# University of Nebraska - Lincoln DigitalCommons@University of Nebraska - Lincoln

**US Army Research** 

U.S. Department of Defense

2011

# Understanding and Managing Stress

James Ness US. Army, United States Military Academy

Denise Jablonski- Kaye Asst Chief of Clinical Services, LAPD

Isabell Obigt Gruppe Wehrpsychologie, Streitkafteamt, Bonn, Germany

David M. Lam U.S. Army Telemedicine and Adv. Tech. Res. Ctr

Follow this and additional works at: http://digitalcommons.unl.edu/usarmyresearch

Ness, James; Kaye, Denise Jablonski-; Obigt, Isabell; and Lam, David M., "Understanding and Managing Stress" (2011). US Army Research. 349.

http://digitalcommons.unl.edu/usarmyresearch/349

This Article is brought to you for free and open access by the U.S. Department of Defense at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in US Army Research by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

FROM: Leadership in Dangerous Situations: A Handbook for the Armed Forces, Emergency Services, and First Responders. Edited by Patrick J. Sweeney, Michael D. Matthews, and Paul B. Lester (Annapolis: Naval Institute Press, 2011).

James Ness, Col, US. Army, United States Military Academy
Denise Jablonski-Kaye, Asst Chief of Clinical Services, LAPD
Isabell Obigt, Gruppe Wehrpsychologie, Streitkafteamt, Bonn, Germany
David M. Lam, U.S. Army Telemedicine and Adv. Tech. Res. Ctr.

#### **CHAPTER 3**

# **Understanding and Managing Stress**

James Ness, Denise Jablonski-Kaye, Isabell Obigt, and David M. Lam

eaders, particularly those who lead in dangerous contexts, are a powerful force in managing and alleviating the effects of stress. This chapter discusses how to leverage that force, describing stress management practices above and beyond the stalwarts of individual fitness, sleep, and good health habits. Theory along with the context of real-world cases are presented to make leaders aware of the nature and effects of the decisions to be made while preparing for or leading in dangerous situations and how to assess and respond to critical incidents. The main lesson is that leaders must know their people, know the crucible in which they operate, establish a culture of catharsis, and know that they are a principle source of resilience.

#### WHAT DOES STRESS ENTAIL?

The term "stress" derives from the Middle English word "stresse" and was originally used to convey physical hardship.¹ Although there are earlier, sporadic instances of the term being used in a psychological context, it did not assume a widely accepted psychological connotation until the work of Walter Cannon and Hans Selye in the late 1920s. As Selye's theory gained popularity, "stress" came to refer to an overall stressor or stress-response relationship.² More recently, the term has become more of a convenient semantic category accommodating an expanding family of behaviors, feelings, and experiences associated with psychological or physical complaints and life-related conditions. Although the term lacks the specificity required for scientific inquiry or diagnosis, its use in the general lexicon provides an opportunity to examine

stress metaphors within an organization's culture to determine specific effects of the complaint and potential remedies.3

Examples of such metaphors include the complaints described in a case involving the symptoms of culture- and generation-bound syndromes.<sup>4</sup> In the mid-1970s, a U.S. Army clinic started seeing young healthy males who were withdrawing from life, hiding in their rooms and deteriorating in their performance. At the clinic, these individuals often were crying, screaming that they simply could not deal with the Army anymore, and shaking their limbs and bodies almost convulsively. Initial presentation involved complaints of limb numbness and tingling. Health care providers in the clinic came up with the usable, albeit catchall diagnosis "adjustment reaction of adult life." Upon further investigation, the condition's manifestations were found to be almost exclusively confined to a population of young (18-to-19-year-old) Puerto Rican males who had never been off their island and were involved in their first operational assignment. In discussing this with one of the unit's noncommissioned officers (NCO), who was also Puerto Rican, clinic staff were told that the men's reaction was a normal means of expressing stress on the island among this population group and that it was worse when they were not in contact with females (the implication being that Puerto Rican females, through social influence, modulate the response). The presentation was initially suspected to be some kind of group hysteria, but as explained, it was a culturally modified stress reaction. The clinic staff arranged for the NCO, his wife, and his wife's friends to meet with the soldiers individually. The problem did not recur, at least not to the knowledge of the clinic staff.<sup>5</sup>

Similar to cultures, organizations have means of expressing stress either as catharsis or as distress. Leaders of organizations should come to understand the language and manifestations unique to their organization to discern the cathartic nature of complaints, as happened in the above episode, from those indicating distress. As a leader, one must be mindful of the mannerisms and use of words among one's people. The reader is directed to the short video "The Ugly War." 6 In it, note the soldier's mannerisms and choice of words. In the end, the soldier, who is a medic, says that his mental health community "does not understand," referring to the difference between catharsis and distress. As with the young Puerto Rican males, in order to help, one must understand and be able to discern the difference between expressions of catharsis from those of distress.

### **COMMUNICATING HEALTH RISKS**

Symptom clusters, associated with war, appear as "syndromes" with confounding etiologies.7 E. Jones and colleagues researched British military pension files dating from 1872 through 1991 and found three varieties of postcombat disorder: a debility syndrome (involving weakness or loss of energy) without psychological or cognitive symptoms associated with wars fought before 1918; a somatic syndrome involving cardio-respiratory symptoms (e.g., rapid heartbeat, shortness of breath, fatigue) associated with World War I; and a neuropsychiatric syndrome (resulting in depression, anxiety, headaches) associated with World War II and conflicts through the 1991 Gulf War. There was no presentation of common symptoms across the various wars studied, though there were overlapping complaints. None of the syndromes identified could be linked to a definitive etiologic agent or uniquely identifiable trauma. This led researchers to implicate cultural factors as contributing to these unexplainable illnesses, thought to be precipitated by the aggregate stressors of deployment.8 This is not to say that psychological trauma is not real; there is certainly a relationship between traumatic events and psychological sequelae.9 Communicated complaints, however, are often confounded with a group's accepted cathartic expressions, preexisting conditions, common health fears of the time, reinforcing factors for expressing particular symptoms (compensation expectation), and trends in diagnostic labeling (post-traumatic stress disorder, PTSD, and mTBI, mild traumatic brain injury). This is not to diminish the complaints, but simply to ensure that other etiologic factors are not ignored or the complaints misinterpreted as being outside a range of normal.<sup>10</sup> Complaints must be taken seriously, but "syndromes" must be defined carefully, and any proposed causes must be continually evaluated. The lesson for a leader is to express caring and concern and help frame the complaints as a normal reaction to an extreme situation. This strategy is of course only applied if the person is not a threat to mission, themselves, or others.

Proper stress management planning takes note of the knowledge that health fears shape a person's attribution of reactions to dangerous contexts. Just as health fears can shape attribution, so can a leader shape attribution and improve resilience. A leader has two powerful tools for managing stress within an organization: the placebo and Hawthorne effects, referred to as caring and concern, respectively. <sup>11</sup>

Depression is frequently associated with dangerous context–related stress. Producing a placebo effect is one of the most effective treatments for mild to moderate depression. A placebo is a harmless substance or procedure used for psychological benefit. Potential sources of such placebos include

nutraceuticals, functional foods, and alternative medicines. Nutraceuticals are dietary supplements that may provide prevention and treatment of illness or disease. (In the United States, the federal Food and Drug Administration regulates health claims with the psychological benefit attested to by popular use.) A leader might suggest that a subordinate try an alternative practice, such as meditation, massage, yoga, and kneipp, to alleviate his or her symptoms. The recommendation here is not to promote a practice, but to offer potentially effective alternatives. A simple suggestion from an authority figure and a means for the individual to take control can have profound positive effects.<sup>13</sup> If the remedy does no harm, then an individual's faith in the practice should not be undermined.

The Hawthorne effect is the generation of positive responses that occurs because members of an organization feel that leaders care or are concerned about them.<sup>14</sup> An organization can leverage this effect through a number of organizational and individual-level programs and practices. These include but are not limited to establishing mentor relationships, integrating members into cohesive teams, and well-being and self-awareness programs. 15 In sum, the social and cognitive components that shape the manifestation of stressrelated complaints lend themselves to remedies involving the tools of the placebo and Hawthorne effects, simply put, caring and concern, which a leader can use for effective stress management strategies.

#### STRESS THEORY

When a leader is confronted with a problem, he or she can neither act nor decide effectively upon a solution without first understanding the problem. The problem, in this case, is managing stress in dangerous contexts to maintain individual and unit well-being. As discussed above, however, the word "stress" is now a convenient semantic category used to attribute a cause to a range of health outcomes from transient moods to chronic ill health. To make sense of the collection of ideas engendered by stress, one can apply theory. Although not a law of nature, theory provides a systematic framework through which solutions to problems (as well as laws of nature) can be discerned.

Theories of stress can be nominally classified as emphasizing physiological homeostasis, cognition and memory, or managing stressors within the dangerous context. Each of the theories predicts and explains the relationship between antecedents and consequents of stress but with a different emphasis and set of presuppositions. The reason for the differences is, as with all theories, one seeks to balance prediction and explanation.<sup>16</sup> The dilemma that

researchers, practitioners, and leaders face is how to organize observations and outcomes into a systematic body of knowledge to explain outcomes while avoiding contradictions in predictions, practice, and management. The only way to avoid this dilemma is to understand and consistently apply the presuppositions from which predictions and decisions are made. 17

# **Physiological Homeostasis**

The concept of homeostasis is rooted in the pre-Socratic philosophy of Hippocrates, in which health was equated to a balance of the elements and qualities of life. 18 Claude Bernard (in the mid-1800s) refined this concept of homeostasis defining the relatively narrow physiological limits within which the body operates.<sup>19</sup> He articulated the importance to the body of maintaining a relatively constant internal state (milieu intérieur) when being challenged with a constantly changing external environment. The idea of the milieu intérieur led to the concept of stress developed by Walter Cannon and furthered by Hans Selve: "stress is any challenge to the relative constant internal state." 20

Cannon defined two states in response to stress: "rest/digest" and "fight/ flight." A leader should remember that these states are adaptive in that the physiological cascade energizes the body to react to a threat through a wellmodulated system that protects homeostasis. Some argue for modifying the cascade associated with the fight/flight response to improve post-critical incident well-being. The risk, however, is in rendering the individual ill-prepared to perform in or learn from a dangerous situation, thereby threatening mission success and individual survival.21

Since the work of Selye, the core meaning of stress has expanded to include psychological factors.<sup>22</sup> Selve proposed his general adaptation syndrome, arguing that the physiological response to stress is nonspecific and implicating the endocrine system as the principle system involved in resisting stress. Cannon focused on the relatively fast-acting neurotransmitters (noradrenaline) and the activation of the sympathetic division of the autonomic nervous system. Selve's contribution was to identify the hypothalamicpituitary-adrenal nexus and the importance of the relatively slower-acting neuroendocrine response in resisting threats to the milieu intérieur. Although there is hormonal action in response to challenges, this hormonal response is complex and often misinterpreted.23

The general adaptation syndrome addresses chronic stress, whereas Cannon focused on acute exposure to stressors. For Selye, homeostasis is defended until chronic activation of defense mechanisms results in exhaustion of physiological resources resulting in increased risk for stress-related illness, such as heart disease. Stress plays a role in health, but the deleterious

effect is not a result of exhausted physiological resources. In the case of heart disease, stress contributes to increasing the likelihood that circulating, low-density lipoproteins will adhere to injured blood vessel walls and occlude the vessel. The occlusion in turn causes further damage, perpetuating the cycle, which can ultimately result in a heart attack.

For nearly fifty years, Selye's theory predominated, until McEwen challenged Selye's assumption of a fixed, normal homeostatic internal state. McEwen introduced the concept of allostasis, approaching the environment as a reliable force to which the organism equilibrates physiological systems to a new, healthy homeostatic internal state. For example, a body's shift to the lower end of the core temperature range may not indicate succumbing to hypothermia because at the circadian nadir, core body temperatures of underfed and fatigued soldiers sleeping outside can routinely drop to 35 degrees Celsius. This temperature is at the limit of thermoregulatory collapse. In this referenced case, however, physiological systems equilibrated in response to environmental loads and as a result reduced overall physiological strain and thus stress.<sup>24</sup>

Social variables are also reliable environmental forces that modulate the stress response. This recognition is important toward understanding the effects of unit cohesion on well-being. In a summarization of his work on aggression, R. Cairns concluded that contrary to widely held beliefs, the establishment of aggressive behavior does not require reinforcement or imitation or the experience of frustration or pain. Absences of social experiences are associated with aggression by the withdrawn or isolated individual, who is more reactive to stimuli. Considering Cairn's finding of dysregulation, M. Hofer researched the physiological mechanisms modulated by the social environment, particularly those involved in separation and loss. He introduced the metaphor homeostatically open system, which refers to the modulation of physiological and behavioral systems through the social environment. Specific physiological and behavioral systems open to regulation stem from two independent phases: an acute protest phase and a chronic, slow-developing despair phase.

Changes associated with the acute phase of stress response manifest themselves immediately and include increases in agitation, heart rate, and glucocorticoid and catecholamine (e.g., norepinephrine) levels. This activation of the sympathetic response is similar to the symptoms reported by the young Puerto Rican men. The remedy was social contact with women from their culture. Changes associated with the despair phase are decreased and variable food intake, as well as decreased body weight, cardiac rate, growth hormone production, and T-cell activity. These symptoms are closely aligned to depression.

The negative effects of loss and separation, both realities of dangerous contexts, can be reduced through a network of camaraderie within an organization. The regulation of emotion through unit cohesion has also been suggested to help leaders control the violence that units must mete out during a mission, an inference corroborated by Cairns' stimulus reactivity finding.<sup>27</sup>

The homeostatic theories presented here only focus on the sympathetic division of the autonomic nervous system. Disease states may be a resultant of stress effects on the ability of the other division of the system, the parasympathetic nervous system, which is dominant during resting states, to modulate the actions of the sympathetic system stress response. This theory is called homeodynamics. It states that often what induces stress-related illness is not an overdriving sympathetic response, but an inability of the parasympathetic system to modulate sympathetic activation to return the autonomic nervous system to a rest and recovery state. <sup>28</sup> The message of homeodynamics and current thought to leaders: Quality sleep is a stalwart of any stress management program.

# **Cognition and Memory**

I have a couple soldiers in my company that have had issues with PTSD. One claims the psychologists/psychiatrists he's seen have no other options for him. He was first diagnosed about three years ago, so he's had enough time to try a couple methods. He says the drugs help the depression, but nothing seems to get rid of the dreams, daydreaming, flashbacks, and such. I told him I'd try to find something a little unconventional, something he probably hasn't tried yet, but I'm really wary of trusting a "self-administered" treatment. I'm still trying to find some good articles, but I'm surprised at the low success of treatments. I am curious about one thing. Throughout the infantry, soldiers who have had PTSD problems, the few who can cope with it to the point where they consider themselves cured claim that the one thing that helped them the most was religion. I'm almost sure that no one involved in the psychological sector would ever dare to even take a statistical analysis to validate this or even accept it as plausible, but from my viewpoint, it's really working better than anything else.29

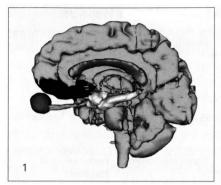
The captain who wrote this note makes several important observations. First, depression seems easily managed. Second, he is looking for alternatives but is cautious. Some individuals will try ill-advised supposed remedies (e.g., alcohol) or use prescription medication without medical guidance. An active campaign must be devised to prevent such practices and healthy alternatives offered. Third, the captain inquires about religion. Chaplains and other

Table 3.1 Qualities of Autobiographical, Flashbulb, and Trauma Memories

Quality	Autobiographical	Flashbulb	Trauma
Vivid	Not a reported quality	Detailed recollection for discovery context	Vivid sensory memory
Confidence in accuracy	Moderate	Strong	Strong
Recall	Conscious control	Conscious control	Involuntary and intrusive
Strength of emotion associated with memory	Neutral	Weak	Strong
Event	Neutral	Moderately emo- tionally arousing	Highly emo- tional, usually life threatening
Facts	Factual memories subject to forgetting	Discovery facts resistant to forgetting	Sparse, idiosyncratic facts resistant to forgetting
Quality of memory	Coherent in time and place	Coherent in time and place	Mainly sensory impressions
Time	Perceived as past event	Perceived as past event	"Here and now" quality

spiritual counselors can be effective. They develop and maintain strong communities of social support and safe places where soldiers can vent without the specter of the "medical record." A soldier's specific belief or practice is not important, only that there are culturally supported and communicated systems of empowering stories and exemplars through which to ascribe, make sense of, and manage intrusive memories.30

Table 3.1 summarizes the literature on memory quality and distinguishes the qualities of trauma memories from those of autobiographical and flashbulb memories.<sup>31</sup> Autobiographical memories include flashbulb memories and are characterized by specific, personal, long-lasting facts about oneself and one's experiences. These memories are not problematic. They are recounted as past events, are voluntary, subject to forgetting and restructuring, and organized in an apparent semantically associated network.32



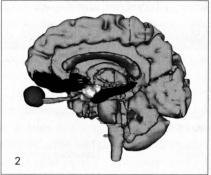
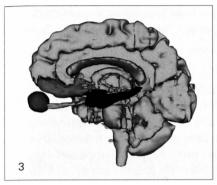


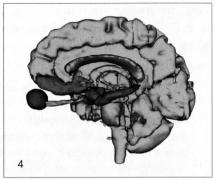
FIGURE 3.1 The temporal course of brain activity on the prefrontal cortex (left-most shaded structure), amygdala (middle shaded structure), and hippocampus (right-most

Trauma memories are qualitatively different from autobiographic and flashbulb memories and are formed from physiologically different mechanisms. Figure 3.1 summarizes the formation of trauma memories as described in the temporal dynamic model.<sup>33</sup> Immediately coincident with an emotional load, the amygdala increases activity, activates processes in the hippocampus, and suppresses function in the prefrontal lobe (Figure 3.1, panel 1). The effect on memory is an apparent enhancement making it the sole focus of attention (e.g., weapon focus) along with cues immediately preceding the event.34 Contextual cues immediately coincident with the event are remembered, with many of the trigger stimuli having a temporal relationship with the event.

In the minutes following an event, only the amygdala is active, yielding memories of the gist of events and associated emotional valance (Figure 3.1, panel 2). The prefrontal cortex recovers as amygdala activity diminishes, with the recovery time dependent on the nature and intensity of the emotional load. Recovery usually occurs within several minutes (Figure 3.1, panel 3), but new memory formation is suppressed during the refractory period of the amygdala and hippocampus. Within hours to days, depending on the intensity of the emotional load, the hippocampus and amygdala recover function (Figure 3.1, panel 4).

Given the course of recovery, a leader should (1) give the affected individual at least twenty-four hours of rest so memory systems can resume normal function, (2) follow the steps outlined in Table 3.3, and (3) consult the organization's mental health support services. The memory is likely never to be forgotten, so the goal is to manage and master the memory of the traumatic event.35 The following example shows how a trauma memory can form and





shaded structure) subsequent to a threatening event. White indicates heightened activity, gray normal function, and black the refractory period.

how the actions of the paramedic team, leadership, and chaplain alleviated the negative effects of the experience.

A paramedic, who had responded to hundreds of calls of children in heatinduced seizure, prepared himself by reviewing and practicing the proper protocol for care. On one call, the facial features of the child struck him: it looked to be the identical twin of his own child. Although he knew that this was not his child, the paramedic was paralyzed by the close resemblance. His peers noticed his hesitation and yelled at him to start performing his tasks. During the resuscitation of the child, the paramedic was visibly shaken by his inability to get past the physical resemblance. After the child was transported to the local hospital, the paramedic continued to have intrusive visual images of the lifeless child. His teammates noted his difficulties and contacted their captain. Shortly after the child was pronounced dead, a fire chaplain arrived to "take a walk" with the paramedic. The immediate response and opportunity to talk about the situation allowed the paramedic to deal with the images and his difficulty in functioning and remain confident in his abilities in the future.36

This incident illustrates that although stress reactions have a biological basis, the stress response involves a process of cognitive evaluations of perceived demands on one's own person.<sup>37</sup> These evaluations can be influenced as the individual continually reevaluates the event. There are many interventions, of which this is an example of an effective one. Effective interventions are personal, voluntary, and continually offered by an experienced member of the unit. There are however controversial techniques that a leader should discourage, such as critical incident stress debriefing (CISD).<sup>38</sup> In concluding, it is

worth reinforcing the importance of unit-level tailored support as cautioned in the "Comments on 'A Study of Combat Stress, Korea, 1952,' Technical Memorandum ORO-T-41 (FEC)":

It is true that experienced line and medical officers within the confines of their own unit, with knowledge of their personnel and of the particular situation confronting the group, can develop an operational formula specific for that time and group which is most useful. It is considered, however, that the formula for one group cannot be applied to the next, nor can it be taught to any specificity beyond the fact that it happens. Symptomatology of individuals under stress is most reactive to the patient's concept of what comprises useful symptomatology. If changes in overt behavior were specified and a matter of common knowledge, experience tends to show that the specified changes would occur with increasing frequency.<sup>39</sup>

## **Managing Stressors**

The U.S. military augments deploying units with members from other units. The augmentees are fit, healthy, motivated, and professional, but they may not have experience with a deploying unit's operating procedures or equipment. This puts stress on the soldiers and can lead to accidents that negatively affect the unit. In one such case, a soldier was attached to a Stryker unit, although he was not trained on the Stryker. He was assigned as a gunner, whose duties included the operation of a laser dazzler, which is used to suppress threatening movements toward the convoy. He was briefly instructed on the use of the laser and told that the system worked. He was apparently not issued laser eye protection or was not instructed on the importance of wearing eye protection. Although laser beam characteristics at engagement ranges will not cause retinal injury, the beam is sufficiently powerful to damage the retina within a few meters of the exit port. During movement, the soldier was ordered to target a threatening vehicle. In slewing to engage he swept the beam across reflective surfaces on the Stryker and suffered a retinal lesion. 40 Such accidents are preventable, and when they occur, they are tragic for the individual and diminish unit morale.

Most stress-related symptom clusters correlated with operating in a dangerous context are not attributable to a critical incident. Thus, a complex of stimulus conditions within the context may constitute the stressor, which is an accumulation of events or situations outside the realm of routine that create a conflict in or a challenge or threat to the individual. Given the number of reported operation-related stress disorders, the greatest eroding effect on well-being may be the cumulative effect of the operational environment itself.41 To alleviate the effects of the stressor, a leader should evaluate the

context within which units are operating and manage the physical (e.g., safety, equipment, living conditions) and psychological (e.g., separation, perceived control, cohesion) aspects of the environment. One area for a leader's focus should be managing perceptions of the stressors by engendering attributions to help make sense of the circumstances.<sup>42</sup> Reframing the perceived stressful component helps reduce stress.<sup>43</sup> In particular, the leader can affect interpretations of stressors through education, cohesion, promoting coping strategies, and instilling a sense of commitment, control, and challenge.

Educate. It is important that a leader provide accurate information so team members can set appropriate expectations and be psychologically prepared. Information about the mission, rules of engagement, length of deployment, host nation, rival factions, and environment all proffer details for calculating the risks involved. Constant communication and updates maintain psychological preparedness, thus mitigating the unknown as a stressor.

Train without Interruption. Well-learned and practiced skills are less likely to be disrupted by stress than those that have not been perfected. 44 Realistic and mission-focused training builds confidence, improves cohesion, and prevents boredom. When an individual feels he or she is adequately prepared, trained, and equipped for any eventuality, personal stress reactions are minimized. For example, stress reduction-specific imagery and skills-training programs decrease subjective distress and physiological stress reactions. 45 In sum, stress inoculation training using realistic situations better prepares those operating in dangerous contexts for potential stressful situations.

Maintain Unit Cohesion. Unit cohesion is the bonding of members of an organization in such a way as to sustain their will and commitment to each other, the organization, and the mission. Cohesive, well-disciplined units are less susceptible to the influence of risk factors than those that are loose knit and lack appropriate discipline (Table 3.2). Cohesion encourages teamwork during tough or trying situations and assists with making sense of a crisis through grounding on comrades and leaders.

Establish a Culture of Catharsis. Jack, a friend of James Ness who fought in Vietnam, recounted this story of a firefight and of hearing a friend's call to shift fire. As Jack looked over in response to his friend's voice, he saw his friend's head separate from his body and roll past. Jack expressed how slow things seemed to move at the time. Later that week, the unit received a pallet of beer. Jack grabbed his weapon and a satchel of ammunition and sat on top of the pallet. He began drinking and threatening anyone who approached the beer. His unit let him be. A few days later, his unit headed out on patrol, and he

#### Table 3.2 Risk Factors for Stress Reactions

Soldiers and first responders are at risk for stress reactions just like any other individuals, no matter how seasoned or experienced. Risk factors are those conditions that increase the probability that stress exposure will turn into a serious mental health problem. Risk factors also make combat and operational stress reaction (COSR) more likely. The presence of risk factors does not automatically mean someone will become debilitated by stress, but it raises that risk. Many risk factors can be modified, reduced, or eliminated. The following risk factors have been associated with a stress reaction:

- ▶ Length of exposure to operational stress
- ▶ Severity of the operational stress experience
- ▶ History of previous traumatic events (war, child sexual abuse, assault) and the amount an individual personally relates to an event
- ▶ Previous mental health problems
- ▶ Alcohol abuse or dependence
- ▶ Lack of a support system or unit cohesion

was told that unless he sobered up, he could not go along. The thought of not being part of the team turned Jack around, and he went on patrol. The leaders of Jack's unit had built a cohesive unit and established a culture of catharsis. As a result, Jack's memory of the event, although vivid, was not intrusive or problematic. The lesson is, know one's people, know the crucible, set up a culture of catharsis, and know that leaders are a principle source of resilience.

Teach Coping Strategies. People develop patterns for coping with stress. 46 Having a sense of control is strongly associated with the mitigation of the progression of debilitating stress-related sequelae. Step 7 of the psychological first aid core actions suggests providing an affected individual with the tools needed to promote coping (see Table 3.3).

Numerous studies of people experiencing dangerous contexts indicate that individuals who feel that they are in control of their circumstances and their environment feel equipped to handle stress. Although exposure to life-threatening events is an obvious source of stress, the administrative and bureaucratic conditions within an organization can compound the experience and impair recovery.<sup>47</sup> Efforts must be made to de-stigmatize reporting, facilitate support, and eliminate administrative practices that make one feel controlled by the system.

## **Table 3.3 Psychological First Aid Core Actions**

The following actions constitute the basic steps and objectives for a leader providing assistance to subordinates within days or weeks of their having experienced a threatening event. The amount of time spent on each goal will vary from person to person and depend on circumstances.

1. Contact and engage	Initiate contact with the individual in a non- intrusive, compassionate, and helpful manner	
2. Provide safety and comfort	Provide immediate safety and emotional comfort	
3. Stabilize (if needed)	Calm and orient emotionally overwhelmed and distraught individuals	
Gather information on current needs and concerns	Identify immediate needs and concerns, gather additional information, and tailor psy- chological first aid interventions	
5. Provide practical assistance	Offer help to the individual for addressing immediate needs and concerns	
6. Connect with social supports	Establish brief or ongoing contacts with pri- mary support persons, including unit members and friends, and other helpful resources	
7. Inform about coping	Provide information and education about stress reactions and coping to reduce distress and promote adaptive functioning	
Establish links with collaborative services	Connect individuals with needed services and inform them about available services that may be helpful in the future	

Source: Adapted from Psychological First Aid for First Responders (Washington, D.C.: U.S. Department of Health and Human Services, 2005).

Commitment, Control, Challenge. Characteristics conducive to responding well to stress are a valuable asset. S. Kobasa studied executives under corporate stress and found that those who exhibit commitment, have a sense of control, and approach problems as challenges report less stress than those who do not exhibit these qualities. 48 (See Chapter 4, in this volume, for further discussion on how commitment, control, and challenge promote resilience.) With time, practice, and training, people can acquire these characteristics.

Commitment is the personal sense that one has a purpose and that one's contribution to a team is meaningful. Commitment to a mission and

the importance of it allow people to feel that there is meaning to their lives. Leaders can facilitate commitment by integrating members into their team, giving them a role in it and a sense of control through freedom to act within that role.

There are two types of control: internal locus and external locus. Soldiers, police officers, firefighters, and first responders are well aware that there are many events over which they have absolutely no control. Although a particular event cannot be controlled, an individual's reactions and responses to it can be. Training prepares people operating in dangerous contexts for situations they may encounter, promoting an internal locus of control. Not all situations or scenarios can be anticipated, but using information from critical incidents to anticipate events is known to be effective in fostering an internal locus of control. In the scenario with the paramedic, he was prepared for responding to an unconscious child but was unprepared to be distracted by thoughts and feelings about his own child. With his internal locus of control temporarily disabled, he could not perform his duties. Restoring him to his normal level of functioning required that he believe that his child was safe and that he could overcome this experience.

An external locus of control is the belief people have about how much real or actual control they have over what happens to them. Operating in dangerous contexts is a delicate dance between what individuals control and what happens to them. Again, training is imperative for anticipating what might happen. Notwithstanding, leaders need to be able to respond to an unplanned situation within the framework of a plan, thus defusing the level of stress and increasing the sense of external control. People need to experience and perceive a sense of control over their destiny, even though they are in harm's way or battling to save a life. One way to expand external control is to frame an unexpected event as a challenge. Such a situation framed in this manner motivates those encountering the situation to meet the challenge and leaves a memory of honestly and honorably performing one's duty in the face of adversity.

#### CONCLUSION

The term "stress" has come to describe conditions ranging from minor to catastrophic, from mundane to traumatic, from tedious to high intensity. "Stress management" goes hand in hand with it as the panacea for its alleviation. In some ways, this manner of thinking is far too simplistic, but in others ways the simplicity of it, paying attention to the stress evoked in certain situations and circumstances, is just what is needed.

Simply put, beyond acknowledging the importance of the stalwarts of sleep, fitness, and good health habits, leaders should know their people, know the crucible, and establish a culture for catharsis. They should also be aware of the two forms of stress-producing experiences: the critical incident and the eroding effect of the dangerous context itself. A culture of catharsis is particularly important in the case of critical incidents; the leader and the unit members have the greatest positive effect on well-being, and they possess the best knowledge about the members of the unit and the incident. When Jack was allowed to have his beer and was then presented with the choice of remaining a part of the team, and when the paramedic took a walk with the chaplain, the positive agent of change was the unit, for which the leader had established a culture for catharsis and acted as the principle source of resiliency. A leader's stress management strategy should include educating, training without interruption, maintaining unit cohesion, implementing strategies of caring and concern, and framing the context to meet threatening situations as challenges.

#### NOTES

- 1. Online Etymology Dictionary, http://www.etymonline.com/index.php?term=stress; Wordnik, http://www.wordnik.com/words/stress.
- 2. T. C. Allbutt and H. D. Rolleston, A System of Medicine (London: Macmillan, 1910); C. Mazure and B. Druss, "A Historical Perspective on Stress as a Psychiatric Illness," in Does Stress Cause Psychiatric Illness? ed. C. Mazure (Washington, D.C.: American Psychiatric Press, 1995).
- 3. L. Kirmayer and A. Young, "Culture and Somatization: Clinical, Epidemiological, and Ethnographic Perspectives," Psychosomatic Medicine 60 (1998): 420-430.
- 4. R. D. Alarcón, "Culture, Cultural Factors and Psychiatric Diagnosis: Review and Projections," World Psychiatry 8 (2009): 131–139; and L. Payer, Medicine and Culture (New York: Henry Holt, 1996).
- 5. Personal communication, David Lam, M.D., an Army physician at the clinic, January 15, 2010.
- 6. For a vivid example see, J. D. McHugh et al., "The Ugly of War," Guardian Films, September 8, 2008, http://www.guardian.co.uk/world/video/2008/sep/08/sixmonth sinafghanistan.afghanistan.
- 7. E. Jones et al., "Post-Combat Syndromes from the Boer War to the Gulf War: A Cluster Analysis of Their Nature and Attribution," British Medical Journal 324 (2002): 1-7; and J. Sartin, "Gulf War Illness: Causes and Controversies," Mayo Clinic Proceedings 75 (2000): 811-819.
- 8. Institute of Medicine, Gulf War Veterans: Measuring Health, ed. L. Hernandez et al. (Washington, D.C.: National Academy Press, 1999), http://www.nap.edu/catalog

- .php?record id=9636; E. Jones and S. Wessely, "War Syndromes: The Impact of Culture on Medically Unexplained Symptoms," Medical History 49 (2005): 55-78; and G. Gray, K. Kaiser et al., "Increased Postwar Symptoms and Psychological Morbidity among U.S. Navy Gulf War Veterans," American Journal of Tropical Medicine and Hygiene 60, no. 5 (1999): 758-766.
- 9. T. C. Smith et al., for the Millennium Cohort Study Team, "New Onset and Persistent Symptoms of Post-Traumatic Stress Disorder Self-Reported after Deployment and Combat Exposures: Prospective Population-Based US Military Cohort Study," British Medical Journal 336, no. 7640 (2008): 366-371.
- 10. C. Prine, "Problem Recruits Land in WTUs. Pentagon: Lowered Standards Led to Units with Drug Addicts, Criminals," Stars and Stripes, February 9, 2011, Mideast edition, 8(2), SS2011; M. Hotopf et al., "The Health of UK Military Personnel Who Deployed to the 2003 Iraq War," Lancet 367, no. 9524 (2006): 1731-1741; S. Inskeep and T. Bowman, "Army Documents Show Lower Recruiting Standards," Morning Edition, National Public Radio, April 17, 2008; and D. King, L. King, and D. Foy, "Prewar Factors in Combat-Related Posttraumatic Stress Disorder: Structural Equation Modeling with a National Sample of Female and Male Vietnam Veterans," *Journal of Consulting and Clinical Psychology* 64, no. 3 (1996): 520–531.
- 11. Payer, Medicine and Culture, xxiv.
- 12. A. Khan, N. Redding, and W. Brown, "The Persistence of the Placebo Response in Antidepressant Clinical Trials," Journal of Psychiatric Research 42, no. 10 (2008): 791-796; and J. C. Fournier et al., "Antidepressant Drug Effects and Depression Severity: A Patient-Level Meta-Analysis," Journal of the American Medical Association 303, no. 1 (2010): 47-53.
- 13. C. Douaud, "Consumers Look to Heal through Functional Foods," Food Navigator-USA.com, November 12, 2007; N. Shachtman, "Army's New PTSD Treatments: Yoga, Reiki, 'Bioenergy,'" Wired, March 25, 2008. Kneipp is a hydrotherapy common in Germany using contrasting, or alternating, hot and cold baths, referred to as "the cure"; R. Sapolsky, Why Zebras Don't Get Ulcers, 3rd ed. (New York: Henry Holt, 2004).
- 14. R. McCarneyet al., "The Hawthorne Effect: A Randomised, Controlled Trial," BMC Medical Research Methodology 7 (2007): 30, doi:10.1186/1471-2288-7-30.
- 15. J. Ness et al., "Development and Implementation of the U.S. Army Leader Self-Development Portfolio," in Handbook of Military Psychology (Washington, D.C.: National Defense University Press, 2010).
- 16. J. Ness and V. Tepe, "Theoretical Assumptions and Scientific Architecture," in The Science and Simulation of Human Performance, ed. J. Ness, V. Tepe, and D. Ritzer (New York: Elsevier, 2004).
- 17. H. Reese and W. Overton, "Models of Development and Theories of Development," in Life Span Developmental Psychology: Research and Theory, ed. L. R. Goulet and P. B. Baltes (Hillsdale, N.J.: Lawrence Erlbaum Associates, 1970), 115–145.
- 18. T. D. Kontopoulou and S. G. Marketos, "Homeostasis: The Ancient Greek Origin of a Modern Scientific Principle," Hormones 1, no. 2 (2002): 124–125.
- 19. C. Gross, "Claude Bernard and the Constancy of the Internal Environment," Neuroscientist 4 (1998): 380–385.

- 20. J. Thayer and R. Lane, "Claude Bernard and the Heart-Brain Connection: Further Elaboration of a Model of Neurovisceral Integration," Neuroscience and Biobehavior Reviews 33, no. 2 (2009): 81–88, doi:10.1016/j.neubiorev.2008.08.004.
- 21. W. Cannon, "The James-Lange Theory of Emotion: A Critical Examination and an Alternate Theory," American Journal of Psychology 39 (1927): 106–124; M. Thompson, "America's Medicated Army," Time, 171(24), June 16, 2008, 38-42; J. Ness and S. Kornguth, Technical Evaluation HFM-181 Symposium Human Performance Enhancement for NATO Military Operations (Science, Technology, and Ethics) (Brussels: NATO Research and Technology Organisation, 2010), http://www.rta.nato.int/Pubs/ RDP.asp?RDP=RTO-MP-HFM-181.
- 22. H. Selye, "The General Adaptation Syndrome and the Diseases of Adaptation," Journal of Clinical Endocrinology 6 (1946): 117–231, doi:10.1210/jcem-6-2-117.
- 23. R. Sapolsky, M. Romero, and A. Munck, "How Do Glucocorticoids Influence Stress Responses? Integrating Permissive, Suppressive, Stimulatory, and Preparative Actions," Endocrine Reviews 21, no. 1 (2000): 55–89.
- 24. B. McEwen, "Allostasis and Allostatic Load: Implications for Neuropsychopharmacology," Neuropsychopharmacology 22, no. 2 (2000): 108–124, doi:10.1016/ S0893-133X(99)00129-3; A. Young et al., "Exertional Fatigue, Sleep Loss, and Negative Energy Balance Increases Susceptibility to Hypothermia," Journal of Applied Physiology 85, no. 4 (1998): 1210-1217; B. McEwen and J. C. Wingfield, "The Concept of Allostasis in Biology and Biomedicine," Hormones and Behavior 43, no. 1 (2003): 2–15.
- 25. R. Cairns, Social Development: The Origins and Plasticity of Interchanges (San Francisco: W. H. Freeman, 1979).
- 26. J. Ness, T. Marshall, and P. Aravich, "Effects of Rearing Condition on Activity-Induced Weight Loss," Developmental Psychobiology 28, no. 3 (1995): 165-173; B. Lickliter, "Theories of Attachment: The Long and Winding Road to an Integrative Developmental Science," Integrative Psychological and Behavioral Sciences 42, no. 4 (2008): 397-405; and M. Hofer, "Relationships as Regulators: A Psychobiologic Perspective of Bereavement," Psychosomatic Medicine 46 (1984): 183–197.
- 27. J. Griffith, "Further Considerations Concerning the Performance-Cohesion Relation in Military Settings," Armed Forces and Society 34 (2007): 138–147, http://afs.sagepub .com; Cairns, Social Development.
- 28. B. H. Friedman, "An Autonomic Flexibility-Neurovisceral Integration Model of Anxiety and Cardiac Vagal Tone," Biological Psychology 74 (2007): 185–199.
- 29. Personal communication, an Army captain to James Ness, August 2010.
- 30. J. Campbell, Myths to Live By (New York: Bantam, 1972).
- 31. A. Ehlers and D. Clark, "A Cognitive Model of Posttraumatic Stress Disorder: Invited Essay," Behaviour Research and Therapy 38 (2000): 319-345; E. Parker, L. Cahill, and J. McGaugh, "A Case of Unusual Autobiographical Remembering," Neurocase 12 (2006): 35-49; O. Luminet and A. Curci, eds., Flashbulb Memories (New York: Psychological Press, 2009).
- 32. A semantically associated network is a knowledge representation of facts related logically and by meaning.
- 33. D. Diamond et al., "The Temporal Dynamics of Emotional Memory Processing: A Synthesis on the Neurobiological Basis of Stress-Induced Amnesia, Flashbulb and

- Traumatic Memories, and Yerkes-Dodson Law," Neural Plasticity, 2007, article ID 60803, 33 pages.
- 34. E. F. Loftus, G. R. Loftus, and J. Messo, "Some Facts about Weapon Focus," Law and Human Behavior 11 (1987): 55-62.
- 35. A. Ehlers et al., "Cognitive Therapy for Post-Traumatic Stress Disorder: Development and Evaluation," Behaviour Research and Therapy 43 (2005): 413–431.
- 36. Personal communication, Dr. Denise Jablonski-Kaye, assistant chief of mental health, Los Angeles Emergency Services, January 21, 2010.
- 37. R. S. Lazarus and R. Launier, Stresskonzepte. Entwicklung von Rückkopplungsmodellen in der psychologischen Stressforschung (Stress concepts. Development of feedback models in the psychological stress research) (Munich: Hampp, 1989).
- 38. National Institute of Mental Health, Mental Health and Mass Violence: Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence. A Workshop to Reach Consensus on Best Practices, NIH Publication no. 02–5138 (Washington, D.C.: Government Printing Office, 2002), 7.
- 39. Headquarter, United States Army Forces, Far East, "A Study of Combat Stress, Korea, 1952," Technical Memorandum ORO-T-41 (FEC), Defense Technical Information Center (1952).
- 40. Bruce Stuck, personal communication to James Ness, August 12, 2009. Ness was completing work on a chapter based on his research for the book Lasers on the Modern Battlefield, edited by Stuck.
- 41. See the Millennium Cohort Study, 2010, http://www.millenniumcohort.org/presen tations.php; D. W. King et al., "Alternative Representations of War Zone Stressors: Relationships to Posttraumatic Stress Disorder in Male and Female Vietnam Veterans," Journal of Abnormal Psychology 104 (1995): 184-195; T. Tanielian and L. Jaycox, Invisible Wounds of War: Summary and Recommendations for Addressing Psychological and Cognitive Injuries (Santa Monica, Calif.: Rand Corporation, Center for Military Health Policy Research, 2008); R. Flannery and G. Everly, "Crisis Intervention: A Review," International Journal of Emergency Mental Health 2 (2000): 119–125; and Headquarters, Department of the Army, Field Manual 8–51: Combat and Operational Stress Control. Tactics, Techniques and Procedures (Washington, D.C.: Government Printing Office, 2003).
- 42. A. Bay, "Excerpt: Embrace the Suck," March 8, 2007, http://www.npr.org/templates/ story/story.php?storyId=7457988#idioms.
- 43. G. Everly, "Familial Psychotraumatology: An Analysis of the Impact of Traumatic Stress upon the Law Enforcement Family," in Law Enforcement Families, ed. J. T. Reese and E. Scrivner (Washington, D.C.: FBI, 1994), 177–184.
- 44. J. Dyer, "The Measurement of Individual and Unit Expertise," in The Science and Simulation of Human Performance, ed. J. Ness, V. Tepe, and D. Ritzer (New York: Elsevier, 2004).
- 45. B. Arnetz et al., "Trauma Resilience Training for Police: Psychophysiological and Performance Effects," Journal of Police and Criminal Justice 24 (2009): 1-9.
- 46. H. McCubbin, A. Thompson, and M. McCubbin, Family Assessment: Resiliency, Coping and Adaptation (Madison: University of Wisconsin, 1996), 49-55; U.S. Department of

- Health and Human Services, Psychological First Aid for First Responders (Washington, D.C., 2005).
- 47. R. Bradstreet, "Cultural Hurdles to Healthy Police Families," in Law Enforcement Families, ed. J. T. Reese and E. Scrivner (Washington, D.C.: FBI, 1994), 19-26; and H. Toch, Stress in Policing (Washington, D.C.: American Psychological Association, 2002).
- 48. S. Kobasa, "Stressful Life Events, Personality, and Health: An Inquiry into Hardiness," Journal of Personality and Social Psychology 37 (1979): 1–11.