

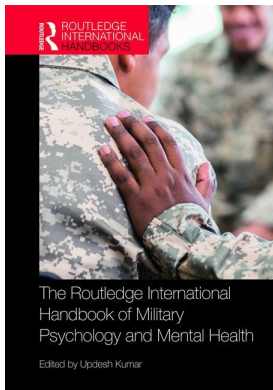
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Updesh Kumar

### **Stress, burnout and coping in the military environment**

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## 21

# STRESS, BURNOUT AND COPING IN THE MILITARY ENVIRONMENT

*Yonel Ricardo de Souza and Fabio Biasotto Feitosa*

In 1936 Hans Selye (1936) was the first researcher to work with stress and defined it as “a non-specific organic response to stressful situations to the organism,” conceptualizing this response as General Adaptation Syndrome. Rolfhs et al. (2005) define stress as the individual’s perception of the imbalance between the physical and psychological demands and the resources to face them in an activity considered important. Selye’s view was that stress was a defense of the body, perfected by the evolutionary process, enabling humans to adapt to menacing events. McEwen (2008) corroborates with Selye and adds that stress is “the pressure that life exerts on us and the way this pressure makes us feel.” Arantes andVieira (2002) also observed that the main characteristic of this mechanism is the fact that stress is linked to a specific agent to be produced and always combined with some external agent environment. Bianchi (2001) understands that stress represents the response of the organism, and its causative is defined as a stimulus or stressor agent.

The reaction to stress triggers the process of struggle or flight. McEwen (2008) says, then, stress is the organic reaction that occurs in the face of the stressors that stops being normal when the reactions to these events become chronic, and can generate illnesses. In this way, the mechanism of stress can be described from the perceived reactions of the organism to an emergency. Lehmann, Foster, Dickhuth and Gastmann (1998) show that, in the state generated by increased perception of stimuli, stress generates emotional excitation that, by altering homeostasis, triggers an adaptation process characterized by increased secretion of adrenaline, noradrenaline, cortisol and other hormones, leading to various systemic changes with physiological and psychological disorders. Thus, for a life event to be stressful, it needs to be perceived by the body as threatening or challenging (Ballone & Ortolani, 2007; Cohen, Kamarck & Mermelstein, 1983). To Folkman et al. (1986), it is the interaction between the environment and the individual who defines stress; that is, the individual feels stress when the demands from the environment exceed the resources that the individual has.

Bianchi (2001) warns that although the stress reaction may result in physiological or psychological disturbances, this reaction is what makes possible the survival and adaptation of living beings to the environmental stimuli to which they are constantly exposed. The stress reaction is part of a unified mind–body system; that is, the organic responses are not isolated but are closely related between the different systems, and for this reason prolonged exposure to the stressor stimulus can generate a major problem, causing illness of the organism (Arantes & Vieira, 2002). Rio (1995) divides stress into physical; psychic; by overload; by monotony and chronic stress, which the current literature conceptualizes as burnout.

Hans Selye (1951), in defining General Adaptation Syndrome, divided it into three phases: alert, resistance and exhaustion. The alert phase is considered the positive phase of stress (eustress), when the human being feels energized through increased production of adrenaline and usually reaches a feeling of fullness. At this stage, all bodily responses enter into a state of general readiness; that is, every organism is mobilized without specific or exclusive involvement of any particular organ. In the second phase (resistance), stress persists and the person automatically tries to deal with stressors in order to maintain their internal homeostasis. At this stage the body begins to become accustomed to the stimuli that cause stress. During this stage, the body adapts its reactions and its metabolism to support for a greater period of time. In this state the reaction can be channeled to a specific organ or to a certain system (cardiac, respiratory), skin, muscles and so on (Ballone & Ortolani, 2007).

If stressors persist in frequency or intensity, there is a breakdown in the person's resistance and it goes into the phase of distress when there is a marked drop in our adaptive capacity (Lipp, Pereira & Sadir, 2005). That is when adaptation mechanisms begin to fail and deficits in energy reserves arise. This phase is serious and may lead to death of some organisms. Most somatic and psychosomatic symptoms are most noticeable in this third phase. The state of exhaustion is the sum of the non-specific general reactions that develop as a result of prolonged exposure to stressors to which adaptation has been developed and, subsequently, the organism can't maintain it. At this stage, the biological modifications that appear resemble those of the alarm reaction (shock phase). However, the organism is no longer able to balance itself, leading to adaptive failure. The effects of chronic stress on the individual make up the pathophysiological substrate of psychosomatic diseases.

In the military field, several studies have addressed the incidence of stress phenomena from the perspective of work psychology (Leiter, Clark & Durup, 1994; Johnsen, Laberg & Eid, 1998; Deahl et al., 2000; Day & Livingstone, 2001). Wilcox, 1994 points out that stress is an integral part of military training. Van Heerden and De Beer (2014) add that the physical and psychological demands of the military profession are higher than most civilian professions, and that the military context is particularly favorable to high-stress stressors such as physical exhaustion, prolonged exposure to climate change, abstention from the home and exposure to dangerous situations.

It highlights, then, the fundamental importance of the environment and its interaction in the triggering of stress and its consequences in the military. The purpose of this chapter is therefore to discuss how the environment can influence the manifestations of stress and burnout, as well as to show which coping strategies seem to be more efficient in dealing with such demands. For this, the chapter is divided into three parts: the first seeks to address the relationship between physical stress and stress perceived in strenuous military environments, leading the reader to understand that their manifestations are not necessarily proportional and should have independent interpretations. The second part seeks to show that environmental factors tend to be more or less significant in the incidence of burnout in the military universe when exposed to an inhospitable environment. The third part tries to present which strategies of coping seem to be more effective in the fight against chronic stress in environments under strong psychological pressure, giving the reader access to the best psychological strategies to deal with such situations.

### **Differences between physical and perceived stress**

As discussed previously, stress is integral to everyday military life. The fundamental destination of the use of force is combat and, since it involves an imminent risk of death, constitutes one of the greatest stressors in existence. Therefore, even in basic training, the military is subjected to situations of potential stress. Basic training is designed to place the cadets in various forms of stress, both physical and psychological. The purpose of stress exposure in training is to replicate

a similar situation of actual combat, where the military must act in a balanced way under strong psychological pressure (Wilcox, 1994; Van Heerden & De Beer 2014). Therefore, the most reliable observations in the literature regarding psychological (perceived) or physical stress in the military are from studies in strenuous combat or training environments. While some studies are in better physical condition than others, there are mechanisms for everyone to experience stress, such as activity uniformity, hunger, sleep deprivation and thirst. Aiming to deepen research in this area of knowledge, several researches have been carried out.

A very broad, consistent, and general study of perceived military stress was that of Pflanz and Sonnek (2002). In this study, the prevalence and sources of occupational stress for military personnel and the relationship between work stress and emotional health in the military population were observed. The sample consisted of 472 active personnel from the U.S. Air Force who completed a survey of 65 items involving reported life events, perceptions about occupational stress and perceptions about the relationship between work stress and emotional health. As a result, the authors pointed out that military personnel were significantly more prone to suffering from stress than civilian workers; that 26% of the sample reported suffering from significant stress at work; that for 15%, stress at work was causing significant emotional distress and 8% reported that stress at work was severe enough to impair their emotional health. The authors concluded that generic stressors were more involved than specific stressors of the military.

It should be noted that the study of Pflanz and Sonnek (2002) did not involve real training or combat situations, where the exposed environment tends to raise stress levels considerably, as described by Smith et al. (2008) in their study on the appearance and persistence of symptoms of self-reported posttraumatic stress disorder in 50,814 U.S. military personnel who fought in the wars in Iraq and Afghanistan between 2001 and 2006. The findings indicated a threefold increase in the appearance of new symptoms or diagnoses of posttraumatic stress disorder after exposure in combat.

However, any relationship one might try to make between the psychological and physical stresses tends to be complex, first as to the approach: literature treats physical stress as a consequence, a biological view, focused on a non-specific physiological response, i.e. as a syndrome that consists of all the physiological changes that occur in the biological system when it is affected by a stimulus or by an excessive or harmful load. The expression nonspecific response means that the organism responds in a stereotyped manner to a wide variety of different stimuli or agents such as intoxication, nervous tension, heat, cold or muscle fatigue (Ribeiro & Marques, 2009). The perceived stress approach is process focused. It is the eminently psychological approach, focused on the dynamic interaction between the individual and the environment and on the subjective assessment of the stress perceived by the individual.

The main publications on the measurement of physical stress include the use of biochemical markers, such as cortisol (salivary or serum), creatine kinase and lactate dehydrogenase, while the application of specific inventories, such as POLMS, BRUNEL-BRUMS or PS-14, is most often used in the measurement of perceived stress. It is very common to find studies that evaluate the associations between physical activity and (perceived) stress, such as an excessive reading of cortisol associated with psychological fatigue, converging the great majority of these works for significant positive relations between them, as the studies of Nguyen-Michel, Unger, Hamilton, and Spruijt-Metz (2006) and VanKim and Nelson (2013) do. However, comparison between these two stresses is rare, especially in the military environment.

In addition, studies show that perceived or psychological stress is associated with increased vulnerability to physical illness (Pedersen, Bovbjerg, Zachariae & Piscitelli, 2010), depression and physical symptoms (Cohen, 1986), reinforcing the view that the psychological and somatic dimensions of stress are interconnected, although they are independent. Córdova and Navas

(2000) cite behavioral responses associated with physical stress, such as mood changes, apathy, lack of motivation, sleep disturbances, irritability and depression. Thus, physical and perceived stress would influence military performance in situations under strong psychological pressure, such as strenuous training and actual combat operations, and affect the mental health of the military member and therefore of the family members.

When the focus is specifically on the relationships between perceived and physical stress, the most comprehensive research that addresses this relationship pertains to the psychology of sport. High-performance sport works with both demands and any imbalance between them can lead to loss of performance or illness of the athlete (Lehmann et al., 1998; Mannrich, 2007; Freitas, Miranda & Bara Filho, 2009; VanKim & Nelson, 2013).

The physical condition of the athlete (or military) in strenuous training is a preponderant factor for success. The physical requirements in this situation lead the subject not only to physical but behavioral and psychological limits, because they force him to control his emotional balance in the search for better results (Mannrich, 2007). Reviewing the literature, Freitas et al. (2009), when observing the relationship between exercise and psychological condition, concluded that intense exercise negatively affects mood. The accumulation of fatigue during intense periods of training combined with periods of inadequate recovery can lead to overtraining (Mannrich, 2007).

Garrett and Kirkendall (2003) understand that excessive training is due to the accumulation of stress that can be directly provoked by training and results in decreased performance, usually accompanied by psychological or physiological signals. The same authors cite that excess training is a process that can lead to persistence to fatigue, change in mood and frequent illnesses. Mannrich (2007) in his master's dissertation sought to relate biochemical markers and the psychological state of professional soccer athletes of the first division of Brazil in a longitudinal study with possibilities of injury. For this, he used the creatine kinase, lactate dehydrogenase, alanine transferase and aspartate transferase markers and the BRUM psychological scale. The author verified that the incidence of lesions had a significant and positive relationship with the increase in creatine and lactate values, as well as increased tension and fatigue and decreased vigor, concluding that the BRUM scale was a good psychological predictor of injuries (physical stress).

However, if we take stress as an imbalance between the physical and/or psychological demands and the resources to face them in an activity considered important, we can arrive at a common denominator from different approaches. It is known that stress can be physical, psychological, by overload or by monotony and chronic stress, and whatever the classification, prolonged exposure to the stressor stimulus can generate psychosomatic problems, causing illness of the organism.

The study by Souza and Feitosa (2017) is quite relevant in order to make a relation between the perceived and physical stresses in a strenuous military activity in the Brazilian Amazon region. In this study, 48 volunteer military personnel from the Brazilian Army were submitted to the PSS-14 inventory and blood samples were collected before and immediately at the end of the adaptation period to life in the jungle. Correlations were detected between all biochemical variables and significant and positive differences between pre- and post-collections. The mean CK post was outside the parameters of normality and consequent significant difference pre/post, which points to the manifestation of physical stress during the stage. No correlation was found between perceived pre- or post-stress and any biochemical variables related to physical stress. The results found in this study suggest that the perception of control and emotional stability alone can't be taken into account in resource management and decision-making in situations of evident wear.

The synthesis of what was presented in this first part highlights the influence of physical and perceived stress on the exercise of the military profession. The prevalence of both in all contexts, especially in combat training and employment situations, imposes on the masters of fractions the knowledge of the mechanisms of action stressors and how these can act differently from

individual to individual. It is also necessary to understand that, although interdependent, physical and perceived stresses do not necessarily have a significant positive relation; that is, changing one factor will not necessarily compromise another depending on the subjectivity of each individual. Military training is an excellent tool for knowing the military's individuality and exercising resilience factors to stress, discussed in the third part of this chapter.

### **Incidence of burnout in the military universe**

One of the consequences of stress, or reactions arising in the presence of stress, is burnout. Burnout is understood as a psychological syndrome resulting from chronic emotional tension at work. It is a subjective internal experience that generates negative feelings and attitudes in the individual's relationship with their work (dissatisfaction, attrition, loss of commitment), undermining their professional performance and bringing undesirable consequences to the organization (absenteeism, abandonment of employment, low productivity). Burnout is characterized by emotional exhaustion, depersonalization and decreased personal achievement (Tamayo & Tróccoli, 2002). The same authors characterize the emotional exhaustion by the symptoms of fatigue, emotional imbalance and negativism. According to the same authors, depersonalization is manifested by the coldness and hardness in dealing with clients and co-workers. On the other hand, the decrease in professional achievement occurs in the form of feelings of incompetence and/or perceived unsatisfactory performance.

The causes of burnout are not yet precisely known, but according to Prins et al. (2007), there are three triggering conclusions:

- It results from chronic stress in the work environment and the lack of resources (psychological) to deal with the situation – emphasizes pressure and society.
- It results from the individual's inadequacy in the organizational environment (idealistic and highly motivated individuals): people who, realizing that their efforts are not enough to achieve the goals, give up or suffer from the situation – emphasizes personal and individual issues.
- It results from the person's inadequacy with the work environment – emphasizes interactions between the individual and the social environment.

Malach, Schaufeli and Leiter (2001) point out that organizations that maintain a well-established hierarchy level, which are very rule centered, are more susceptible to the development of burnout amongst their employees. It has already been emphasized in this chapter that the military context is more favorable to stressors of high demand, such as physical exhaustion, exposure to climatic changes, prolonged abstention from the home and exposure to dangerous situations (Van Heerden & De Beer, 2014). Different authors (Alarcon, Lyons & Tartaglia, 2010; Chambel, & Oliveira-Cruz, 2010; Ivie & Garland, 2011) agree that the military has a dangerous and stressful activity level, a factor that is improving the studies on burnout and engagement in this group. In the case of the manifestation of burnout in a military environment, the literature is broad and many studies address the issue.

Leiter et al. (1994), in their study of 473 Canadian military personnel, found considerable differences in levels of burnout, organizational impairment and psychosomatic symptoms between men and women, indicating that women are more susceptible to diseases and reactions of impotence when confronted with organizational problems. Deahl et al. (2000) studied the relationship between participation in armed conflict and psychiatric morbidity in 106 British soldiers when they returned from Yugoslavia, concluding the high incidence of psychiatric morbidity is not an inevitable consequence of armed conflict.



Quite representative is the study by Chambel and Oliveira-Cruz (2010), a longitudinal study of 387 individuals on a peace mission, which analyzed the impact of Army missions on burnout levels and soldiers' engagement. The authors found that during the mission, burnout levels increased, while levels of professional engagement decreased significantly. The finding showed that there may be an association between the type of professional function exercised, the overload of work activities and the levels of burnout in the military.

A detailed evaluation of the most prevalent factors in the military context in burnout is the work of Souza, Feitosa and Bezerra (in press) on Brazilian career soldiers who served in the Brazilian Amazon region. This study used a sample of 122 volunteer officers, sergeants and sergeants who served in the garrison of Porto Velho who filled out a questionnaire with socio-demographic, labor, physical and social information and a Burnout Inventory (MBI). The results showed that the military in the region had medium to high levels of burnout, according to the classification of the international evaluation protocol. It was verified that the main socio-demographic, labor, physical and social conditions that in the present study were associated with a greater perception of burnout were: shorter service time, sedentary lifestyle, extra work, lower hierarchical rank and living away from relatives. Due to the fact that it has not yet been published, the tables of the study by Souza et al. (in press) with the most significant indexes in the incidence of burnout follow (Tables 21.1–21.4).

All of the above studies are focused on the process approach. Reinforcing the information presented in the first part of this chapter, this approach is eminently psychological, focused on the dynamic interaction between the individual and the environment and on the subjective evaluation of the stress perceived by the individual. For Lazarus and Folkman (1984), it is the

Table 21.1 Burnout dimensions within the objective variables

Variable	Emotional exhaustion		Job satisfaction		Depersonalization	
	Mean/SD	Rating	Mean/SD	Rating	Mean/SD	Rating
General Sample	25.09 ± 6.71	Medium	29.08 ± 5.29	High	11.07 ± 3.84	Medium
Operational Personnel <sup>a</sup>	25.54 ± 6.59	Medium	28.04 ± 5.66	High	11.33 ± 4.26	Medium
Administrative Personnel <sup>a</sup>	24.76 ± 6.85	Medium	29.86 ± 4.91	High	10.87 ± 3.53	Medium
Officers <sup>b</sup>	23.73 ± 5.80	Medium	31.27 ± 4.44*	High	10.33 ± 3.63	Medium
Sublieutenants/sergeants <sup>b</sup>	25.53 ± 6.89	Medium	28.37 ± 5.27*	High	11.30 ± 3.91	Medium
Male <sup>c</sup>	24.95 ± 6.84	Medium	30.04 ± 4.95	High	10.98 ± 3.50	Medium
Female <sup>c</sup>	22.20 ± 7.85	Medium	27.40 ± 4.57	High	9.40 ± 2.83	Medium
Married/stable union <sup>d</sup>	24.61 ± 6.62	Medium	29.38 ± 4.97	High	10.90 ± 3.71	Medium
Single/widow(er) <sup>d</sup>	27.83 ± 6.93	High	27.33 ± 6.12	High	12.00 ± 4.30	Medium
Relatives live nearby <sup>e</sup>	22.75 ± 6.65*	Medium	29.46 ± 5.40	High	9.79 ± 3.24	Medium
Relatives live far <sup>e</sup>	25.66 ± 6.66*	Medium	28.99 ± 5.28	High	11.38 ± 3.94	Medium
Spouse shares the expenses <sup>f</sup>	23.60 ± 6.82	Medium	29.71 ± 5.58	High	11.02 ± 3.71	Medium
Spouse does not share the expenses <sup>f</sup>	25.29 ± 6.41	Medium	29.21 ± 4.62	High	10.75 ± 3.79	Medium

Note: \*Significant difference ( $p < 0.05$ ) from the comparison group. Indexes of significance:

a *Emotional Exhaustion* ( $p = 0.462$ ); *Job Satisfaction* ( $p = 0.113$ ); *Depersonalization* ( $p = 0.536$ ).

b *Emotional Exhaustion* ( $p = 0.198$ ); *Job Satisfaction* ( $p = 0.011$ )\*; *Depersonalization* ( $p = 0.291$ ).

c Too reduced number of women to proceed to statistical analyses.

d *Emotional Exhaustion* ( $p = 0.080$ ); *Job Satisfaction* ( $p = 0.107$ ); *Depersonalization* ( $p = 0.285$ ).

e *Emotional Exhaustion* ( $p = 0.036$ )\*; *Job Satisfaction* ( $p = 0.525$ ); *Depersonalization* ( $p = 0.068$ ).

f *Emotional Exhaustion* ( $p = 0.123$ ); *Job Satisfaction* ( $p = 0.371$ ); *Depersonalization* ( $p = 0.681$ ).

Table 21.2 Burnout dimensions for years of service

Years of service	Emotional exhaustion		Job satisfaction		Depersonalization	
	Mean/SD	Rating	Mean/SD	Rating	Mean/SD	Rating
Up to 5 years	24.71 ± 8.11	Medium	28.00 ± 6.01*	High	11.88 ± 4.39	Medium
6–10 years	28.44 ± 4.69*	High	27.19 ± 4.45	High	12.85 ± 3.87*	High
11–15 years	26.58 ± 6.77	High	27.83 ± 5.92	High	12.25 ± 4.18	High
16–20 years	25.18 ± 5.03	Medium	28.64 ± 4.08	High	12.27 ± 2.67	High
21–25 years	22.89 ± 6.81*	Medium	29.19 ± 5.22	High	9.81 ± 3.35*	Medium
26–30 years	25.32 ± 7.72	Medium	30.53 ± 4.92	High	9.58 ± 2.87*	Medium
Over 30 years	19.78 ± 5.26*	Medium	35.67 ± 2.23*	Medium	8.00 ± 3.89*	Medium

Note: \*Significant difference ( $p < 0.05$ ) from the comparison group. Indexes of significance: *Emotional Exhaustion* ( $p = 0.010$ )\*; *Job Satisfaction* ( $p = 0.004$ )\*; *Depersonalization* ( $p = 0.002$ )\*.

Table 21.3 Burnout dimensions according to frequency of physical exercises

Frequency	Emotional exhaustion		Job satisfaction		Depersonalization	
	Mean/SD	Rating	Mean/SD	Rating	Mean/SD	Rating
Sometimes	28.33 ± 5.34*	High	24.53 ± 5.12*	High	13.73 ± 2.87*	High
Frequently	26.00 ± 7.11	Medium	29.26 ± 5.26	High	11.43 ± 4.01	Medium
Very often	24.48 ± 6.79	Medium	28.76 ± 4.91	High	10.96 ± 3.67	Medium
Always	23.28 ± 6.43*	Medium	30.80 ± 4.76*	High	9.61 ± 3.47*	Medium

Note: \*Significant difference ( $p < 0.05$ ) from the comparison group. Indexes of significance: *Emotional Exhaustion* ( $p = 0.043$ )\*; *Job Satisfaction* ( $p = 0.001$ )\*; *Depersonalization* ( $p = 0.005$ )\*.

Table 21.4 Burnout dimensions according to extra work hours

Frequency	Emotional exhaustion		Job satisfaction		Depersonalization	
	Mean/SD	Rating	Mean/SD	Rating	Mean/SD	Rating
Never	20.50 ± 6.05*	Medium	31.07 ± 5.35	Medium	8.92 ± 3.90*	Medium
Sometimes	24.12 ± 6.35*	Medium	28.99 ± 4.75	High	10.49 ± 3.63*	Medium
Frequently	29.46 ± 4.80*	High	27.50 ± 5.58	High	13.08 ± 3.50*	High
Very often/always	26.13 ± 7.61	Medium	30.04 ± 6.30	High	12.13 ± 4.05	High

Note: \* Significant difference ( $p < 0.05$ ) from the comparison group. Indexes of significance: *Emotional Exhaustion* ( $p = 0.000$ )\*; *Job Satisfaction* ( $p = 0.254$ ); *Depersonalization* ( $p = 0.003$ )\*.

interaction between the environment and the individual that defines stress. This perspective also fits for burnout. Because of this, psychological, environmental or social stressors only have the ability to trigger a reaction to stress, even if it becomes chronic. It will, however, be mediated through the coping capacity that the person has learned to employ during his or her life history to the way each individual has created the conditions to handle new or adverse situations.

### Coping in military environments

Coping was first defined by Lazarus and Folkman (1984) as a set of cognitive and behavioral efforts used by individuals to deal with specific internal or external demands that arise in stress situations



and are assessed as overloading or exceeding your personal resources. It is assumed that coping strategies are deliberate actions that can be learned, used and discarded. Therefore, unconscious and unintentional defense mechanisms, such as negation, displacement and regression, cannot be considered coping strategies. In addition, according to Ryan-Wenger (1992), somatization, domination and competence are seen as results of coping efforts rather than as strategies.

Antoniazzi, Dell'Aglio and Bandeira (1998) cite that the coping model of Lazarus and Folkman (1984) is based on four concepts:

1. Coping is a process that takes place between the individual and the environment.
2. The coping function is the management of the stress situation, not the domain of the stress.
3. The coping processes presuppose evaluation, that is, perception, interpretation and cognitive representation.
4. The process is a mobilization of effort in order to manage the internal and external demands that arise from interaction with the environment.

Although the conceptual difference of coping styles and coping strategies is not consensual, Antoniazzi et al. (1998) make a distinction between the two: coping styles are related to personality traits or results and are reflected in tendencies to use a coping reaction to a greater or lesser degree in the face of a stressful situation. Coping strategies are cognitive or behavioral actions taken during a stress episode, linked to situational factors, and reflect actions, behaviors or thoughts used to deal with a stressor.

Lazarus and Folkman (1984) also point out that coping can be understood from two types of strategies: problem-focused strategies and strategies focused on emotion. The first type aims to analyze and define the situation, considering its costs and benefits and seeking alternatives to solve it. This type includes strategies that affect the environment and the subject. Strategies that affect the environment try to modify the stressor through changes in external pressures, obstacles, resources, procedures etc. The strategies that affect the subject include changes in the individual's aspirations, reduction of the participation of the self, search for alternative participation channels, development of new patterns of behavior and learning new procedures and resources.

Emotion-centered strategies refer to the cognitive processes responsible for reducing the emotional distress generated by a stressful situation. These strategies are used by individuals when they realize that stressors cannot be modified and that it is necessary to continue interacting with them. The purpose is to maintain hope and optimism, to deny both the situation and its consequences or to act as if the circumstances do not matter. These strategies include avoidance, guilt, escape, detachment, selective attention, positive comparisons and the extraction of positive aspects from negative events (Lazarus & Folkman, 1984).

In response to different types of stress or different moments in time, the influence of the coping strategy being problem focused or emotion focused may vary. According to Carver and Scheier (1994), at first these two categories are easily perceived, but their effects are not so clear. Emotion-focused coping can facilitate problem-focused coping by removing tension, and, similarly, problem-focused coping can lessen the threat by reducing emotional tension. However, the way in which the individual uses coping is determined in part by his resources, which include health and energy, existential beliefs, problem-solving skills, social skills, social support and material resources. Coping can also be determined by variables that reduce the use of personal resources, such as environmental (Savóia, Santana & Mejias, 1996).

Rudolph, Dennig and Weisz (1995) understand that coping strategies are part of a process, influenced by many variables. In this process, two concepts are involved: the moderators and the mediators. Moderators are pre-existing variables that affect the direction or intensity of

the relationship between independent and dependent variables. In general, moderators reflect the characteristics of the individual, such as level of development, gender, experience and temperament; of the context, as paternal influence and the interaction between them. Mediators are mechanisms through which the independent variable is able to influence the dependent variable, such as cognitive evaluation and development of attention. Beresford (1994) classifies these variables into physical and psychological ones that include physical, moral, ideological beliefs, previous coping experiences, intelligence and other personal characteristics.

Lazarus and Folkman (1984) divide coping strategies into eight factors:

1. Confrontation, when the individual decides to face the stressful situation, not moving away from the situations of risk
2. Removal, when the individual distances himself from the possible stressful situations at the moment in which they occur
3. Self-control, when energy is focused on maintaining emotional balance until the stressful situation passes
4. Social support, defined as a resource where the individual seeks external affective support, such as friends, colleagues or family
5. Acceptance of responsibility, when the individual understands that the stressful situation is the result of their actions and accepts its consequences
6. Escape-avoidance, when the individual avoids the appearance of possible risk situations
7. Problem solving, which consists of the application of rational techniques to solve the stressful situation
8. Positive reappraisal, that is, taking advantage of the lessons provided by the stressful situation that the subject is experiencing at that moment

After the classification in 1984, Folkman and Lazarus (1988) separate emotion-focused strategies: self-control, social support, acceptance of responsibility and positive reassessment, from strategies focused on the problem: confrontation, withdrawal, escape-avoidance and problem solving. On the other hand, Tap, Costa and Alves (2005) adopt six coping strategies: focusing (focusing on the problem and how to solve it), social support (desire or need for help), retraining (rupture of social interactions, withdrawal), conversion (change in behaviors, cognitive positions or values), control (coordination of behaviors, containment of emotions) and refusal (inability to perceive and accept the reality of the situation). These same authors present two categories of coping: coping perceived as positive (e.g. control, social support and focus) and coping perceived as negative (e.g. withdrawal and refusal).

In the military field, the literature is quite comprehensive on coping strategies. The reason is obvious: coping seems to be the solution to the acute and chronic stress problems explored so far in this chapter during the exercise of the military profession. However, as coping strategy and style also depend on life experience, there are no ready-made formulas for each individual in the context of the same stressful situation.

Johnsen et al. (1998) studied the effects of different coping strategies and mental health problems in a context of radical changes in a military organization in Norway, pointing out that subjects who focused on the coping strategy presented greater symptoms of mental health problems. Day and Livingstone (2001) examined the positive and negative impact of different coping styles on acute and chronic stress in 521 Canadian military personnel based on self-reported health symptoms. After finding that the items ambiguity, overload and lack of stimulation at work were the only ones associated with increased symptoms, it was verified that only negative coping styles (withdrawal and refusal) were directly related to the associated symptoms.

Deahl et al. (2000) studied the relationship between participation in armed conflict and psychiatric morbidity in 106 British soldiers when they returned from Yugoslavia, where they all received, before the mission, an operational stress training package. High scores of the assessment instruments pointed to significant alcohol abuse and withdrawal behavior (negative coping). However, the study concluded that the high incidence of psychiatric morbidity is not an inevitable consequence of armed conflict.

Overdale and Gardner (2012) examined how coping adaptability and social support strategy influence responses of recruits in training in 2,293 New Zealand Defense Force personnel. Correlating perceived social support, adaptability, coping, perceived difficulty, self-reported performance and sense of integration to the military corporation, and results pointed out that the support provided by the instructors was related to less difficulty in coping and greater performance and feeling of belonging to the Force. Support from external sources was related to greater adaptability to coping, performance and feeling of belonging to the Force and, paradoxically, increased difficulty in developing coping strategies. Adaptation to coping is provided by the beneficial effects of external support. In short, coping employability and social support viability are key tools for success in military training.

Motivated by the challenge posed to the candidate at high physical and mental levels during extremely severe stress conditions, Van Heerden and De Beer (2014) studied motivational and coping responses in the process of selecting 73 military personnel for the Special Forces course in South Africa for four weeks. To do this, they compared the constructs of: sense of consistency, hardiness, control assignment and self-efficacy between selected and unselected ones and explored what was considered important to success in the selection process. The researchers did not find significant differences between the two groups, although all the candidates presented high levels of sense of coherence and self-efficacy and medium levels of hardiness and attribution of control. In addition to the results, the authors pointed out that the use of coping strategies contributes to the management and improvement of military well-being, especially in severe stress conditions, where aspects such as hardiness and physical and mental resilience are preponderant.

Souza and Feitosa (2015) carried out a study with students of the Course of Operations in the Jungle of the Brazilian Army, whose objective was to investigate which coping strategies can predict success or failure. To that end, the sample consisted of 36 volunteer soldiers (18 dropouts and 18 graduates) out of a total of 63 candidates (57.14%), all men, officers and career sergeants. Everyone in the “graduating” group had scores above the “dropouts” group. However, significant differences were observed only in the strategies of self-control and positive re-evaluation. In general, emotion-focused strategies were prominent in relation to problem-focused strategies. The findings of this study suggest that, in situations of intensive military training, coping strategies focused on emotion, mainly self-control and positive reassessment, may act positively on the individual’s performance, possibly making him more resilient, aiding in the success of the training.

Several studies support the significant difference of self-control strategies (Clemons, 1996; Everly, McCormack & Strouse, 2012) and positive reassessment (Meredith, Sherbourne & Gaillot, 2011; Gerzina & Porfeli, 2012), which were more emphasized in the previous studies, indicating that such strategies contribute to building the military’s resilience. In turn, resilience is a fundamental virtue in the training of the military, it is trainable, assists in the stabilization of psychological stress levels and is directly related to success in military training and operations (Escolas, Pitts, Safer & Bartone, 2013; McGeary, 2011; Meredith et al., 2011; Nash, Steenkamp, & Conoscenti, 2011).

Riulli and Savicki (2010) evaluated the coping strategies of U.S. soldiers who had recently arrived in Iraq and found that individuals whose strategies were more focused on emotion had lower psychological symptoms such as depression. Kumar, Parkash and Mandal (2013) cite that the military should develop coping strategies focused on emotion in order to avoid frustration,

cognitive disorientation and aggravation of stress levels that decisively influence performance. The studies of Riolli and Savicki (2010), Kumar et al. (2013) and de Souza and Feitosa (2015) bring up an interesting aspect: the greater efficiency of emotion-oriented strategies when compared to problem-oriented strategies. It seems that the focus on internal issues of the psyche, such as self-control, are most relevant in situations where the focus of the problem cannot be manipulated or avoided, limiting the use of some strategies focused on the problem, such as withdrawal or escape.

### Final considerations

Once considered fundamental in the survival of the species, stress has been prevalent in the military profession and, when it becomes chronic, can bring problems for the mental health of the military and family. The purpose of this chapter was to introduce the reader to an understanding of the mechanisms of the action of stress and its prevalence in the military environment. The reader can also understand that although there are more stressful environments than others, it is the interaction of the subject with the environment that is the main stress-triggering factor. In the military milieu, physical and psychological stresses are distinct, although interdependent as to the psychosomatic responses in the individual. Caution is advised in evaluating the military's stress, always taking into consideration the individuality of each one.

From the beginnings of humanity, stress has been an important factor for the survival of the species. Nowadays, especially in the exercise of the military profession, stress is still crucial, especially in real situations of the use of troops. The chronification (third stage) of stress, widely known in the literature as burnout, can lead to illness of military personnel and loss of functional performance. The most obvious signs that lead to burnout were presented in this chapter, as well as coping strategies that can be developed and trained in simulations of troop employment to protect the military from the harmful effects of burnout. The most efficient strategies seem to be those focused on emotion, so the advice of professionals specialized in the development of such strategies seems to be a valid investment in preserving the health of the military public.

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