
Can We Facilitate Posttraumatic Growth in Combat Veterans?

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The Comprehensive Soldier Fitness program, currently under development for the U.S. Army, will include a component designed to increase the possibilities for posttraumatic growth in the aftermath of combat. In this article, we briefly review studies that provide evidence for this phenomenon in combat veterans, and we suggest elements that such a program might include to facilitate posttraumatic growth. We urge the Army to conduct randomized controlled trials testing the efficacy of the program prior to its implementation.

Keywords: posttraumatic growth, combat trauma, Comprehensive Soldier Fitness

The concept of *resilience* has received a great deal of attention since the groundbreaking work of Rutter (1987) and others (e.g., Bonanno, 2004; Luther, Cicchetti, & Becker, 2000; Masten, 2001; Werner, 1989). Strengthening this ability to resist or to bounce back from adversity is a key aim of the Comprehensive Soldier Fitness program. However, rapidly returning to baseline functioning is not the only positive outcome following exposure to trauma. Some trauma survivors report *posttraumatic growth*: positive personal changes that result from their struggle to deal with trauma and its psychological consequences. Tedeschi and Calhoun (1995) coined the term only relatively recently, but the idea that tragedy and suffering can trigger personal transformation is ancient, occurring in the major religions of the world, Greek tragedy, and other literatures. Although psychologists (Caplan, 1964; Dohrenwend & Dohrenwend, 1978; Maslow, 1954) and psychiatrists (Frankl, 1963; Yalom, 1980) have discussed how struggles with adversity can foster psychological growth, systematic empirical work on the phenomenon was rare until the 1990s. The development of the Posttraumatic Growth Inventory (PTGI; Tedeschi & Calhoun, 1996) has allowed researchers to assess five domains of growth that trauma survivors may report: renewed appreciation of life, new possibilities, enhanced personal strength, improved relationships with others, and spiritual change (Taku, Cann, Calhoun, & Tedeschi, 2008). People have reported these changes following many types of traumas, including life-threatening illnesses (Hefferon, Grealy, & Mutrie, 2009; Stanton, Bower, & Low, 2006), bereavement (Cadell & Sullivan, 2006; Znoj, 2006), and war (Lev-Wiesel & Amir, 2006; Rosner & Powell, 2006). Also, researchers have studied the related phenomena of benefit

finding (Hefferon et al., 2009; Lechner & Weaver, 2009) and stress-related growth (Park & Fenster, 2004) in survivors of trauma.

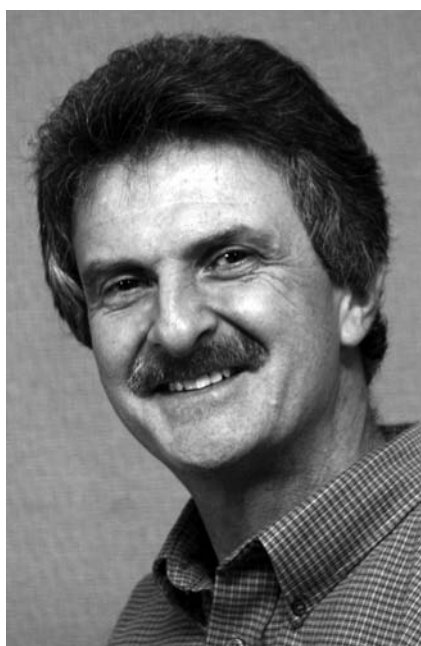
In this article, we provide a brief overview of a model of posttraumatic growth, furnish examples of the phenomenon in combat veterans, and describe the development of a strategy to promote posttraumatic growth in the aftermath of combat. Finally, we discuss caveats and unresolved issues concerning the prospects of fostering posttraumatic growth in military personnel.

A Model of Posttraumatic Growth

Janoff-Bulman's (1992) work on the cognitive and emotional processes that mediate the rebuilding of trauma survivors' shattered assumptions of their world has inspired work on posttraumatic growth. She proposed three kinds of posttraumatic growth processes: strength through suffering, existential reevaluation, and psychological preparedness (Janoff-Bulman, 2006). The latter emphasizes the strength of the rebuilt assumptive world to withstand future shocks to the system, akin to how communities rebuild in the aftermath of earthquakes (Calhoun & Tedeschi, 1998). Using Janoff-Bulman's conceptualization as a starting point, Tedeschi and Calhoun (1995) formulated an evolving model of posttraumatic growth (Calhoun & Tedeschi, 1998, 2006; Tedeschi & Calhoun, 2004). The most recent version describes how several variables increase the possibility of psychological growth in the aftermath of trauma (Calhoun, Cann, & Tedeschi, 2010). These variables include (a) cognitive processing, engagement, or rumination; (b) disclosure of concerns surrounding traumatic events; (c) the reactions of others to self-disclosures; (d) the sociocultural context in which traumas occur and attempts to process, disclose, and resolve trauma; (e) the personal dispositions of the survivor and the degree to which they are resilient; and (f) the degree to which events either permit or suppress the aforementioned processes. The model also addresses how posttraumatic growth may relate to wisdom, life satisfaction, and a sense of purpose in life.

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Misunderstandings About Posttraumatic Growth

Because some scholars have occasionally misunderstood work on posttraumatic growth, we clarify certain points subject to misunderstanding (see Aspinwall & Tedeschi, 2010; Tedeschi, Calhoun, & Cann, 2007). First, posttraumatic growth theorists do not celebrate trauma itself but instead stress that trauma may set the stage for beneficial psychological changes that occur in its aftermath. Second, these theorists do not intend to encourage the expectation that trauma survivors *must* achieve growth, nor do they wish to inflate expectations about how common or pronounced growth may be among survivors, some of whom may experience shame when posttraumatic growth does not occur (Wortman, 2004). Third, highly resilient people may experience less posttraumatic growth than less resilient people do (Levine, Laufer, Stein, Hamama-Raz, & Solomon, 2009). Because of their strong coping skills, the former group is less likely to struggle with the psychological consequences of trauma and hence to experience as many opportunities to change. Indeed, resilience and posttraumatic growth are distinct, and if we track people who report growth over time, we may see them becoming more resilient. Fourth, some scholars have wondered whether self-reports of posttraumatic growth are genuine or whether they signify denial of distress or self-deception (Bonanno, 2004; Hobfoll et al., 2007; Tennen & Affleck, 2009). It appears that different individuals exhibit different trajectories of growth and that the degree to which posttraumatic growth is palliative, providing comfort in the face of trauma, versus constructive, generating personal growth or transformation, may change over time (Zoellner & Maercker, 2006). Furthermore, trauma survivors who re-

port growth often report symptoms of posttraumatic stress disorder (PTSD) too. The correlation between growth and symptom severity is inconsistent with the claim that reports of growth signify denial of one's suffering (Baker, Kelly, Calhoun, Cann, & Tedeschi, 2008). Moreover, researchers have corroborated reports of posttraumatic growth (Park, Cohen, & Murch, 1996; Shakespeare-Finch & Enders, 2008; Weiss, 2002). However, for some trauma survivors, a palliative period of posttraumatic growth having illusory elements may precede a subsequent period of constructive and transformative growth (Zoellner & Maercker, 2006).

Evidence for Posttraumatic Growth After Combat

Traumatologists working with war veterans have focused chiefly on the assessment and treatment of psychiatric symptoms arising in the wake of trauma, mainly PTSD. Yet despite this emphasis, they have occasionally detected evidence of posttraumatic growth in combat veterans, including former prisoners of war (POWs). For example, among aviators shot down, imprisoned, and tortured for years by the North Vietnamese, 61.1% said that they had benefited psychologically from their ordeal (Sledge, Boydston, & Rabe, 1980). They reported that imprisonment had produced favorable changes in their personalities, increasing their self-confidence and teaching them to value the truly important things in life. Strikingly, the more severe their treatment, the more likely the former POWs were to report posttraumatic growth. The authors concluded "that a substantial subgroup of POWs perceive their war-imprisonment experience as subjectively beneficial" (Sledge et al., 1980, pp. 442–443). Using data from the National Vietnam Veterans Readjustment Study (Kulka et al., 1990), Dohrenwend et al. (2004) found that 70.1% of male veterans regarded their experience in Vietnam as mainly positive. Importantly, they found no convincing evidence that such positive appraisals reflected "pathological defensive denial" (p. 431). They interpreted these data as consistent with successful adaptation to war zone experience and thereafter.

Recent scholarship on war veterans has involved direct measurement of posttraumatic growth. Using the PTGI, Feder and her colleagues assessed 30 aviators who had been POWs of the North Vietnamese (Feder et al., 2008). Nearly two thirds of these men endorsed at least moderate posttraumatic growth (PTGI total score ≥ 60), and slightly over one third reported a great or very great degree of posttraumatic growth (PTGI total score ≥ 80). The PTGI factors Personal Strength and Appreciation for Life exhibited the most pronounced effect. Posttraumatic growth did not differ between former POWs with and without psychopathology once Feder et al. controlled for duration of captivity. Dispositional optimism and duration of captivity were positively correlated with posttraumatic growth.

Israeli researchers have examined posttraumatic growth among combat veterans of the 1973 Yom Kippur War who either had or had not been POWs (Solomon &

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Dekel, 2007). Also using the PTGI, they found that the former POWs had higher levels of PTSD symptoms and posttraumatic growth than did combat veterans who had never been captured by the enemy. The severity of PTSD symptoms positively correlated with the degree of posttraumatic growth. The investigators also found evidence of a quadratic effect in which the magnitude of posttraumatic growth was especially pronounced for those with moderately severe PTSD symptoms.

Maguen, Vogt, King, King, and Litz (2006) administered the PTGI to veterans of the Persian Gulf War. They found that perceived threat while in the war zone was the strongest predictor of scores on the Appreciation for Life factor. Postdeployment social support best predicted scores on the Personal Strength and Relating to Others factors and on the PTGI total score. Exposure to combat and other direct warfare events (e.g., witnessing the dead and wounded), however, was unrelated to posttraumatic growth.

How Can We Promote Posttraumatic Growth?

The psychotherapy literature provides guidelines for fostering posttraumatic growth (Calhoun & Tedeschi, 1999, 2000; Meichenbaum, 2006; Tedeschi & Calhoun, 2006; Zoellner & Maercker, 2006). These approaches combine elements of cognitive, existential, humanistic, and narrative approaches to change. Tedeschi and Calhoun (2006) described a model of “expert companionship” that focuses on the constancy of the companion, humility, respect for the survivor’s narrative and perspective, and a highlighting of strength and change. Zoellner and Maercker (2006) pointed out that posttraumatic growth largely involves unintentional change but that psychotherapy can nurture such

change through cognitive processing, support of attempts at mastery of new experiences, and enhancing relationships. Meichenbaum (2006) emphasized the importance of a restructuring of the life narrative in posttraumatic growth, noting how storytelling is central to this endeavor. How can this be translated into a large-scale, very brief, predominantly psychoeducational approach that includes a pre-trauma, preventive element? We are in uncharted territory in designing such interventions, but the theoretical and empirical basis for posttraumatic growth provides a useful starting point. In developing these interventions, we must also keep in mind that there are differences between some civilian traumas and combat experiences. Warriors may experience prolonged or repeated traumas, often within a supportive, cohesive group (if the unit is functioning well). The development of a common narrative among members of the unit may enhance the process of posttraumatic growth.

Elements of a Posttraumatic Growth Enhancement Strategy

Most work on posttraumatic growth concerns people who have already experienced major stressors. However, the clinical literature is not the only source of insights relevant to the Comprehensive Soldier Fitness program. For example, nonclinical areas of psychology, especially affective science, are providing a rich source of preventive interventions (Algoe & Fredrickson, 2011, this issue). Indeed, as Casey (2011, this issue) emphasizes, the purpose of the Comprehensive Soldier Fitness program is to provide skills training to foster resilience *prior* to deployment. Just as the military has emphasized training in physical fitness, it now aims to emphasize training in psychological and emotional fitness. Attainment of this objective should provide the foundation for posttraumatic growth following a soldier’s exposure to traumatic stressors.

At this writing, the posttraumatic growth component of the Comprehensive Soldier Fitness program is in preliminary development. The particulars of how it will be implemented, and by whom, are under discussion. However, certain elements will likely be central to the program. These elements are closely connected with the process of posttraumatic growth outlined by Calhoun et al. (2010).

Part 1: Understanding Trauma Response as a Precursor to Posttraumatic Growth

Before warriors can grasp the concept of posttraumatic growth, it would be useful for them to understand how the negative aspects of posttrauma experience, especially shattered beliefs about one’s self, others, and the future, form the foundation for later posttraumatic growth. Combat veterans should also be taught that basic physiological and psychological responses are *normal* reactions to the experience of combat. Such reactions do not indicate a defect in one’s character or identity as a soldier.

Part 2: Emotional Regulation Enhancement

Basic methods of anxiety reduction and control of intrusive thoughts and images set the stage for more constructive

processes of evaluating the traumatic events and their aftermath. Specific elements in this part of training include ways to manage dysregulated sympathetic nervous system responses and intrusive thinking in order to encourage reflective rumination in contrast to brooding. Connections to the skills emphasized in the emotional fitness component (Algoe & Fredrickson, 2011, this issue) of the Comprehensive Soldier Fitness program are especially useful here.

Part 3: Constructive Self-Disclosure

Through constructive self-disclosure, warriors can begin to receive emotional support, develop a coherent trauma narrative, and find models for healthy trauma response and posttraumatic growth. Specific elements in this part of training include encouraging various ways for the warrior to begin to *tell the story* of the trauma, but especially the experience of the aftermath of trauma, using metaphors and mottos to convey otherwise complex matters, and learning how to use social connections and establish new ones upon discharge. This will involve putting into practice skills learned in the social fitness component of the Comprehensive Soldier Fitness program (Cacioppo, Reis & Zautra, 2011, this issue). Connection to “family” will include not only the soldiers’ immediate families as emphasized in the family fitness component (Gottman, Gottman & Atkins, 2011, this issue) but also fellow comrades and deceased buddies whose memory warriors can honor, as Klass, Silverman, and Nickman (1996) described in work on “continuing bonds” among the bereaved.

Part 4: Creating a Trauma Narrative With Posttraumatic Growth Domains

Trauma may require soldiers to reconfigure shattered belief systems, disengage from unreachable goals, and revise their life narratives. This process can include aspects of posttraumatic growth domains that can provide new goals and processes of living.

Specific elements in this part of training include (a) organizing the story of trauma into a coherent narrative with the trauma as a catalyst, fulcrum, or turning point; (b) enhancing the ability to engage in dialectical thinking and appreciate paradox (e.g., seeing how loss and gain are not mutually exclusive, how the aftermath of traumatic events may require support from others yet at the same time individual strength, how one has some control but must also accept the lack of control, how grief can coincide with gratitude, and vulnerability with strength); (c) introducing the kinds of changes that may become evident by referring to the five domains of posttraumatic growth—Personal Strength, Enhanced Relationships with Others, Spiritual Change, Appreciation of Life, and New Opportunities—so that there is a conceptual scaffolding on which to build a story of the gains in the aftermath of trauma; and (d) introducing the stories of others who referred to posttraumatic growth to illustrate the possibility of change.

Part 5: Developing Life Principles That Are Robust to Challenges

Posttraumatic growth can enable people to develop ways of thinking and guides for action to meet future demands and challenges, enhancing resilience. Combat can be a life-transforming experience, and moving toward a level of functioning better than one’s pretraumatic level should be viewed as a process rather than a static goal. Specific training elements include (a) finding ways to be altruistic, valuing the learning that has occurred in the aftermath of the trauma and how it creates new pathways and opportunities; (b) accepting growth without guilt as benefiting not only the trauma survivor but others as well (honoring deceased comrades can mitigate the soldier’s guilt about surviving); (c) accepting and creating a changed social identity as a trauma survivor, or a compassionate person, or a wise person, somewhat separate from others who have not gone through such an experience but more closely connected to the human condition; (d) considering the ancient Greek and Roman concept of the hero as an ordinary person who experiences an extraordinary event, survives it, and returns to the everyday world to express an important truth about life. These enhanced life principles may involve spiritual aspects as considered by Pargament and Sweeney (2011, this issue) in the spiritual fitness component of the Comprehensive Soldier Fitness program.

Caveats and Conclusion

As we noted earlier, the posttraumatic growth component of the Comprehensive Soldier Fitness program is under development. Key questions remain unanswered. First, it is unclear whether training occurring before, during, or after deployment can foster posttraumatic growth among military personnel. Whether mental health professionals or fellow warriors working with military personnel exposed to combat can do things that encourage growth is unknown. Second, although researchers have developed good self-report measures of posttraumatic growth, these measures may depend on baseline levels of resilience, and those warriors highest in resilience may show little change. Third, the interventions designed for the Comprehensive Soldier Fitness program for fostering posttraumatic growth should be subjected to careful empirical test. A superb example of such a test is the randomized clinical trial approach in the Army’s evaluation of its Battlemind early intervention program for reducing posttraumatic psychological problems (Adler, Bliese, McGurk, Hoge, & Castro, 2009). For example, military psychologists could randomly assign units (e.g., companies, battalions) either to receive or not receive a posttraumatic growth program. Both groups could be assessed with the PTGI before and after deployment. The army owes it to its warriors to evaluate any program properly prior to delivering it to the troops. Programs that seem entirely sensible on theoretical grounds, such as psychological debriefing following exposure to trauma, wound up either having no discernible positive benefit or impeding recovery from the effects of trauma (for a review, see McNally, Bryant, & Ehlers,

2003). One might worry about randomly assigning soldiers to a control group, thereby depriving them of a potentially beneficial resilience intervention. Yet such ethical concerns presuppose that the program *does* work, and only controlled research can demonstrate whether this is so. Ethical concerns arise if soldiers are deprived of demonstrably efficacious programs. In fact, plans are in place to evaluate the entire Comprehensive Soldier Fitness program. Investigators will compare brigades that receive it with brigades that have yet to receive it (Lester, McBride, Bliese, and Adler, 2011, this issue). The latter groups form a wait-list control condition.

The relationship of a posttraumatic growth component to other components of the Comprehensive Soldier Fitness program is fairly obvious. Skills in emotional, social, and spiritual fitness can serve to enhance the possibility of growth. Strong family relationships can support posttraumatic growth, and family members of military personnel have reported posttraumatic growth themselves (Dekel, 2007). Posttraumatic growth concepts may be integrated into these training components and also be a capstone to the program. The ultimate values of fitness for soldiers are possibilities for personal transformation, resilience in the face of future stressors in the military and in civilian life, and the ability to respond to other survivors of combat and other traumas with the wise perspective of a trauma survivor who has experienced posttraumatic growth and mastered the skills of expert companionship.

Implementing a program based on the elements described above for the military is a daunting task. Certain aspects are most relevant early in a soldier's training, whereas others are most relevant postdeployment. Throughout the process, however, a crucial message can be sent: PTSD is not the inevitable outcome of combat, and even if it is present, there are other aspects of posttrauma living that are of great value. With some prior understanding of this possibility, warriors may be better equipped to benefit from additional help postdeployment that emphasizes growth outcomes. Having this information may also allow warriors to be better expert companions for their comrades who are dealing with the aftermath of combat.

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