

RESILIENCE, HARDINESS, SENSE OF COHERENCE, AND POSTTRAUMATIC GROWTH: ALL PATHS LEADING TO “LIGHT AT THE END OF THE TUNNEL”?

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Two questions prompted this targeted review: (a) What are the behavioral and social determinants of individual and/or collective resilience—the capacity to rebound from crisis? and (b) Is the evidence base for related concepts, including hardiness, sense of coherence, and posttraumatic growth consistent? The findings suggest that the theory of salutogenesis, operationalized by the sense of coherence construct, is inclusive of the related concepts of resilience and hardiness. Moreover, it is grounded in robust primary research of cross-cultural relevance. More recent concepts of recovery and posttraumatic growth also contribute to our understanding of resilience. Implications for international humanitarian psychosocial programming are discussed.

Observable phenomena of psychosocial transformations in the aftermath of crises present new avenues of research in the social and biomedical sciences alike, with particular relevance to international humanitarian policy and practice. Positive and negative aftermaths, “recovery” and “chronic trauma,” respectively, are essentially two sides of the same coin. What is it in individuals and/or their social environment that determines which side of the coin is facing up when adversity strikes? What do psychologists, psychiatrists, and other behavioral and social scientists have to say about this question?

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A targeted thematic literature review was conducted with the aim of tracing the origins of the concepts of “resilience” and “hardiness” in social psychology and their adoption in medical sociology, where they have been incorporated into the “sense of coherence” (SOC) construct. Overlaps in theory, evidence, and interpretation thereof across boundaries of academic disciplines and/or subdisciplines are examined for the purpose of identifying useful methods for the study of positive aspects and consequences of crisis experiences. The need for interdisciplinary empirical study is discussed with a view to balancing hitherto biased notions of psychological trauma and pathology.

Disaster-Induced “Psychosocial Transition”: A New Model

It has been suggested that in the wake of crisis such as war and/or displacement, mass trauma may not necessarily be a given. Rather, a number of different pathways are possible in the course of the “psychosocial transition” from crisis to either a positive or negative aftermath, recognizing that the possibility to “remain unscathed” also exists. The type, timing, and level of social support available and/or accessible to affected individuals and groups may determine outcomes (Almedom, 2004). Research evidence (both qualitative and quantitative) suggests that mental health challenges, including depression, may not be as widespread among victim-survivors as they are often assumed to be, even when the hazards of war and civil unrest are compounded by displacement (Carballo et al., 2004). However, studies that examine resilience and recovery and/or growth and transformation following crisis experiences are few and far between. This article attempts to summarize what is known so far and what remains unknown about the different paths to “light at the end of the tunnel”.

A number of interrelated constructs such as fortitude/strength (Strümpfer, 1995), hardiness (Kobasa, 1979), posttrauma growth (Tedeschi & Calhoun, 1995), recovery (Harvey, 1996), resilience (Rutter, 1985), self-efficacy (Bandura, 1977), and SOC (Antonovsky, 1979, 1987) feature prominently in the literature in social psychology and biosocial and medical sociology. These constructs represent well-known theories developed over the past three to four decades to advance predictions of individual (often

personality-focused) and collective attributes which protect victim-survivors from the negative effects of adverse events and experiences. Arguably the most influential of these has been the SOC construct, judging by its wide adoption and use in an ever-increasing number of studies, including cross-cultural and international applications. Table 1 presents an outline of these constructs and their proponent(s), disciplinary origins, methods/tools, and associated theses.

Sense of Coherence: An Inclusive Concept

Prominent among the authors in this area is Aaron Antonovsky (1923–1994), a medical sociologist who propounded the theory of *salutogenesis* (origins of health) as a necessary complement to *pathogenesis* (etiology of disease) (Antonovsky, 1987). Working mainly with survivors of the Holocaust, Antonovsky developed the SOC construct, taking into consideration at least two other pre-existing constructs, hardiness and self-efficacy. He engaged in extensive primary research involving direct observation and structured interviews, as well as diligent interdisciplinary dialogue with practitioners of clinical psychology, social/community psychology, and clinical medicine, to demonstrate that the dominant pathogenic view of health/absence of disease was inadequate (Antonovsky et al., 1971; Antonovsky, 1972, 1979). Antonovsky conceived of health as a dynamic “steady state,” a sliding or movable point on the ease-dis-ease continuum. Armed with strong anthropological training, Antonovsky (1987) deployed both quantitative and qualitative data analyses to create the SOC scale whereby his theory of salutogenesis was operationalized.

Antonovsky postulated that individuals mobilize their “generalized resistance resources” in order to manage stress and overcome the pathogenic effects of everyday environmental insults and inordinate demands. These resources include sense of individual identity (ego), intelligence/knowledge, social ties, sense of control, material assets, cultural stability, stable values and beliefs, genetic predispositions, and SOC. He defined SOC as “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;

TABLE 1 Summary of Seven Interrelated Constructs Associated With Positive Aftermaths of Crisis

Author, date, location	Discipline (sub discipline)	Theory and concept(s)	Methods/instruments	Thesis in a nutshell
Antonovsky, (1971–93), U.S. & Israel	Sociology (medical)	Salutogenesis, generalized resistance resources, sense of coherence	Multi-method (observations, interviews, questionnaire-surveys)/ Sense of Coherence scale	Mobilization of (individual and/or group) generalized resistance resources (GRR) produces and maintains “dynamic steady state” (of health)—i.e., a person’s bearings on the ease-dis-ease continuum; GRR include sense of coherence (SOC); strong SOC is generally associated with health and weak SOC with illness
Bandura (1977), U.S.	Psychology (cognitive)	Self-efficacy, locus of control	Reviews of experimental studies; primary empirical observations	Expectations of personal efficacy, derived from (a) performance accomplishments, (b) various experiences, (c) verbal persuasion, and (d) physiological states, determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and adverse experiences

Harvey (1996), U.S.	Medicine (clinical psychiatry)	Recovery	Multidimensional trauma recovery and resiliency interview and Q-sort (unpublished manual)	Recovery from trauma varies according to the individual's environmental context; clinical (and community) interventions can promote or inhibit recovery, depending on their success in achieving "ecological fit" with the individual's recovery context Those with hardy personalities (i.e., with a stronger commitment to self, an attitude of vigorousness toward the environment, a sense of meaningfulness, and an internal locus of control) experience less serious illness, given exposure to equal levels of stress as nonhardy individuals
Kobasa (1979), U.S.	Behavioral sciences	Hardiness	Holmes & Rahe Schedule of Recent Life Events and Wylser, Madusa, & Holmes Seriousness of Illness Survey	"Quality" of resilience is influenced by experiences and life circumstances during early life, childhood, adolescence, and adulthood. These do not necessarily determine later life outcomes, but they may, in combination, serve to create a chain of indirect linkages that foster escape from adversity
Rutter (1985), U.K.	Psychiatry	Resilience	Reviews of theory and empirical evidence	

(Continued)

TABLE 1 (Continued)

Author, date, location	Discipline (sub discipline)	Theory and concept(s)	Methods/instruments	Thesis in a nutshell
Strümpfer (1995), South Africa	Psychology (social)	Fortigenesis, resilience	<p>“Projective measure” (resilience exercise and scoring scheme for resilience), Conscientiousness scale, Organizational Commitment Questionnaire, Self-esteem scale; Satisfaction with Life scale, 2-item general health scale (pictorial)</p> <p>Primary empirical research using the Post Trauma Growth inventory; review of related theories (including self-efficacy, hardiness, resilience, and sense of coherence)</p>	<p>“Resilience is a pattern of psychological activity which consists of a motive to be strong in the face of inordinate demands, which energizes goal-directed behaviour to cope and rebound (or resile), as well as accompanying emotions and cognitions. ... What constitutes an inordinate demand for a particular individual should always be viewed in context”</p> <p>Growth occurs when schemas are changed by traumatic events; some positive evaluation for growth occurs; and the trauma assumes a central place in the life story</p>
Tedeschi & Calhoun (1995), U.S.	Psychology (social)	Posttraumatic growth and transformation	<p>Primary empirical research using the Post Trauma Growth inventory; review of related theories (including self-efficacy, hardiness, resilience, and sense of coherence)</p>	<p>Growth occurs when schemas are changed by traumatic events; some positive evaluation for growth occurs; and the trauma assumes a central place in the life story</p>

(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” (1987, p. 19). The SOC scale has three components and corresponding subscales: *Comprehensibility*, the extent to which an individual can make sense of adversity; *Manageability*, the extent to which an individual perceives that resources are at her or his disposal to meet the challenges of inordinate demands; and *Meaningfulness*, the extent to which an individual feels that the challenges faced are worth engagement with. Antonovsky’s empirical findings from extensive observational research—interview narratives which served to design the questionnaire/scale by which quantitative measurements could be done—allowed prediction of at least eight personality type permutations depending on individual SOC subscale scores and the dynamic interrelationships among them. For example, high comprehensibility and low manageability and meaningfulness scores would predict an “inherently unstable” pattern, while high scores on all three subscales or low scores on all three would predict (a) “stable” pattern, respectively viewing the world as highly coherent or incoherent (pp. 20–22).

Meanwhile, Alfred Bandura (1977) and Suzanne Kobasa (1979) were extending the horizons of cognitive and social psychology by examining the positive personality attributes believed to contribute to stress mitigation. Similarly, Michael Rutter (1985), focusing on childhood resilience and its associations with experiences in adulthood and later life, also contributed empirical evidence on positive attributes. In Rutter’s view, “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). Rutter, who subscribes to “pathogenesis,” has very similar ideas to Antonovsky’s salutogenesis, rendering “resilience” and “sense of coherence” virtually synonymous. Resilience studies continue to focus on childhood and family history, environment, and social capital as predictors of “success” in adult life (Runyan et al., 1998; Masten & Coatsworth, 1998). However, while anthropological insight into children’s experiences cautions against the (pathogenic) “universalist” and “apocalypse” models, respectively, of childhood and war (Boyden, 1994), Rutter and colleagues’ research remains grounded in

psychopathology (see, for example, a recent review of risk and protective factors associated with gender differences; Rutter et al., 2003). Elsewhere, combined models of risk and resilience involving a narrative approach are advocated as a means of building children's sense of coherence, self-efficacy, and resilience (Levy & Wall, 2000), with the latter being applied to support refugee children in the United States (Apfel & Simon, 1996).

Modeling Interdisciplinarity

Antonovsky's work benefited greatly from his proactive and sustained engagement in intra- and interdisciplinary dialogue on the questions left unanswered by pathogenic biomedical lines of inquiry. In persisting with his theory of salutogenesis, Antonovsky avoided alienating proponents of competing and/or parallel paradigms, choosing instead to focus on shared principles of logic and rigor of investigation, analysis, and interpretation of empirical evidence from multiple sources (Antonovsky, 1984, 1993a, 1993b).

While some of the other prominent scholars reciprocated by engaging in constructive interdisciplinary dialogue, others at best talked among themselves and at worst maintained strict discipline and/or subdiscipline boundaries impervious to exchange of ideas and insight. Kobasa (who cites Antonovsky's work) has studied high-level and high-stress executives, some of whom succumb to illness and others of whom do not, and concluded that "hardy" personalities are more likely to withstand if not benefit from "executive stress." Applying Kobasa's construct of hardiness to war veterans in Israel, Waysman et al. (2001) concluded that "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). This resonates with the SOC, locus of control/self-efficacy, and resilience propositions.

In the same vein, Strümpfer's (1995) work in South Africa introduced the theory of "fortigenesis" (strength), building on Antonovsky's SOC construct and somewhat pedantically arguing that sense of coherence is really more about "strength" than it is about "health." Although distinct in its own right, Strümpfer's

work is not dissimilar to Antonovsky's and can thus be considered one of the many examples of international uptake of Antonovsky's seminal work.

Elsewhere, a substantive body of work has focused on positive effects of trauma in terms of personal growth and transformation. Tedeschi and Calhoun's theory is built on empirical research involving largely American college/university students and their individual "posttrauma" experiences (Tedeschi & Calhoun, 1995, 1996). These scholars set their construct in the wider context of research on resilience, self-efficacy, hardiness, and SOC, among other positive aspects of stress such as the concept of "inoculation." Interestingly, Tedeschi and Calhoun's posttrauma growth inventory has recently been administered to survivors of war and displacement in Sarajevo, yielding results that concur with Antonovsky's assertions (Powell et al., 2003).

Also from within the pathogenic research paradigm, Mary Harvey (1996) has furthered our ecological understanding of recovery from trauma. According to Harvey, community psychologists study community in ways similar to biologists studying ecosystems. "The ecological analogy describes communities in terms of their resource and resource exchange characteristics... Racism, sexism and poverty can be thought of as environmental pollutants—i.e. ecological anomalies that foster violence and threaten to overwhelm the health-promoting resources of human communities" (1996, p. 5). Harvey's notion of "recovery" is a useful juxtaposition of understandings of recovery as a social process rather than a medical one.

To sum up, while those who subscribe to the pathogenic worldview largely consider negative aspects of crises as given topics of study and positive aspects as "deviant" from the norm, a number of key researchers such as those discussed above have focused attention on the latter. Most notably, Antonovsky's theory of salutogenesis, the other side of the pathogenesis coin, has thrived in the interface between psychology and medicine/psychiatry, opening up fertile ground for interdisciplinary research. Ironically, by his own admission, his own discipline (sociology) had been the most resistant to Antonovsky's persuasive theory and research, and anthropologists have not, up to this point, taken up his ideas. This article is the first to accord the theory of salutogenesis and the SOC construct a comparative thematic review from an

interdisciplinary perspective. Clearly, Antonovsky's work has had a profound impact on our understanding of "the mystery of health."

In his discussion of mental health challenges in Europe, Rutz (2001) highlights the "counterproductive split between mainstream medicine, promotion and prevention, between positive and negative mental health conceptions, between salutogenic asset thinking and pathogenic disease orientation, often caused by the defenders of a pure sociological or pure medical model in a struggle for territorial monopolies and resources. We have to overcome this split by taking into consideration the continuum between promotion, prevention, treatment and rehabilitation activities, by acknowledging that factors promoting health are also factors preventing disorder" (p. 18). Similarly, the need for clinicians and researchers to gain a broader understanding of resilience has been highlighted (Miller, 2003). This is of utmost relevance as well to the field of humanitarian policy and practice concerning psychosocial interventions.

Critical appraisals of history and culture-bound conceptions of posttraumatic stress disorder arising from cross-disciplinary thinking have demonstrated that transcending strict biopsychomedical training in order to make sense of observed reality is necessary (Summerfield, 2002; Lykes, 2002). Derek Summerfield, a social psychiatrist, and Brinton Lykes, a social psychologist, both recognized the value of anthropological analysis and subsequently employed new tools with which to extend the horizons of psychiatry and psychology constructively, contributing to better knowledge and a deeper understanding of the social and cultural determinants of mental health.

The Way Forward

Critiquing psychopathology does not necessarily entail denial of the negative effects of crisis and trauma (Almedom, 2004; Carballo et al., 2004; Lewando Hundt et al., 2004). Rather, the point is to recognize that a number of alternative pathways and scenarios are possible and observable among disaster victims-survivors. It would behoove humanitarian interventions to abandon erroneous assumptions (Summerfield, 1999) and consider the other side of the coin in order to guard against undue bias toward making "drama out of trauma," however (biomedically) "justified"

(de Vries, 1998). It is the duty of applied anthropologists, psychologists, and others to venture beyond the fence of their own disciplines and acquire new skills to enable them to engage in interdisciplinary inquiry into the human spirit, which often rises above the trauma of war and other disasters. Understanding resilience, recovery, and posttraumatic growth and transformation will help to illuminate rather than eclipse paths leading to light at the end of the tunnel for disaster-stricken individuals and their communities. Effective international humanitarian assistance would undoubtedly reflect such input from applied and interdisciplinary research.

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