MedicalXpress

Minds at attention: Military and mindfulness

February 11 2015

Rather than the calm before the storm, the period before soldiers are deployed to a conflict zone is a time of extremely high demand and intense stress. Soldiers receive intensive training for the mission, while psychologically preparing to leave loved ones to face a dangerous, high-stress, high-performance environment. Although the goal of the predeployment period is to ensure that soldiers are prepared for the mission, studies have shown the presence of impaired cognitive functioning and psychological health during this critical interval.

Amidst continuing deployments of U.S. soldiers to the world's hotspots to assist in missions related to fighting terrorism or the Ebola virus, a University of Miami (UM) study led by neuroscientist Amishi Jha, has made a significant discovery that expands increasing scientific evidence that one of the best ways to protect soldiers may be by training their own minds.

The success of military operations requires that a high volume of information, arriving at fast pace under potentially ambiguous circumstances, be used to make quick decisions and take decisive action. Yet, access to the best intelligence or equipment is of little use if a soldier's mind is distracted. Errors resulting from soldier's own attentional lapses may lead to life-long suffering due to physical, psychological, or moral injury.

"Soldiers are experts at standing at attention," said Jha, associate professor in the Department of Psychology at the UM College of Arts and Sciences, and principal investigator of this project. "However,

maintaining a mind at attention under the intense physical, emotional and cognitive demands they face, is a more difficult task."

Attentional lapses and mind wandering (or off-task thinking) signal a distracted mind that is prone to errors. This study has demonstrated a positive link between mindfulness training (MT), and protection against attentional lapses and mind wandering. Mindfulness is the ability to be aware and attentive of the present moment without emotional reactivity or volatility.

Jha's prior research found that military service members who received 24 hours of MT benefited in their mood and cognitive performance based on how much time they spent engaging in mindfulness practices daily. The current study went a step further, seeking to investigate which aspects of MT programs work best to curb attentional lapses and mind wandering when training is shortened to eight hours over eight weeks.

The results of the study, funded by the U.S. Department of the Army, are significant because during the stress-filled and high-demand predeployment period, soldiers do not have the time to devote to a lengthier MT regimen. However, this is a time period in which they may need it most.

Likewise, the findings are important for civilians in high-stress, high-performance jobs, whose time is extremely limited. "Moment-to-moment information from the environment is necessary to ensure quick, decisive action. In addition to soldiers, police officers, firefighters, trauma surgeons, day traders, pilots, and athletes may all benefit from short-form mindfulness training to curb attentional lapses and mind wandering," added Jha.

"With the continued deployment of our soldiers to face complex threats around the world, these results are a critical addition to our ever-evolving

readiness and resiliency toolkit," said MG Walter Piatt, Deputy Commanding General of the U.S. Army in Europe. "Ensuring our men and women are both mentally and physically prepared is essential to mission success," he said. "This study provides important information to help us do that."

The researchers studied three groups of military service members, offering MT to two of the groups, comprising a total of 75 soldiers at Schofield Barracks, Hawaii, eight to ten months before deployment to Afghanistan. The study measured attention and performance by looking at the impact of short-form MT on soldiers' results on a Sustained Attention to Response Task (SART), a test designed to measure attentional lapses and mind wandering.

One of the two groups receiving MT received a type of Mindfulness-based Mind Fitness Training (MMFT) which emphasized engagement in MT exercises during each of the class meetings. The second group received a version of MMFT primarily comprising didactic information and discussions focused on stress and resilience.

The third group of 17 U.S. Marine reservists tested during their predeployment training interval received no training and served as a military control group. The study also included a civilian group who also received no training.

While the SART scores in civilians remained stable over eight weeks of typical civilian life, scores significantly declined in the military control group, underscoring the deleterious effects of the demands of predeployment interval on attention. After the eight-week course, the MT group with training emphasis outperformed the group with the didactic emphasis as well as the no-training military control group.

Soldiers in both groups who received MT, reported being more aware of

their attention compared to the military control group at the end of the eight weeks.

In sum, scientists found that training-focused MT promotes cognitive resilience by protecting against degradation of attention during high-stress periods.

More information: The study titled "Minds 'at Attention': Mindfulness Training Curbs Attentional Lapses in Military Cohorts" is published online ahead of print by *PLOS ONE*.
dx.plos.org/10.1371/journal.pone.0116889

Provided by University of Miami