Understanding and Fostering Resilience in Persons Exposed to Trauma

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In the past few decades, there has been growing interest in resilience-building interventions that help individuals prepare for and recover from exposure to potentially traumatic stress, such as disasters, wars, and personal trauma. However, research that focuses on resilience and related constructs has not been systematic. Conducted in multiple settings across different age ranges, exposures, and contexts, it provides little or no cross-referencing between fields. Consequently, many important questions have not been addressed.

Definitions

Resilience is "the capacity of a given system to implement early, effective adjustment processes to alleviate strain imposed by exposure to stress, and thus efficiently *restore* homeostatic balance or adaptive functioning."[1] Resilience is common and derives from the basic human ability to adapt to new situations. Transient stress is typically the most common outcome following traumatic events. Resilience is not a fixed attribute but a type of "functional trajectory" that depends on the quality of the stressor, the surrounding culture and circumstances, and individual variations in response to risk. For instance, a person can exhibit resilience to similar stressors at certain times in his or her life, but not at other times.

Stress resistance refers to the capacity of a system to use effective adjustment processes to maintain homeostatic balance (and thus to maintain an adaptive level of functioning) on exposure to stress. While resistance implies a complete absence of a stress response, most people, including resilient individuals, typically experience at least some transient distress during or immediately after potentially traumatic events.

Posttraumatic growth (PTG) is often used to describe positive adaptation to traumatic stress and adversity. PTG manifests as change in 3 broad domains: sense of self, relationships, and philosophy of life. With PTG, a certain level of threat and struggle are necessary to promote growth. Persons who report stress response symptoms at intermediate levels demonstrate higher levels of growth than those who have mild or severe reactions.[2-4]

Determinants of resilience post disaster

Determinants

Remarkably, across most trauma types, including disasters, a significant proportion of the population is minimally affected and able to adapt. Only a minority of the exposed groups will exhibit maladaptive response and clinical symptoms. Disaster research has suggested various determinants (**Table 1**). The majority of trauma survivors show a stable pattern of healthy adjustment and do not require the attention of mental health professionals. Formal interventions are, however, needed for persons who have significant or prolonged disruptions in functioning.

Research may inform interventions that mitigate the post-event risk factors that correlate with a higher probability of psychopathology and decrements in functioning. These risk factors include the absence of social supports or the presence of negative social support as well as higher levels of contextual life stress; lack of practical resources; and negative appraisals of the event, their role in it, response to it, and their potential future risk.

Resilience factors. In the realm of developmental psychopathology, characteristics such as a high level of intellectual functioning, efficient self-regulation, problem-focused coping, optimism, and secure attachment have been found to be related to resilient outcomes.[5] Resilience is associated with the ability to flexibly apply various coping strategies and/or emotional expression to meet the needs of a stressful situation. **Table 2** presents resilience factors derived from a recent review of psychosocial, biological, and genetic research.

Biological markers. Individual differences in responses to trauma may be determined by a complex interplay between psychological, behavioral, social, and biological factors. Wu and colleagues[6] reviewed evidence that resilience may be associated with a host of biomarkers, including (f DHEA), neuropeptide Y (NPY), galanin, testosterone, serotonin-1A receptor, and benzodiazepine receptor function, as well as the lowest range for hypothalamic-pituitary-adrenal (HPA) axis, corticotropin-releasing hormone (CRH), and locus coeruleus–norepinephrine activity.

Resiliance
Factors

Genetics research is beginning to reveal the effect of certain genotypes on adaptive stress responses, which may eventually yield genetic interventions to prevent traumatic stress conditions. For instance, individuals with 1 or 2 copies of the short allele of the serotonin transporter promoter polymorphism exhibit more depressive symptoms, diagnosable depression, and suicidality in relation to stressful life events than individuals homozygous for the long allele.[7]

Facilitating understanding of the biological markers that underlie resilience has great potential for intervention. Pharmacological and psychotherapy interventions that target the neurochemical systems that involve NPY, brain-derived neurotropic factor, CRH, and the HPA axis are being investigated as potential treatments for depression and PTSD, and to reduce the likelihood of pathological response to stress.

Intervention strategies

Developmental researchers recommend maintaining a supportive environment and providing resilience-building training for parents. Helping children learn coping strategies at a young age enables them to adaptively react to and master future challenges and stressors, and to reduce their susceptibility to stress-related psychopathology. These strategies, nevertheless, do not focus on the factors that promote resilience in the presence of adversity. No algorithm exists to determine which protective factors decrease risk for specific maladaptive outcomes, or which particular pathways will increase the likelihood of positive outcomes.

Repeated episodes of challenge/threat that are not accompanied by overwhelming adversity or deprivation, or that are followed by recovery periods, can "steel" individuals or toughen the neuroendocrine system's response to stress. Military programs have used certain "training principles" to bolster skills deemed necessary for facing combat and operational stress.[8,9] However, toughness and steeling are likely to be less effective when unpredictability combined with great severity overwhelms the person's capacity to recover, leading to psychopathology.

When working with high-risk persons to increase resilience, preventive measures involve helping them regularly adopt some combination of the following resilience-promoting actions:

• Imitate resilient role models

• Cultivate positive emotions and optimis

• Face fears

• Solve problems rather than avoid them

• Learn from failure

• Constructively reframe stressful or traumatic events

• Use social supports

• Stay physically fit

• Seek meaning in life

• Cultivate spirituality and religion

• Help others

• Accept what cannot be changed

• Set realistic goals and work toward achieving them

• Do not give up

• Search for opportunity in adversity

• Learn and grow from what fate hands you with grace and dignity

Following exposure to extremely stressful events, some persons may simply need assistance in maintaining or re-establishing an underlying sense of identity and ability to respond flexibly to the demands of a changed world, or encouragement to participate in ordinary activities and to continue to fulfil social role obligations. Highly distressed individuals may require more potent multisystem interventions that target multiple risk, vulnerability, and protective factors. Therapeutic efforts can be directed toward identifying and then (a) preventing, interrupting, or mitigating the effects of risk and

vulnerability factors; and (b) identifying, promoting, and harnessing the effects of naturally occurring protective factors.

Promoting a sense of safety, calm, self- and community-efficacy, and connectedness as well as instilling hope have been shown to ease recovery from adversity and stress.[10] These principles have been put into place in post-disaster environments as well as in military and first-responder settings.
Patients who exhibit significant distress or decrements in functioning can be helped in a number of ways:

• Affirm a sense of personal control and self-efficacy by helping patients problem-solve, acquire practical resources, set achievable goals, manage their own stress reactions, and/or engage in in vivo mastery of trauma-related situations and activities

• Provide opportunities for cognitive reappraisal and restructuring, which can help patients redefine their beliefs about themselves, the world, and the future in more adaptive ways; this approach has been found to be valid even in situations of ongoing threat, by having the person evaluate the absolute risk of being harmed and recognizing the benefits of accepting a level of risk in order to permit normal functioning

• Help patients create a framework for a renewed sense of life and self by focusing on personal strengths and values and acceptance of what has happened

• Encourage engagement in positive, meaningful, or rewarding activities, which may re-new a capacity for generative experiences

• Partner with patients to build and/or foster skills in appropriate disclosure and mutual support with mentors and other trusted individuals

• Guide patients toward adaptive coping strategies, which are likely to vary with time and context

In general, an active, problem-solving approach is recommended. In situations of ongoing adversity, patients can expand their capacity for coping by practicing a variety of coping strategies, such as diverting attention via reframing, humour, or acceptance; shifting expectations about what is considered a “good day”; shifting focus to activities that reflect cherished values; creating specific routines of living to lesson worries beyond those routines; proceeding with life’s necessities; and maintaining an “unyielding attraction for life.”[11]
Adverse experiences often offer the potential for growth in character and skills acquisition. However, rather than making prescriptive recommendations about how to promote PTG, instead support and encourage the patient’s own recognition of his signs of growth. Rushing the process may be interpreted by the patient as minimizing his unique burdens and challenges.

Conclusion

When attempting to incorporate resilience-building strategies into practice, it is worthwhile to note that resilience is a dynamic concept in which successful coping may mean a mixture of major real-life successes in the context of continuing difficulties. It involves multiple components, such as psychological habituation, changes in mental set in response to stress and adversity (ideas, attributions, self-reflection, and planning), alterations in self-efficacy, and hormonal and neural changes.

Interventions include multiple possibilities, before and after the event. Each strategy has benefits and detriments that need consideration in overall planning. The strategy for maximizing resilient trajectories following exposure to traumatic stress is multidisciplinary, multifaceted, and sensitive to the cultural and event context as well as to differential exposure and response.

Finally, it is wise to account for the inevitable changes that follow trauma exposure and realize that full recovery is often too idealistic, given the reality of what actually occurred. Thus, returning to adaptive functioning might be the best outcome scenario.