Beyond Recovery From Trauma:
Implications for Clinical Practice and Research

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This article draws implications for clinicians working with survivors of major life crises in four general areas: the relation of psychological well-being, distress, and posttraumatic growth; conceptual issues in this type of clinical work; the process of encouraging growth in clients following traumatic events; and suggestions for additional research. Posttraumatic growth can be accompanied by an increase in well-being, but distress and growth may also coexist. Positive changes can occur in several domains, but many are likely to be phenomenological. Degree of change produced by clinical intervention may be limited in scope, but there clearly are some ways in which the clinician may make growth more likely for the client. Suggestions for future research include the call for longitudinal investigations, studies of rumination and responses of the social network, and the examination of potential gender differences in posttraumatic growth.

The lifetime prevalence of major stressful events is high. In one study of 1,000 adults in four cities in the southeastern United States, for example, 21% of the sample reported a traumatic event (such as a robbery, assault, or traumatic death of a loved one) during the previous year and 69% reported the occurrence of at least one such event in their lifetimes (Norris, 1992). Although the frequencies of reported events vary across studies, "it is clear that exposure to 'traumatic' events is common in the lifetime of individuals, at least in the United States" (Green, 1994, p. 344).

As has been made clear throughout this issue, perceiving and experiencing psychological growth, or thriving, as a result of the struggle with highly stressful events has been recognized clinically for some time (Caplan, 1964). More recent

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systematic investigations have confirmed the clinical impressions. The phenomenon of perceiving positive self-change originating in the struggle with trauma has been found to occur in a significant proportion of persons as a result of a wide range of disruptive events (O'Leary & Ickovics, 1995; Tedeschi & Calhoun, 1995).

The major focus of this article is on implications of the work on thriving and posttraumatic growth for the working clinician and on areas in need of additional investigation.[1] This article draws implications in four areas: the relation of psychological well-being and thriving, a conceptual framework for the practicing clinician, a discussion of the encouragement of thriving in clients, and suggestions for further research.

Psychological Well-Being and Psychological Thriving

For the individual struggling with a traumatic set of circumstances, perceived growth tends to be reported in three general domains: changes in perception of self, changed relationships with others, and a changed philosophy of life that includes a deeper appreciation for life, along with new life directions and priorities (Tedeschi & Calhoun, 1996; Tedeschi, Park, & Calhoun, 1998). Individuals' self-perceptions can be changed to that of a person vulnerable to difficulties in life (Janoff-Bulman, 1992), but also to that of a person who is self-reliant and capable of coping with difficult challenges (Tedeschi & Calhoun, 1996). Changes are also reported in the individual's relationships with others. These tend to include an experienced increase in interpersonal and emotional closeness with at least some other persons, a perceived increase in one's freedom to express emotions, and an increase in one's reported sympathy and understanding for the suffering of others (Calhoun & Tedeschi, 1989–90). Changes in philosophy of life involve for many persons a change in life priorities, an increased experience of existential wisdom, and a greater interest in and openness to spiritual and religious matters (Park, Cohen, & Murch, 1996; Tedeschi & Calhoun, 1996). These reported changes are regarded by the individual as inherently positive, and they are reported, in some form, by at least some persons experiencing even the most horrible sets of circumstances (McMillen, Zuravin, & Rideout, 1995; Tedeschi & Calhoun, 1995; Veronen & Kilpatrick, 1983).

Not only individuals but also couples and families may experience a change for the better arising from highly demanding sets of circumstances (see Karakashian, this issue, and Bloom, 1998, for a discussion of thriving in large social units).

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[1] In this article, we use the terms *thriving* and *growth* as rough synonyms to signify posttraumatic changes that involve changes for the better attributed to the struggle with a highly stressful event. We also use the terms *highly stressful event, crisis*, and *trauma* as rough synonyms to indicate sets of circumstances that seriously challenge and may overwhelm the individual's coping abilities. See Tedeschi, Park, and Calhoun (1998) for a discussion of terminology in the general area of posttraumatic growth.

Lehman, Lang, Wortman, and Sorenson (1989) found that 29% of a sample of parents of children who were killed in motor vehicle accidents reported that their marriage had become "somewhat or much better." In addition, 32% of parents indicated that their relationships with their surviving children had improved and become closer in the aftermath of the death of a child or spouse. Among parents whose child had been treated in a neonatal intensive care unit, 70% also reported a strengthening of the marriage as a result of their difficult experience (Affleck & Tennen, 1991).

An important pragmatic question for the clinician is: What difference does growth make with regard to psychological adjustment? If individuals see themselves as better persons, or couples see themselves as closer, what connection, if any, does this perceived change have to overall mental health? As operationalized in the available literature, this question is addressed by looking at the relationships between general measures of psychological well-being or distress, on the one hand, and measures of perceived benefits or growth on the other. The results are not entirely consistent across studies (Park, 1998).

Several studies have suggested at least a modest relationship between self-reported thriving or growth and general measures of psychological adjustment. Taylor, Lichtman, and Wood (1984) reported that women who perceived positive changes as a result of their struggle with breast cancer also had higher levels of overall psychological adjustment. In a sample of persons who had experienced a stroke and of their main caregivers, finding meaning (measured primarily by perceiving benefits) resulting from the struggle with a stroke was reliably predictive of adjustment (Thompson, 1991). In a study of mothers of infants hospitalized with serious health problems (Affleck & Tennen, 1991), perceiving benefits arising from their experience was reliably predictive of better psychological adjustment at follow-up 18 months later. These findings suggest that perceived thriving in the struggle with trauma may have some positive implications for the individual's current and future well-being.

However, not all investigations of the links between growth and adjustment find a reliable connection (Joseph, Williams, & Yule, 1993). For example, an investigation of persons whose spouse or child had died in a motor vehicle accident (Lehman et al., 1993) failed to find a significant relationship between number of positive changes reported and psychological adjustment. A similar pattern of results was obtained in a study of persons suffering from rheumatoid arthritis (Tennen, Affleck, Urrows, Higgins, & Mendola, 1992). In that study, perceiving benefits in the struggle with the pain of arthritis was not related to measures of daily mood.

As these examples illustrate, the data on the relationship of measures of growth or perceived benefit after trauma and measures of psychological adjustment are limited and somewhat inconsistent. An increased experience of growth may be related to increased adjustment in some instances (Curbow, Somerfield, Baker, Wingard, & Legro, 1993), but not in others. However, there is no indication that perceiving benefits in one's struggle predicts negative psychological functioning

(Tedeschi & Calhoun, 1995). At the current stage of research, there is no clear explanation for the inconsistency of findings. Perhaps the simplest explanation for these inconsistent results is that sometimes growth and adjustment are not predictably related. Another possibility is that growth at one specific point in time may be related to adjustment, but only to adjustment at another, different point in time, for example, at some point subsequent to a time of most growth. The clinician must also bear in mind that well-being and distress are not necessarily opposite ends of the same pole. Positive and negative affect can be independent dimensions (Bradburn, 1969). The available data also suggest that growth may be differentially related to positive affect, on the one hand, and negative affet, on the other (Goodhart, 1985).

In sum, the available data, although sparse, suggest two general conclusions relevant to the clinical context. First, individuals or couples who report experiencing posttraumatic growth may not necessarily evidence a proportional improvement in overall psychological adjustment. Second, the continuing experience of distress after a trauma may be a catalyst for continuing growth (Calhoun & Tedeschi, 1998).

Conceptualizing Thriving in Clinical Contexts

The research on posttraumatic growth in the context of psychological interventions with persons who have experienced significant life crises is limited and anecdotal. In the remainder of the article, we of necessity engage in some degree of speculation, relying not only on the literature available, but also on our combined experience as practicing clinical psychologists. In this section we look at the traumatic circumstances that initiate the process of growth, some of the elements to be considered in treatment, and how wisdom and understanding may occur along with, or as a part of, posttraumatic growth.

Posttraumatic growth is set in motion by the same sets of events that produce psychological distress and that can also place the individual at increased risk for psychological difficulties. The individual experiences what constitutes an event of "seismic" proportions (Calhoun, 1996; Calhoun & Tedeschi, 1998). The circumstances which the individual has had to face must have been capable of at least shaking the foundations of the individual's assumptive world, and in some instances some shattering of fundamental assumptions may occur (Janoff-Bulman, 1992). The traumatic set of circumstances typically causes high degrees of psychological discomfort and a major invalidation, or at least major disruption, of important cognitive elements. The trauma typically leads to a questioning and reevaluation of many important assumptions previously held. And it is in the reevaluation, modification, or rebuilding of one's general assumptions about, and views of, the world that posttraumatic growth may be most readily addressed in the clinical setting. Precisely because of the violation of fundamental assumptions that have provided structure and meaning to life, we see both distress and growth coexisting in persons

in the aftermath of trauma. Persons who have struggled with the death of a loved one provide a good example. Such persons' grief is typically characterized by sadness, anxiety, somatic complaints, considerable loneliness, and varying degrees of yearning for the person who has died (Weiss & Richards, 1997). Although for many persons the pain diminishes with time, this is not the case with everyone (Wortman & Silver, 1989). Persons who must face bereavement may also experience significant psychological growth (Calhoun & Tedeschi, 1989–90; Yalom & Lieberman, 1991), but the psychological pain associated with the loss may persist.

Yalom & Lieberman (1991) tell about the impact on a 55-year-old woman of her husband's death. In the struggle with her loss she had experienced and had made a variety of positive changes in her life. She stopped smoking, she began to exercise, she became very much aware of how precious life is, she had experienced a significant change in life priorities, and she began to search for a way to make a difference in the world. At the same time, however, she was frightened by her life's lack of structure, she had strong regrets about how she previously had chosen to live her life, and she had become acutely aware of her own mortality. This woman offers a good example of what clinicians may see in their clients who seek help in dealing with highly stressful events: a mixture of positive changes that typically do not occur in all possible domains of posttraumatic growth, and at the same time, a series of negative experiences that persist in the wake of the difficult circumstances.

The clinician needs to keep in mind that psychological growth, and what clinicians would view as good coping, are not the same, although they may overlap to an extent. For growth to be most likely, the individual needs to have experienced some degree of initial success in coping, particularly when the stressful event has produced highly distressing and perhaps overwhelming emotional distress (Tedeschi & Calhoun, 1995). However, with the removal of all distress through successful coping, the most productive period of growth may come to an end.

Elements of Treatment

Individuals who seek treatment because of difficulties precipitated by traumatic events typically have high level of distress and have not yet found the crisis to be manageable. In working with such persons several different elements need to be present in treatment (Herman, 1992; Van Der Kolk, McFarlane, & Weisaeth, 1996). In the earlier phases of treatment, the individual's general psychological state must be stabilized. For this to happen, the individual needs to feel safe and to experience the therapeutic relationship as a secure one. The focus on safety, both physical and psychological, is particularly necessary where the crisis exposes the client to the potential of significant harm, for example, sexual assault, childhood physical abuse, or the presence of a threatening and abusive marital relationship. Additional elements of intervention may need to focus on dealing with the symptoms of intrusion (unwanted images, nightmares, intrusive ruminations about the event) and various

forms of conditioned avoidance (fear and avoidance of situations similar to that in which the event occurred), the reestablishment or renewal of meaningful connections to the individual's support system, and the rebuilding and restructuring of the assumptive world. It is in this latter clinical domain that the implications of posttraumatic growth for psychological intervention are most relevant.

Individuals may experience growth by changing schemas, altering personal narratives, and developing a greater degree of what can be called wisdom. In the context of clinical work with persons who have experienced crises, it is important to remember that growth may best be viewed as multidimensional. The individual may experience positive changes in some domains, and no change or negative change in others. These domains are suggested by the factor structure of the Posttraumatic Growth Inventory: New Possibilities, Relating to Others, Personal Strength, Appreciation of Life, and Spiritual Change (Tedeschi & Calhoun, 1996). *New Possibilities* includes items describing positive new directions in life, e.g., "established a new path for my life"; *Relating to Others* describes positive change in interpersonal relationships, e.g., a greater "sense of closeness with others"; *Personal Strength* contains items such as "I discovered I am stronger than I thought I was"; *Appreciation for Life* contains items reflecting "an appreciation for the value of my own life"; and *Spiritual Change* is reflected in the item "a better understanding of spiritual matters."

As the person struggles to rebuild or repair the fundamental assumptions that provide a way of ordering one's experience of the world, growth may be most noticeable to the clinician in the process of rebuilding and in the design of the rebuilt assumptive world. Using the metaphor of a seismic event, the clinical worker is likely to observe growth in the process whereby the threatened or demolished structure is redesigned and rebuilt. These are primarily phenomenological events, although thriving can be manifested in changes in behavior too (Tedeschi & Calhoun, 1995).

The Struggle Toward Wisdom

We have described elsewhere the relationship between recent conceptualizations of wisdom and posttraumatic growth (Calhoun & Tedeschi, 1998; Tedeschi & Calhoun, 1995). One reason traumatic events may be "wisdom-facilitative" (Baltes, Staudinger, Maercker, & Smith, 1995) is because there is such a strong element of affect in the experience of trauma, and wisdom appears to have a strong affective component as well. It is not merely intellectual understanding. The demolition of old cognitive structures that provided a map for life and the struggle to rebuild are experienced, not merely observed.

Survival in the midst of this chaos appears to involve the experience of paradox that is such an important element of wisdom. The discovery of creative coping approaches that embrace paradox lead to the recognition and management of

uncertainty. For example, to manage trauma one must be active, yet let time take its course; one must accept help, yet recognize that ultimately no one else can manage the trauma; and one must acknowledge that the trauma must be left in the past but also woven into the future. Discovering and experiencing this in the posttrauma struggle involves the joining of the intellectual and affective in a powerful new recognition of what it means to survive, then thrive.

Growing by Explaining

Perhaps one of the last phases of growth involves being able to describe it to oneself and others. This is not as easy as it seems, because the changes that occur are phenomenological to a great degree. But until trauma survivors can construct personal narratives to organize information about themselves (McAdams, 1993), positive change may be experienced as tentative or ephemeral.

The stage must be set for the personal description of change by the thorough telling of the events of the trauma, and perhaps of life before the trauma. This provides context for the changes that could be perceived as growth, and of course drains away some of the distressing emotions so that growth issues can be considered rather than clouded by the distress. We see clinical intervention as an essentially continual process of narrative development, where the events are retold many times, with new details included in each version, and the aftermath of the trauma is revised in each telling and by each telling.

A Brief Case Example: Struggle and Growth

Ashlee F. was a client in her thirties whose husband had been murdered in a robbery that turned into a hostage situation at a fast food restaurant. After a long and futile attempt to negotiate with the robber, the police mounted a swift assault on the restaurant building, but her husband was killed by the criminal before the rescue attempt could be successful.

In her conversations with a psychologist several months after her husband's death, several things were noticeable. Ms. F was still quite depressed and still experiencing significant grief. However, she also reported that her sense of strength, her ability to live independently, and her general sense of being closer to something transcendent had never been stronger. She indicated that she had begun work within her religious denomination to develop support groups for parents of gay and lesbian children and to help work toward full acceptance of gay persons within the religious community of which she was a part. Her interest in providing support to parents was unrelated to any direct experience of her own but had grown out of an increased sense of the need to "do something to help other people who are also somehow in pain." Her husband's death had also produced a significant degree of questioning about religious and spiritual issues, and she had not yet resolved these. She still

believed in God and felt herself more spiritually aware, but as for the 55-year-old woman described above (Yalom & Lieberman, 1991), the fragility and unpredictability of life now were much more salient for her. In thinking about her life, the sudden death of her husband had now become a major element in how she viewed her own history and her own future: His murder divided her life into a *before* and *after*.

This woman was still experiencing high levels of distress, months after her husband's death, but she was also reporting and experiencing elements of thriving —she had changed in ways that she regarded as highly positive, in spite of her continued pain over the loss of her husband. She had experienced significant cognitive change, both positive and negative. Although she saw herself as a stronger, more capable person, she also had a greater degree of concern for her own safety and found herself worrying excessively about the safety of loved ones when they traveled. Her understanding of who she was, of the world and her place in it, of her role in life, and of her connections to other persons were radically changed. Although many of the changes she had experienced were negative and continued to be so, there clearly were many elements of what others might describe as "existential wisdom" (Yalom & Lieberman, 1991), in particular, or wisdom more generally.

A clear element in Ashlee F.'s increase in wisdom was a greater appreciation for spiritual and religious elements in her life. But at the same time she was aware that for her, simplistic religious explanations that had been comforting for her in the past were no longer useful. Ms. F's experience reflects an important component in posttraumatic growth, at least in a significant portion of the persons who have participated in our research (Calhoun, Tedeschi, & Lincourt, 1992; Overcash, Calhoun, Cann, & Tedeschi, 1996; Tedeschi & Calhoun, 1995, 1996) and with whom we have done clinical work: an increased sense of the importance of existential, spiritual, or religious aspects of their lives. Posttraumatic growth manifested in increased wisdom is also broader than that in the existential domain. We next consider some general guidelines for the clinician to follow during this process of narrative development that leads to perspectives on life that have elements of wisdom.

Encouraging Growth

The available evidence is sketchy, at best, on the degree to which the clinician can influence posttraumatic growth in the client (Tedeschi & Calhoun, 1995). There are also limits to the amount of change that can occur as a result of clinical interventions of any kind (Mahoney, 1991). Relying on our own work and extending the approaches taken by other clinicians treating primary responses to trauma, the following are general considerations that may help the clinician work with trauma survivors in ways that allow them to thrive. (For specifics on implementing growth-enhancing strategies, see Calhoun and Tedeschi, in press.)

Clinical interventions must work within the client's belief system. Such interventions must also show sensitivity to cultural nuances that are likely to include

existential or spiritual dimensions. Although this is currently a clinical truism, some clinicians may be somewhat uncomfortable when clients focus on spiritual themes or explicitly religious matters (Shafranske & Malony, 1990). Spiritual schemas can permit the creation of meaning for traumatic events (Pargament, 1990), and they can also provide unique avenues for the individual's psychological growth. In a sample of students in the southeastern United States who had experienced major traumatic events (e.g., robbery, rape), a significant majority described how a positive consequence of their struggle with difficult circumstances was that their religious beliefs had become more important or stronger for them (Calhoun et al., 1992).

The available data on posttraumatic growth indicate clearly that for many individuals positive changes are identified in this existential or spiritual domain (Tedeschi & Calhoun, 1995). To encourage growth in these persons effectively, the clinician not only must feel comfortable dealing with these matters, but also must be capable of actively engaging the person who perceives growth occurring in this arena. Furthermore, the clinician must have the flexibility to tolerate the questioning, doubt, and change in the spiritual and religious realm as the survivor of trauma moves beyond an old belief system to a revised one. The clinician may be working within an evolving belief system and may not have any sense of what the final version may be. The therapist must be willing to act as a "midwife" in this process (Vaughan, Wittine, & Walsh, 1996). This role suggests a supportive expert who respects the survivor's ability to manage the difficult process naturally.

The clinician must be prepared for and willing to support the client's perceptions of thriving. Whether the client discovers or constructs (Neimeyer & Stewart, 1996) positive change, the clinician needs to support the perception of growth when it occurs. Although the issue of positive illusions is a matter that produces academic debate (Colvin & Block, 1994), positive illusions (Taylor & Brown, 1988) can be useful for clients in the process of posttraumatic growth. In some contexts the clinician may need to support a client's perception of growth that may objectively constitute an illusion. From a clinical perspective, it seems desirable to support a client's perception that he or she is now a different and better person, even if the individual has not measurably altered observable behavior. Such behavioral changes may come later, and the clinician can engage the survivor in discussions of how the changes may be shared. In many of the cases we have seen in clinical practice, people who are thriving may have a great motivation to share their hard-won gift with others who unfortunately have been forced by loss to join their community of suffering.

Even if thriving can be engendered by clinical intervention, the clinician should not attempt to rush it. Highly traumatic sets of circumstances produce high levels of psychological distress for most persons who experience them (McCann & Pearlman, 1990; Tedeschi & Calhoun, 1995). For most persons the overwhelming pain and distress produced by highly stressful events must be satisfactorily managed before growth can begin to be experienced and acknowledged. For persons

whose trauma has involved exposure to events that directly threatened physical safety, an immediate need is for the intervention to provide a means whereby the client can begin to experience a psychological sense of security from immediate harm (Herman, 1992; Van Der Kolk et al., 1996). And even for persons whose difficulties have not exposed them to danger, for example, parents who are bereaved by the loss of a young child, early clinical work should be focused on helping the individual manage high levels of psychological distress.

The key issue here is one of the *proper timing* of the proper intervention. What seems clear for the domain of posttraumatic growth is that for most persons, the clinician should not be looking for nor leading the client to focus on possibilities of growth in the immediate aftermath of a traumatic event. As the individual's coping mechanisms restore some degree of psychological equilibrium and reduce some of the most extreme distress, then the clinician needs to be alert to the possibility of helping the client identify areas of growth. We typically wait until clients make mention of changes themselves, and at first offer only gentle reflections of perceptions first articulated by the survivor.

A semantically minor but clinically important issue is how the clinician chooses to talk about and to help the client articulate the traumatic antecedents, or in the view of many clients, the cause of the individual's experienced growth. We have found, both in the context of clinical work and when we discuss our research work on growth with audiences of laypersons, that it is important to use words that clearly locate the impetus for growth in the arena of *struggle with the event*, not the event itself. For example, Harold Kushner, who described several elements of growth resulting from his own struggle with loss, was very clear in indicating that there was nothing inherently good in his son's death, and that he would gladly give up this growth in return for his son (Viorst, 1986).

The description we have given of the clinician's role may indicate a rather passive presence during the process of growth. This is true to a great degree, but there are times when firmness and predictability are needed. This is especially true when distress returns, as it does repeatedly during this process (Herman, 1992). The survivor must be reassured that the therapist remains steadfast through the fears and the uncertainties. This is established early on when the clinician shows a willingness to hear horrific details of the trauma itself and even find out more. For example, the clinician may act as an initial viewer of autopsy reports, photographs, court records, or other material that survivors are not ready to consider on their own. The clinician becomes a credible source of safety so that during the time of reconsideration of the fundamentals of life structure and meaning, the survivor is able to endure doubt, experimentation, and the added distress this may bring. The therapist is willing to ask the difficult questions without flinching.

It may be evident that such work demands courage on the part of both the clinician and the survivor. It also should be evident that this is not likely to be brief therapy. We are talking about moving beyond the initial phases of treatments usually

recommended for survivors, such as critical incident stress debriefing or crisis intervention. However, we are not describing something superfluous, because distress remains part of the picture, and lives without reconstructed belief systems can seem without direction or purpose, setting the stage for further difficulties in years to come. Therapy that allows survivors of trauma the time to thrive is necessary to consolidate initial coping success.

Research With Clinical Implications

Given the relative infancy of the systematic investigation of thriving, it is not surprising that there are plentiful questions that research can address, most with important clinical implications. One involves the degree to which the reported psychological *experience* of posttraumatic growth is accompanied by observable changes in overt behaviors. The recent development of inventories to measure growth (Park et al., 1996; Tedeschi & Calhoun, 1996) has made the reliable assessment of self-reported growth possible. But the research abailable so far has relied almost exclusively on such self-report data (Tedeschi et al., 1998). A necessary next research step is the evaluation of the degree to which self-reported posttraumatic growth tends to be accompanied, or not, by observable changes in behavior. This step would seem particularly needed in the domains of self-described growth that have clear external referents. These would include, for example, increases in compassion and altruism, improved relationships with significant others, and greater skills in solving life problems.

A second question for investigation is: What implications does the experience of posttraumatic growth have for the long-term psychological adjustment of individuals exposed to highly stressful events? The available evidence is characterized by inconsistent findings (Park, 1998) and by an absence of longitudinal data. Longitudinal investigations are needed that examine the relationship of posttraumatic growth to well-being and distress in the context of other variables relevant to adjustment to life crises. A variable of particular promise is ruminative cognitive processing.

The available data clearly indicate that the content and style of cognitive processing have high relevance for adaptation to highly stressful events (Greenberg, 1995; Nolen-Hoeksema, McBride, & Larson, 1997). Self-focused negative thinking has undesirable consequences for adjustment. However, posttraumatic growth tends to reflect cognitive changes that the individual views as positive, for example, an increased perception of self-reliance. In the same fashion that self-focused negative rumination predicts poorer future adjustment (Nolen-Hoeksema et al.), it would seem reasonable to expect that self-focused positive rumination, that is, the cognitive experience of posttraumatic psychological thriving and growth, would predict better subsequent psychological adjustment. Although such investigations have been suggested (Calhoun & Tedeschi, 1998), they have not yet been undertaken.

Attempts to cope with highly stressful events occur in social contexts. The responses of the social network to the expression of distress and to the articulation of both positive and negative cognitions related to the critical stressor have implications for both adjustment to the event and to posttraumatic growth (Calhoun & Tedeschi, 1998; Greenberg & Broadbooks, 1998; Lepore & Helgeson, 1998). Data suggest a direct connection between responses of the social network and growth (Greenberg & Broadbooks), but this area remains largely uninvestigated. Research in the broader arena of coping with stressors indicates that the responses of others can play an important role in adjustment (Freedy & Hobfoll, 1995). Our expectation is that the social network plays an important role in the process of growth from the struggle with crisis (Calhoun & Tedeschi, 1998). The precise role of the social network in posttraumatic growth, however, needs systematic investigation.

A final area for continued investigation of growth is the domain of gender differences. There is evidence that men and women may use somewhat different approaches for coping with traumatic events, and that, on average, women are more likely to experience posttraumatic growth than men (Tedeschi & Calhoun, 1996). But the evidence is still somewhat contradictory and limited. As yet, little is known about the possible differences between men and women in the style, process, and content of posttraumatic growth. As Tennen and Affleck (1998) have recently suggested, "we encourage investigators to examine more carefully the role of gender in crisis-related transformation" (p. 89).

References

Affleck, G., & Tennen, H. (1991). The effect of newborn intensive care on parents' psychological well-being. *Children's Health Care, 20,* 6–14.

Baltes, P. B., Staudinger, U. M., Maercker, A., & Smith, J. (1995). People nominated as wise: A comparative study of wisdom related to knowledge. *Psychology and Aging, 10,* 155–166.

Bloom, S. (1998). By the crowd they have been broken, by the crowd they shall be healed: The social transformation of trauma. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Theory and research on change in the aftermath of crisis* (pp. 179–213). Mahwah, NJ: Lawrence Erlbaum.

Bradburn, N. A. (1969). *The structure of psychological well-being.* Chicago: Aldine.

Calhoun, L. G. (1996, August). Posttraumatic growth: A functional-descriptive model. In R. G. Tedeschi (Chair), *Posttraumatic growth: An overview of contemporary models.* Symposium conducted at the convention of the American Psychological Association, Toronto, Canada.

Calhoun, L. G., & Tedeschi, R. G. (1989–90). Positive aspects of critical life problems: Recollections of grief. *Omega, 20,* 265–272.

Calhoun, L. G., & Tedeschi, R. G. (1998). Posttraumatic growth: Future directions. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Theory and research on change in the aftermath of crisis* (pp. 215–238). Mahwah, NJ: Lawrence Erlbaum.

Calhoun, L. G., & Tedeschi, R. G. (In press). *Facilitating posttraumatic growth.* Mahwah, NJ: Lawrence Erlbaum.

Calhoun, L. G., Tedeschi, R. G., & Lincourt, A. (1992, August). *Life crises and religious beliefs: Changed beliefs or assimilated events?* Paper presented at the meeting of the American Psychological Association, Washington, DC.

Caplan, G. (1964). *Principles of preventive psychiatry.* New York: Basic Books.

Colvin, C. R., & Block, J. (1994). Do positive illusions foster mental health? An examination of the Taylor and Brown formulation. *Psychological Bulletin, 116*, 3–20.

Curbow, B., Somerfield, R., Baker, F., Wingard, J. R., & Legro, M. W. (1993). Personal changes, dispositional optimism, and psychological adjustment to bone marrow transplantation. *Journal of Behavioral Medicine, 16*, 423–443.

Freedy, J. R., & Hobfoll, S. E. (Eds.). (1995). *Traumatic stress: From theory to practice.* New York: Plenum Press.

Goodhart, D. E. (1985). Some psychological effects associated with positive and negative thinking about stressful event outcome: Was Pollyanna right? *Journal of Personality and Social Psychology, 48*, 14–148.

Green, B. L. (1994). Psychosocial research in traumatic stress: An update. *Journal of Traumatic Stress, 7*, 341–362.

Greenberg, M. (1995). Cognitive processing of traumas: The role of intrusive thoughts and reappraisals. *Journal of Applied Social Psychology, 25*, 1262–1296.

Greenberg, M., & Broadbooks, D. Y. (1998, August). *Do social support and cognitive appraisals predict adjustment to HIV?* Paper presented at the annual meeting of the American Psychological Association, San Francisco, CA.

Herman, J. L. (1992). *Trauma and recovery.* New York: Basic Books.

Janoff-Bulman, R. (1992). *Shattered assumptions.* New York: Free Press.

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.

Lehman, D. R., Davis, C. G., Delongis, A., Wortman, C. B., Bluck, S., Mandel, D., & Ellard, J. H. (1993). Positive and negative life changes following bereavement and their relations to adjustment. *Journal of Social and Clinical Psychology, 12*, 90–112.

Lehman, D. R., Lang, E. L., Wortman, C. B., & Sorenson, S. B. (1989). Long-term effects of sudden bereavement: Marital and parent-child relationships and children's reactions. *Journal of Family Psychology, 2*, 344–367.

Lepore, S. J., & Helgeson, V. S. (1998). Social constraints, intrusive thoughts, and mental health after prostate cancer. *Journal of Social and Clinical Psychology, 17*, 89–106.

Mahoney, M. J. (1991). *Human change processes.* New York:Basic Books.

McAdams, D. P. (1993). *The stories we live by: Personal myths and the making of the self.* New York: Morrow.

McCann, I. L., & Pearlman, L. A. (1990). *Psychological trauma and the adult survivor: Theory, therapy, and transformation.* New York: Brunner/Mazel.

McIntosh, J. N., Silver, R. C., & Wortman, C. B. (1993). Religion's role in adjustment to a negative life event: Coping with the loss of a child. *Journal of Personality and Social Psychology, 65*, 812–821.

McMillen, C., Zuravin, S., & Rideout, G. (1995). Perceived benefits from child sexual abuse. *Journal of Consulting and Clinical Psychology, 63*, 1037–1043.

Neimeyer, R. A., & Stewart, A. E. (1996). Trauma, healing, and the narrative emplotment of loss. *Families in Society: The Journal of Contemporary Human Services* [Special issue: Constructivism in social work practice], II, 360–374.

Nolen-Hoeksema, S., McBride, A., & Larson, J. (1997). Rumination and psychological distress among bereaved partners. *Journal of Personality and Social Psychology, 72*, 855–862.

Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60*, 409–418.

O'Leary, V., & Ickovics, J. R. (1995). Resilience and thriving in response to challenge: An opportunity for a paradigm shift in women's health. *Women's Health: Research on Gender, Behavior, and Policy, 1*, 121–142.

Overcash, W. S., 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 Social Psychology, 157*, 455–464.

Pargament, K. (1990). God help me: Toward a theoretical framework of coping for the psychology of religion. *Research in the Social Scientific Study of Religion, 2*, 195–224.

Park, C. L. (1998). Implications of posttraumatic growth for individuals. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Theory and research on change in the aftermath of crisis* (pp. 153–177). Mahwah, NJ: Lawrence Erlbaum.

Park, C. L., Cohen, L., & Murch, R. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 71–105.

Russell, R. L., & van den Broek, P. (1992). Changing narrative schemas in psychotherapy. *Psychotherapy, 29*, 344–354.

Shafranske, E. P. & Malony, H. N. (1990). Clinical psychologists' religious and spiritual orientations and their practice of psychotherapy. *Psychotherapy, 27*, 72–78.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210.

Taylor, S. E., Lichtman, R. R., & Wood, J. V. (1984). Attributions, beliefs in 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 Publications.

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., Park, C. L., & Calhoun, L. G. (1998). Posttraumatic growth: Conceptual issues. In R. G. Tedeschi, C. L. Park, & L. G. Calhoun (Eds.), *Posttraumatic growth: Theory and research on change in the aftermath of crisis* (pp. 1–22). Mahwah, NJ: Lawrence Erlbaum.

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: Theory and research on change in the aftermath of crisis* (pp. 65–98). Mahwah, NJ: Lawrence Erlbaum.

Tennen, H., Affleck, G., Urrows, S., Higgins, P., & Mendola, R. (1992). Perceiving control, construing benefits, and daily processes in rheumatoid arthritis. *Canadian Journal of Behavioral Science, 24*, 186–203.

Thompson, S. C. (1991). Finding positive meaning in stressful event and coping. *Basic and Applied Social Psychology, 6*, 279–295.

Thompson, S. C. & Janigian, A. S. (1988). Life schemes: A framework for understanding the search for meaning. *Journal of Social and Clinical Psychology, 7*, 260–280.

Van Der Kolk, B. A., McFarlane, A., & Weisaeth, L. (Eds.). (1996). *Traumatic stress*. New York: Guilford Press.

Vaughan, F., Wittine, B., & Walsh, R. (1996). Transpersonal psychology and the religious person. In E. P. Shafranske (Ed.), *Religion and the clinical practice of psychology* (pp. 483–509). Washington, DC: American Psychological Association.

Veronen, L. J., and Kilpatrick, D. G. (1983). Rape: A precursor of change. In E. J. Callahan & K. A. McCluskey (Eds.), *Life span developmental psychology: Non-normative events* (pp. 167–191). San Diego, CA: Academic Press.

Viorst, J. (1986). *Necessary losses*. New York: Fawcett.

Weiss, R. S., & Richards, T. A. (1997). A scale for predicting quality of recovery following the death of a partner. *Journal of Personality and Social Psychology, 72*, 885–891.

Wortman, C. B., & Silver, R. C. (1989). The myths of coping with loss. *Journal of Consulting and Clinical Psychology, 57*, 349–357.

Yalom, I. D., & Lieberman, M. A. (1991). Bereavement and heightened existential awareness. *Psychiatry, 54*, 334–345.

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