



MIND FITNESS
TRAINING INSTITUTE

**Mindfulness-based Mind
Fitness Training (MMFT)[®]**

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Today's complex, fluid, and unpredictable operational environment both demands more from the military in terms of mission requirements *and* exposes troops to more stressors and potential trauma than ever before. Mindfulness-based Mind Fitness Training (MMFT)[®] is a 20-hour course designed to improve performance and enhance resilience for individuals working in an extreme stress environment. MMFT blends (1) mindfulness skills training with (2) information and skills that promote stress resilience and (3) concrete applications for the operational environment. The result is a “mental armor” which both increases warriors’ operational effectiveness and enhances their capacity to bounce back from stressful experience.

STRESS AND MILITARY SERVICE

Military service is inherently stressful. Servicemembers are expected to deal with significant and potentially traumatizing stressors, such as threats to individual safety, the necessity of inflicting harm on others, and exposure to injury, death and significant human suffering.¹ Combat exposure has been linked to a range of negative health consequences, including posttraumatic stress disorder,² depression,³ substance abuse,⁴ and physical health problems.⁵ Combat aside, deployment itself presents a host of additional stressors, such as difficult living conditions, boredom, and family separation.⁶ Current operations in Afghanistan and Iraq expose troops to unprecedented challenges. Multiple deployments exact a high toll, including lower morale, more mental health problems and more stress-related work problems.⁷ Moreover, counterinsurgency blurs distinctions between enemy combatants and civilians, leading to excruciating decisions about the use of lethal force based on ambiguous information. Finally, conservative rules of engagement (ROE) often place service-members in dangerous circumstances with limited options; for example, more than 60 percent of soldiers in Iraq reported experiencing a threatening situation in which the ROE prevented them from responding.⁸



Stress and Performance

Stress is produced by real or imagined events that are perceived to threaten an individual's physical and mental well-being. Today, stress is commonly understood to mean external events or circumstances, and as a result, we tend to think of stress as something *external* to us. However, as originally conceived, stress is a *perceived, internal* response to a particular challenge or stressor.⁹

A variety of research indicates that chronic stress can produce harmful changes in the brain and body.¹⁰ The right amount of stress will actually promote peak performance.¹¹ However, excessive stress has physiological and psychological consequences. Physiologically, stress has been linked to disturbed sleep habits, low energy, headaches, chronic pain, cardiac complications, shortness of breath, gastrointestinal difficulties, hypertension, and compromised immunity.¹² Cognitively, stress can reduce working memory and the capacity to process new information and learn.¹³ Stress may also bias individuals toward reactive, unconscious emotional decision-making.¹⁴ Psychologically, prolonged stress can contribute to anxiety, depression, substance abuse, high risk behaviors and a range of stress disorders, including post-traumatic stress disorder.¹⁵

Stress Inoculation

Research shows that individuals vary in their physiological and psychological stress response. This stress response is malleable and can be reduced with training.¹⁶ The military already understands this fact and prepares its members through “stress inoculation training.” Stress inoculation training not only habituates troops to the stressors they are likely to experience during missions but also increases confidence in their ability to take constructive action against such stressors.¹⁷

However, stress inoculation can have undesirable consequences. It may actually undermine long-term resilience if the body does not return to its baseline after being stressed.¹⁸ In addition, stress inoculation training can cause cognitive degradation, such as memory loss, problem-solving deficits, and difficulties with concentration.¹⁹ MMFT can make stress inoculation training more effective in three important ways.

First, MMFT provides fundamental skills for ensuring that stress inoculation results in increased resilience. By exposing individuals to stressors, stress inoculation training purposefully pushes participants out of balance. The feeling of being “stressed out” is caused by an activated state in the body's autonomic nervous system. Ideally, when the challenge has passed, the nervous system returns to balance and the stress activation cycle is complete. It is the movement into stress followed by the completion of the stress activation cycle that builds resilience.²⁰ However, if the stress activation cycle is not completed effectively, resilience is actually compromised. Stress inoculation training that does not ensure full recovery may be habituating individuals to stress, but it is not building resilience. MMFT helps build resilience



by conditioning the body and mind to complete the stress activation cycle and return to balance.²¹

Second, MMFT skills can counteract the cognitive degradation that research has shown often accompanies stress inoculation training. Among participants who engage in MMFT exercises on a regular basis, MMFT has been shown to build working memory capacity – the mental capacity that allows us to focus on demanding cognitive tasks and/or emotionally challenging situations.²²

Third, MMFT skills can help individuals to perceive and relate to stressors differently. As explained above, stress is a perceived response. When we perceive an experience as overwhelming or threatening, stress is the result. Therefore, by shifting how we appraise an experience, we can modulate stress.²³ MMFT participants learn to differentiate between *their ideas about* an experience and the *direct physical sensations of* that experience. By directing our attention to the direct physical sensations rather than the ideas, we can limit the negative appraisal of experience and decrease stress. Indeed, MMFT participants have reported a shift from avoiding stressors to welcoming them as a challenge.

MIND FITNESS AND RESILIENCE

It is well understood that physical fitness supports recovery from physical exertion. Similarly, mind fitness supports stress resilience, or the ability to bounce back quickly after a stressful experience. Where physical fitness can help protect the body from physical injury, mind fitness can help create a “mental armor” to protect the mind.

There is a profound parallel between physical and mental fitness. Just as physical fitness relies on repeated exercises to generate specific muscular and cardiovascular changes, mind fitness relies on attention and concentration exercises to effect changes in neural structures²⁴ and cognitive functions.²⁵ Just as the body is physically changed by exercise, areas of the brain may shrink or expand—become more or less functional—based on experience. This capacity is called neuroplasticity.²⁶ Whereas it was once believed that the structure of the brain did not change after late childhood, contemporary research reveals a dynamic relationship between mind activity and brain structure continuing well into adulthood. For example, by engaging in and repeating certain mental processes, the brain becomes more efficient at those processes. In other words, experience and training can lead to functional and structural reorganization of the brain.

Building on this concept of neuroplasticity, the core exercises of MMFT are aimed at developing a fit mind that can recover quickly from stress. These exercises are called mindfulness training.

Mindfulness

Mindfulness has been described as a process of “bringing one’s attention to the present experience on a moment-by-moment basis”²⁷ and as “paying attention in a particular way, on



purpose, in the present moment and non-judgmentally.”²⁸ Paying attention is not the same thing as thinking, although we often equate the two. With mindful attention, we can directly perceive an experience without the filter of biases and judgments that often accompany our thoughts about an experience.

There is growing empirical evidence that increasingly supports the efficacy of mindfulness-based interventions. Clinical studies demonstrate that civilian patients who participated in mindfulness-based programs saw improvement in many physical and psychological conditions and reported a decrease in mood disturbance and stress related to these conditions.²⁹ Similarly, numerous studies have documented how mindfulness training favorably alters emotional experience by reducing negative mood³⁰ and by improving positive mood and wellbeing.³¹

While much of the mindfulness research has focused on clinical populations, recent studies in healthy, non-clinical populations have demonstrated mindfulness training’s beneficial effects for:

- improving aspects of attention;³²
- decreasing reaction time and increasing efficiency of mental processing;³³
- increased pain tolerance;³⁴
- increasing immune functioning and producing brain changes consistent with more effective handling of emotions under stress;³⁵
- reducing negative mood, perceived stress and rumination;³⁶ and
- reducing symptoms of burnout and improving life satisfaction among health professionals.³⁷

Although this research draws from civilian populations, its findings clearly have implications for the military context. Mindfulness training could help optimize warrior performance by cultivating competencies critical for the modern battlefield.

Competencies of a Fit Mind

Just as a fit body has endurance, strength, and flexibility, a fit mind has efficient capacities in all four categories: mental agility, attention, emotional intelligence, and situational awareness.

Mental Agility

Mental agility is cognitive and psychological adaptability, or the ability to think rapidly and creatively under stress. The U.S. Army’s *Army Leadership* field manual (FM 6-22) defines this trait as “a flexibility of mind, a tendency to anticipate or adapt to uncertain or changing situations...It helps break from habitual thought patterns, to improvise when faced with conceptual impasses, and quickly apply multiple perspectives to consider new approaches or solutions.”³⁸



Attention

Attention is the ability to focus on relevant information and concentrate on the task at hand, while filtering out irrelevant information. Irrelevant distractions can come from either the *external* environment or the *internal* environment (including emotions, mind-wandering or unpleasant physical sensations in the body). The ability to sustain focus and filter out distractions in a continuous and ongoing way provides the basis of effective performance. Attention supports vigilance and alertness without an individual becoming jittery and jumpy, which can lead to overreacting and acting in ways that harm mission effectiveness.

Emotional Intelligence

Emotional intelligence is comprised of four skills: knowing one's own emotions, regulating one's emotions, recognizing emotions in others, and handling relationships effectively.³⁹ Individuals with high emotional intelligence have a better capacity for regulating emotional responses, seeing situations from others' perspectives, and tolerating challenging situations and people. Moreover, decision-makers with high emotional intelligence are more aware of their own strengths and weaknesses and more open to feedback, which can lead subordinates to feel more comfortable sharing information with them. Both of these traits help such leaders make better assessments of themselves, other people and their environment.⁴⁰ Thus, emotional intelligence can lead to improved team cohesion and better situational awareness.

Situational Awareness

Situational awareness refers to an individual's ability to absorb information accurately, assess it, "see the big picture," and then respond most appropriately in light of that information. Situational awareness is commonly understood as pertaining exclusively to the *external* environment – for example, being aware of the weather, terrain, and the various actors in the battlespace. However, individuals can obtain critical information about a situation from the *internal* environment as well. Indeed, internal experiences – such as emotions, pain or the autonomic nervous system's "fight or flight" response – also convey information that is necessary for a comprehensive understanding of the situation. For example, being able to assess a squad's physical limits accurately in light of its members' injuries, exhaustion, and morale is necessary for developing realistic courses of action. Thus, situational awareness has three components – awareness of self, others, and the wider environment.

Mind Fitness and Operational Effectiveness

Although warriors can train for anticipated tasks and missions, the inherent ambiguity of population-centric operations demand that they be prepared to meet unexpected challenges that are enormously psychologically and cognitively taxing.⁴¹ Distributed operations have increasingly pushed critical responsibilities down to small teams leaders. With this increased responsibility, there is a need for new capabilities. The best preparation for operating effectively



within this environment is a fit mind, characterized by these capacities of mental agility, attention, emotional intelligence, and situational awareness.

Indeed, optimal combat readiness requires three things: (1) mission essential knowledge and skills; (2) physical fitness; and (3) mind fitness. All three components are crucial for equipping warriors to handle the challenges and stressors of deployment. The military devotes substantial resources to the first two categories, both in terms of funding and time on the training schedule. However, there is virtually no focus on mind fitness training today. MMFT is designed to address this deficiency.

THE MMFT COURSE

MMFT (pronounced “M-fit”) is a 20-hour course taught over eight weeks and is specifically designed for the pre-deployment context. MMFT provides skills training in two key areas: mindfulness skills and stress resilience skills. These skills are made accessible and relevant with applications to the real-world operational environment.

Mindfulness Skills Training

First, MMFT cultivates mindfulness skills with specific exercises. The fundamental skill common to all mindfulness exercises involves attentional control and concentration. At first, exercises emphasize building concentration by focusing on one object of attention, such as the breath, contact between the body and the floor or chair, or sensations within specific body parts. This single focus of attention is maintained throughout a practice session; when attention wanders, it is returned to the object of attention. Later in the course, exercises require attending to body sensations during movement and “shuttling” the attention between inner sensations and outer experiences (i.e., sights or sounds).

Stress Resilience Skills Training

Second, MMFT provides skills training and information for understanding and coping with the physiological and psychological effects of being exposed to extreme and prolonged stress. Participants learn about the stress response, especially how the body’s autonomic nervous system operates during events that are perceived to threaten survival. Such events can lead to dysregulation. Participants learn how to use focused attention to re-regulate the body and mind following an experience of extreme stress.

Operational Applications

Finally, MMFT’s curriculum is tailored for the military pre-deployment training cycle by explicitly addressing downrange applications. The course creates a meaningful context for its skills training in three ways. First, it provides many examples for how mindfulness is relevant to the counterinsurgency environment. Second, it examines how mindfulness supports



interpersonal effectiveness as a mission-critical skill for small unit actions and population-centric operations. Third, MMFT builds self-knowledge, which in turn builds team resilience and effectiveness. In our pilot study, leaders reported an improved ability to recognize emotions in themselves and others, which helped them to be more open to feedback from subordinates. Team members reported more awareness of individual strengths and weaknesses, which led to more effective task delegation and more cooperative behavior within the team.

A Unique Synthesis

In summary, MMFT blends (1) mindfulness skills training with (2) information and skills that promote stress resilience and (3) concrete applications for the operational environment. MMFT's novelty rests in this synthesis. Concrete applications and contextual information demonstrate the utility of mindfulness skills and make them accessible, while mindfulness skills support the body's natural stress self-regulation process. This blend of skills training and contextual understanding helps practitioners learn *how* to be aware, *what* they need to be aware of and *why* they need to be aware. Ultimately, the result is the ability to *respond effectively* to stressors, both internal and external, rather than *react habitually* in ways that may undermine individual or group objectives.

CONCLUSION

New research into neuroplasticity and clinical studies of the effects of mind fitness training show that humans can modify neural pathways and strengthen skills to make better decisions. Today, stress is commonly understood to mean external events or circumstances, and as a result, we tend to think of stress as something external to us. However, as originally conceived, stress is a perceived, internal response. Mind fitness training can protect against stress by permitting more adaptive responses to stressors, providing a type of “mental armor.” While military stress inoculation training can habituate troops to a variety of stressors, such training can degrade cognitive performance. Mind fitness training could complement and strengthen stress inoculation training by buffering against cognitive depletion, helping troops to perceive and relate to stressors differently, and helping them complete the stress activation cycle.

In addition to its beneficial effect on stress, mind fitness training can help to optimize warrior performance by cultivating competencies critical for today's security environment. The security environment today is complex and rapidly changing, and those who work in this environment need new competencies in mental agility, attention, emotional intelligence and situational awareness. Mind fitness training could provide greater cognitive and psychological resources for troops to act ethically and effectively in today's morally-ambiguous and emotionally-challenging operational environment.

Finally, beyond its immediate effects for managing stress and enhancing mission performance, mind fitness training is also protective: it builds resilience and leads to faster recovery from cognitive degradation and psychological injury. While warriors may choose to



engage in mind fitness exercises to optimize their performance downrange, the protective effects will still be accruing – possibly leading to a decrease in psychological injury (such as PTSD, anxiety, and depression) upon returning home. As a result, mind fitness training could also reduce the number of warriors in need of professional help, thereby reducing caregiver burnout among the armed forces’ chaplains and medical and mental health professionals. In other words, mind fitness training may not only build the competencies our force needs to execute its missions more effectively, but in the process, it may also build resilience to stress and trauma, over the longer-term.

Notes

¹ Adler, McGurk, Stetz, & Bliese (2003).

² Kaylor, King, & King (1987).

³ Erickson, Wolfe, King, King, & Sharkansky (2001).

⁴ Boscarino (1981).

⁵ Taft, Stern, King, & King (1999).

⁶ King, King, Vogt, Knight, & Samper (2006).

⁷ Mental Health Advisory Team (2008).

⁸ Castro, Hoge, & Cox (2006).

⁹ See Lazarus (1966) for the role of cognitive appraisal in the perception of stress; see Lazarus (1999) for the relationship between stress and emotion.

¹⁰ Rosch (1997); Bremner (2005); Scaer (2005).

¹¹ Yerkes & Dodson (1908).

¹² Sapolsky (2004); Cohen, Janicki-Deverts, & Miller (2007).

¹³ Sweller (1994); Kuhlman et al. (2005).

¹⁴ Rosen (2005).

¹⁵ For a general discussion see Scaer (2005); Bremner (2005); Sapolsky (2004); Deployment related stressors see King et al. (2006); For childhood stressors and subsequent health risks see Felitti et al. (1998).

¹⁶ Lieberman, Tharion, Shukitt-Hale, Speckman, & Tulley (2002); Morgan et al. (2001); Bohnen, Houx, Nicolson, & Jolles (1990).

¹⁷ Dienstbier (1989).

¹⁸ Scaer (2001; 2005).

¹⁹ Lieberman et al. (2005); Lieberman, Tharion, Shukitt-Hale, Speckman, & Tulley, (2002); Morgan et al. (2004); Morgan, Doran, Steffian, Hazlett, & Southwick (2006).

²⁰ Lyons, Parker, Katz, & Schatzberg (2009); Feder, Nestler, & Charney (2009); Haglund, Nestadt, Cooper, Southwick, & Charney (2007).

²¹ For discussions of the role of mindfulness in autonomic regulation, see Goleman & Schwartz (1976); Ogden, Minton, & Pain (2006).

²² Jha, Stanley, Kiyonaga, Wong, & Gelfand (2010); Stanley & Jha (2009)

²³ For a discussion of the role of mindfulness in this “reperceiving” process, see Shapiro, Carlson, Astin, & Freedman (2006).

²⁴ Hölzel et al. (2011); Lazar et al. (2005).



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- ²⁵ Jha, Krompinger, & Baime (2007); Slagter et al. (2007); Chambers, Lo, & Allen (2008); van den Hurk, Giommi, Gielen, Speckens, & Barendregt (2010)
- ²⁶ Doidge (2007); Begley (2007).
- ²⁷ Marlatt & Kristeller (1999), p. 68.
- ²⁸ Kabat-Zinn (1994), p. 4.
- ²⁹ For an overview of mindfulness-based interventions and the empirical results of clinical studies, see Hofmann (2010); Baer (2003; 2006); Grossman et al. (2004); Brown, Ryan, & Creswell (2007).
- ³⁰ Teasdale et al. (2002).
- ³¹ Carmody & Baer (2008); Broderick (2005).
- ³² Jha, Krompinger, & Baime (2007); Slagter et al. (2007); Chambers, Lo, & Allen (2008); Cahn & Polich (2009).
- ³³ For reaction time, see Kaul, Passafiume, Sargent, & O'Hara (2010); For efficiency of mental processing, see Slagter et al. (2007); van den Hurk, Giommi, Gielen, Speckens, & Barendregt (2010)
- ³⁴ Perlman, Salomons, Davidson, & Lutz (2010); Kingston, Chadwick, Meron, & Skinner (2007)
- ³⁵ Davidson et al. (2003).
- ³⁶ Jain et al. (2007); Broderick (2005); Ortner, Kilner, & Zelazo (2007).
- ³⁷ Mackenzie, Poulin, & Seidman-Carlson (2006).
- ³⁸ Headquarters, Department of the U.S. Army (2006).
- ³⁹ Goleman (1996).
- ⁴⁰ For a more detailed discussion of emotional intelligence and military leadership, see Abrahams (2007).
- ⁴¹ Monfries (2007).



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About the Mind Fitness Training Institute



The Mind Fitness Training Institute is a 501(c)(3) non-profit research and training organization dedicated to teaching skills that enhance performance and build resilience to stress, change and uncertainty. Our training prepares individuals and groups to learn, adapt, and succeed in highly challenging operational environments.

Our Core Assumptions:

- There is a profound parallel between physical and mental fitness. Anyone can train his or her mind to improve mind fitness, and mind fitness can be maintained even in demanding and stressful environments by regularly practicing mind fitness exercises.
- The human mind-body system has the inherent capacity to return itself to balance and health.
- Mind fitness can support the natural self-regulation process that allows each of us to function at an optimal level.
- Mind fitness can enhance our capacity to operate effectively in stressful, uncertain, and complex environments, while simultaneously protecting against the stressors inherent in them.
- A person with a fit mind and body is more likely to share that strength and balance with his or her organization, contributing to organizational effectiveness and mission accomplishment.

Our Vision:

- To help individuals use mind fitness skills to be more effective, centered, autonomous, and self-actualizing in their personal and professional lives.
- To teach individuals how to access their capacity to accomplish goals with balance, wisdom, and ease, and thereby improve organizational effectiveness.
- To build individual and organizational resilience to today's demanding, stressful, and uncertain operational environments.



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