Salutogenesis and Mental Health Promotion in Military Settings

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Introduction

To some people, the concepts of “health promotion” and “military force” may seem contradictory on moral as well as practical grounds. How do war and salutogenesis go together? There are data on socially undesirable changes in value orientations and on moral injury as consequences of military service (see Schwartz et al., 2001; Zimmermann et al., 2016). However, there are also data on social and psychological *benefits* of military service. Military forces are human organizations, and as such salutogenesis is a relevant issue in them. This was recognized by the Department of Health and Well-being of the Israeli Defense Forces (hence IDF), which is a body within the IDF Medical Corps. The work I do there is intended to *reduce* moral and mental injuries and *strengthen* humane and social values among military personnel, especially combat soldiers who face the most difficult mental challenges. Given this reasoning, I believe that military settings are fruitful domains for salutogenic thought and practice.

Hence, this chapter centers on salutogenic work in the IDF and a few other countries, in the context of mental health promotion. I will open with a personal account of how I found myself engaging in salutogenic research within a military setting, and will touch upon some moral questions that this research arena brings up. I will then describe negative consequences of military service, as a background for discussing some salutogenically oriented programs intended to enhance mental fitness of soldiers, accompanied by empirical research findings. Finally, I will suggest some insights and recommendations for further applications of salutogenesis in military settings.

How I Ended Up with Salutogenesis in Military Settings, and Some Moral Reflections on Their Relationship

On October 18th, 1973, Yoram Eshet-Alkalai was lying on the ground in Egypt, with a big hole in his head after being hit by a shell. A doctor who insisted to treat him was told 'leave him, keep your medicines for those who can be saved'. When he woke up in the hospital, his body and mind were wounded, his left side paralyzed, his eyes blind and his consciousness confused. (Eshet-Alkalai, 2010, back cover).

I first met Yoram Eshet-Alkalai in 2004, more than 30 years after he was very badly wounded in the 1973 Yom Kippur War. Today he is full professor at the Open University of Israel. His left side is still paralyzed, and about a quarter of his brain is physically missing. I have worked with him daily for 12 years and recall a conversation about his recovery process. When you lose a part of your body like a leg or an arm, he explained, your brain understands what happened. When you lose part of your brain, and with it many basic cognitive functions, there is nothing that can fully grasp what had happened, how, and why. Yet, he said, I came to *comprehend* the challenges I was facing, I felt I had the personal, social, and medical *resources to cope* with these challenges, and I was motivated by the *meaning* I found in the investment of the hard work needed for recovering as well as possible under the given circumstances. In other words, I responded, you are talking about comprehensibility, manageability, and meaningfulness, comprising a strong sense of coherence!

I often tell the story of Yoram Eshet-Alkalai when I introduce the salutogenic model to various audiences, among them military mental health officers with whom I now meet as part of my work with the IDF. A few years ago, when I was invited for a job interview at the IDF Department of Health and Well-being, for a position of a civilian researcher, I was surprised to find out that the term “salutogenesis” was not only familiar, but that it was the theoretical premises of the new *mental fitness branch*, targeted toward mental health

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promotion. Moreover, I came to learn that the IDF Department of Health and Well-being activities are a combination of theoretically, methodologically, and ethically sound academic research, intervention program development, and clinical practice. The IDF Medical Corps are formally a medical institution, and thus, all academic research and publication processes are rigidly supervised by the Ministry of Health and a Helsinki committee. Therefore, I was glad to be appointed head of the research unit in the new mental fitness branch.

Nevertheless, this appointment was not unaccompanied by moral reflections. I feel obligated as a social scientist to touch upon the moral question embedded in any discussion of military service, especially if it is mandatory by law. On a broad, philosophical, or value-related level, there is the question of pacifism and whether or not international disputes or interreligious conflicts could be settled outside of the battlefield, and of whether or not, given human nature, history could have evolved without wars. Unlike most countries which have military forces, in its 73 years of independence, Israel has been in a continuous situation of war and armed conflict, including close to 10 major wars or armed confrontations with some or all of its neighboring countries or guerrilla forces. Some of these were unanimously backed up by Israeli society, while others received strong resistance from within. On a more practical or concrete level, there are military units which are assigned to missions that involve daily moral or ethical considerations. A good Israeli example is that of soldiers who are stationed at barriers or roadblocks at points of entry from the West Bank and Gaza, where thousands of civilians pass through every day. These soldiers, while keeping alert, must most importantly be humane, or in the recent words of the unit's commander: "They must be good soldiers, but before that – they must be human beings." On such a mission, where emergency is the routine, burnout is common. The mental fitness branch is currently involved in mental training of these soldiers (mindfulness and other techniques which I will describe later), accompanied by research (including the measurement of sense of coherence, hence SOC), aimed at enhancing soldiers' ability to cope with the mental and moral challenges they experience. While the Israeli government's foreign policy may be a matter of debate, the IDF invests a great deal of effort (e.g., as part of basic training and again in officers' training) in emphasizing the importance of moral values and ethical conduct. This is most important at the individual level in the military, and is also the basis for the high level of trust that most Israelis share toward the IDF (regardless of political attitude toward the government).

Salutogenically speaking, enhancing SOC may have an important role in maintaining moral standards. When soldiers *understand* humane aspects of their missions, when they feel they have the psychological *resources* to carry them

out, and when they find *meaning* in and beyond their specific missions, they will probably carry out the missions successfully and within moral limits. This is where several programs developed by the mental fitness branch fit in, and this is where I can live in peace with doing my small share for the advancement of mental health and moral standards in the military environment.

A Pathogenic Perspective: Impact of Military Service on Mental Distress

Military service is a stressful environment. It is characterized by a hierarchical chain of command, lack of privacy, partial loss of individual identity, involuntary assignments, unchosen comrades, physical efforts, mental challenges, uncertainty, coerced timetables, forced conformism, morally and ethically challenging circumstances, and—especially in combat units—life-threatening situations.

It is, therefore, well-documented that besides physical challenges, combat and combat-support soldiers are prone to mental difficulties, pathologies, and injuries (see, e.g., Armour & Ross, 2017). Perhaps the best-known phenomenon is combat stress reaction (CSR), which is expressed by acute behavioral disorganization that renders a soldier combat ineffective (Helmus & Glenn, 2005). CSR was first termed "shell shock" in World War I (Myers, 1915). It may occur in up to 30% of the soldiers during battle and is considered "a normal reaction to an abnormal situation." About 10–15% of those with CSR will exhibit acute stress reaction (ASR), lasting for 48 hours after the traumatic event, which untreated may result in acute stress disorder (ASD) and may transform within a month or two to posttraumatic stress disorder (PTSD). The international literature is overloaded with studies which document these phenomena among combat soldiers and there are scientific conferences devoted to combating PTSD (Hancock et al., 2018).

PTSD is not limited to military contexts. Automobile accidents, witnessing a sudden death, or any other life-threatening situation, to self or to a loved one, may result in PTSD (for a formal definition of PTSD, see American Psychiatric Association, 2013). However, a common finding is that PTSD rates and symptom severity are greater among soldiers and veterans when compared to the general population (e.g., Holder et al., 2018). Several researchers have discussed the long-term consequences of traumatic military experiences, in terms of the need for treatment (Solomon et al., 2005) or as a negative turning point in life (Maclean, 2013), although there is evidence for posttraumatic growth as well (see Forstmeier et al., 2009).

One of the most prevalent and interesting lines of research in this area in recent years is PTSD among soldiers who do not take part physically in combat but are nevertheless

exposed to potentially traumatic events. For example, remotely piloted aircraft (RPA) operators, who may be physically thousands of kilometers away from the battlefield, but play an active role in the events, and view them live in high definition on their television screens. Chappelle et al. (2012) and Watkins-Nance (2015) found that rates of clinical distress and PTSD were higher among RPA operators in comparison to non-RPA airmen. Similarly, operational burnout and posttraumatic stress symptomatology were found in combat-support personnel who are the “eyes and ears of the battlefield” such as distributed common ground system intelligence exploitation operators in the United States (see Prince et al., 2012) and observation systems operators in Israel (Ohayon et al., 2018).

Other mental difficulties which are frequent in military populations, not necessarily linked to or occurring during battle, are adjustment disorders (e.g., P. Casey, 2018; Kamrowska & Florkowski, 2008), depression (e.g., Schaller et al., 2014; Shen et al., 2012), and suicidal thoughts or behaviors (e.g., Chu et al., 2018).

A Salutogenic Perspective: The Relationship Between Military Service and Mental Health

In some countries, military service is mandatory. In others, it is voluntary. In both cases, the demands of the service are a great mental challenge for one’s well-being and require resistance resources which will help to cope with this challenge and retain one’s own mental health. By the term “mental health,” I will adopt the World Health Organization’s general definition (with a military parallel in parentheses), as “a state of wellbeing in which every person (soldier) realizes their own potential, can cope with the normal stresses of life (military life), can work productively and fruitfully, and is able to contribute to their community (military unit)” (Australian Government, Department of Defence, 2017).

Despite the health challenges and difficulties that soldiers face, there are various mechanisms by which military service can come to represent a positive turning point or improve the health of the men and women who serve. For instance, the service encourages members to exercise and be physically active. Service may also improve health by providing members with food that is healthier than that eaten by civilians (Mission: Readiness, 2010, as cited in MacLean, 2013). In many eras, veterans have also had access to government funding to increase their educational attainment. Spiro et al. (2016) mentioned several long-term benefits of military service which lead to health and well-being in later life: autonomy, emotional maturity, resilience, mastery, and leadership skills. In Israel, where military service is mandatory and most military personnel are 18–22 years old, those who for some reason have been exempted from service are at a social

disadvantage. Most often, the first question people ask each other when they first meet at social events is “where did you serve?” Having been in military service operates as a criterion for inclusion in several social contexts and acts as a salutary factor in adult life.

Before describing specific health-promoting activities of the mental fitness branch, I will define the term “mental fitness” and briefly distinguish it from the more widely used concept of resilience.

Mental Fitness Versus Resilience

Conceptually, the construct of mental fitness is similar to physical fitness: it is something that can be learned, trained for, and preserved by exercise (see Bolier et al., 2013 and Robinson, 2014 for similar conceptualizations). It is multifaceted in the sense of having a reservoir of various resistance resources and can be measured at a personal as well as a group level. We define mental fitness as:

a learned and conservable competency which is a product of the social, emotional, cognitive, and physiological capacities of a person or a group to cope successfully with mental challenges (Avishai Antonovsky et al., 2017).

Enhancing mental fitness is therefore the process of building up mental strength in order to withstand and cope well with mental challenges. However, the existence of mental fitness is not only relevant to coping with mental challenges or adversities. In line with the WHO’s definition of mental health cited earlier, mental fitness is a competency which helps to strengthen mental health more broadly. In the military context, the concepts of realizing one’s own potential, working productively, and contributing to the community are realized through operational efficiency and carrying out missions successfully.

This is different from resilience. Resilience, although intuitively understood, seems to be an elusive concept. As Windle (2011, p. 152) argued, “the complexities of defining what appears to be the relatively simple concept of resilience are widely recognized, especially within the behavioural sciences.” She added that “This creates considerable challenges when developing an operational definition of resilience; definitional variation leads to inconsistencies relating to the nature of potential risk and protective processes, and in the estimates of prevalence.” According to Windle, resilience is considered a psychological trait and it seems that the one characteristic of resilience which is agreed upon is its meaning of being able to “bounce back” in the face of adversity. As Zamorski (2008, p. 7) stated, “Psychological resilience in the military context is defined as the ‘sum total of psychological processes that permit individuals to maintain or return to previous levels of wellbeing and functioning in

response to adversity’.” Hence, an operational definition of resilience must include the existence of an adversity from which bouncing back can be measured, just as PTSD can be diagnosed only if a traumatic event has actually occurred. Mental fitness, on the other hand, is not considered a trait (and therefore can be trained for), is not narrowed to a unidimensional psychological construct, and can be operationalized without the need for an actual adversity to occur.

The Mental Fitness Branch in the IDF and Its Salutogenic Interventions

In line with the prevalence of PTSD, suicidal behavior, adjustment disorders, and other psychopathological states related to military experience, the mental health guidelines and programs in the IDF and in other military services have traditionally focused on treatment and prevention of psychopathology and suicide. For example, a suicide prevention project in the IDF has led to a substantial decrease in suicide rates over the last decade (Lubin et al., 2018). The need for a special body of mental health professionals in the IDF (as part of the medical corps) stems from the fact that military service in Israel is mandatory. Therefore, the IDF recruits 18-year-olds with a wide range of physical and mental disabilities (excluding extreme cases) and has the responsibility to supply any needed medical treatment (actually, the IDF is their medical insurance).

Until 2017, the mental health department (to be later renamed the Department of Health and Well-being) in the IDF medical corps consisted of two branches: (a) an administrative branch, in charge of recruitment, placement, and academic training of mental health officers, most of whom are social workers, the rest being psychologists and psychiatrists, and (b) a clinical branch, in charge of screening, diagnosis, treatment, and prevention. However, in recent years, there have been growing awareness and accumulating evidence of the importance of *enhancing* the general population of military personnel’s mental health. This led to the establishment of a third branch—the mental fitness branch—in 2017.

The goals of the mental fitness branch are health promotion research and practice. Specifically, the branch aims to: (a) improve operational efficiency by enhancing soldiers’ mental fitness and resistance to stress-related psychopathology, and (b) promote research, development, and implementation of evidence-based, scientifically and technologically advanced, training applications and techniques. When I explain the need for the new branch, I often say “One doesn’t wait for a stress fracture to occur before going to the orthopedist, so why should one wait for mental adjustment problems to develop and only then see a mental health officer?” In contrast to the clinical branch that is *re*-active and based on the pathogenic medical model, the mental fitness branch is *pro*-active and its work is salutogenically oriented.

In accordance with these goals of the mental fitness branch, there are ongoing health-promoting training and research activities. In general, there are two categories of mental fitness enhancement activities in the IDF: (a) training techniques for combat soldiers, (b) mental preparation of first responders and exposed populations.

Training Techniques for Combat Soldiers

Mental fitness is a competency that could and should be part of every soldier’s toolbox, whether he or she belongs to a special combat unit or is a clerk working from 9 to 5. However, the military has set a list of priorities, in which combat soldiers come first. Therefore, given that the mental fitness branch is relatively new, the implementation of mental fitness enhancement techniques is centered around combat soldiers and field units. Here are some of them:

Mental efforts scale During basic training, physical efforts are usually scaled in a graduated, ascending order. This means, for example, that hikes get longer, and weights become heavier, as time passes. But is this the same for mental efforts? Is walking 20 kilometers necessarily more mentally demanding than walking 15 kilometers? Is not having watches or cell phones all day, thus not being able to tell the time, easier or harder to cope with mentally than having to find your way alone on a dark night navigation mission? Scaling the mental demands concerned with various activities is not as easily and objectively measured as scaling physical demands. Hence, the mental fitness branch has been conducting survey research in various units, to learn about soldiers’ degree of subjective mental stress they experience in performing duties or in other situations during basic training (such as the feeling of loneliness or keeping time), and their self-efficacy with regard to the performance of each mission. According to the soldiers’ ratings, a graduated mental efforts scale is built, and activities are planned according to it, as much as possible. Of course, perhaps the most mentally demanding stage is adjusting to being in the military, and that cannot be postponed to the end of training. But the *degree of uncertainty* (how long is tomorrow’s hike, how much sleep will we have tonight, what time is it, etc.), which was found to be one of the most important factors influencing soldiers’ mental state, can be varied and controlled by careful planning of the order of various components of basic training. Studies (e.g., Ohayon et al., 2018) have revealed that when soldiers feel they understand the mission and can predict what will happen, when they perceive resources needed to complete the mission as available, and when they understand the importance and feel motivated regarding the mission, they will perform significantly better compared to those with feelings of uncertainty and confusion, lack of resources, and a low level of motivation. In other words, the

mental fitness branch is working toward enhancing mental fitness by strengthening soldiers' comprehensibility, manageability, and meaningfulness, or—in general—their SOC.

Inner strength training at the beginning of military service Beginning basic training is perhaps the most mentally challenging moment of military service. Only yesterday you decided for yourself when to go to sleep and when to wake up, when and what to eat, when to speak, and when to stay silent. Suddenly, you lose control; you do not know the physical and social surroundings; you lose sense of time; you are tired, you miss home, you are not used to the food. And on and on. No wonder your dominant feelings are tiredness, worry, longing for home, despair, frustration, and low self-efficacy. In short, you feel miserable, you want out of here. But there is another way to look at things; if only a soldier could change his or her point of view, adopt a positive thought pattern, he or she will make it through basic training more easily, with less potential of having adjustment problems, depression, or suicidal thoughts. The “inner strength” project is aimed at teaching soldiers to deploy their character strengths, such as hope, thankfulness, optimism, and curiosity, as a mood repair mechanism (Lavi et al., 2014). In salutogenic terms, soldiers are taught an orientation to military life which can elevate their sense of manageability in specific situations. For this to happen, soldiers are given an explanation about a specific character strength and are then shown a series of computer animations, describing common daily situations encountered in basic training: loss of privacy, a buddy being late for replacement in guard duty, having difficulty cleaning one's weapon, having to wake up for guard duty, feeling lonely, and more. For each scenario, the soldier is asked to choose one out of four possible reactions which best expresses a specific character strength. The soldier then receives feedback. For example, in a scenario depicting a soldier standing alone, looking sadly at a group of other soldiers who seem to be having a good time, he or she can choose between four reactions: (a) “I don't know anyone here, I'll forever be lonely”, (b) “It may take a few more days, but I'll slowly make my way and find friends here”, (c) “I'm a social animal, I'll walk over to them and they will immediately see I'm king”, and (d) “If this is what it's like now, there's no way I can get through 3 years of service.” After choosing reaction a, c, or d, the computer program responds (in audio) with “This is a possible reaction, but please think of another one which could better express the ‘hope’ character strength” (note that reaction c is “over-strong” and usually unrealistic). If the soldier's response is b, the program responds with “Very good, the reaction you chose indeed expresses hope, which is one of your character strengths.”

Over time (several scenarios and multiple sessions), the soldier learns to recognize the most appropriate response expressing a specific strength in various situations. Soldiers reported that these exercises were good and helped them get by when they faced difficulties during basic training.

Attention bias modification training for patrols or during combat When a soldier is patrolling in a hostile urban environment, his or her attention is naturally drawn to familiar, or emotionally charged, stimuli—a crying baby, a barking dog, the smell of a bakery, someone hanging clothes on a balcony, an old man crossing the street, etc. At the same time, the soldier misses the sniper lurking in the window above. This attentional profile of threat avoidance has been linked to an increased probability of PTSD (Wald et al., 2016). Attention bias modification training, a computerized cognitive intervention protocol, is used with combat soldiers under the assumption that biasing attention toward threat would “minimize risk associated with threat avoidance... [and would] facilitate protective forms of threat processing during combat by countering maladaptive threat-avoidance patterns” (p. 2628). Wald and his colleagues reported a randomized control trial study done in an Israeli infantry brigade, during which there was a high-intensity combat deployment. It was found that operational efficiency was higher, and the rate of PTSD symptomatology was lower, in the group that received attention bias modification training, compared to placebo and no-treatment groups. Detailed information about the training technique can be found in Wald et al.'s paper. Although somewhat unconsciously, this increases the manageability component of SOC. Recently, the mental fitness branch has begun implementing this kind of training among operation room staffs and similar units whose duty is to identify threats and react quickly, although seated by computer monitors and not in the battlefield itself.

Magen program applied during combat “Magen” in Hebrew means shield. This is a training protocol developed in the IDF for providing psychological first aid on the battlefield, known by the acronym YaHaLOM (in Hebrew, it stands for (a) connect, (b) emphasize commitment, (c) ask fact-based questions, (d) confirm the sequence of events, and (e) give orders for specific action) (Svetlitzky et al., 2019). It is implemented in all combat and combat-support units. The importance of the protocol lies in its *immediacy* of treatment, its *lack of perception of psychopathology* (avoiding being treated by a mental health officer as a sign of illness), and its expression as *social support*. Theoretically, the protocol is based on the concepts of SOC (Aaron Antonovsky, 1979), self-efficacy (Bandura, 1997), hardiness (Kobasa, 1979) (all three expressing salutogenic ideas), and neuropsychology (Farchi et al., 2018) (reflecting the relationship between the

limbic system and the prefrontal cortex during stressful events). Recently, the protocol was adopted by the Walter Reed Army Institute of Research (WRAIR) in the United States, adjusted for the US armed forces and named iCOVER (see Adler et al., 2019, who provided a detailed description of the protocol and of the American pilot study). An 11-minute video (in English) depicting the protocol can be found on WRAIR's YouTube channel. https://www.youtube.com/watch?v=t84_QvbnIT0.

Decompression treks for preparing to leave military service Enlistment into military service, especially when it is mandatory, is a stressful experience, accompanied by potential adjustment difficulties. This stage of military service has been given much attention, as exemplified in the inner strength project and the building of mental effort scales described earlier. In recent years, the IDF has come to understand that the end of service, following a few years of military life, is stressogenic as well. Being discharged means having to regain control over one's life. "What do I do now? How do I make a living? Where do I live? How do I find a job? What is medical insurance?"—these are practical questions soldiers have to deal with toward the end of their service. No less important is looking back at the service period and resolving issues like "What have I learned? What have I gained and lost? What do I take with me and what do I leave behind? What unresolved conflicts have I experienced?" The IDF mental fitness branch has therefore devised a program called "Back to the future." This is a 5-day "decompression trek" intended mainly to process the experience of military service, taking place a few weeks before discharge. It involves short and easygoing hikes, outdoor activities, and psycho-educational sessions, led by mental health officers and organizational consultants. In small groups, soldiers discuss topics like "what to keep and what to let go" and learn about different coping strategies based on the BASIC-Ph model of coping (Lahad & Laykin, 2015). In addition to its social and mental value, the decompression trek expresses the military's gratitude toward the soldiers for their service and conveys the message "we are here for you" following your service as well, in your civilian life. In this context, soldiers are given information about the combat stress reaction unit in the IDF Department of Health and Well-being, which treats people with PTSD and other mental difficulties stemming from their prior military service. After several decompression treks led by the mental fitness branch since summer 2018, it can be said that it meets (and exceeds) expectations of the soldiers as well as military authorities. The mental fitness branch has been collecting data during each trek about soldiers' SOC, and follow-up measurements are planned. At this point, it is too early to evaluate the long-term contribution of the treks, and whether or not it is moderated by SOC. However, these 21-year-old soldiers have often

expressed their gratitude by saying the trek had contributed to their comprehension of what they had gone through and where they are headed to, had given them tools which would help them re-adjust to civilian life, and had increased their sense of meaning connected with their military service. Data from hundreds of soldiers show that consistently, post-trek SOC scores are higher than pre-trek SOC scores; but it is still needed to measure SOC at later points and compare it to that of soldiers who have not been on compression treks, after controlling for several possible confounding variables.

Mental Preparation of First Responders and Exposed Populations

Facing potentially traumatic events is not restricted to combat soldiers. There are several roles in the military in which soldiers are exposed to situations where secondary trauma may occur. In essence, secondary trauma resembles PTSD, acquired through exposure to persons who have undergone the effects of trauma (Baird & Kracen, 2006; see Kerig, 2019 and Whitt-Woosley & Sprang, 2018 for a further discussion of secondary trauma). Soldiers who are paramedics, nurses, firefighters, military police investigators, and mental health officers, to mention a few, are exposed to difficult sights on a daily basis. These roles are not restricted to the military, and occur in many civilian circumstances as well (e.g., automobile accidents, natural disasters, and terrorist attacks; see a separate chapter in this Handbook on salutogenesis and the mental health of first responders). The IDF mental fitness branch is doing ongoing work with several military units in preparing and conducting workshops for enhancing mental fitness in the face of stressful situations that accompany daily work. Here, too, mental efforts scales are developed based on empirical examinations of the stress and self-efficacy connected with several activities which characterize different professional jobs. For example, in the investigations department of the military police, a "stress rating" was given to events and situations like interrogating family members of a suspect, handling body parts, interviewing sexual assault victims, lack of sleep, facing the anger of bereaved parents, and more. Workshops are later designed to address these contents and to help prepare for such adversities, with emphasis on what was found as most stressful.

Enhancing Mental Fitness in the Military of the United States, Australia, and Germany

The enhancement of mental fitness is not limited to the IDF and has not begun in the IDF (although, as aforementioned, there are programs such as iCOVER which has originated in the IDF and adopted by the United States). In other countries, it is usually called resilience, and perhaps, this reflects

a conceptual difference (explained earlier) between the IDF mental fitness branch and similar bodies in other countries. However, in the military context, theoretical and conceptual issues are of secondary importance. The starting point for most military studies and mental health training programs is the need to improve operational efficiency and reduce harm. Therefore, “whatever works is good.” There are several studies and programs around the world which seem to be doing the work, and I will shortly touch upon some of them, reflecting on their salutogenic nature.

The United States Armed Forces have introduced a “comprehensive soldier fitness program... to enhance psychological resilience among all members of the Army community.” (G. W. Casey, 2011, p. 1). The program has four components: (a) an online self-assessment tool to identify personal resilience strengths, (b) online self-help modules tailored to the self-assessment results, (c) training of master resilience trainers (see Reivich et al., 2011 for a detailed description), and (d) mandatory resilience training at army leader schools. The program is strength based. Rather than being treatment centered, it is focused on promoting mental health. In the words of the United States Army Chief of Staff, it is designed “so our soldiers can ‘be’ better *before* deploying to combat so they will not have to ‘get’ better *after* they return.” (G. W. Casey, 2011, p.1). This resembles the salutogenic orientation of the IDF mental fitness branch. Considering the aforementioned distinction between mental fitness and resilience, it seems that the use of the term “resilience” in the description of the American program is misleading; after all, the program’s name is “comprehensive soldier fitness.”

The United States military forces have additional, small-scale, programs in which positive psychology principles are applied. For example, in a study on resilience among naval recruits (Challburg & Brown, 2016), it was found that an intervention called “appreciative guided conversations,” using positive, experience-based questions, brought an increase in recruit self-reported resilience. The methodology of this intervention is based on the idea of appreciative inquiry (Verleynsen et al., 2014).

In the Australian government as well, the Department of Defence has put much work into developing mental health programs. The importance of this work was recognized especially following the return of veterans from Iraq and Afghanistan (Cohn et al., 2011), where Australian forces have been involved since 2001. For achieving the goal of maintaining and improving mental health, the Australian military aims to act in three main areas: leaders at all organizational levels must take responsibility for mental health issues; people need to take care of their own mental health and well-being with the same care as their physical health; and mental health care should be available where needed (Australian Government, Department of Defence, 2017). Accordingly, there have been several resilience-focused ini-

tiatives in the Australian Defence Forces, based on the transactional model of stress and coping (Lazarus & Folkman, 1984). For example,

The core resilience training program, referred to as BattleSMART (Self- Management and Resilience Training), aims to develop both arousal reduction techniques (i.e., the Self-Management component) and adaptive cognitive and behavioural coping strategies. Through the use of evidence-based cognitive-behavioural techniques, personnel are taught to identify adaptive from maladaptive responses to stressful situations and adjust their responses as necessary. (Crane et al., 2011, pp. 1-2)

Another intervention done in the Australian army was a cognitive behavioral therapy (CBT) program for soldiers in basic training, designed to reinforce adaptive coping strategies (Cohn & Pakenham, 2008). Although grounded on different theoretical premises—attribution theory (Weiner, 1985) and learned helplessness theory (Abramson et al., 1978)—this program resembles the IDF “inner strength” program described earlier and seems to be salutogenically oriented.

In the German Armed Forces (Bundeswehr), there is mandatory psychological training for soldiers before deployment, although this does not seem to be enough (Wesemann et al., 2016). One out of five soldiers returning from deployment in Afghanistan has suffered some sort of psychiatric disorder (Wittchen et al., 2013, in Wesemann et al., 2016). Therefore, a sophisticated computer-based, interactive training platform called CHARLY (Chaos Driven Situations Management Retrieval System) has been devised to enhance resilience and reduce negative attitudes toward mental disorders. It does so successfully, according to Wesemann et al. (2016), by extending soldiers’ coping strategies using stressful deployment scenarios. This, too, has similarities with the IDF’s inner strength program.

Empirical Research on SOC and Mental Health in Military Settings

The programs I have described earlier, in the IDF as well as in other military forces, were designed to enhance mental fitness (or resilience, or coping strategies, or psychological strength, etc.). SOC was not mentioned in the program descriptions, but it is clear that in many of them, there is an attempt to increase soldiers’ feelings of comprehensibility, manageability, and meaningfulness.

Besides programs and interventions, there have been numerous *empirical studies* in the military which have explicitly measured SOC and its correlates. Some of these studies were pathogenically oriented, that is, they examined SOC as a predictor of pathology. For example, in a study among a few thousand Finnish boys who attended obligatory military call-up, Ristkari et al. (2006) found that SOC mea-

sured at call-up was negatively correlated with follow-up measurements of anxiety, depression, antisocial personality, and substance use disorders. Mehlum (1998) studied hundreds of Norwegian conscripts in basic training and found SOC to be a good predictor of suicidal ideation. Likewise, in a Greek sample of over 1,000 male conscripts (military service is compulsory for men in Greece), Giotakos (2003) found a strong negative correlation between SOC scores and suicidal ideation. In a recent meta-analytic study, comprising 47 independent samples of people over age 18, a strong correlation (-0.41) was found between SOC and PTSD symptom severity (Schäfer et al., 2019). Although this meta-analysis was not specific to military populations, the centrality of PTSD in military mental health research renders the study of SOC as a predictor of PTSD symptomatology in the military most important.

In a more salutogenic orientation, Giurcă et al. (2017) studied factors that may contribute to mental health adjustment and maintenance among Romanian combat and combat-support personnel who were anticipating deployment to war zones in Afghanistan. They found that the most resilient soldiers, who used efficient and adaptive coping strategies, had the strongest SOC.

Looking at the family context, for countries that send troops to other parts of the world for long periods of time, the functioning and well-being of soldiers' families become an important concern. Several studies have been done to explore the effects of the separation between army personnel and their spouse or children on various mental health variables. Here, I will only mention one study in which personal and sociodemographic factors affected the well-being of wives of American personnel on deployment in Iraq (Everson et al., 2013). They found that SOC had an ameliorating effect: women with a stronger SOC showed more contentment with their lives than women with a weaker SOC.

Hochman-Portughies (2018) found that personal SOC of combat soldiers in basic training, as well as their commanders' sense of community coherence, predicted soldiers' coping strategies and well-being. The importance of this study lies in the finding that commanders' SOC is most relevant to the well-being of their soldiers. This finding supports the salutogenic model's emphasis on social support as a salutary factor (Aaron Antonovsky, 1979, 1987). Indeed, in a salutogenically oriented and unusual retrospective study of 103 former German child soldiers of World War II (mean age at the time of the study was 78), recognition as a survivor by significant others and SOC were significant predictors of posttraumatic growth (Forstmeier et al., 2009).

The IDF mental fitness branch has also begun to conduct studies that focus on the relationship between soldiers' SOC and their well-being. When I first joined the mental fitness branch, I was asked to help a young officer write a report about a study he had done in a population of observation

systems operators (hence OSOs). OSOs are stationed along the borders, and their job is to detect and monitor movement along the border by means of cameras and other technologies. They need to decide, at times in a matter of seconds, whether or not an observed movement should be considered suspicious, and whether or not to send troops to the site. This is an intense and very responsible job, and OSOs try very hard to go through a shift with no false negatives (not sending troops when they should have) or false positives (sending troops when it was unnecessary). In the study, data were collected using psychological adjustment and well-being questionnaires, as well as focus groups. OSOs were asked what, in their eyes, contributes to their well-being and their operational functioning. There were three general categories of answers: (a) we perform better the more we understand what is expected from us, (b) we perform better the more resources we feel we have that are relevant to the mission, and (c) we perform better and feel well when we find meaning in our job. When I read the draft handed to me by the officer, I said "That's SOC!". He did not know what I was talking about, but when the paper was published (Ohayon et al., 2018), the Discussion section was written in terms of the salutogenic model.

Since then, the mental fitness branch has not only been the initiator of SOC studies in the military; there have been numerous requests from several units to conduct SOC studies with the mental fitness branch. Some examples (unpublished yet) are: (a) SOC as a predictor of success in advanced training in an infantry brigade, (b) SOC of combat versus combat-support women soldiers, (c) SOC as a predictor of suicidal behavior, (d) SOC as a predictor of visits to the doctor during basic training, (e) SOC as a predictor of empathy and burnout in roadblock units, and (f) predictors of well-being and operational functioning among OSOs (a replication of Ohayon et al., 2018, this time directly measuring SOC).

The Growing Awareness of SOC in the IDF

As can be seen, SOC plays a double role in the IDF mental fitness branch. One is SOC as a target, which—when reached—will in turn help to increase operational efficiency and decrease chances for mental difficulties. Enhancing soldier's mental fitness through strengthening their SOC by specifically addressing the issues of comprehensibility, manageability, and meaningfulness seems like a promising path to take and is already partly evident in the several intervention programs described earlier, which have counterparts in other countries. For example, the "inner strength" project described earlier supplies soldiers with a toolbox of resources to cope with stressful situations during basic training and thus increases their feeling of manageability. Another recent

example comes from the COVID-19 crisis: The mental fitness branch was asked to provide principles and guidelines for military and civilian medical personnel and army commanders, regarding the maintenance of their own well-being as well as the well-being of patients and soldiers. The three basic principles that were emphasized were: (a) reducing uncertainty and knowing what to expect (as best as could be predicted), (b) the importance of social support as a coping mechanism, and (c) finding meaning in their jobs and importance in their contribution to combatting the pandemic.

The second role is SOC as a predictor in studies of performance and well-being. The aforementioned studies are already on the go (middle of 2021), and more are in line. One that has already been completed was conducted during the COVID-19 pandemic in April 2020. We examined SOC as a predictor of well-being, burnout, state anxiety, and sense of threat among Israeli Home Front Command reserve soldiers who were assigned to assist in a medical emergency call center (Avishai Antonovsky et al., 2021; Danon et al., 2020). SOC was found as a strong predictor of the aforementioned variables (and stronger than self-efficacy).

In addition, the mental health department has a 3-year study program for mental health officers; the salutogenic model is already part of the curriculum, and students are encouraged to conduct small-scale studies using the measurement of SOC.

To recapitulate, it is of utmost importance to understand that the IDF Department of Health and Well-being is engaged in *health promotion*, not only in treatment and prevention. Of course, promoting health should eventually also prevent disease and the need for its treatment, but the focus is on helping all people swim upstream, not only on pinpointing people at risk and preventing their fall into the River. This understanding has spread from the department's headquarters into the whole mental health system in the IDF and has been disseminated into several units. In the American military, the Chief of Staff has publicly recognized the need for mental health enhancement (G. W. Casey, 2011). That ensures two parallel processes of raising the awareness to mental health promotion in the military: bottom-up and top-down. Along the line, attention should be given to soldiers who say, "I am mentally strong, I don't need *you* to teach me. I am tough. I love challenges and I'm completely fit for tackling them, for the sake of myself, my unit and my country." This expresses what Aaron Antonovsky has termed "fake SOC", that is, an overly confident attempt to present oneself as having a strong SOC while there are signs that point differently. On a small, 43-year-old card, with typewritten comments on one of the interviews which were the foundation for the SOC-29 (orientation to life scale), Aaron Antonovsky wrote: "This is a classic. A textbook of fake SOC... The only important thing is challenge... Life is constant pressure [and] he wouldn't want it otherwise... But... beyond the close problems of his com-

42. SOC: 9 but fake

This is a classic, textbook case of the fake SOC, as it relates to Type A personality. Everything in life is structured, based on "rational decision-making". The only important thing is challenge and coping with it. Life is constant pressure; he wouldn't want it otherwise. He dismisses conflicts, failures, shortcomings (e.g., 1st company, family relations) too easily. But the only real hint of the fake is when he talks of the future - beyond the close problems of his company, he doesn't have any picture. Yet it would take a much more profound interview to test whether the SOC is as rigid as I think it is. This man will not bend but he may well break.

Fig. 32.1 Card typed by Aaron Antonovsky summarizing interview #42. The interviewee was evaluated as having a strong (9 out of 10), but probably fake, SOC

pany, he doesn't have any picture... This man will not bend but he may well break." (See Fig. 32.1).

Some Insights and Recommendations

Considering all the physical, emotional, and mental difficulties posed by military service, how do most recruits make it through? After 40 years of salutogenic research, the natural, almost instinctive, answer would be—"they have a strong SOC!" However, in the military, the situation is a bit complex and calls for some refinement of the straightforward answer. As I pointed out at the beginning of this chapter, military service is a unique and stressful environment, especially for new recruits and combat soldiers. There is not always time to explain everything, or to provide the tools, or to talk about meaning.

As I see it, the most important component of a strong SOC which would contribute to operational efficiency is manageability. If you do not have the resources, the job will not get done. In accordance with a large body of literature and based on empirical evidence collected by the mental fitness branch, the single most important resource acting as a salutary factor in enhancing mental fitness of soldiers and strengthening their SOC (and, in turn, preventing psychopathology and suicide) is *social support* (see Cohn et al., 2011; Crane et al., 2011; Layman et al., 2019; Lubin et al., 2018). When asked "what helped you make it to the end of the 30-kilometer hike?" the answer is usually "my buddies" (and sometimes—"my supportive commander"). This finding is in line with results of non-military studies, such as an evaluation study of a program for further education for students with mental health problems (Morrison & Clift, 2006). Consequently, preparatory programs and interventions give

much weight to social support and techniques for boosting group cohesion.

Therefore, it is important to emphasize the importance of social support in officers' training, along with stressing the difficulty that goes with uncertainty. This analysis, in terms of the relative importance of SOC components, assumes that although SOC is the core theoretical concept in salutogenic theory and the central unit of measurement, it may be viewed as a multidimensional construct (Eriksson & Mittelmark, 2017) rather than a unidimensional one, like Aaron Antonovsky (1979, 1987) has first formulated it.

Besides strengthening SOC at a personal level, investing in group SOC would be worthwhile. Following the original conceptualization of SOC as a personal orientation to life, there have been theoretical and empirical derivatives such as sense of family coherence (Sagy & Aaron Antonovsky, 1992), sense of community coherence (Mana et al., 2016), and sense of national coherence (Mana et al., 2019). Considering the importance of group cohesion in the military, the IDF mental fitness branch has been measuring the sense of *unit* coherence by using a set of six questions (two belonging to each SOC component) asking about the military unit. For example, "How often does your unit have the feeling that there is little meaning in military operations?" As expected, moderate positive correlations exist between soldiers' personal and unit SOC. The idea of the collective (unit, battalion, brigade, etc.) facet of SOC, as well as the role of family social support, should be further explored in various military contexts.

Finally, it seems that military forces in different countries have been putting efforts into improving their personnel's mental health (even without theoretical familiarity with salutogenesis). Hence, I recommend strengthening contacts and cooperation between military forces. This cooperation already happens in conferences (e.g., the biannual Shores conference, which brings together the American and Israeli medical corps) and should take further practical steps in mutual research and practice. In particular, I would like to see more use of the term "mental fitness" instead of "resilience" where appropriate, and dissemination of salutogenic language. I believe teaching young commanders to think in practical terms of comprehensibility, manageability, and meaningfulness would be most beneficial to their soldiers' well-being.

Epilogue

Following a few years of work with the IDF, I can say with satisfaction that "salutogenesis" and "SOC" are familiar expressions not only among military mental health professionals but in many training facilities of combat, combat-support, and first responders' units as well. As I write these

words, a large file with SOC questionnaire data is waiting in my computer to be analyzed. It is therefore time to complete this chapter and go back to salutogenic work.

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