. *Journal of Adult Development, 9*, 79–94.
- Wuthnow, R. (1998). *After heaven: Spirituality in America since the 1950s*. Berkeley, CA: University of California Press.
- Yalom, I. D., & Lieberman, M. A. (1991). Bereavement and heightened existential awareness. *Psychiatry, 54*, 334–345.
- Zöllner, T., & Maercker, A. (2006a). Posttraumatic growth in clinical psychology: A critical review and introduction of a two component model. *Clinical Psychology Review, 26*, 626–653.
- Zöllner, T., & Maercker, A. (2006b). Posttraumatic growth and psychotherapy. In L. Calhoun & R. Tedeschi (Eds.), *Handbook of posttraumatic growth: Research and practice* (pp. 334–354). New York: Erlbaum.
- Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. *Psychological Bulletin, 99*, 432–442.