

Beyond Chanting “OM”: The Power Behind Mindfulness-Based Mind Fitness Training for Soldiers

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Dr. Elizabeth Stanley shares her research and insight into using MMFT with soldiers and civilians.

Picture a crazy busy day: The alarm screeches you awake at 5am. You exercise, walk the dog, make breakfast, pack lunches, and get the kids to school all before you arrive at work. At the office it never stops: emails, phone calls, meetings, deadlines. Then home for cooking, cleaning, homework help, bills plus who knows what other needs to fill and tasks to complete. Then, finally, sleep, though not enough. Stressful, right?

Replace that day with a one in combat. The heat is oppressive, silt and dirt ever present. Every step taken, every mile driven may be your last. You're trying to stay alive, keep your unit safe, follow through with your mission — all without being able to let your guard down for even a split second. You do not get time, ever, to process what is happening around you. A different kind of stress, right?

Whether from one traumatic event or from chronic stress that silently accumulates over time, that button inside you is flashing, red and relentless.

Practices like yoga, tai chi, mindfulness, and meditation have proved to be good for relaxing and de-stressing both mind and body, but what if you took the benefits from say, mindfulness and meditation, and upped the ante? That is just what Elizabeth Stanley, PhD has done.

BrainLine: What is Mindfulness-Based Mind Fitness Training (MMFT, pronounced “m-fit”)?

Dr. Elizabeth Stanley: MMFT provides skills training in two key areas — mindfulness and stress resilience. In essence, it cultivates mindfulness through specific exercises that train the ability to pay attention and notice what is happening *while* it is happening, without the mental filters of judgment, elaboration, or emotional reactivity.

BL: How is it different from other kinds of mindfulness like meditation that simply focuses on the breath?

ES: The mindfulness skills taught in MMFT are specific exercises that train attentional control and interoceptive awareness — which is awareness of sensations in the body. Resilience self-regulation skills are developed with exercises to monitor and regulate the physiological and psychological effects of extreme or prolonged stress in the body and mind. These body-based self-regulation skills make MMFT distinct from other mindfulness-based approaches. The MMFT exercise sequence has unique exercises to build interoceptive awareness gradually, to support the re-regulation of the body and mind after prolonged stress or trauma. If someone has experienced a lot of prolonged stress or trauma, too much interoceptive awareness too fast can actually increase symptoms of distress, before someone has developed the capacity to tolerate and regulate those symptoms.

BL: How did you get involved in this work in the first place?

ES: I originally came to mindfulness through my own health issues. As a former US Army captain, I began practicing mindfulness to deal with my own PTSD after two challenging deployments. [She served in Bosnia, Germany, Macedonia, Italy, and Korea as a US Army military intelligence officer.] I first found yoga, then started practicing mindfulness meditation. Eventually I went on a week-long retreat. The first two days were so difficult, but by the third day something truly shifted in me. The next year, I went on a much longer retreat where I had a vision to create a training for people who may have had prolonged exposure to stressful environments. That’s how MMFT came into being.

BL: Before we get to what that vision catalyzed, tell me about nervous system dysregulation that can occur from trauma or ongoing stress to the body and mind.

ES: Well, as I continued my extensive training in mindfulness, I learned about automatic nervous system dysregulation, from which I was suffering.

We all know about the fight-or-flight response that occurs when we perceive that we are under threat, such as in a life-or-death situation. Think about a caveman. Suddenly, there’s a tiger chasing him, wanting to eat him and the caveman has to run away to save his life. He is reacting, with flight, to a mortal threat. But once he is safe in his cave, his central nervous system can calm down and re-regulate. Humans are wired to fight against or flee from a life-threatening situation, a process which mobilizes a lot of energy in the body and mind, but we are also wired to let that stress go after the threat is no longer present. However, we experience this same stress response to threats that may not be life-or-death situations, and often we do not fully down-regulate after the stress response even though we are wired to do so. Sometimes, there is no time in the cave after a blast or fire fight for a soldier’s nervous system to re-regulate. Other times, because of prolonged exposure to stressful environments or situations and the fast pace of multiple stressors, we never fully down-regulate between stressors and our system becomes dysregulated.

There are three versions of automatic nervous system dysregulation. The first one can show up as hyper-arousal — panic attacks, hypervigilance, hyperactivity, insomnia, those types of symptoms. The second type is hypo-arousal with symptoms like depression, disassociation, spaciness, chronic fatigue, and low energy. And the third can involve both types. I was definitely the first type, on overdrive 24/7 ... I completed coursework for a PhD and an MBA at once. It was insane.

BL: So once you learned all this and you had your vision to help others who were suffering from PTSD and nervous system dysregulation as you had, what did you do?

ES: Well, I began to think of the relevance of mindfulness to the particular challenges that service members are exposed to. And as an academic who studies what makes militaries effective, I thought that providing mindfulness and resilience training *before* deployment might help soldiers function more effectively while in combat and help with symptoms from trauma after they returned.

BL: So being an academic, you launched a research study.

ES: Right. In 2007, things started to come together. I found my first research partner, Dr. Amishi Jha, and was approached by several funders. In 2008, with funding from the John Kluge Foundation and the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), we put together a pilot study with about 60 Marine Reservists preparing for combat deployment to Iraq. Some Marines would receive the eight-week MMFT program I designed, and some would not. Again, I was especially interested in looking at how this training would impact troops pre-deployment because I knew that building up people’s resilience before facing challenges would help them during

and after their experiences, almost like building up your immunity so you are less apt to succumb to the flu.

We were blown away by the results; they were far better than we expected! Earlier research with military stress inoculation training (such as pre-deployment training) had shown that such training is associated with declines in cognitive performance, in terms of attention and working memory capacity (WMC), which is the ability to retain and use task-relevant information while holding distracting information at bay. We hypothesized that MMFT would help to counteract such cognitive degradation, if the Marines practiced the exercises daily. We also expected that Marines who did not receive MMFT, as well as Marines who did not practice consistently outside of class, would likely show this pattern of cognitive degradation seen in earlier research. So, in our study, we had three groups: Marines who received no MMFT training before their deployment; civilians who received no MMFT training but were not preparing to deploy; and Marines who received MMFT.

All of these participants completed a battery of computer tests to measure their attention skills and working memory capacity skills before and after the eight-week MMFT training period. Those Marines who received MMFT also kept logs of how much mind fitness practice they did outside of the MMFT class sessions. Through their logged practice, Dr. Jha’s lab divided the MMFT Marines into a “high-practice group” (who practiced on average 12 minutes of MMFT exercises each day outside of the MMFT class sessions) and a “low-practice group” (who practiced on average about three minutes each day outside of class). The data mostly supported our initial hypotheses. As we expected, the civilian group did not see any cognitive declines, because they were not experiencing any stress inoculation training. Likewise, the Marines who did not receive MMFT and the “low practice group” Marines showed the expected cognitive declines that usually accompany stress inoculation training. In addition, these two Marine groups showed an increase in their perceived stress levels, an increase in negative emotions, a decrease in positive emotions over the course of the pre-deployment training period. In sharp contrast, the “high-practice group” Marines not only preserved their attention skills and working memory capacity but they actually *improved* their cognitive performance, despite the stress inoculation training. This was a great surprise to us! In addition, the “high-practice group” Marines neither experienced the increase in perceived stress or negative emotions, nor the decrease in positive emotions that the other Marines experienced — even though the pre-deployment training period was objectively quite stressful. It’s important to note that we use working memory capacity both to manage “cold” cognitive tasks like reading and writing, but also to manage “hot” emotional tasks like down-regulating negative emotions and stress activation. Working memory capacity can be depleted in both ways, as well as through fatigue and stress from which we have not recovered. The pilot study showed the “high-practice group” Marines had higher WMC levels to manage the stressors in their lives, giving them a bigger “bank balance” of cognitive and emotional resilience. So, to use a trivial example, if members of all three Marine groups had a high-stress day and had to sit in traffic at the end of it, the “control group” Marines and “low-practice group” Marines would be more likely to overreact at the traffic, while the high-practice group Marines would be more likely to manage their emotions and not let the traffic set them off. A well-regulated nervous system is more able to remain present and oriented to what is happening right now, rather than triggered by past traumatic experiences that can impede effective decision-making.

BL: And there have been other studies that came because of the success of that first pilot study?

ES: Yes, we’ve conducted three other studies — one with the Army in 2010, with soldiers preparing to deploy to Afghanistan, another with the Marines in 2011, preparing to deploy to Afghanistan, and a third embedding MMFT into a course at the USMC School of Infantry. Some of the data from the 2011 Marine study were recently published, documenting changes in blood biomarkers, heart rate and

breathing rate during stressful military training, with MMFT Marines demonstrating a more efficient stress response during military training and more efficient recovery from the stress response after the challenge was over. In addition, brain imaging showed changes in the firing of brain regions related to self-regulation, emotion regulation, and impulse control — after eight weeks of MMFT, compared to Marines who did not receive MMFT. The brains of the Marines who did MMFT were firing in a manner that matches the brain activation patterns of “elite performers” — such as elite athletes and special forces military troops.

BL: So, describe the kinds of exercises you use to teach MMFT.

ES: There’s no technology, no scans, just using the mind and body together. We use a series of exercises that 1.) develop the ability to deploy and sustain attention in the present moment, and 2.) develop the ability to tolerate whatever is occurring in the body and mind without needing for it to be different. With practice, these two skills come together and the body recalibrates naturally. Awareness in the body is like an alchemical agent; it allows the body and mind to re-regulate at its own pace. MMFT supports this re-regulation process to happen from the bottom up. But at first, of course, it’s hard because we don’t like to sit with our physical sensations, intense emotions, or racing thoughts. So many of us push them away with drugs or medication or television or whatever and return to the past or the future instead of staying in the present.

We might use the analogy of a roller coaster. The rollercoaster is designed to go up and from there, naturally come down. Being at the top, in between up and down — like sitting with painful thoughts or nightmares or intense physical pain — is difficult. But if we don’t get to the top, and allow things to shift on their own with awareness, we can’t get back down. With MMFT, we help get the body and mind re-calibrated so that self-regulation becomes the default mode once more. And, of course, the re-regulation process will happen at different rates depending on each individual and his or her experiences.

BL: Can you describe a soldier before and after MMFT?

ES: Well, I’ll use a composite soldier to describe the process. So, let’s say Steve the Soldier’s early life experiences were hard because we know that a high percentage of young people entering the military come from backgrounds that may have included abuse, gang violence, a lost parent, parents who had their own issues, that type of thing. So, Steve already comes into the military with some dysregulation present in his system, because he may not have fully wired in the capacity for self-regulation. The parts of the nervous system and brain that support self-regulation are actually wired after we are born, and that wiring happens through our relationships with our early care providers. If our early care providers are suffering from dysregulation from prolonged stress and trauma themselves, it hampers that wiring process. In addition, Steve may have never fully recovered from earlier life experiences that were stressful or traumatic for his system.

After his first deployment, let’s say, he’s tired. He’s feeling less gung-ho, he’s experiencing less meaning and connection in his life. He hangs out with his friends and family a little less, and he is somewhat jumpy and hypervigilant.

After his second deployment, he can’t really sleep and to function at work, he starts drinking tons of coffee. He loses his temper more. He is more disconnected from his spouse. He needs 3-4 drinks to settle down and get to sleep at night, but then he wakes up in the night with insomnia and nightmares. On the weekends, he disconnects entirely from his family and friends. Maybe he buys a motorcycle because he misses the adrenaline rush of combat and riding is the only way he feels alive.

After his third deployment, his marriage is over. He's angry and violent sometimes. Maybe his wife gets a restraining order against him. He is taking a huge mix of meds for his PTSD, insomnia, anxiety, and maybe he has a TBI, and chronic back pain from a motorcycle crash. He's still incredibly resilient because he is disciplined from his military training, but he is having a difficult time holding it together at work or in social situations, which he avoids. The push-pull of everything is making his life excruciating.

He gets to MMFT. Initially, he thinks it all sounds ridiculous and believes it won't help. How will noticing where his mind has wandered and bringing it back to the target object of attention in the exercise help? How could this make any difference? But after he starts learning about the flight-or-flight response and how prolonged exposure to a stressful environment without adequate recovery can affect the automatic nervous system, a light bulb goes off. Steve hears about some of the symptoms he's experiencing and thinks, this is me!

He begins to take the training seriously and does the exercises. Slowly, he sees changes in his body and mind as he moves towards re-regulation, and he can start making choices that stop masking the symptoms and feeding the vicious cycle of dysregulation. He feels himself rising to the surface of his life again.

BL: What have you learned from men and women like Steve?

ES: I see people transform. I see them forgive themselves. I see people who have been exposed to long-term trauma or prolonged stress finally understand that there was nothing weak about them or wrong with them, but that they were coping as best they could, without any help. I have learned what some people have gone through and I am in awe at how resilient they have been in the face of it all. I am incredibly grateful to be doing this work.

BL: Where do you see this work going?

ES: We are working with more military folks, also with other professions of arms like law enforcement and first-response organizations. But anyone can benefit from these skills to optimize their biological wiring for today's high-stress world (and we offer MMFT to individuals in an intensive weeklong format, too). In the same way the research and understanding of neuroplasticity took off in the last two decades, I believe that the ability to rewire our brains and nervous systems through mindfulness-based training will become better understood so that we can help more people who are suffering unnecessarily from exposure to prolonged stress and trauma.

As we teach in MMFT, there are two foundational qualities which are the cornerstones of warrior traditions through the millennia. These are wisdom and bravery. Wisdom is the ability to see clearly how things are right now, not how we want them to be or expect them to be, but how they actually are. And bravery is the ability to stay present with any experience, no matter how intense, without needing it to be different. MMFT cultivates these two qualities in a very concrete way. Tapping into these qualities, people have the capacity to reclaim their true selves.

About Elizabeth A. Stanley, PhD

Elizabeth A. Stanley, PhD is associate professor of security studies in the Edmund A. Walsh School of Foreign Service and the Department of Government. Liz is also the founder of the non-profit Mind

Fitness Training Institute (www.mindf-fitness-training.org). She served in Bosnia, Germany, Macedonia, Italy and Korea as a US Army military intelligence officer, leaving service with the rank of Captain.

Blending her military experience, research, training in body-based trauma therapies, and experience teaching mindfulness techniques, Liz created Mindfulness-based Mind Fitness Training (MMFT) to build resilience and optimize individual and team performance. She has taught MMFT to troops before deployment to combat and others in high-stress occupations. She has collaborated with neuroscience and stress researchers in four research projects, funded by the U.S. Department of Defense, to examine MMFT's effectiveness. The fourth project, currently underway, is to examine the effects of embedding MMFT into a course in the U.S. Marine Corps School of Infantry-West.

She has extensive experience with mind fitness techniques, including long-term periods of intensive practice in the United States and Burma (Myanmar). Liz has completed teacher training in Mindfulness-Based Stress Reduction and has co-taught with MBSR's creator, Jon Kabat-Zinn. She is also a Somatic Experiencing Practitioner (SEP), a body-based trauma therapy for helping individuals to re-regulate their autonomic nervous systems after stressful or traumatic experiences.

Liz has spoken and published widely on a variety of topics related to mind fitness, resilience, military effectiveness and innovation, and national security. Her book, *Paths to Peace: Domestic Coalition Shifts, War Termination and the Korean War*, won the 2009 Edgar S. Furniss Award for the best first book in the field of national and international security.

She has served on the National Security Advisory Board of the Sandia National Laboratories, the US Army Science Board, and the executive board of Women in International Security (WIIS). Her research has been supported by grants from the National Science Foundation, the Smith Richardson Foundation, the G.D. Searle Foundation, the John Kluge Foundation, the Department of Defense Centers for Excellence for Psychological Health and Traumatic Brain Injury, the US Army Medical Research and Materiel Command, the Office of Naval Research, and Sandia National Laboratories. She holds a PhD in government from Harvard, an MBA focused on technology strategy from MIT's Sloan School of Management, and a BA in Soviet and East European Studies from Yale.