Resilience in US Special Operations Forces

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> The time is midafternoon in Anytown USA. A 17-year-old boy is walking toward the block where several military recruiting offices are located. He approaches one military member in a smart uniform and says "I'm interested in finding out about joining the military. Can you help me?" The recruiter replies: "Sure I can help. I'll get you some pamphlets, and we can talk after you've had a chance to read them." After collecting the pamphlets and leaving his contact information with the recruiter, the boy moves on to a second recruiting office. "I'd like to get some information about joining the military – can you help me?" The recruiter replies, "Well son – I guess I can – but, what makes you think you have what it takes? I'm not sure you have what we're looking for."

In this scenario, this second recruiter is applying a principle commonly used to screen individuals to detect certain qualities that are basic to resilience. He is placing a verbal challenge, a barrier, or a hurdle in front of the young man. Then he will watch and listen to see how this young man responds to the stress of this challenge. Although not necessarily a scientific approach toward divining resilience, it is purposeful and practical. It may also assist both the recruiter and the potential recruit in developing an opinion as to whether military service is a good decision for him.

Military duties and missions require service personnel to be capable, stable, and motivated to perform to a high standard. Within the more selective military organizations, as in military special operations, personnel must be even more capable in mind, body, and spirit in order to carry out very demanding missions. These special duty service members must frequently perform optimally under extreme stress and fatigue and in the face of lethal threats, austere environmental conditions, and other challenges common to overt and clandestine military operations. Most importantly, they must have the ability to make wise decisions under such pressures as the situation changes and with little or no guidance from higher authorities. In the recruiting scenario above, the teenager's response will help the recruiter form an initial judgment as to whether this young person is the kind of person who can achieve success in the face of demanding challenges. Alternatively, this individual's makeup may be such that high stress may cause him to lose faith and become intimidated to the point where he succumbs to the fear of failure and loses his motivation to persevere.

Throughout the history of modern warfare, military forces have often combined the diverse capabilities of different units into one unique, usually temporary unit to achieve particular operational objectives. These small capable com-

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bined units were usually assigned "special" operational tasks that would be poorly suited for bigger, or less uniquely trained, forces. Later, after the conflicts ended, these units were disbanded, and the diverse elements went back to their original organizations. Therefore, the "special" combined capabilities of these units were lost. However, on April 24, 1980, the failed rescue attempt of American hostages being held in the Iranian embassy caused the US Congress to consider the permanent formation of such units. The failed attempt and the deaths of eight American servicemen resulted from a lack of command coordination and tactical interoperability. Congress later authorized formation and funding of a permanent command to develop and field these uniquely capable units. This organization was called the US Special Operations Command (USSOCOM or SOCOM). The intent was to create, support, and coordinate all the military service's "special" units. SOCOM's task was to develop and deploy "special operations" units with unique combinations and types of capabilities. Among the most important authorizations given to this command was the ability to select service members who would be uniquely capable, adaptable, and resilient despite fatigue, uncertainty, and volatile circumstances. We, the authors, will report on relevant findings and offer our professional observations that result from having served as psychologists in support to operations in several of these units of USSOCOM. Our focus will be on the detection and development of human resilience within these types of units and the related research.

For the purposes of this chapter, we define the term "resilience" as the capacity to quickly overcome the potentially performance-robbing effects of adversity, sacrifice, disappointment, setbacks, and associated stressors. We use the term "more resilient" to distinguish those people who retain significant capability and functionality even under high stress and significant adversity. We will use the term "less resilient" to distinguish those who lose significant capability under such conditions and may have trouble recovering quickly to normal functionality. Other terms such as hardiness and mental toughness have been used to describe resilience. For the current purpose, we consider these terms synonymous with resilience. We will use the term "elite" to describe those military people and units that undergo the highest levels of scrutiny and challenge in the process of being selected and trained for their tasks.

Some people appear to be more resilient than others. However, our current understanding of the origins and ramifications of these differences is limited. Under what circumstances is resilience a teachable characteristic? Can resilience be enhanced in everyone or only in some people? We don't know all the answers to such questions. However, we do know that there are certain personal behavioral characteristics that make some people more resilient than others (Maddi & Khoshaba, 2005). We also know that "stress inoculation," a respected training technique, can produce enhanced resilience in people being trained for performance under high stress (Meichenbaum, 1996).

In an attempt to insure resilience in its members, the US military has implemented various screening and training efforts. There are efforts to identify personnel who are already quite resilient and other efforts to develop resiliency through properly sequenced graduated training. During military training, those people deemed resilient or having the proper resilience aptitude are exposed to progressively more challenging training demands and environments. This process, known as "stress inoculation," further develops individual resiliency (Meichenbaum, 1996). Stress inoculation of the war-fighting ranks has long been accepted as a proven process. In the modern era, we have continued to develop our understanding of this process, and we are now studying it with scientific methodology to confirm its value in predicting or developing what we currently refer to as resilience.

The Nature of Stress

Stress, in its many forms, can impact performance and personal development in both enhancing and degrading ways. There are several models used to explain stress. The *stimulus-based model* treats stress as a function of external influence

(e.g., demanding workload, heat/cold, time constraint, relationship conflicts, etc.). Critics of the stimulus-based model argue that it ignores individual differences, does not adequately evaluate contextual circumstances, and neglects entirely the role of emotion (Stokes & Kite, 1994). By contrast, the *response-based model* asserts that stress is a composite of response patterns (behavioral, mental, and emotional) that result from exposure to a given stressor (Selye, 1956). Critics of the response-based model argue that there is a complex interaction between external stimuli and the many possible internal factors that interact to determine response. So, a third approach conceptualizes stress more broadly as an interaction between the complexities of the individual and his or her environment. This type of model is referred to as a *transactional model.* It emphasizes the role of the individual in appraising a situation and shaping responses to it (Lazarus & Folkman, 1984). For the purpose of this chapter, we view stress as the result of the interaction between three elements: perceived demand, perceived ability to cope, and the perceived importance of coping with the demand as explained by McGrath (1976). Note the central importance of individual perception in all three components.

The Effects of Stress on Human Performance

How individuals perform under stress is impacted by many different factors including individual differences and situational conditions. Many studies into the effects of stress on performance have revealed a generally curvilinear continuum of outcomes ranging from enhanced performance to degraded performance (Bourne & Yaroush, 2003; Driskell & Salas, 1996; Hancock & Desmond, 2001; Staal, 2004). However, the effects of stress on human performance can be very difficult to predict at the individual level. For example, changes to the intensity of a given stressor may result in a measurable difference in performance for one individual while not impacting the performance of another. These individual differences may result from dispositional factors, differences in experience level, or both. Put simply, when it comes to the effects of stress on human performance, not all individuals are created equal. Training and experience have been identified as potential mitigation strategies when it comes to an individual's vulnerability to the degrading effects of stress on performance.

When analyzed quantitatively in the aggregate, stress effects on human performance conform to an inverted U-shaped function. This finding is commonly referred to as the Yerkes-Dodson law (Yerkes & Dodson, 1908), and the research literature is replete with examples that support its description. In general, it states that increasing stress (levels of arousal) in an organism results in an improvement in performance to a point. When that point or apex in optimal performance is reached, there begins a decline in performance due to overarousal or fatigue. The Yerkes-Dodson framework has been improved upon by Bourne and Yaroush (2003) who provide a more detailed examination of specific *stress states* along the inverted "U" curve. Figure 12.1 depicts this refinement and articulates various performance-related states such as facilitation, optimization, mobilization, degradation, "choking," and panic (Staal, Bolton, Yaroush, & Bourne, 2008). As shown by this figure, initial increases in stress are typically associated with improvement in performance. This phenomenon is known as *facilitation*, and it may be related to positive effects of increased arousal on cognitive function (Chappelow, 1988). In other words, a certain amount of stress-related arousal usually enhances performance for functions such as attention and memory. Once stress or arousal levels reach their optimal level of performance facilitation for a given task, adding further stress exerts a detrimental effect on performance. With sufficient motivation and resources, an individual may be able to maintain or even improve their performance beyond what would be considered their "optimal stress" level. Digging this deep into their resource capacity may not be optimal for long-term maintenance of performance but may be required to achieve success in a critical moment. Such events can be attributed to the individual's *mobilized* effort that is mentally

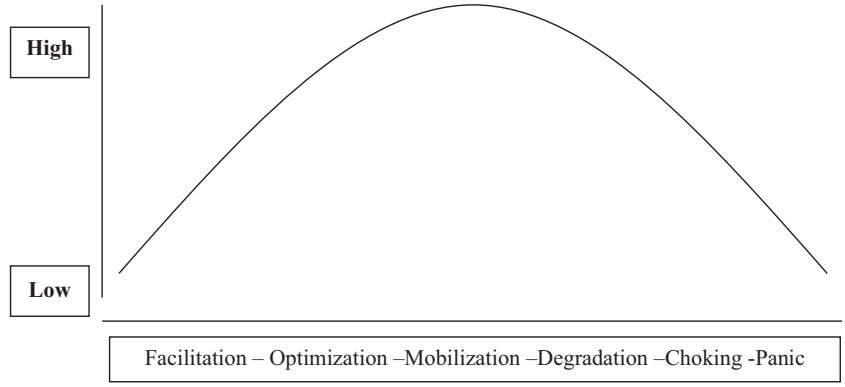

Fig. 12.1 The Yerkes-Dodson inverted "U" with articulated stress states

mediated. This *mobilization effect* is invoked when an individual's performance level is recognized as insufficient. The mobilization of resources through increased mental effort will tend to maintain or improve performance at any level of stress (Kahneman, 1973).

As stress continues to increase, an unavoidable degradation in performance begins to occur. Initially, performance under stress degrades gradually (Norman & Bobrow, 1975). However, under increasing pressure and stress, performance may drop off dramatically resulting in catastrophic degradation and the feeling of "choking" or panic. There is a robust literature describing this phenomenon (Lehner, Seyed-Solorforough, O'Connor, Sak, & Mullin, 1997), and this process is known as "task shedding" (Sperandio, 1971).

When the research literature is examined across performance domains (attention, memory, and decision-making), it reveals that the quality of an individual's performance relies largely on the extent to which mental resources are adequately preserved and/or managed. The ability to properly manage or preserve resources is directly related to the perception of the performer. Although modulated by the mobilization of resources, when resources are reduced (through task load), performance is concomitantly reduced as well. In contrast, when resources are managed well or additional mobilization occurs if possible, performance is preserved or facilitated. Experience and training influence the extent that well-learned tasks can be performed less deliberately, reducing the demands on the mental resources required for performance (Staal et al., 2008). This training effect accounts for the fact that under extreme stress, special operations personnel have noted that training and conditioning will "take over" and they are often able to perform effectively – as if on "autopilot" – without significant conscious focus or awareness of the task elements.

Understanding the potential positive and negative impact of stress on performance is crucial to the effective understanding, and use, of the factors that mitigate negative stress effects and potentiate positive stress effects. Let's examine the principles that can help the individual manage negative stress effects and optimize the positive elements of stress in order to facilitate high-quality performance under stress. Some candidates for special operations selection and training have a well-developed sense of these principles and use them intuitively. Others learn the principles and develop resilience skills through both experience and training. Both types can benefit even further from training in, and conscious examination of, the principles.

The Structure of Peak Performance

The Individual

For the purpose of understanding and discussing the elements that facilitate peak performance in military special operators, it can be useful to

posit four realms of function, action, and experience that underlie elite performance and the individual's understanding of human performance. These components are the physical, mental, emotional, and spiritual.

The Physical Component This refers to the realm of elements and variables that comprise the body and its actions and reactions. The skeleton, muscles, tendons, organs, blood, and hormones respond to and act in the internal and external world. The physical realm includes physiological, electrochemical, nerve impulse transmission and hormonal regulation required to energize and direct muscle action, movement, and strength adjustments. It regulates heart rate, blood pressure, and other physical parameters that potentiate effort in response to challenge levels and affect recovery during periods of relative inactivity.

The Mental Component This is the domain of one's knowledge and thought processes as produced in response to the surrounding world. The mental realm also includes our experiences and memories that shape cognition and inform our decision-making and behavior. More specifically, this realm incorporates the interpretive and analytical processes that define objectives and plans of actions.

The Emotional Component This refers to one's affective state and emotional feelings in reaction to the external world and internal thoughts. These feelings are largely a product of our mental processes but may often occur unaccompanied by conscious recognition of those origins. For example, under extreme stress, most individuals resort to fight or flight mechanisms that may be beyond the reach of higher-order cognitive appraisal. It is for this very reason that elite military units often prepare their members for optimally conditioned responses in the face of such stress in order to increase the likelihood of mission success.

The Spiritual Component Though somewhat more difficult to define, the spiritual component can be thought of as the thoughts, beliefs, and values one has developed about the nature and purpose of their life and the energy that arises from integration of these concepts with their situational goals and actions. It should be noted that this is not an intended reference to religion. Religions, for the most part, are characterized by diverse rituals that structure the development and expression of religious beliefs, usually in reference to a higher structure, power, or force. We are not referring to rituals or a particular type of ritual structure but rather to the element that energizes commitment and inspires endurance in pursuit of objectives that are synchronous with one's "spirit." Most people know one or more people who "love" their work. They say things like "I can't believe I get paid to do this!" or "My heart is in my work." Or "My job charges my batteries." When one asks special operators whether "spirit" is an important part of their success – almost all of them say yes. People who have been successful in high stress and demanding occupations realize that they need the inspiration and drive that come from the synchrony between their sense of purpose and the demands of their work. People, who are performing at an above-average level or higher in a demanding occupation, have a spirit or life energy that is expressed in, and fed by, the emotions, actions, and thoughts required by their work. A person's spirit interacts synergistically with their mental, physical, and emotional components to drive their actions and reactions to events. Some call it "drive," "motivation," or "commitment." But, whatever you call it – when examining candidates for the highly demanding work of special operations, it is clear that not everyone has it. In the world of special operations, the presence of this "spirit" is often the difference between success and failure. Often, it is one's spirit that integrates with work objectives, gives critical meaning to work behaviors, and energizes the passion required to achieve success during difficult and prolonged challenges.

Peak performance, for any individual, is developed through a shaping of the variables in these realms into a synergy of elements that support and facilitate desired performance. The strengths of physical capability and skill, inspirational thought, energizing emotion, and potenti-

ating values and beliefs are sculpted through experience and conditioning. Though they can be discussed individually, these four realms are intricately connected and constantly influencing each other with a complexity that in many ways surpasses our understanding.

Personal Components of Resilience

To populate their special operations organizations, the US military endeavors to select those who already possess a detectable degree of resilience in ways relevant to their projected mission responsibilities. They then further develop that resilience through systematic training/conditioning processes. Because of the potentially volatile, changing, and uncertain conditions associated with their missions, elite military teams must exercise sensitivity and astute judgment even during times of high stress. Resilience insures that even under high stress and adversity, the team will still perform at or near the highest level of their capabilities. When top performing special operations personnel are asked, "What factors make resilient people able to perform extremely well under great adversity?" their answers often include the following:

- The ability to stay focused on effective actions
- Faith based on past experiences and a higher-level perspective
- Positive thoughts that project positive outcomes and drive out worry
- The ability to calm oneself physically and mentally
- Stress hardiness built by gradually increasing increments of progressively harder training (stress inoculation)
- The ability to use the strengths of the team and share support among team members
- The ability to focus on positive goals and images that facilitate solutions
- Confidence in one's physical capabilities

Maddi and Khoshaba (2005) provide a succinct description of five factors that may allow some people to be more resilient than others when confronted by high stress and adversity.

- Control – They focus on the things they can control.
- Commitment – They commit a 100% effort to overcoming the challenge.
- Challenge – They expect life to be periodically difficult, so they are not surprised when difficulties arise.
- Social support – They turn to others for support and help others with similar difficulties.
- Transformational thought – They quickly develop a new positive future vision or goal while overcoming current challenges.

The first three of these factors – commitment, control, and challenge – belong to the personality style described as "hardiness" (Kobasa, 1979). Research has shown that persons high in hardiness maintain good health and performance even under high stress conditions. They also prefer active coping approaches and appear to be better at building and making use of social support networks (Bartone, 1989; Kobasa & Puccetti, 1983; Maddi & Kobasa, 1984).

While these attitudes and processes are valuable resources for anyone dealing with stress, they are critical components of resilience for individuals who will navigate the special operations selection processes and go on to perform effectively under highly stressful operational conditions. Selection processes are typically replete with opportunities for failure. Candidates must be able to pick themselves up mentally and emotionally from disappointment without dwelling on mistakes or siphoning away precious resources in their attempts to recover. They must be able to develop and focus on end point objectives, even when receiving no positive affirmation or feedback on their progress and performance. They must be able to control their "fight or flight" response under highly threatening conditions and control their emotional arousal in order to perform the required complex mental and/or social tasks. These attitudes and characteristics predispose individuals

to handle high stress without significant degradation of performance.

Personal Performance Management Tactics

Cognitive Appraisal: Self-Talk

Personnel who perform extremely well under high stress are more effective in developing and using positive self-talk. Research has provided consistent support for the fact that a person's cognitive evaluation of a threat and/or their level of perceived control are influenced by their subjective experience of stress and that positive cognitive evaluations may offer some level of protection from the negative, performance-robbing effects of such stress (Chang & Sanna, 2001). The basis for this idea is not new. Lazarus (1966) observed that when human subjects viewed a situation as negative or threatening, they experienced psychological stress as a direct result of their own negative appraisal (Lazarus & Folkman, 1984). As we have already discussed, there are different dispositions that affect our appraisal of life's challenges. Some individuals welcome competition and calculated risk taking, while others avoid such conditions opting for greater comfort and freedom from the "discomfort" of stress.

For those individuals who seek challenges and opportunities to test themselves, various phrases have emerged that capture the nature of their cognitive self-talk. Statements, such as "enduring the gauntlet," "facing the trial," "the valley of decision," "no pain/no gain," "pain is weakness leaving the body," "when the going gets tough, the tough get going," and, a recent version, "embrace the suck," have all developed as intuitive inspiring approaches to the cognitive appraisal and management of stress and adversity. These sayings have developed and endured because they help people think positively and cope effectively with adversity. The types of people who regularly seek difficult challenges to build personal strength usually find positive self-talk crucial to their success.

Psychophysiological Arousal Management

Elite performers have also developed effective ways to calm, or regulate, their physiological arousal as they respond to threats and significant stressors. Many methods have been developed and taught for the intentional adjustment of psychophysiological arousal. In his book, *The Relaxation Response* (1975), Dr. Herbert Benson gave simple prescriptive instructions for the development of a conditioned ability to produce a calmer internal state. Dave Grossman, in his book *On Combat* (2004), prescribed breathing techniques that help warriors train to regulate their physiological response to combat stress.

In general, most of these methods used for energy management and regulation of physiological processes act on the two branches of the human autonomic nervous system. The sympathetic branch reacts to compensate for and cope with perceptions of threat and external demand. The parasympathetic branch reacts to bring the system back to homeostasis or a calming and healing state of rest. These two branches work to balance the autonomic system's response to demands and to rest and heal the system when demands lessen.

Methods taught to purposefully regulate these systems and their arousal usually include a cognitive component and a physical component. The cognitive component usually encourages some way to focus thought into a neutral, nonemotional, path – in order to reduce cognitively mediated arousal. This focus may include self-talk, as described above, or more benign activities such as counting respirations, visualizing relaxing situations, an auditory focus on sound, or the repetition of some other sensory stimulus. The physical component of this regulatory process usually includes diaphragmatic breathing with concordant relaxation of abdominal and leg muscles, shoulders, facial, and jaw muscles. Whether consciously adopted as a performance enhancement tactic or intuitively developed, this strategy for autonomic regulation is a central tactic in the behavioral repertoire of most elite performers and, through conditioning, grows in effectiveness

as training sequences expose the member to progressively more stressful challenges.

Effective Goal Setting

Elite performers have learned to focus on goals that produce enhanced performance in the situation at hand. Elite performers set goals instrumentally – in a way that enhances performance and efficiency. Poor performers often set avoidant goals – "I don't want to be the slowest" (negatively stated goal) and "I hope I can hold my breath that long" (fearful statement – not a goal). If the goal is to swim underwater for 30 yards, the performer should focus on form and efficiency in swim technique – the shape of the hands as they cup – and the path they take as they pull water to the rear. That is, the focus should be on technique and its application to the task – in each passing moment – not on past events or future possibilities. Latham and Locke, in their classic book *A Theory of Goal Setting and Task Performance* (1990), asserted the importance of specificity and detail in effective goal setting. In 1981, George T. Doran offered an acronym that has been used by many writers to specify the elements of effective goal setting, SMART. This acronym is intended to help performers establish goals that inspire specific performance and eliminate vague or irrelevant objectives. With some variations in wording, many performance experts have adopted this model.

Specific Goals should be very clear and precise. General goals or those that are ambiguous are more difficult to accomplish. Setting a goal to "improve running speed" may be too vague, whereas aiming to "run a 10K in less than 1 hour" is sufficiently clear.

Measurable Goals should be quantifiable or measurable. We will be more likely to accomplish our running goal if we embed time standards into our training and our race. For example, "I will train by running a 10K once a week and will run a 30-minute split during my race." Setting intermediate or shorter goals in route to a larger goal is known as "segmentation" and increases the likelihood of goal completion.

Achievable Goals should be within the realm of possibility and even more so probability. A goal to run a marathon scheduled in 1 month by a non-runner may be doomed to fail. However, the same non-runner might easily work up to the marathon over a longer period of time.

Relevant Goals should be related to something of value or interest to the goal setter. The goal to improve run times or to complete a race may be relevant to someone interested in running or physical fitness (PT) or perhaps who has a desire to improve cardiovascular fitness or to lose weight.

Time Limited Goals should have timely target completion expectations. Goals are more likely to be completed if a near-term timeline is identified and articulated. A goal to "increase my physical training (PT) PT score" absent of specific subgoals or segmented plans to increase running time or distance is less likely to be accomplished. Instead, the runner should declare, "I will add ten points to my next PT score during the test on March fifth."

Imagery: Creating a Strong Motivational Target

Elite performers often use imagery, incorporating any or all of the five senses, to strengthen motivation and enhance the effectiveness of their focus. They might imagine the achievement of a goal they have set for themselves. They might see themselves accepting the award for this achievement, and this vision evokes a feeling of pride or excitement. This associative pairing of current state with a desirable future state along with a sense of pride propels the individual toward the achievement of their goal. Imagery can incorporate any or all of the five senses. One can imagine the sounds of a cheering crowd and the lights of the field during a championship football game, and these images

provide motivation for a player to push through difficult practices with an overbearing coach. For the elite military operator, visualizing a perfect performance during close-quarters battle (CQB) training may give greater confidence and lower anxiety or reaction times when performing the real task. Imagery allows for a virtual exposure and rehearsal for the task. It also is a time when positive self-talk can become integrated into the imagery as part of a performance-enhancing behavioral package. After virtual rehearsal and combining performance positive self-talk and imagery, the mind and body develop an additional degree of positive experience enabling an enhanced performance. Research has found virtual rehearsal to often be quite effective in improving performance (Hanshaw & Sukai, 2016).

Passion

Elite performers are usually driven by, and passionate about, the things that they value. Many people believe that military personnel, particularly in elite units, are not emotionally responsive or interpersonally sensitive. In fact, most of these individuals are very sensitive and emotionally attuned, but they are also very disciplined and conditioned to control their emotion. Some may not react as other people might in regard to upsetting events. Furthermore, they may not be as demonstrative even with more comfortable emotions or their reactions to welcomed events. Instead, this population tends to be more emotionally disciplined and controlled. They normally have an excellent capability for suppression of emotional reaction and compartmentalization of emotion in general. This disciplined control can be misinterpreted as a lack of emotion or connection to events. On the contrary, many special operations military personnel are instead, emotionally aware and adaptive. They value learning about things that increase their sense of mastery and control over factors that affect their lives, and this includes mastery over themselves and their emotional reactions to events. Similarly, their ability to suppress or direct emotion to energize and enable the accomplishment of objectives is usually well developed.

Temporal Focus

Elite performers effectively manage their temporal focus. In other words, they are able to direct their attention effectively to the past, present, or future time frame as appropriate for the task at hand. As an example, If I am struggling hard to win a hand-to-hand combat match, I should be focused on the present, moment to moment, and remain constantly aware of changing physical or visual cues. I should be thinking about techniques that will bring success in my current situation. I should NOT be thinking about the last match or future award ceremonies or having thoughts about the possible loss of the match. When elite performers finish a mission or challenge, they often engage in a self-critique or "hot wash" during which time they review their actions and analyze their performance to develop "lessons learned." They usually spend time after a performance to plan future actions and strategies based on what they just learned. This process is so much a part of high-performance or elite organizations that it is routinely incorporated and called an after-action review (AAR). It is a dedicated time in which lessons learned are discussed and incorporated into planning for the next mission. This activity allows group members to discuss, critically consider, and summarize lessons learned in order to incorporate the group perspectives developed through discussion. Then, when it is time to perform again, the group is able to effectively move on mentally and focus their attention and effort to the task at hand, with minimal wasteful reflection spent on prior events. This means that, when it is time to act, peak performers are not wasting time and mental energy thinking about past failures, poor performances, or future goals. Instead, they are focused on the elements of top performance necessary for the task at hand. The self-discipline and focus required to direct this process take many behavioral forms but may include

combinations of imagery, self-talk, arousal management, and other tactics.

Such behavior aids in directing focus, mobilizing, and conserving resources. A current popular term that describes the ability to focus on the current moment is "mindfulness" or the ability to focus mental resources in a way that maintains current situational awareness and provides real-time adaptive information on performance-relevant internal and external conditions. Mindfulness has been shown to be positively related to performance under many conditions (Shao & Skarlicki, 2009). But, more research is needed for us to fully understand the dynamics through which mindfulness facilitates performance

Factors in the Resilient Predisposition

Discussed below are factors that we believe enhance resilience in most people and which are just as helpful for special operations personnel.

Predictability and Control

Perceived control and predictability are directly related to subjective distress and cognitive performance. When individuals perceive stressors as within their control, their experience of subjective stress is reduced (Lazarus, 1966). Similarly, when individuals perceive an ability to exert control over a given situation, they experience less anticipatory anxiety (Champion, 1950; Houston, 1972), and they experience a drop in arousal. Moreover, perceived situational control increases the belief that one can predict and anticipate stressors and this belief results in a reduction in perceived stress as well as an increase in objective performance. This finding has been illustrated by subjective self-report as well as objective physiological measures (Badia & Culbertson, 1970; Baum & Paulus, 1987; Bell & Greene, 1982; Burger & Arkin, 1980; D'Amato & Gumenik, 1970; Epstein, 1982; Evans & Jacobs, 1982; Monat, Averill, & Lazarus, 1972; Weinberg & Levine, 1980).

Much of the perceived predictability of challenges and outcomes is a function of the individual's past experience with similar challenges and the presence of feelings of success in these experiences. In other words, the greater the degree to which military members can anticipate and prepare for stressful conditions, the more likely they will be relaxed and properly managing their energy when performing. It is for this very reason that military trainers attempt to predict and create real-world mission conditions whenever possible.

Experience and Expertise

The highest standards of performance are often necessitated by demanding and/or high-risk situations, where the consequences of failure may be severe or even catastrophic. Individuals who work in such settings know well that training and experience are critical to job performance and may even be essential to survival. Research has shown that individuals who have more experience (experts) attend to and process task-relevant information differently, more efficiently, and with better results than do individuals with lesser experience (i.e., novices or beginners) (Callan & Naito, 2014; Cheng et al., 2015). This efficient processing can result in lowered cognitive demand and energy conservation.

The Presence of Others and Close Relationships

Although the mere presence of others can have variable effects on performance, the presence of supportive others generally facilitates resilience. Maddi and Khoshaba (2005) report that notably hardy individuals turn to others for social support during stressful times and derive strength from offering support to others during such times. This fact is particularly significant in the training of high-performance teams. When all team mem-

bers are capable of using and contributing to the support of other team members, the hardiness of the whole team benefits. It is just as certainly true that any member who does not, or cannot, contribute to and benefit from team support is often doomed to rejection from team cohesion. Many selection and training programs use peer reviews (performance/acceptability ratings by peer team members) to determine the extent to which individuals are accepted and valued by the team. In these team-oriented environments, any significant rejection by the majority of the team may bode poorly for selection or for successful training completion. Most elite military training challenges are undertaken in team-focused settings.

Selecting Resilient Special Operations Personnel

Detection and Assessment of Characteristics

The purpose of any personnel selection process, including those in the military special operations forces, is to identify individuals who are most likely to succeed in some specific job and setting. The initial development of any effective selection process usually entails an analysis of the projected job to identify the characteristics that are most critical to individual success in that type of mission. Then a series of physical and mental challenges, tests, and scenarios are designed to expose these required characteristics in a pool of candidates. Three types of psychological methods are often used to gather assessment information.

1. Background and demographic information is collected by candidate self-report and from existing records.
2. Standardized questions are used to collect motivational information and candidate perspectives that can provide information on relationships, stability, and maturity.
3. Psychological instruments such as the Minnesota Multi-Phasic Personality Inventory (MMPI) or Milan Multi-Axial Clinical Inventory (MCMI) may be used to screen for candidate response patterns that can indicate detectable psychological disorders or other factors that are abnormal within the successful special operations population. Personality inventories such as the 16 Personality Factor Inventory (16 PF), California Psychological Inventory (CPI), or the NEO-PIR (NEO) may be used to detect personality patterns that are related to acceptable or unacceptable job performance.

For special operations personnel, the required characteristics usually include physical as well as cognitive, emotional, and social characteristics. During military missions, physical capabilities and skills must interact with a variety of intrapersonal and interpersonal capabilities to get the individual and their equipment to the scene of the required action and, then, to accomplish the mission objectives under frequently volatile and changing conditions. The presence or absence of spirit, as discussed earlier in this chapter, is not easily assessed in any formal way. But, it is often very evident through observation by experienced special operator cadre who evaluate candidate performance. Although spirit is subjectively assessed, it is not quantified. It does play a role in cadre ratings and voting on the suitability of candidates.

Common attributes that bode for success in special operations would include high stress tolerance and comfort operating under austere or uncertain conditions. High intelligence, integrity, adaptability, perseverance, and good social skills are also regularly required. In most cases, these personnel must operate as fully accepted and trusted team members. Under the high stress of combat and other mentally and emotionally intense mission situations, team members commonly develop an intense level of mutual trust and loyalty that generally does not exist outside the military. Assessment and selection (A&S) efforts usually focus on a series of target attributes and other criteria, as mentioned above, that are characteristic of candidates who succeed (“select-in” criteria) or do not succeed (“select-out” criteria) on the job.

Using Assessments to Inform Selection Decisions

The "Select-Out" Process The focus of the select-out process is to detect the candidates who display characteristics that have historically been predictive of unsatisfactory or unacceptable performance. Research on the relationship between assessed variables and later performance criteria is used to determine which variables predict performance. These select-out variables may be physical, mental, emotional, motivational, maturational, social, or other factors that historically bode failure of some type either in training or on the job. Typically, the A&S process will include task completion challenges that are designed to expose physical, mental, and social characteristics of candidates. Running, "rucking" (carrying heavy backpacked weight over distance for time), land navigation, swim challenges, and various types of team leadership challenges are commonly used to detect the physical and mental capabilities necessary for success in complex strenuous special operations tasks.

Some candidates will be eliminated for physical inability alone, and others will drop of their own accord (drop on request (DoR)) due to the physical difficulty and loss of positive motivational focus. Loss of positive motivational focus can also occur as a result of the candidate's developing knowledge about the demands and rewards of the career field. Many candidates, who have the physical and mental capability for success in the assessment tasks, nevertheless choose to drop from assessment because of the subtle or clear realization that they are not well suited for the emotional, social, and/or spiritual aspects of the special operations lifestyle. Some candidates may also be eliminated for non-physical reasons such as inability to integrate well with the team due to too little or too much aggressiveness in leadership and decision-making.

The "Select-In" Process Response patterns on the above types of instruments can also be used for their screen-in implications. For example, generally low scores on the scales of the MMPI have been shown to correlate with stability and good social adjustment (Keiller & Graham, 1993). Normally, work simulations and role-play exercises are also used to determine how candidates react to and manage complex or stressful tasks that are common to the special duty job. There are also a number of paper or electronic assessment instruments that measure constructs related to resiliency (e.g., scales of hardiness, locus of control, emotional intelligence, optimism, and self-efficacy). Many of these tools have been used as part of processes for the assessment and selection of special duty personnel. Bartone, Roland, Picano, and Williams (2008) found that Army Special Forces candidates who scored highly on the Dispositional Resilience Scale (DRS) were significantly more likely to graduate from Special Forces training than those who scored lower.

Effective selection programs require validation and typically compare assessment results for new candidates against the previously identified characteristics and scores of currently successful personnel. The assessment of the presence and level of desired characteristics can take place through the use of physical challenges, leadership/social challenge scenarios, academic knowledge and self-knowledge tests, background interviews, structured interviews, background record checks, peer assessments, and other evaluation processes.

The A&S Development and Validation Process

The first step in the development of resilient personnel and units is the selection of the right people for these demanding jobs. Proper data collection and analyses are required in order to determine whether an A&S process is doing what it is intended to do. During the initial developmental, theoretical phase of selection process development, the data that will ultimately prove most predictive of good performance is usually unknown. Therefore, the attributes and quantifiable standards used to assess and select are normally developed by subject-matter experts (SMEs) experienced in that field or similar fields. Their educated theoretical views give the initial process credibility and increase the probability of an effective process.

Later, when assessment and performance data are plentiful, the actual relationships between the assessment data and performance can be statistically analyzed, a process called validation. At that point, the research will show which variables are actually useful in predicting performance and which are not. The validation of such processes through statistical analyses that connect assessment data with later actual performance is critical to confidence in application and defensibility of all selection processes.

At some point after the initial development and implementation of the assessment and selection process, data will accumulate to such volume that it can be analyzed. At this point, a shift in the process can occur. Factor analysis of the data collected during assessments can show whether the critical attributes we believe we are detecting and rating are actually reflected in the data to be the discrete factors we projected they would be. This analysis informs the refinement of the critical attributes and the assessment process and allows the unit to defend their assessment processes against challenges to the validity of the process. Additionally, performance-related predictive analyses of the data can begin to show whether candidates who score well in the assessment process will actually perform well when they are trained and begin to populate operational units.[1]

Conclusion and Future Directions

In the world of special operations units, stress inoculation type training has long been valued. As discussed previously, stress inoculation techniques involve relatively complex training under conditions that incorporate progressively more stressful contexts while regulating the challenge to produce sequential successful student performance outcomes. Realistic training scenarios that progress incrementally to approximate real-world operational performance environments have been found to increase the positive performance effects of stress inoculation. And, because this type of training is more complex, expensive, and time consuming than more standard cognitive and academic instruction, it is used primarily in smaller organizations and with smaller groups. Additionally, because of the financial and time resources necessary to run effective assessment and selection processes, they too are usually authorized only for smaller special duty populations. Research has shown that it is very possible to inoculate individuals against the adverse influence of extreme stress (Meichenbaum, 1996). Beilock and Carr (2001) argued that training in an environment in which one is forced to attend to the immediate aspects of their performance (self-focus) from the outset can immunize the performer against negative effects of pressure on later performance. Put simply, training scenarios that are designed to necessitate a mindful performance focus can help mitigate "choking" behavior and promote resilience.

With the continued development and implementation of electronic simulations of real-world environments, it is easy to see that there will probably be an increase in the desire to incorporate more virtual simulation of such mission environments. Already, fairly realistic "combat simulation" games are widely available. Virtual environments (VEs) have certain advantages over live training exercises. They tend to provide a safer and more cost-effective context for learning operational skills. The distinct advantages offered by VEs also include the ability to manipulate performance requirements and environmental demands. As a result, trainees are exposed to a variety of stressful conditions. Many different VE practice opportunities would support the development of expertise and expand individual resource capacity (Atkinson & Shiffrin, 1968; Shiffrin & Schneider, 1977). Klein (1989) reports it may also help develop rapid recognition-primed decision-making. However, in regard to the critical element we call resilience, the value of training scenarios comes as a result of the pairing of physiological, emotional, and cognitive stress during task pro-

[1]The details of these types of analyses are beyond the scope of this chapter. But they are explained in detail in Principles for the Validation and Use of Personnel Selection Procedures (Fourth Edition), Society for Industrial and Organizational Psychology, Inc., 2003, www.siop.org.

cessing and accomplishment. Therefore, the value of simulation-based training for resilience will depend on the degree to which high stress can be realistically, physiologically, and experientially created during training.

We have discussed a variety of factors that weigh heavily on the development of resilience in special operations forces. These factors can have both enhancing and degrading influences on performance and must be managed carefully to produce the enhancing effects we desire in performance development. Included in this list are positive cognitive appraisal or self-talk, the use of proper goal setting, positive imagery, training that promotes stress inoculation, and the use of cognitive tools such as emotional compartmentalization and energy management. Situational components such as predictability and control or the presence of others also have mediating influences on performance and can be embedded in military training and member preparation in order to improve performance outcomes.

Task performance under stress depends heavily on the effective preservation, allocation, or management of cognitive and physiological resources. States of mindfulness, situational awareness, and control of physiological processes during performance must be held in constant balance. The experienced military special operator develops expertise and mastery over himself and these conditions in order to maintain a balance between physiological reactivity and optimal cognitive performance states. Such balance is achieved through graduated exposure to stepwise challenges during training that provide sequential successful experiences.

In the selection and training of elite forces, the ultimate goal is to be able to identify the basic elements of these capabilities and characteristics in potential candidates for elite training processes and to enhance these capabilities during training after selection. Our ability to fully understand and implement this process is still evolving, but we do understand what resilience, in particular mission settings, looks like when we see it. Furthermore, we are gaining understanding of the factors that contribute to resilience in individuals in the military. Although the military special operations environment is rich with opportunities to detect and develop resilience – civilian organizations can also benefit from application of these principles. In fact, many civilian organizations already use "assessment centers" where employees take part in exercises and tasks to assess their abilities or characteristics for advancement to managerial or specialized positions. Kraut (1972) and Thornton (2015) provide an excellent critical analysis of the effectiveness of assessment center methods for selection. They found the methods to be effective and valid and project that the use of this approach for selection in organizations will continue to grow. Whether military or civilian, organizations tend to value employees who are adaptable, persevering, and resilient.

However, we need to know more about how resilience develops in a given individual and what precursors to this development are most salient. The urgency to develop screening instruments and training methodologies that can identify and develop elite performing military members has never been greater. As the quest to select and train the next generation of elite performers presses forward, the use of virtual technologies and human-system integration platforms will probably become increasingly common and complex. But, success in the enhancement of human resilience will rely most heavily on processes that balance the learner's task focus and actions with stepwise increases in mental, physical, spiritual, and emotional stress – each punctuated by incrementally phased task success feedback. We recommend research to explore these relationships further. Despite the growing presence of simulations and standardized methods in selection and training, we contend that the following SOF truth will always be preeminent: That "humans are more important than hardware."

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