An Evidence-Informed Model of Human Resistance, Resilience, and Recovery: The Johns Hopkins’ Outcome-Driven Paradigm for Disaster Mental Health Services

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In the past, psychological intervention subsequent to mass disasters/acts of terrorism has been characterized by reactive, event-specific practices that all too often overlook the variability inherent in the temporal trajectory of the human response to such events. In essence, these so-called univariate crisis intervention models can trace their origins back to community mental health initiatives (Decker & Stubblebine, 1972; Langsley, Machotka, & Flomenhaft, 1971; Parad & Parad, 1968), the outpatient community psychiatry movements (Caplan, 1961, 1964), as well as the “forward psychiatry” initiatives of the great World Wars (Artiss, 1963; Kardiner, 1941; Salmon, 1919). Given the original intent and design of these models, it is not surprising that they are not easily transferable to the disaster mental health field. Although mass disasters and terrorism affect whole communities of individuals, all individuals in the community do not react the same to such events. Stated another way, some (but not all) individuals exposed to a disaster will need assistance and not everyone will benefit from the same type of assistance (National Institute of Mental Health [NIMH], 2002). In fact, only the minority of individuals exposed to traumatic events will require formalized intervention beyond perhaps information and reassurance (NIMH, 2002; United States Department of Health and Human Services, 1999). The challenge, therefore, becomes identifying those who require more structured intervention from those who do not. This observation has recently pushed “interventionists,” sometimes reluctantly, to now consider adding the skills of assessment and strategic planning to their therapies. The emerging model must therefore be one of a continuum of care in order to accommodate the varied aspects and challenges of disaster response.

One potential framework that may assist disaster mental health interventionists to plan and structure such a revised therapeutic program is a framework that engages the concepts of resistance, resilience, and recovery. The impetus and foundation of this framework are based on a presentation to the Johns Hopkins Conference on Mental Health by Kaminsky (2003). In that conference, Dr. Kaminsky discussed the need for a paradigmatic shift away from previous disaster mental health practices that were (a) void of adequate assessment; (b) reactionary.
instead of proactive; (c) predicated upon one-time, univariate, clinical interventions; (d) confounded by the quest for clinically appropriate outcomes; and (e) practiced in a morass of confusing acronyms in the absence of a standard nomenclature. In this paper we shall discuss the resistance, resilience, and recovery concepts and offer this strategic framework as a new, “evidence-informed” paradigm for approaching disaster mental health.

Resilience, Resistance, and Recovery as a Strategic and Integrative Paradigm

The resilience, resistance, and recovery formulation represents an evidence-informed, outcome-driven approach to critical incident and disaster management. Currently, this model is being developed at the Johns Hopkins University and may be thought of as “The Johns Hopkins Perspectives Model of Disaster Mental Health.” At its core, this perspectival model assists in strategic planning by both considering multiple intervention perspectives and subsequently aligning the tactical interventions most suited to achieve the desired outcome, that is, building resistance, enhancing resilience, or facilitating the recovery of those affected by the disaster. This concept is consistent with the “integrative psychotherapeutic concepts” of Millon, Grossman, Meagher, Millon, and Everly (1999) wherein (a) potentiating pairings (using interacting combinations of interventions so as to achieve an enhancing clinical effect), (b) catalytic sequences (sequentially combining tactical interventions in their most clinically useful ways), and (c) polythetic selection (selecting the tactical interventions as determined by the specific needs of each critical event or mass disaster/terrorism situation) are all utilized to create the intervention approach with the greatest potential for achieving a successful outcome. Thus, specific disaster interventions should be combined and sequenced in such a manner so as to yield the most efficient and effective intervention possible. The various combinations and permutations that are actually utilized will be determined by the unique demands of each critical incident or disaster, and the unique demands of each target population, as they arise in real time. In addition, this intervention model is applicable to a wide variety of settings that have been previously identified as being at risk for emotional crises in the workplace in general, of which disasters form a subset category; these include hospitals, industrial and financial organizations, educational institutions, the military, transportation industries, government buildings, and so forth (Heidel, 2003).

In this paper, we shall (a) briefly describe each of the fundamental characteristics (resistance, resilience, and recovery) of this outcome-driven approach, (b) provide the empirical evidence that serves to support the principles contained herein, and (c) provide psychological and sociological interventions that are suited to enhance each component. In addition, we will provide training guidelines for mental health interventionists and discuss an assessment technique that has been developed at the Johns Hopkins Department of Psychiatry and Behavioral Sciences which has been the basis for the resistance, resilience, and recovery paradigm (McHugh, 1992; McHugh & Slavney, 1983, 1998). It is important to note, however, that although each of the components of the following “prescription” (resistance, resilience, and recovery) is empirically supported, the prescription in its aggregate, programmatic form has not been empirically assessed.

Enhance Resistance and Foster Resiliency

In order for our community to defeat the psychological reactions of terrorism, it is impor-
tant that proactive steps be taken to prepare ourselves with the appropriate “psychological body armor” to foster self-efficacy. This, we believe, may be achieved by enhancing resistance and promoting resilience of the target populations.

Resistance refers to the ability of an individual, a group, an organization, or even an entire population to literally resist manifestations of clinical distress, impairment, or dysfunction associated with critical incidents, terrorism, and even mass disasters. Resistance may be thought of as a form of psychological/behavioral immunity to distress and dysfunction.

Historically, this element of disaster mental health response was conspicuous in its absence. More specifically, disaster mental health services were almost exclusively reactionary in nature. The notion of creating resistance represents a proactive step in emergency mental health. Notions of “psychological immunization” and psychological body armor are engendered by the introduction of this intervention to the preincident phase of the temporal continuum.

Resilience refers to the ability of an individual, a group, an organization, or even an entire population to rapidly and effectively rebound from psychological and/or behavioral perturbations associated with critical incidents, terrorism, and even mass disasters.

Collectively, we believe that resistance and resilience may be facilitated by the following empirically supported, quadratic, strategic formulations that collectively may be seen to have two “active ingredients”: expectancy and experience. The four strategies are listed below.

1. Providing realistic preparation. Setting appropriate expectations, developing stress management and coping skills, and providing realistic preincident training may all serve to foster stress resistance (Hobfoll et al., 1991; Lating et al., 2003; Meichenbaum, 1985; Schiraldi & Brown, 2001, 2002; Seligman, Reivich, Jaycox, & Gillham, 1995).

2. Fostering group cohesion and social support. Social support has been shown to buffer stress (Flannery, 1990). The creation of group cohesion, with an underlying infrastructure for social support, may be useful (American Psychological Association, 2004). An essential element of fostering cohesion and support, we believe, will be effective risk communications. Risk communication should be designed to provide the following five essential elements: information (and rumor deterrence), reassurance, direction, motivation, and a sense of connectedness.

3. Fostering positive cognitions. Cognitive appraisals appear to be key determinants of stress (for a review, see Everly & Lating, 2002) and trauma (Ehlers & Clark, 2003). Positive cognitions appear to deter excessive stress and foster resilience (Affleck & Tennen, 1996; Meichenbaum, 1985; Taylor, 1983; Tedeschi & Calhoun, 1996). Positive cognitions may include positive memories of those lost in war/terrorism and/or identification with a noble motive, such as religion or nationalism.

4. Building self-efficacy and hardiness. Building self-efficacy and hardiness is important to enhancing resistance to stress and fostering resiliency. The primary formulation that will serve as the basis for this notion resides in the work of Albert Bandura (self-efficacy) and Kobasa, Maddi, and Kahn (1982).

Self-efficacy. Bandura’s (1997) work is summarized in his magnum opus on self-efficacy and human agency. Bandura defines the perception of self-efficacy as the belief in one’s ability to organize and
execute the courses of action required to achieve necessary and desired goals (see also Freud, 1911/1958). This perception of control or influence, Bandura (p. 3) points out, is an essential aspect of life itself; “People guide their lives by their beliefs of personal efficacy”. He goes on to note:

People’s beliefs in their efficacy have diverse effects. Such beliefs influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize” (p. 3).

Bandura (1977, 1982, 1997) has described four sources that affect the perception of self-efficacy and are particularly relevant in terms of the resistance/resilience model. They are as follows.

i. Performance. “Enactive attainments provide the most influential source of efficacy information. Successes raise efficacy appraisals, repeated failures lower them” (Bandura, 1982, pp. 26–27). Bandura has also shown perceptions of self-efficacy to influence subsequent performance, as well as autonomic nervous system activity. Though enactive attainment appears to be the single most powerful way of influencing perceptions of self-efficacy, it is important to note that attainment is in the eye of the beholder. Objective success shows no favorable impact on self-efficacy if the individual perceives that success as “failure.” One might argue that the experience of the United States in the Vietnam conflict is just such an example. As the perception of efficacy eroded, so did political support. Objective military success was subordinated to the perception of a “war that could never be won.” Therefore, retreat became the only option.

ii. Vicarious experience. “Self-efficacy appraisals are also partly influenced by vicarious experiences. Seeing or visualizing similar others perform successfully can raise self-percepts of efficacy in observers that they too possess the capabilities to master comparable activities . . . . By the same token, observing that others to be of similarly competence fail despite high efforts lowers observers judgments of their own capabilities and undermines their efforts” (Bandura, 1982, p. 399). Such modeling of experience as described may be done in vivo, in vitro, or symbolically.

iii. Verbal persuasion and support. Verbal persuasion comprises things such as suggestion, education, and reinterpretation of exogenous, environmental, or interoperative stimuli so as to improve perceptions of self-efficacy. Such cognitive alterations may be done by oneself or by another (e.g., a coach, a charismatic leader, or even a therapist).

iv. Physiological/affective arousal. “People rely partly on their state of physiological arousal in judging their capabilities and vulnerability to stress. Because unusually high arousal usually debilitates performance, individuals are more likely to expect success when they are not beset by aversive arousal. Fear reactions generate further fear through anticipatory self-arousal . . . . People can rouse themselves to elevated levels of distress that produce the very
dysfunctions they fear. Treatments that eliminate emotional arousal heighten perceived efficacy with corresponding improvements in performance” (Bandura, 1982, p. 28). Biofeedback and other techniques that induce the relaxation response are useful interventions within this domain.

Hardiness. Kobasa et al. (1982) focus on the concept of hardiness, which they believe is an insulating factor against stressors. Hardiness is characterized by the following: (a) the belief in one’s own agency or self-efficacy (i.e., the ability to exert control over relevant life events); (b) the tendency to see stressful events as “challenges” to be overcome and opportunities for growth; and (c) a strong commitment and sense of purpose.

This notion of perceived personal efficacy and hardiness is relevant to understanding individual behavior, group behavior, and even the behavior of nations. Enhancing perceived efficacy and hardiness is an essential and intrinsic process for combating terrorism because it not only enhances effort and self-esteem but also contradicts the perception of helplessness while at the same time conveying the perception that the world is more controllable (i.e., safer).

**Psychological and Social Interventions to Enhance Resistance and Resiliency**

In order to achieve resistance and resilience, certain mechanisms need to be put in place. Specifically, to achieve resistance and the true sense of a prevention paradigm, the following measures need to be undertaken:

1. perception of credible and competent leadership;
2. anticipatory guidance, setting appropriate expectations;
3. realistic training;
4. identification with a common purpose, goal;
5. identification with a higher ideal;
6. identification with a group to foster group identity;
7. fostering impact and acute-phase task orientations;
8. stress management training; and
9. provision of family support.

And specifically, to achieve resilience, the following measures need to be taken:

1. assessment of need;
2. effective leadership;
3. sustaining a credible, accurate information flow;
4. stress management;
5. establishment and utilization of social support networks;
6. fostering an acute-phase task orientation;
7. implementation of “psychological first aid”;
8. utilization of small-group crisis intervention for naturally occurring cohorts and families;
9. pastoral crisis intervention and chaplaincy services; and
10. psychological triage.

**Enhance the Recovery Process**

As we just discussed, resistance and resilience are proactive steps needed to be taken to prepare our community for terrorism and mass disasters. **Recovery**, on the other hand, refers to the ability of an individual, a group, an organization, or even an entire population to literally recover the ability to adaptively function, both psychologically and behaviorally, in the wake of a significant clinical distress, impairment, or dysfunction subsequent to critical incidents, terrorism, and even mass disasters.

However, similar to building resistance and resiliency, the essential building block to recover from terrorism and a mass disaster is...
a populations’ ability in “regaining control over their emotional responses and place the trauma in the larger perspective of their lives as something that happened but that can be expected to not recur if the individual is able to retake charge of his or her life” (van der Kolk, McFarlane, & van der Hart, 2002).

**Psychological and Social Interventions to Enhance Recovery**

In order to enhance the recovery process, our review of the research has illustrated that cognitive-behavioral psychotherapy (CBT) is one of the best methods to aid trauma victims. CBT combines the use of techniques from cognitive therapy and behavioral therapy. CBT is based on the premise that cognition is a primary determinant of behavior and mood. Thus, CBT uses behavioral and verbal techniques to identify and correct problematic thinking patterns that are at the root of dysfunctional behavior. A complete review of the benefits, indications, and contraindications of CBT have been previously defined and are beyond the scope of this paper (Bryant & Harvey, 2000; Katz, Pellegrino, Pandya, Ng, & DeLisi, 2002). Several acute trauma studies have established the benefits of CBT for trauma victims (Bryant, Harvey, Sackville, Dang, & Basten, 1998; Bryant, Sackville, Dang, Moulds, & Guthrie, 1999; Difede, Apfeldory, Cloitre, Spielman, & Perry, 1997; Foa, Hearst, Iedda, & Perry, 1995; Frank et al., 1988). Cognitive appraisals appear to be key determinants of stress (for a review, see Everly & Lating, 2004) and trauma (Ehlers & Clark, 2003). Conversely, positive cognitions appear to deter excessive stress and foster resiliency (Affleck & Tennen, 1996; Meichenbaum, 1985; Taylor, 1983; Tedeschi & Calhoun, 1996). Thus, cognitive as well as behavioral therapies appear to be effective methods to enhance recovery.

However, it should be noted that despite these successes of CBT, there is room for improvement. The dropout rates of individuals participating in these studies is rather high. In some recent randomized controlled trials, the dropout rates stand at about 25%. Moreover, on certain studies focused on posttraumatic stress disorders, at the end of treatment, a subgroup of patients still meet diagnostic criteria for posttraumatic stress disorder (ranging from 35% to 47%) (Blanchard et al., 2003; Bryant, Moulds, Guthrie, Dang, & Nixon, 2003; Ehlers, 2004; Foa et al., 1999; Resick, Nishith, Weaver, Astin, & Feuer, 2002). With regard to therapy itself, current research has suggested that three fundamental concepts must be addressed in psychotherapy to assist the recovery process.

1. Establish a sense of control. Psychotherapy must establish a sense of safety and control from which the patient can approach the memories related to the trauma (van der Kolk et al., 2002). Patients need to learn to master and own their experiences (Taylor, 1983; van der Kolk et al., 2002) and reestablish a sense of safety in their bodies and come to trust their own perception and feelings (van der Kolk et al., 2002).

2. Decondition fear. Psychotherapy must also assist the patient in learning to decondition the fear and anxiety related to the traumatic memories themselves. To be able to fully understand his/her current experiences, an individual must understand what happened to him/her in the past and accept the role he/she played in it (van der Kolk et al., 2002). Unless individuals face their memories, they will likely continue to react with self-blame for failure to prevent the trauma. The clinical usefulness of actively addressing traumatic memories has been addressed in several studies centered on combat veterans (Boudewyns et al., 1990;
Cooper & Clum, 1989; Keane et al., 1989; Peniston, 1986; Pitman et al., 1991).

3. Reestablish integrity and control. Therapy should also help individuals by reestablishing a feeling of personal integrity and control by addressing the way trauma victims make sense out of their lives. Often, after a mass disaster, individuals need help to restructure trauma-related cognitive schemes in order to ensure that they do not dominate their everyday existence. The work of Frank and Frank (1991) reminds us as well that the “remoralization” of a defeated individual and the provision of hope are central to all psychological and moral helping relationships.

Training in Disaster Mental Health Intervention

Understanding the terms resistance, resilience, and recovery and interventions needed to support these concepts is only half the battle. The other half is putting the theory to work. We believe that as the perceived need for disaster mental health services grows, the need for training disaster mental health experts in how to build resistance and resilience and enhance recovery in individuals and communities will also emerge as an important issue.

Whether based upon a review of current practices (Sheehan, Everly, & Langlieb, 2004) or expert consensus (NIMH, 2002; Olson, 2005), it can be argued that there exist “core competencies” in disaster mental. Everly (2002) has argued that the core competencies may be thought of as follows:

1. assessment, especially the ability to differentiate benign versus malignant psychological symptomatology;
2. skill in one-on-one crisis intervention (face-to-face or telephonically);
3. skill in small-group crisis intervention (~20 or less);
4. skill in large-group crisis/risk communications (~20 to ~300 or more); and
5. the ability to plan and implement an integrated, phasic multicomponent emergency mental health initiative residing within the confines of an overall Incident Command System.

Thus, training disaster mental health interventionists on how to apply the resistance, resilience, recovery framework within these five core competencies is essential. And as a result, we believe it will lead to the application of an emergent psychological and sociological intervention that is predicated upon selecting the most appropriate intervention to correspond to the needs of the situation and target population (Center for Mental Health, 2000; Everly & Langlieb, 2003; Everly & Mitchell, 1999; NIMH, 2002; Professional Practice Board Working Party, 2002; Raphael, 1986; Shalev et al., 2003; Ursano, McCarroll, & Fullerton, 2003; Myers, 1994; Myers, 2005).

A Comment on Assessment

As one examines the five training competencies mentioned above, it becomes clear that assessment is the “bedrock” competency of disaster mental health. More specifically, effective clinical management of human responses to traumatic events should become a priority. However, until assessment is viewed as a core competency in the repertoire of disaster mental health specialists, it is difficult to conceive how individuals with different vulnerabilities can be identified for the type and scope of interventions they actually need to help foster resilience and assist in an enhanced recovery. (The result of such perspectival assessment is a case conceptualization that can inform triage, treatment, and prognosis. Moreover, by revealing the benefits and liabilities of singular forms of
assessment, the approach offers an intellectual scaffolding upon which future clinical, scientific, and educational efforts may be constructed. That such advances might be applied to human-kind’s potentials for disaster resistance, resilience, and recovery across the lifespan is both a professional opportunity and obligation in the permanently altered world that we now inhabit.) A multiperspective approach to assessment has been developed at the Johns Hopkins Department of Psychiatry and Behavioral Sciences (McHugh & Slavney, 1983, 1998) and has been the backbone of the resistance, resilience, and recovery paradigm. Briefly, the Hopkins’ “perspectives” provide a framework for understanding the essential natures of and substrates underlying clinical disorders, trauma related and otherwise. Rather than adopt one worldview for elucidating psychopathology, the Hopkins approach employs four distinct but overlapping perspectives. Each of these assessment viewpoints drives a set of exploratory propositions. The propositions address (a) what the person “has” (biologically based disease and physical illness); (b) who a person “is” (graded dimensions of temperament and disposition); (c) what a person “does” (purposeful, goal-directed behavior); and (d) what a person has “encountered” (his/her life story and the meaning that has been given to those experiences). Individually and collectively, these perspectives illuminate important aspects of personal vulnerability and symptom development. Through this approach, the assessor has the ability to truly comprehend “how” the person is experiencing the disaster. This, in turn, lays the foundation for future therapeutic work, and positions the clinician to be able to reframe the trauma in a way that fosters resilience and recovery.

Summary

Simply talking about trauma is not enough. What is needed is an acute crisis intervention program based on tactical proficiency and effective strategic planning. This paper is designed to educate readers about an integrated, multicomponent, intervention model that addresses these issues. Unlike its predecessors, the “perspectival” disaster mental health model described herein is motivated by the mission to achieve specific behavioral outcomes constructed within an environment based on a logical and temporal flow. The formulation of resistance, resilience, and recovery is not only a conceptual framework that may assist in advancing the field beyond an oversimplified, univariate disaster mental health response but also by focusing on clinically meaningful outcome measurements it may lend itself more readily to the type of evidenced-based research that is so desperately needed in the field of disaster mental health.

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References


