

U.S. Army War College

Maximizing Senior Leader Health and Wellbeing



EDITORS

COL Michael Hosie, Ph.D.
COL Maurice L. Sipos, Ph.D.
LTC Thomas W. Britt, Ph.D.

**MAXIMIZING SENIOR LEADER
HEALTH AND WELLBEING**

EDITORS

COL Michael Hosie, PhD

COL Maurice L. Sipos, PhD

LTC Thomas W. Britt, PhD

Foreword by MG David C. Hill

Department of Command, Leadership, and Management
School of Strategic Landpower
U.S. Army War College, Carlisle PA

Comments pertaining to this primer are invited and should be forwarded Dr. Maurice L. Sipos, PhD, Department of Command, Leadership, and Management, School of Strategic Landpower, U.S. Army War College, 122 Forbes Avenue, Carlisle, PA 17013-5010.

All U.S. Army War College (USAWC) Press Publications may be downloaded free of charge from the USAWC Publications website. Hard copies of certain reports may also be obtained free of charge while supplies last by placing an order on the Strategic Studies Institute (SSI) website. Check the website for availability. Strategic Studies Institute publications may be quoted or reprinted in part or in full with permission and appropriate credit given to the U.S. Army Strategic Studies Institute, U.S. Army War College Press, and U.S. Army War College, Carlisle, PA. Contact SSI by visiting our website at the following address: <http://publications.armywarcollege.edu>.

The Strategic Studies Institute and the U.S. Army War College Press publishes a monthly email newsletter to update the national security community on the research of our analysts, recent and forthcoming publications, and upcoming conferences sponsored by the Institute. Each newsletter also provides a strategic commentary by one of our research analysts. If you are interested in receiving this newsletter, please subscribe on the SSI website at <http://ssilarmywarcollege.edu/newsletter>.

Cover design by Jennifer Nevil and the editors. Some of the graphic elements used in the cover design were paid for through <https://www.shutterstock.com>. The editors thank Jennifer Nevil for her attention to detail and expertise in publishing this text.

ISBN: 1-58487-842-8

TABLE OF CONTENTS

Forward	
CHAPTER 1: MIDLIFE AND THE MILITARY: OPPORTUNITIES AND OBSTACLES	1
What is Midlife?	2
Midlife Development Perspectives	3
Stress, Health, and Wellbeing	5
Role Transitions	7
Exemplar Military Midlife Roles	9
The Senior Leader	9
The Care-Giver	10
The Midlife Retiree	11
Pivoting Toward Improved Health and Wellbeing	13
Key Takeaways	15
CHAPTER 2: PHYSIOLOGICAL CHANGES IN MIDLIFE	17
The Musculoskeletal System	20
The Neurocognitive System	25
The Cardiopulmonary System	27
The Metabolic System	29
The Reproductive System	33
Conclusion	36
Key Takeaways	36
CHAPTER 3: PHYSICAL FITNESS GUIDANCE TO ACHIEVE OPTIMAL HEALTH AND PERFORMANCE	37
Trends - America, the Army, and the Army War College	38
Health Benefits from Exercise	40
Basic Fitness Principles	43
Exercise Duration and Intensity	46
Flexibility	53
Tying It All Together	54
Key Takeaways	56
CHAPTER 4: DIET AND NUTRITION FOR ENERGY AND VIGOR	57
Army and Department of Defense (DoD) Publications and Initiatives	58
Nutrition to Sustain Energy to Meet Work and Life Demands	59

Macronutrients.....	65
Micronutrients	67
What Should I Eat?.....	70
Supplements.....	71
Nutrition for Enhanced Vigor.....	72
Nutrition to Manage Stress	76
Conclusion.....	79
Key Takeaways.....	80

CHAPTER 5: SLEEP AS A CRITICAL RESOURCE FOR PERFORMANCE
HEALTH AND WELLBEING

.....	81
Sleep and the Military Leader	84
Sleep in Midlife: “I need less sleep the older I get.”	86
Sleep in the Multi-Domain Context.....	88
Recommendations to Improve Sleep (Individual)	90
Sleep Hygiene.....	90
Medical and Non-medical Sleep Aids	93
Recommendations to Improve Sleep (Organizational)	95
Sleep Banking	95
Caffeine use.....	95
Jet Lag	96
Public Health Related Resources	97
Conclusion.....	99
Key Takeaways	100

CHAPTER 6: MINDFULNESS TRAINING FOR OPTIMIZATION
AND WELLNESS.....

.....	101
The Concept of Mindfulness.....	103
Mindfulness Training as a Competitive Advantage	104
Relevance for the Military	104
Relevance for Midlife	105
Relevance for Leadership.....	106
Benefits of Mindfulness Training.....	106
Optimized Cognitive Performance	106
Reduced Emotional Reactivity.....	109
Increased Wellness.....	110
Implementation: Senior Military Leaders’ Personal Adoption of Mindfulness.....	115
Professional Military Education	117
Mindfulness-Based Attention Training (MBAT).....	117
Attaching to Organizational Activities	119
Overcoming Barriers to Implementation.....	119

Conclusion.....	121
Key Takeaways.....	122
CHAPTER 7: SENIOR LEADER RESILIENCE.....	123
Understanding the context Stressors: Traumatic Events and Hassles.....	124
Employee Resources for Responding to Stress and Adversity.....	126
Coping Depends on the Context.....	130
Self-awareness.....	131
Emotion Regulation.....	132
Leadership.....	136
The Limits of a Resilience Lens.....	137
Building a Culture that Promotes Resilience.....	138
Conclusion.....	139
Key Takeaways.....	140
CHAPTER 8: REFRAMING WORK-LIFE BALANCE FOR SENIOR MILITARY LEADERS.....	141
The Nature of the Military Work Environment.....	142
Research Foundation for Work-life Interface.....	143
The Myth of Balance.....	143
Work-life Interface: Interference and Facilitation.....	145
Conservation of Resources Theory.....	146
Recovery and Boundary Management.....	147
Organizational Boundary Management.....	149
USAWC Work-life Interface Survey for Senior Military Leaders.....	151
High Work to Home Interference.....	151
Low Home to Work Interference.....	153
Home Life as Recovery.....	153
The Gap Between Messaging and Action.....	154
Recommendations.....	156
Conclusion.....	160
Key Takeaways.....	161

Chapter 6

MINDFULNESS TRAINING FOR OPTIMIZATION AND WELLNESS

COL Jennifer Alessio
U.S. Army War College

COL Michael P. Hosie, Ph.D.
U.S. Army War College

Amishi P. Jha, Ph.D.
University of Miami

“We are devoting 90 minutes every day to our physical well-being and physical excellence. We value it and protect it. What are we doing that’s equivalent for the mind?”

—Lieutenant General Walter Piatt¹

Contemporary senior military leaders are bombarded with information and must rapidly employ the sense-making and sense-giving skills required for strategic leadership.² Senior military leaders also confront a complex mental landscape that interlaces increasing professional responsibility, mounting information processing requirements, and a growing demand for technical, conceptual, and interpersonal competencies.³ These demands suggest a need for the Army to train senior leaders to optimize their cognitive and physical capacities. As “the American way of war must evolve and adapt” to dominate the competitive environment, so too must our training.⁴ To match the increased pace and information processing requirements of the modern landscape, the U.S. Army must transform how we hone our senior

1. Lieutenant General Walter Piatt, as quoted in Dr. Amishi P. Jha, “Driven to Distraction: What Senior Leaders Can Do to Improve Focus,” November 14, 2018, in *War Room*, produced by the US Army War College, podcast, <https://warroom.armywarcollege.edu/podcasts/driven-to-distraction>.

2. Michael Hosie, “Senior Leader Development,” in *Strategic Leadership*, ed. Tom Galvin and Dale Watson (Carlisle: U.S. Army War College, 2019), 84.

3. Douglas Waters, “Strategic Leader Competencies,” in *Strategic Leadership*, ed. Tom Galvin and Dale Watson (Carlisle: U.S. Army War College, 2019), 70.

4. U.S. Army, “The U.S. Army in Multi-Domain Operations 2028,” *TRADOC Pamphlet 525-3-1* (Washington, D.C.: Headquarters, Department of the Army, 2018), i.

military leaders' mental skills.⁵ Mindfulness training presents an underutilized tool with demonstrated potential to optimize cognitive performance, reduce emotional reactivity, and increase wellness.⁶

Defined as paying “attention to present-moment experience without judgment, elaboration, or emotional reactivity,” mindfulness is an essential skill that midlife senior military leaders can master with practice.⁷ Mindfulness training, which aims to increase mindfulness via engagement in guided mindfulness drills, bolsters cognitive performance and presents an evidenced-based training tool that senior military leaders can incorporate into personal and organizational activities to improve attention and working memory.⁸ In addition to presenting a competitive advantage, mindfulness training benefits senior military leaders by enhancing their *pre-silience* or the maximization of healthful states useful for negotiating stressors (see also Chapter 7).⁹ Pre-silience reflects purposeful preparation for life's challenges, both personal and professional. Mindfulness practice can be conceptualized as cognitive training and may be employed by midlife senior military leaders and their soldiers to optimize performance and enhance wellness.¹⁰

This chapter asserts that mindfulness training presents an untapped competitive advantage for senior military leaders operating in complex environments. It describes how senior military leaders can use mindfulness training to optimize cognitive performance, reduce emotional reactivity, and enhance wellness as a protective buffer against midlife challenges. It

5. U.S. Army Chief of Staff, “Army Multi-Domain Transformation: Ready to Win in Competition and Conflict,” *Chief of Staff Paper #1* (Washington, D.C.: Department of the Army, 2021): 27.

6. Yi-Yuan Tang and Michael I. Posner, “Mindfulness and Training Attention,” in *Handbook of Mindfulness and Self-Regulation*, edited by Brian D. Ostafin, Michael D. Robinson, and Brian P. Meier, (New York: Springer, 2015), 24; Garland, Hanley, Goldin, and Gross, “Testing the Mindfulness-to-Meaning Theory,” 1-19.

7. Amishi Jha, Elizabeth Stanley, Anastasia Kiyonaga, Ling Wong, and Lois Gelfand, “Examining the Protective Effects of Mindfulness Training on Working Memory and Affective Experience,” *Emotion* 10, no 1 (2010): 54-64.

8. Marieke K. Van Vugt and Amishi P. Jha, “Investigating the Impact of Mindfulness Meditation Training on Working Memory: A Mathematical Modeling Approach,” *Journal of Cognitive, Affective, and Behavioral Neuroscience* 11 (2011): 344-353; Dianna Quach, Kristen E. Jastrowski Mano, and Kristi Alexander, “A Randomized Controlled Trial Examining the Effect of Mindfulness Meditation on Working Memory Capacity in Adolescents,” *Journal of Adolescent Health* 58, no. 5 (2016): 489-496.

9. Amishi Jha, *Peak Mind: Find Your Focus, Own Your Attention, Invest 12 Minutes a Day* (New York: HarperOne, 2021), 17.

10. Douglas Johnson, Nathaniel Thom, Elizabeth Stanley, Lori Haase, Alan Simmons, Pei-An Shih, Wesley Thompson, Eric Potterat, Thomas Minor, and Martin Paulus, “Modifying Resilience Mechanisms in At-Risk Individuals: A Controlled Study of Mindfulness Training in Marines Preparing for Deployment,” *American Journal of Psychiatry* 171, no. 8 (August 2014): 844-53.

also recommends opportunities for senior military leaders to adopt personal and institutional mindfulness training programs. Finally, the paper addresses potential barriers to implementing this evidenced-based cognitive training tool and suggestions for overcoming them.

The Concept of Mindfulness

Mindfulness is neither dogmatic, nor is it the exclusive domain of a spiritual tradition.¹¹ Human beings have practiced mindfulness for at least 2,600 years in multiple contexts, and it has origins in the world's great wisdom traditions.¹² For example, the Roman emperor, military leader, and philosopher Marcus Aurelius was an early mindfulness practitioner who asserted the importance of self-observation, present moment-focused thinking, and distancing from one's own mental narrative.¹³ Today, mindfulness continues to emphasize the intentional self-regulation of attention without judgment and should be approached as a trainable skill.¹⁴

Mindfulness is understood as a natural human capacity that can be improved with practice.¹⁵ Viewing mindfulness as a trainable skill is particularly relevant for senior military leaders seeking a competitive edge and confronting midlife stressors. For example, Brigadier General Richard R. Coffman's quest to thrive, reduce stress, and increase wellness during the onset of the COVID-19 pandemic included initiating a personal mindfulness practice. Coffman observed that mindfulness training has been more difficult than he anticipated.¹⁶ However, he understands focused and nonjudgmental awareness of the present moment can be mastered and has been motivated to stick with his practice to improve his professional performance and personal well-being.¹⁷

11. Rebecca Greenslade, "Beyond Mindfulness, Towards Antiquity," *Self & Society* 43, no.1 (2015): 35-40.

12. Shauna L. Shapiro, Hooria Jazaieri, and Philippe R. Goldin, "Mindfulness-based Stress Reduction Effects on Moral Reasoning and Decision Making," *The Journal of Positive Psychology*, (2012): 1-12.

13. Greenslade, "Beyond Mindfulness," 35-40.

14. Simon B. Goldberg, Kevin M. Riordan, Shufang Sun, and Richard J. Davidson, "The Empirical Status of Mindfulness-Based Interventions: A Systematic Review of 44 Meta-Analyses of Randomized Controlled Trials," *Perspectives on Psychological Science* (February 2021): 1.

15. Eric L. Garland, Adam W. Hanley, Phillippe R. Goldin, and James J. Gross, "Testing the Mindfulness-to-Meaning Theory: Evidence for Mindful Positive Emotion Regulation from a Reanalysis of Longitudinal Data," *PLoS ONE* 12 (2017): 2.

16. Brigadier General Richard R. Coffman, Personal Communication with Ann Meredith, January 19, 2021.

17. Coffman, Personal Communication with Ann Meredith, January 19, 2021.

Mindfulness Training as a Competitive Advantage

Relevance for the Military. Intellectual overmatch is paramount in Multi-Domain Operations and necessitates peak mental performance.¹⁸ Indeed, swift and accurate decision-making is essential for effective strategic competition and conflict, yet it is threatened by information overload in the volatile environment. As the U.S. Army Chief of Staff writes, “Future conflicts will require cognitive speed to create opportunities and achieve decision dominance.”¹⁹ To meet the increased pace and information processing requirements of contemporary competition, the U.S. Army should reconceptualize training to not only include physical fitness, but also cognitive fitness.²⁰ Institutionalized mindfulness training should be a part of this campaign for decision dominance and cognitive optimization. Mindfulness can improve the heightened awareness, rapid information processing, and environmental sensing senior military leaders need to “make decisions at the speed of relevance.”²¹ Yet, it remains an untapped military competitive advantage.

The U.S. Army recognizes the benefits and potential of mindfulness training for soldiers and codified it in doctrine—Field Manual 7-22, *Holistic Health and Fitness*. This manual links soldier health and fitness to readiness, and mindfulness is presented as an impactful individual skill. *FM 7-22* notes mindfulness practice can modify brain processes that can potentially lead to other physiological changes, such as “relaxation, improved focus, reduced inflammation, lower stress hormones, and enhanced immune system function.”²² In addition, *FM 7-22* recommends soldiers pursue mindfulness training for stress and pain management, improved sleep, decreased blood pressure, and controlling addictive behavior.²³ *FM 7-22* recognizes other beneficial qualities of mindfulness practice relevant to military audiences, including “improved quality of life, higher emotional intelligence, creativity and concentration, and increased empathy, spirituality, and self-compassion.”²⁴ Despite these recognized benefits, the institutionalization of mindfulness training remains elusive.

18. United States Joint Chiefs of Staff, “Developing Today’s Joint Officers for Tomorrow’s Ways of War: The Joint Chiefs of Staff Vision and Guidance for Professional Military Education & Talent Management,” (Washington, D.C.: Headquarters, Department of Defense, May 2020), 2.

19. U.S. Army Chief of Staff, “Army Multi-Domain Transformation,” 1.

20. U.S. Army Chief of Staff, “Army Multi-Domain Transformation,” 27.

21. Joseph F. Dunford, “The Character of War and Strategic Landscape Have Changed,” *Joint Force Quarterly* 89, 2nd Qtr (2018): 3.

22. U.S. Army, *Field Manual 7-22: Holistic Health and Fitness* (Washington, D.C.: Headquarters, Department of the Army, 2020), 13-3.

23. U.S. Army, *FM 7-22*, 11-4.

24. U.S. Army, *FM 7-22*, 13-3.

In many ways, mindfulness aligns with the culture of military discipline, and, therefore, has great relevance to the Army and other services. Mindfulness centers on paying focused attention to the present moment, which is particularly useful for soldiers. Attention training begins on the first day of Basic Combat Training.²⁵ However, a soldier's body may be standing at attention, but his or her mind may be wandering.²⁶ The opposite of a "mind at attention," mind-wandering may continue throughout a soldier's career and is associated with decreased job performance.²⁷ Mindfulness presents a cognitive training tool to hone soldiers' attention and working memory.²⁸ Mindfulness may also enhance cognitive resilience, which is the "ability to maintain or regain cognitive capacity at risk of decline over periods of high demand."²⁹ These skills are essential for all soldiers but perhaps particularly for midlife senior military leaders to compete in their demanding and competitive environment.

Relevance for Midlife. In addition to the competitive advantage it presents for the military in general, mindfulness may also be particularly beneficial in midlife. A pivotal period, midlife is characterized by peaking personal and professional demands (see Chapter 1).³⁰ While midlife can bring significant personal and professional gratification, senior military leaders may also confront chronic stress, mental health challenges, and the beginning of cognitive and physical degeneration.³¹ Midlife naturally brings decreasing fluid intelligence, or information processing speed.³² In addition, chronic stress in midlife can be pervasive, permeating the personal,

25. Shapiro, Jazaieri, and Goldin, "Mindfulness-based Stress Reduction Effects on Moral Reasoning and Decision Making," 1-12.

26. Sean Bruyey, "Mindfulness and Minefields: Walking the Challenging Path of Awareness for Soldiers and Veterans," in *Practitioner's Guide to Ethics and Mindfulness-Based Interventions*, ed. Lynette M. Monteiro, Jane F. Compson, and Frank Musten (New York: Springer, 2017), 390.

27. Amishi Jha, Alexandra Morrison, Justin Dainer-Best, Suzanne Parker, Nina Rostrup, and Elizabeth Stanley, "Minds 'at Attention': Mindfulness Training Curbs Attentional Lapses in Military Cohorts," *PLoS ONE* 10, no. 2 (2015): 1-19.

28. Jha, Stanley, Kiyonaga, Wong, and Gelfand, "Examining the Protective Effects of Mindfulness Training," 54-64; Anthony P. Zanesco, Ekaterina Denkova, Scott L. Rogers, William K. McNulty, and Amishi P. Jha, "Mindfulness Training as Cognitive Training in High-demand Cohorts: An Initial Study in Elite Military Servicemembers," *Progress in Brain Research* 244 (2019): 323-354.

29. Amishi P. Jha., Anthony P. Zanesco, Ekaterina Denkova, Alexandra B. Morrison, Nicolas Ramos, Keith Chichester, John W. Gaddy, and Scott L. Rogers, "Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training in Applied High-Demand Settings," *Mindfulness* 11 (2020): 684.

30. Margie E. Lachman, "Development in Midlife," *Annual Review of Psychology* 55, (2004): 305-331; Hosie, "Senior Leader Development," 84.

31. David M. Almeida, Jennifer R. Piazza, Robert S. Stawski, and Laura C. Klein, "The Speedometer of Life: Stress, Health and Aging," in *Handbook of the Psychology of Aging*, ed. K. Warner Schaie and Sherry L. Willis (San Diego: Elsevier, 2011), 198.

32. Margie E. Lachman, "Development in Midlife," 319.

professional, psychological, and physical aspects of a senior military leader's life. Mindfulness practice provides a resource for senior military leaders to confront midlife challenges, which include persistent transitions and growing responsibility, along with age-related declines in memory, information processing speed, and cognition.³³ Mindfulness practice presents senior military leaders with an accessible tool to improve job performance, manage stress, and optimize cognitive functioning.³⁴ Given this context, mindfulness training offers an essential tool that senior military leaders can use for optimization and wellness.

Relevance for Leadership. The Army defines leadership as “the activity of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization.”³⁵ It further suggests that leaders who possess and enact the right knowledge, skills, and behaviors (KSBs) will be more successful. Mindfulness practice directly strengthens many of those KSBs and is also likely indirectly related to leadership through its effect on various leadership competencies, including intellect, judgment, empathy, presence, resilience and transformational leadership behaviors. For example, a study found that leader mindfulness was positively related to employee job satisfaction and positive affect through transformational leadership.³⁶ Another study found that leader mindfulness enabled leaders to attenuate displayed abusive leadership to subordinates to whom they felt hostility.³⁷ In effect, mindfulness training bolsters the building blocks on which effective leadership is built, and, as such, remain highly relevant to the Army.

Benefits of Mindfulness Training

Optimized Cognitive Performance. With its demonstrated capability to improve practitioners' attention, working memory, and other sense-making cognitive skills, mindfulness practice offers senior military leaders essential training to hone the mental competencies needed to compete and win in a complex environment.³⁸ One example of these mental competencies is

33. Margie E. Lachman, “Development in Midlife,” 319.

34. Amishi Jha, Scott Rogers, Eric Schoomaker and Edward Cardon, “Deploying Mindfulness to Gain Cognitive Advantage: Considerations for Military Effectiveness and Well-being,” *NATO Science and Technology Conference Proceedings* (2019), 3-4.

35. U.S. Army, *ADP 6-22, Army Leadership and the Profession* (Washington, D.C.: Headquarters, Department of the Army, 2019), 1-13.

36. Anna S. Pinck and Sabine Sonnentag, “Leader Mindfulness and Employee Well-Being: The Mediating Role of Transformational Leadership. *Mindfulness* 9, No. 3 (2018): 884-896.

37. Lindie H. Liang, Douglas J. Brown, D. Lance Ferris, Samuel Hanig, Huiwen Lian, and Lisa M. Keeping, “The Dimensions and Mechanisms of Mindfulness in Regulating Aggressive Behaviors,” *Journal of Applied Psychology* 103, No. 3 (2018): 281-299.

38. Jha, Rogers, Schoomaker and Cardon, “Deploying Mindfulness to Gain Cognitive Advantage,” 3-4.

understanding, which the U.S. Army Chief of Staff recently characterized as an essential building block of great power competition.³⁹ Understanding can be achieved through situational awareness and environmental sensing. One way mindfulness training improves environmental sensing is through regular open monitoring practice, which will be described in a forthcoming section of this chapter.⁴⁰ Enhanced information processing is another mental competency optimized by mindfulness training. Enhanced information processing is particularly important for senior military leaders because it supports adaptive leadership, which is the ability to observe and interpret events and respond to crises.⁴¹ In addition, mindfulness training may bolster senior military leaders' decision-making ability.⁴² This benefit makes mindfulness training a critically important cognitive tool, as optimized and accelerated decision-making assists senior military leaders in achieving the intellectual overmatch needed to gain and retain the competitive advantage.⁴³

Studies show mindfulness strengthens working memory capacity, which is important for senior military leaders as they rapidly process information in complex and volatile environments.⁴⁴ Defined as the temporary maintenance and manipulation of information, working memory is the capacity to not only recall information ranging from verbal and visual to conceptual and spatial, but use it during active problem solving.⁴⁵ Distraction and emotionally charged thoughts impede working memory and hinder cognitive performance.⁴⁶ Significantly, learning and comprehension are tied to working memory and may be correspondingly impacted by distraction, emotional reactivity, and stress.⁴⁷

39. U.S. Army Chief of Staff, "The Army in Military Competition," *Chief of Staff Paper #2* (Washington, D.C.: Department of the Army, 2021): 1.

40. Jha, Rogers, Schoomaker and Cardon, "Deploying Mindfulness to Gain Cognitive Advantage," 1-14.

41. Jha, Rogers, Schoomaker, and Cardon, 4.

42. Shapiro, Jazaieri, and Goldin, "Mindfulness-based stress reduction effects on moral reasoning and decision making," 1-12.

43. U.S. Army Chief of Staff, "Army Multi-Domain Transformation," 1.

44. Amishi P. Jha, Anthony P. Zanesco, Ekaterina Denkova, William K. MacNulty, and Scott L. Rogers, "The Effects of Mindfulness Training on Working Memory Performance in High-Demand Cohorts: A Multi-Study Investigation," *Journal of Cognitive Enhancement* (2021).

45. Anastasia Kiyonaga and Tobias Egner, "Working Memory as Internal Attention: Toward and Integrative Account of Internal and External Selection Processes," *Psychonomic Bulletin & Review* 20, No. 2 (2013): 228-242.

46. Patricia A. Deuster and Eric Schoomaker, "Mindfulness: A Fundamental Skill for Performance Sustainment and Enhancement," *Journal of Special Operations Medicine* 15, no. 1 (2015): 93-99.

47. Michael D. Mrazek, Michael S. Franklin, Dawa T. Phillips, Benjamin Baird, Jonathan W. Schooler, "Mindfulness Training Improves WMC & GRE performance While Reducing Mind-Wandering," *Psychological Science*, 24, no. 5, (2013): 776-781; Amishi P. Jha, Ekaterina Denkova, Anthony P. Zanesco, Joanna E. Witkin, Joshua Rooks, and Scott

Traditional texts from centuries ago refer to mindfulness as non-forgetting and non-distraction. Today, models propose that mindfulness practice may optimize performance by bolstering attention, improving working memory, increasing self-regulation, and minimizing off-task thoughts.⁴⁸ Research also indicates mindfulness training can improve executive function, which is an important benefit for senior military leaders.⁴⁹ Studies show mindfulness works to improve attention through intentional and repetitive practice with focusing, noticing distraction, and re-focusing as needed to maintain attention on a selected object.⁵⁰ Notably, the benefits of mindfulness training increase with practice.⁵¹ Research found that the more participants engaged in mindfulness training, the greater the resulting protective benefits on their attention during stressful periods.⁵²

Mindfulness training counters mind-wandering and its associated performance costs by building capacity to intentionally redirect attention. Defined as off-task thought, mind-wandering redirects attentional resources from the task at hand to internally generated thoughts.⁵³ Off-task thinking occurs during 30-50% of waking hours and may occur more often due to the potential for under-reporting due to lack of self-awareness.⁵⁴ Mind-wandering could be especially significant for professions requiring situational awareness and response, including military service.⁵⁵ The mandate to minimize mind-wandering and maximize focused attention is especially relevant for senior military leaders operating in a volatile, uncertain, complex, and ambiguous strategic environment.

In addition to strengthening core cognitive control processes that support learning, comprehension, and memory, mindfulness training is associated

L. Rogers, "Does Mindfulness Training Help Working Memory 'Work' Better?" *Current Opinion in Psychology* 28 (2019): 273-278.

48. Amishi P. Jha, Ekaterina Denkova, Anthony P. Zanesco, Joanna E. Witkin, Joshua Rooks, and Scott L. Rogers, 273-276.

49. Tang and Posner, "Mindfulness and Training Attention," 24.

50. Brian D. Ostafin, "Taming the Wild Elephant: Mindfulness and Its Role in Overcoming Automatic Mental Processes," in *Handbook of Mindfulness and Self-Regulation*, edited by Brian D. Ostafin, Michael D. Robinson, and Brian P. Meier (New York: Springer, 2015), 55.

51. Joshua Rooks, Alexandra B. Morrison, Merissa Goolsarran, Scott L. Rogers, and Amishi P. Jha, "'We Are Talking About Practice': The Influence of Mindfulness vs. Relaxation Training on Athletes' Attention and Well-being Over High-Demand Intervals," *Journal of Cognitive Enhancement* 1, no. 2 (2017): 151.

52. Amishi P. Jha, Alexandra B. Morrison, Suzanne C. Parker, and Elizabeth A. Stanley, "Practice is Protective: Mindfulness Training Promotes Cognitive Resilience in High-Stress Cohorts," *Mindfulness* 8 (2017): 46-58.

53. Jha, Morrison, Dainer-Best, Parker, Rostrup, and Stanley, "Minds 'at attention,'" 2.

54. Jha, Morrison, Dainer-Best, Parker, Rostrup, and Stanley, 2.

55. Jha, Morrison, Dainer-Best, Parker, Rostrup, and Stanley, 2.

with increases in several other strategic thinking competencies.⁵⁶ These include critical thinking, convergent and divergent thinking, perspective taking, and cognitive flexibility.⁵⁷ Mindfulness practice has also been shown to increase creativity, an area that may improve senior leaders' approach to attacking intractable problems and managing complex adaptive systems.⁵⁸ Researchers propose that mindfulness training may do this by helping practitioners overcome habitual thought patterns and thus opening them to more novel and divergent thinking.⁵⁹ Separately, studies indicate mindfulness helps practitioners restructure problems, which allows for insightful resolution.⁶⁰ In addition, research shows mindfulness training may assist with conducting moral reasoning and making ethical decisions.⁶¹ These benefits may result from mindfulness's effect on the attention-control system and are particularly useful for senior military leaders who are increasingly called upon to make fast-paced moral and ethical decision as the human-in-the-loop supporting artificial intelligence and machine learning systems.

Reduced Emotional Reactivity. Defined as the intensity of emotional response to stimuli, emotional reactivity can impede learning, comprehension, working memory, and cognitive performance.⁶² Mindfulness training may assist midlife senior military leaders in reducing their emotional reactivity by minimizing attentional orienting toward "emotionally threatening cues."⁶³ Deliberate attention focusing, or de-centering, may enable

56. Dr. Amishi P. Jha, Conversation with the Author, March 24, 2021; Kirk W. Brown, Robert J. Goodman, Richard M. Ryan, and Bhikkhu Analayo, "Mindfulness Enhances Episodic Memory Performance: Evidence from a Multimethod Investigation," *PLoS ONE*, 11, no.7 (2016).

57. Chris Noone, Brendan Bunting, and Michael J. Hogan, "Does Mindfulness Enhance Critical Thinking? Evidence for the Mediating Effects of Executive Functioning in the Relationship between Mindfulness and Critical Thinking," *Frontiers in Psychology*, no. 6 (2016): 20-43; Lorenza S. Colzato, Ayca Ozturk, and Bernhard Hommel, "Meditate to Create: The Impact of Focused Attention and Open-monitoring Training on Convergent and Divergent Thinking," *Frontiers in Psychology*, 3 (2012):116; Niels J.V. Doesum, Reinout E. de Vries, Arjan A.J. Blokland, Jessica M. Hill, David M. Kuhlman, Adam W. Stivers, Joshua M. Tybur, Paul A.M. Van Lange, "Social Mindfulness: Prosocial the Active Way," *The Journal of Positive Psychology*, 15 no. 2, (2020): 183-193; Jonathan Greenberg, Keren Reiner, and Nachshon Meiran, "Mind the Trap": Mindfulness Practice Reduces Cognitive Rigidity," *PLoS ONE* 7, no. 5 (2012): e36206.

58. Ostafin, "Taming the Wild Elephant," 55-56; Matthijs Baas, Barbara Nevicka, and Femke S.T. Velden, "Specific Mindfulness Skills Differentially Predict Creative Performance," *Personality and Social Psychology Bulletin* 40, no.9 (2014): 1092-1106.

59. Ostafin, "Taming the Wild Elephant," 55-56.

60. Ostafin, "Taming the Wild Elephant," 55-56.

61. Shapiro, Jazaieri, and Goldin, "Mindfulness-based Stress Reduction Effects on Moral Reasoning," 1-12.

62. Richard Davidson, "Affective Style and Affective Disorders: Perspectives from Affective Neuroscience," *Cognition and Emotion* 12 (1998): 307-330.

63. Garland, Hanley, Goldin, and Gross, "Testing the Mindfulness-to-Meaning Theory," 1-19.

senior military leaders to distance themselves from emotionally charged thoughts and to “initiate cognitive coping strategies,” thereby intentionally minimizing distraction and redirecting mental capability.⁶⁴ Research indicates mindfulness training can impact positively how the brain processes emotions in healthy, depressed, and anxious individuals, rendering the emotion regulation aspect of mindfulness training broadly beneficial.⁶⁵ Relatedly, research shows working memory may be related to the regulation of emotions.⁶⁶ People with poor working memory may be more likely to “have emotionally intrusive thoughts” and act prejudicially toward others.⁶⁷ Not only do these findings have strategic thinking implications, but they also have moral, ethical, and leadership consequences. Importantly, mindfulness training-related improvements in working memory may also reduce emotional reactivity.⁶⁸ Both outcomes benefit strategic military leaders’ emotional equanimity and ethical leadership. These positive outcomes of mindfulness training offer the U.S. Army an irreplaceable competitive advantage. By training and reinforcing ethical leadership and decision-making as a competitive advantage, they help preserve the reputation of the United States in the narrative, or perception-based, dynamic of competition, which shapes how partners, allies, and adversaries interpret U.S. actions.⁶⁹

Increased wellness. Developing mindfulness as a skill to optimize healthful states is especially beneficial for midlife senior military leaders seeking a buffer against stress and age-related decline. Mindfulness practice is associated with resilience (see Chapter 7) and has been demonstrated to improve well-being, which is “feeling good and/or experiencing fulfillment and purpose.”⁷⁰ Psychological stress can be understood as “a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering

64. Antoine Lutz, Amishi P. Jha, John D. Dunne, and Clifford D. Saron, “Investigating the Phenomenological Matrix of Mindfulness-related Practices from a Neurocognitive Perspective,” *American Psychologist* 70, no. 7 (2015): 632-658; Garland, Hanley, Goldin, and Gross, “Testing the Mindfulness-to-Meaning Theory,” 1-19.

65. Patricia A. Deuster and Eric Schoomaker, “Mindfulness: A Fundamental Skill for Performance Sustainment and Enhancement,” *Joint Special Operations Medicine* 15, no.1 (2015): 93-99.

66. Amishi P. Jha, Elizabeth A. Stanley, Anastasia Kiyonaga, Ling Wong, and Lois Gelfand, “Examining the Proactive Effects of Mindfulness Training on Working Memory Capacity and Affective Experience,” *Emotion* 10, no. 1 (2010): 54-64.

67. Jha, Stanley, and Baime, “What Does Mindfulness Training Strengthen?” 207-221.

68. Jha, Stanley, Kiyonaga, Wong, and Gelfand, “Examining the Proactive Effects of Mindfulness Training on Working Memory Capacity and Affective Experience,” 54-64.

69. U.S. Army Chief of Staff, “The Army in Military Competition,” v.

70. Susan Sonnentag, “Dynamics of Well-being,” *Annual Review of Organizational Psychology and Organizational Behavior* 2, (2015): 261.

his or her well-being.”⁷¹ Research ranging across a wide variety of populations shows mindfulness training can help mitigate stress.⁷² A study examining US Marines preparing to deploy found that mindfulness training was protective against increased negative mood during stressful periods and that the training has protective effects on working memory.⁷³

Research findings further indicate mindfulness training assists with sleep quality and duration.⁷⁴ Sleep impacts senior military leaders’ physiological and psychological performance, well-being, and health (see Chapter 5).⁷⁵ Through improved sleep, mindfulness training likely improves leader performance.⁷⁶ Sleep plays a restorative role in cognition and can improve communication and focus.⁷⁷ Associated with mood and information processing, sleep can bolster concentration, resilience, and mental agility.⁷⁸ Research with service members shows adequate sleep reduces stress, improves feelings of well-being, and bolsters unit effectiveness, which promotes mission accomplishment.⁷⁹ The benefits associated with sleep are similar to those connected with mindfulness training. To maximize these benefits, senior military leaders may consider implementing mindfulness training to promote improved sleep.

While not the focus of this chapter, mindfulness is widely used as a therapeutic tool to address mental and physical health challenges, including pain, post-traumatic stress disorder, and anxiety, among others.⁸⁰ The

71. Richard S. Lazarus and Susan Folkman, *Stress, Appraisal, and Coping* (New York: Springer Publishing Company, 1984), 19.

72. Ruth A. Baer, “Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review,” *Clinical Psychology* 10, no. 2 (2003): 125-143.

73. Jha, Stanley, Kiyonaga, Wong, and Gelfand, “Examining the Proactive Effects of Mindfulness Training on Working Memory Capacity and Affective Experience,” 54-64.

74. Ute R. Hülsheger, Alina Feinholdt, and Annika Nubold, “A Low-Dose Mindfulness Intervention and Recovery from Work,” *Journal of Occupational and Organizational Psychology* 88, no. 3 (2015): 464-489.

75. Torbjörn Åkerstedt and Peter M. Nilsson, “Sleep as Restitution: An Introduction,” *Journal of Internal Medicine* 254, no. 1 (2003): 10.

76. Deuster and Schoemaker, “Mindfulness: A Fundamental Skill for Performance Sustainment and Enhancement,” 93-99.

77. Åkerstedt and Nilsson, “Sleep as Restitution,” 10.

78. Bradley M. Ritland et al., “Effects of Sleep Extension on Cognitive/Motor Performance and Motivation in Military Tactical Athletes,” *Sleep Medicine* 58 (2019): 54; William D. S. Killgore, Ellen T. Kahn-Greene, Erica L. Lipizzi, Rachel A. Newman, Gary H. Kamimori, Thomas J. Balkin, “Sleep Deprivation Reduces Perceived Emotional Intelligence and Constructive Thinking Skills,” *Sleep Medicine* 9, no. 5 (2008): 517; Geraldine S. Perry, Susheel P. Patil, and Letitia R. Presley-Cantrell, “Raising Awareness of Sleep as a Healthy Behavior,” *Preventing Chronic Disease* 10 (2013): 1.

79. Brian C. Gunia, Maurice L. Sipos, Matthew LoPresti, and Amy B. Adler, “Sleep Leadership in High-Risk Occupations: An Investigation of Soldiers on Peacekeeping and Combat Missions,” *Military Psychology* 27, no. 4 (2015): 199-200.

80. Bruyee, “Mindfulness and Minefields,” 377; Michael Ussher, Amy Spatz, Claire Copland, Andrew Nicolaou, Abbey Cargill, Nina Amini-Tabrizi, and Lance McCracken,

long-standing and broad-ranging utility of mindfulness training for wellness and optimization demonstrates its applicability across culture, context, and cohort. After reviewing mindfulness research, former U.S. Army Surgeon General, Lieutenant General Eric Schoomaker, assessed, “The evidence behind the benefits of mindfulness is extensive and instructive. Importantly, evidence suggests that mindfulness can be helpful for many operational, leadership, and personal activities and is likely beneficial for enhancing resilience and overall health.”⁸¹

Implementation: Senior Military Leaders’ Personal Adoption of Mindfulness

Mindfulness and marksmanship have much in common. Both are trainable skills, require concentration, and can include breathing as a focus. Just as a marksman selects a target, mindfulness practice begins with attentional orienting, which is as simple as selecting a focal object, maintaining focus, noticing focus drifting, selecting again, and repeating the process.⁸² In this way, repetitions are completed and the mind muscle is strengthened.⁸³ Like physical exercise, mindfulness practice should be considered training and has predictable outcomes resulting from repetition.⁸⁴ Lieutenant General Piatt has called mindfulness exercises “push-ups for the mind.”⁸⁵

These cognitive “push-ups” reinforce self-regulation strategies that develop “attention control, emotion regulation, and enhanced self-awareness.”⁸⁶ Instead of building muscle mass, mindfulness training strengthens self-regulation in three ways:

- 1) attentional orienting, which is the ability to select and sustain attention on a subset of information while remaining undistracted,

“Immediate Effects of a Brief Mindfulness-based Body Scan on Patients with Chronic Pain,” *Journal of Behavioral Medicine* 37 (2014): 127–134.

81. Deuster and Schoomaker, “Mindfulness: A Fundamental Skill for Performance Sustainment and Enhancement,” 93-99.

82. Garland, Hanley, Goldin, and Gross, “Testing the Mindfulness-to-Meaning Theory,” 1-19.

83. Jha, Rogers, Schoomaker, and Cardon, “Deploying Mindfulness to Gain Cognitive Advantage,” 4.

84. Rooks, Morrison, Goolsarran, Rogers, and Jha, “We Are Talking About Practice,” 152.

85. Jha, Rogers, Schoomaker, and Cardon, “Deploying Mindfulness to Gain Cognitive Advantage,” 4.

86. Tang, Hölzel, and Posner, “Neuroscience of Mindfulness Meditation,” 213–225; Britta K. Hölzel, Sara W. Lazar, Tim Gard, Zev Schuman-Olivier, David R. Vago, Ulrich Ott, “How Does Mindfulness Meditation Work? Proposing Mechanisms of Action from a Conceptual and Neural Perspective,” *Perspectives on Psychological Science* 6, no. 6 (2011): 551.

2) meta-awareness, which is the ability to monitor one's ongoing experience with an awareness of doing so; and

3) decentering, which is the ability to view one's experience at a psychological distance so that biases, mind-sets, and conceptual interpretations are viewed as mental processes rather than accurate depictions of reality.⁸⁷

Two major categories of mindfulness exercises drive improvements in self-regulation: focused attention and open awareness. Selecting and redirecting attention are central to each of the exercises. During focused attention training, the practitioner orients their attention on a selected object and returns their attention to the object when their mind wanders.⁸⁸ The suggested mindful breathing practice below from the Walter Reed Army Institute of Research provides a sample focused attention exercise:

Take 3 deep and slow breaths and now let your breathing return to its normal pace.

Focus your attention on where you feel the breath most – that is the target of your attention. For example, it could be your nostrils, it could be your chest, or your shoulders.

Select what is most salient for you and focus on it.

Notice when your mind wanders away from this target and when it does, return it gently back to the sensation.

Practice this exercise for 2-3 minutes.⁸⁹

During open awareness exercises, the practitioner focuses awareness beyond the physical body and brings attention to the surrounding environment.⁹⁰ The suggested open monitoring practice below from the Walter Reed Army Institute of Research provides a sample open awareness exercise:

Settle in by taking a few deep and slow breaths.

87. Jha, Rogers, Schoomaker, and Cardon, "Deploying Mindfulness to Gain Cognitive Advantage," 4.

88. Jha, Rogers, Schoomaker, and Cardon, "Deploying Mindfulness to Gain Cognitive Advantage," 4.

89. Walter Reed Army Institute of Research, "COVID-19 Mindfulness: Boosting Your Capacity Under Stress," February 5, 2021 COVID-19_Mindfulness_Quick_Guide_WRAIR.pdf (army.mil)

90. Walter Reed Army Institute of Research, "COVID-19 Mindfulness: Boosting Your Capacity Under Stress," February 5, 2021 COVID-19_Mindfulness_Quick_Guide_WRAIR.pdf (army.mil)

On each exhale, relax more deeply, letting go of tension in the neck and shoulders.

Allow your breathing to continue at its own natural pace.

Expand awareness beyond your physical self to your surroundings.

Be aware of sounds, smells, the touch of air on your skin, light through the eyelids.

Notice when your mind wanders, then gently bring your attention back to awareness.

Feel yourself to be unchanging and timeless—even as things come and go around you.

Practice this exercise for 5-10 minutes.⁹¹

Through habitual training with exercises like these, mindfulness increases the practitioner's ability to focus on internal and external stimuli and experience.⁹²

Mindfulness training involving exercises that emphasize attention to the breath, the body, and one's surroundings is a path to cultivating more moments of mindfulness, but it is not the only approach.⁹³ Since mindfulness practice involves directing attention onto a focus object, anything can be the object of mindfulness practice. This includes eating, walking, washing dishes, and doing paperwork. Performing daily activities in an intentional way has been shown to increase mindfulness and reap its associated benefits.⁹⁴ To maximize the benefits of mindfulness training, the Walter Reed Army Institute of Research suggests soldiers conduct twelve minutes of personal mindfulness practice a few days a week.⁹⁵ However, senior military leaders should not view mindfulness practice as an additional training requirement that needs to be scheduled. Instead, senior military leaders should integrate mindfulness into their daily activities.

91. Walter Reed Army Institute of Research, "COVID-19 Mindfulness: Boosting Your Capacity Under Stress," February 5, 2021 COVID-19_Mindfulness_Quick_Guide_WRAIR.pdf (army.mil)

92. Brian D. Ostafin, Michael D. Robinson, and Brian P. Meier, "Introduction: The Science of Mindfulness and Self-Regulation," in *Handbook of Mindfulness and Self-Regulation*, edited by Brian D. Ostafin, Michael D. Robinson, and Brian P. Meier (New York: Springer, 2015), 6.

93. Paul Verhaeghen, *Presence* (New York: Oxford, 2017), 5.

94. Garland, Hanley, Goldin, and Gross, "Testing the Mindfulness-to-Meaning Theory," 2.

95. Walter Reed Army Institute of Research, "COVID-19 Mindfulness: Boosting Your Capacity Under Stress," February 5, 2021 COVID-19_Mindfulness_Quick_Guide_WRAIR.pdf (army.mil)

Walter Reed Army Institute of Research makes these recommendations for incorporating mindfulness into everyday experience:

Take a couple of mindful breaths throughout the day to recharge mentally and physically.

Take a moment to monitor your inner and outer experience while walking from one place to another.

Accept what cannot be controlled.

In response to difficult situations, pause and act with intention rather than react in the moment.⁹⁶

Understanding mindfulness as an intentional approach to engagement that can be conducted during normal life shows how accessible implementing personal mindfulness training can be for time-constrained senior military leaders.

Integration: Army Institutional Adoption of Mindfulness Practices

Numerous American occupational fields have adopted mindfulness training programs, including education, medicine, and professional sports.⁹⁷ Dr. Jon Kabat-Zinn's work forms the foundation for much institutional integration of mindfulness training.⁹⁸ Kabat-Zinn pioneered mindfulness as an intervention for potential stressors, to include those caused by physical and emotional pain, work, sleep, and food.⁹⁹ He developed Mindfulness Based Stress Reduction (MBSR) training to help practitioners focus on their functionality and capability in the presence of stress-inducing situations.¹⁰⁰ Significantly, MBSR serves as the basis for most Mindfulness Based Interventions (MBIs).¹⁰¹ Whether general purpose or directed toward a specific community such as veterans or Service Members, MBIs employ tools

96. Walter Reed Army Institute of Research, "COVID-19 Mindfulness: Boosting Your Capacity Under Stress," February 5, 2021 COVID-19_Mindfulness_Quick_Guide_WRAIR.pdf (army.mil)

97. Ana M. Gómez-Olmedo, Carmen Valor, and Isabel Carrero, "Mindfulness in Education for Sustainable Development to Nurture Socioemotional Competencies: A Systematic Review and Metaanalysis," *Environmental Education Research* (2020): 1-29; Ruben Vonderlin, Miriam Biermann, Martin Bohus, and Lisa Lyssenko, "Mindfulness-based Programs in the Workplace: A Meta-analysis of Randomized Controlled Trials," *Mindfulness* 11, no. 7 (2020): 1579-1598; Rooks, Morrison, Goolsarran, Rogers, and Jha, "We Are Talking About Practice," 151.

98. Jon Kabat-Zinn, "An Outpatient Program in Behavioral Medicine for Chronic Pain Patients Based on the Practice of Mindfulness Meditation: Theoretical Considerations and Preliminary Results," *General Hospital Psychiatry* 4 (1982): 33-47.

99. Jon Kabat-Zinn, *Full Catastrophe Living* (New York: Bantam, 2013), 356.

100. Kabat-Zinn, 356.

101. Bruyey, "Mindfulness and Minefields," 377.

such as body scans, mindful movement, and meditation to intentionally observe thoughts and the internal and external environment in the present moment.¹⁰²

Veterans Administration (VA) mindfulness programming may offer insight into institutional integration for the Active Duty Army. VA programs seek to teach and embed mindfulness practice into individual wellness efforts and predominately focus on the MBSR course.¹⁰³ An example is the Wilmington, Delaware VA's *Vanguard of Mindfulness* program, which used MBSR as a framework and offered year-long group coursework, examination of foundational mindfulness texts, and creation of a post-course mindfulness community. The Wilmington VA also developed *Buddy up*, a program intended to foster connection and support continued mindfulness practice. In addition, the Wilmington VA created the *Yummy* program to emphasize mindful eating.¹⁰⁴ Separately, the VA implemented a "Mindful VA" conference call to share best practices among its mindfulness instructors.¹⁰⁵ VA programs required teachers with robust training and a personal mindfulness practice, which could sometimes limit program availability.¹⁰⁶

The U.S. Army has not yet integrated an institutionally available mindfulness program, despite the VA's example and the established benefits of mindfulness training for military Service Members.¹⁰⁷ Encouragingly, *FM 7-22* serves as a mandate to include mindfulness in readiness-focused training and provides a starting point for mindfulness training integration into institutional frameworks.¹⁰⁸ *FM 7-22* describes mindfulness practice as "essential" for health and fitness and classifies it as a component of readiness training.¹⁰⁹ Professional Military Education and annual resiliency training may present opportunities to integrate mindfulness into institutional Army training.

102. Lynette M. Monteiro, Frank Musten, and Jane Compson, "Traditional and Contemporary Mindfulness: Finding the Middle Path in the Tangle of Concerns," *Mindfulness* 6, no.1 (2015): 1-13.

103. Dr. Jennifer Tedesco, Personal Communication with the Author, November 8, 2020.

104. Dr. Jennifer Tedesco, Personal Communication with the Author, November 8, 2020.

105. Dr. Jennifer Tedesco, Personal Communication with the Author, November 8, 2020.

106. Dr. Jennifer Tedesco, Personal Communication with the Author, November 8, 2020.

107. Johnson, Thom, Stanley, Haase, Simmons, Shih, Thompson, Potterat, Minor, and Paulus, "Modifying Resilience Mechanisms in At-Risk Individuals," 844-53; Meland, Ishimatsu, Pensgaard, Fonne, Garde, and Harris, "Impact of Mindfulness Training on Physiological Measures of Stress," 191-208; Bijlsma, Muis, van Tilborg, "Mindfulness in the Dutch Military," 1-26.

108. U.S. Army, *FM 7-22*, 5-5.

109. U.S. Army, *FM 7-22*, 13-3.

Professional Military Education. In support of the effort to “incorporate [mindfulness] curriculum into the Army resilience structure in a codified way,” the U.S. Army initiated a mindfulness pilot program during October 2020 Basic Combat Training at Fort Jackson, South Carolina, to determine if mindfulness training could be integrated into initial entry training and begin producing effects lasting throughout a Soldier’s career.¹¹⁰ Early evidence from this largest military mindfulness trial indicates basic trainees experienced stress reduction and improved focus.¹¹¹ As military culture and norms are embedded in Basic Combat Training, this pilot program could present fertile ground for U.S. Army institutional adoption of mindfulness training.¹¹² Mindfulness training is also featured in General Officer/Senior Leader curriculum.¹¹³ Introducing mindfulness across generations and in multiple venues will help anchor and embed mindfulness training in the Army culture and ingrain it as part of the US Army competitive advantage.¹¹⁴

Soldiers are required to conduct annual resilience training, which could present another opportunity for institutional integration of mindfulness training. Currently, mindfulness is not included in resilience training, but the Army Resilience Directorate (ARD) recommends soldiers conduct personal mindfulness practices, such as the body scan, thought journaling, and grounding for resilience and performance optimization.¹¹⁵

Mindfulness-Based Attention Training (MBAT). To date, U.S. Army mindfulness programming has been largely research-driven.¹¹⁶ MBAT is one such grant-based program in which soldiers receive mindfulness training that is based on Kabat-Zinn’s MBSR but tailored to a military context.¹¹⁷ Whereas MBSR generally focuses on stress and symptom reduction, MBAT emphasizes wellness and performance optimization.¹¹⁸ Consisting of weekly two-hour-long facilitated sessions conducted over four weeks,

110. COL Kevin Bigelman, Personal Communication with the Author, October 28, 2020.

111. Chad Garland, “Army Tests Fitness Benefits of Yoga and Meditation in Basic Training,” *Stars and Stripes*, February 23, 2021, <https://www.stripes.com/news/us/army-tests-fitness-benefits-of-yoga-and-meditation-in-basic-training>.

112. Bruyea, “Mindfulness and Minefields,” 388-9; John P. Kotter, *Leading Change* (Boston: Harvard Business School Press, 1996), 21.

113. Dr. Amishi Jha, Personal Communication with the Author, October 9, 2020.

114. Kotter, *Leading Change*, 21.

115. Army Resilience Directorate, “I Want to Optimize My Performance,” ARD: I Want to Optimize My Performance (army.mil).

116. Dr. Amishi Jha, Personal Communication with the Author, October 9, 2020.

117. Jha, Zanesco, Denkova, Morrison, Ramos, Chichester, Gaddy, and Rogers, “Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training,” 684.

118. Jha, Zanesco, Denkova, Morrison, Ramos, Chichester, Gaddy, and Rogers, “Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training,” 683-697.

combined with daily 15-minute exercises, MBAT is organized around four mindfulness themes that are approached in a military-accessible context and language:

The concentration theme introduces participants to mindfulness “basics,” including discussion of mind-wandering and the science of mindfulness.

The body awareness theme involves cultivation of greater self-awareness, the development of equanimity, and learning to distinguish “(over)-reactions” from “responses.”

The open monitoring theme leads to the further development of self-regulation skills through awareness of unpleasant experiences and moments of uncertainty.

The theme of connection addresses adaptive and effective leadership and explores group cohesion and the cultivation of kindness/connection practices.¹¹⁹

MBAT’s approach has consistently demonstrated beneficial effects. One large-scale Department of Defense-funded study showed soldiers made gains in attention and working memory after four weeks of mindfulness training in the MBAT program.¹²⁰ Additional research with elite military cohorts showed these groups also made attentional gains with MBAT training.¹²¹ These results indicate mindfulness may have utility as a military cognitive training tool.¹²² Additional research points to train-the-trainer as an effective method of MBAT delivery.¹²³ After receiving train-the-trainer MBAT training, instructors with knowledge of the military but no prior mindfulness training led MBAT training, which resulted in measurable improvement in soldiers’ sustained attention and working memory. The potential for train-the-trainer instruction makes MBAT increasingly accessible to the force. With its limited time requirement, demonstrated cognitive returns, and train-the-trainer instruction format, MBAT may provide a vehicle for the Army to implement mindfulness training at scale. In addition, MBAT delivered by trained trainers has recently been found to

119. Jha, Zanesco, Denkova, Morrison, Ramos, Chichester, Gaddy, and Rogers, “Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training,” 683-697.

120. Zanesco, Denkova, Rogers, McNulty, and Jha, “Mindfulness Training as Cognitive Training,” 323.

121. Zanesco, Denkova, Rogers, McNulty, and Jha, “Mindfulness Training as Cognitive Training,” 354.

122. Zanesco, Denkova, Rogers, McNulty, and Jha, “Mindfulness Training as Cognitive Training,” 323.

123. Jha, Zanesco, Denkova, Morrison, Ramos, Chichester, Gaddy, and Rogers, “Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training,” 683.

improve marksmanship under stress when soldiers practiced 3 or more days a week.¹²⁴

Attaching to Organizational Activities. Other opportunities for institutional Army integration of mindfulness training include integrating mindfulness into existing organizational practices. Examples could include opening meetings with five mindfulness minutes.¹²⁵ These brief sessions could also include a group guided meditation or short mindful walk. Lieutenant General Piatt offered possibilities including beginning or ending Army physical training with a mindfulness practice.¹²⁶

Overcoming Barriers to Implementation

Barriers to U.S. Army implementation of mindfulness training may be cultural or operational. First, lack of understanding presents a potential impediment to U.S. Army adoption of mindfulness training. Soldiers may be hesitant or reluctant to adopt mindfulness practices due to misunderstandings about mindfulness and preconceived stereotypes about mindfulness practitioners. Anecdotal evidence indicates some soldiers may misconstrue mindfulness as being prohibitively associated with a particular spiritual practice.¹²⁷ Introducing soldiers to the benefits of mindfulness training and acquainting them with its ancient roots, including in Roman Stoicism, may make them more receptive to mindfulness training.¹²⁸

Some soldiers may believe mindfulness practices are contrary to military culture.¹²⁹ Demonstrating to soldiers that mindfulness training helps focus their attention, improve their working memory, decrease their experience of stress, and bolster their creativity may help them understand how mindfulness training can enhance performance.¹³⁰ Mindfulness bolsters mission accomplishment for mundane tasks such as searching for debris on flight lines and looking for potential fire sources on ships as well as for high order requirements necessitating peak executive functioning such as battle command and targeting.¹³¹ The opposite of dulling soldiers' intensity, research

124. Thomas H. Nassif, Amanda L. Adrian, Ian A. Gutierrez, Alexis C. Dixon, Scott L. Rogers, Amishi P. Jha, and Amy B. Adler, "Optimizing Performance and Mental Skills with Mindfulness-Based Attention Training: Two Field Studies with Operational Units," *Mil Med*, (2021), Online ahead of print, DOI: 10.1093/milmed/usab477.

125. Dr. Amishi Jha, Personal Communication with the Author, October 9, 2020.

126. Amishi Jha, Major General Walter Piatt, Anderson Cooper, "Mindfulness in the Military," May 29, 2019, <https://youtu.be/pN64uJIRasI>.

127. Lieutenant Colonel Peter Olsen, Conversation with the Author, February 23, 2021.

128. Jha, Rogers, Schoomaker and Cardon, "Deploying Mindfulness to Gain Cognitive Advantage," 1-14.

129. Bruyey, "Mindfulness and Minefields," 408.

130. Jha, Rogers, Schoomaker and Cardon, "Deploying Mindfulness to Gain Cognitive Advantage," 1-14.

131. Bruyey, "Mindfulness and Minefields," 392.

shows mindfulness training improves the critical battlefield ability to be both calm and alert.¹³² This is because, like a rifle, the brain performs better with focusing. To this end, Lieutenant General Piatt views mindfulness training as akin to “zeroing the mind.”¹³³

The cognitive optimization resulting from mindfulness training does not require a technology-driven solution, which may seem simplistic and antithetical to military modernization. Given the contemporary bias toward technology, it may be difficult to conceptualize how integrating an ancient practice at scale could lead to a U.S. competitive advantage in Multi-Domain Operations. TRADOC PAM 525-3 “The Army in Multi-Domain Operations” calls for “biotechnical sensors monitoring the status and changes in human performance [to] augment commanders’ understanding of their units.”¹³⁴ TRADOC PAM 525-3 also suggests, “Man-machine interfaces, enabled by artificial intelligence and high-speed data processing, [will] improve human decision making in both speed and accuracy.”¹³⁵ This implies that reliance on artificial intelligence and machine learning will result in “cognitive offloading” or the decreased need for human decision making.¹³⁶ Rather, the increasingly complex and data-rich information environment requires more human intervention at greater decision-making speed.¹³⁷ Cognitive overmatch necessitates the converging of technology with peak human cognition. Mindfulness training affords senior military leaders the opportunity to sharpen their cognitive skills, not permission to surrender their decision-making responsibility to technology.

An operational barrier may be *FM 7-22*’s restriction of mindfulness training to the Combat/Peak 2 phase, which may limit broader implementation of mindfulness training. Combat/Peak 2 calls for the “highest intensity training...to achieve peak levels of readiness.”¹³⁸ While research shows mindfulness training can help prepare service members for deployment, it is problematic to limit mindfulness to one training phase.¹³⁹ Instead, mindfulness should be viewed as beneficial across all training periods, as mindfulness is related to numerous cognitive tasks required across the training

132. Anders Meland, Kazuma Ishimatsu, Anne Marta Pensgaard, Vivianne Fonne, Anne Helene Garde, and Anette Harris, “Impact of Mindfulness Training on Physiological Measures of Stress and Objective Measures of Attention Control in a Military Helicopter Unit,” *International Journal of Aviation Psychology* 25, no. 3-4 (2015): 191-208.

133. Amishi Jha, Major General Walter Piatt, Anderson Cooper, “Mindfulness in the Military,” May 29, 2019, <https://youtu.be/pN64uJlRasI>

134. U.S. Army, “The U.S. Army in Multi-Domain Operations 2028,” 20.

135. U.S. Army, “The U.S. Army in Multi-Domain Operations 2028,” 20.

136. Jha, Rogers, Schoomaker and Cardon, “Deploying Mindfulness to Gain Cognitive Advantage,” 1-14.

137. Jha, Rogers, Schoomaker and Cardon, “Deploying Mindfulness to Gain Cognitive Advantage,” 1-14.

138. U.S. Army, *FM 7-22*, 5-5.

139. Morrison and Jha, “Mindfulness, Attention, and Working Memory,” 39.

cycle. An additional barrier to implementation is *FM 7-22's* linkage of mindful awareness with focus on “what is important.”¹⁴⁰ This seemingly misconstrues the concept of mindfulness. Instead, mindfulness practice involves focusing on *what is with an attitude of acceptance and nonjudgement*. Adjusting this understanding of—and approach to—mindfulness could assist the Army in implementing mindfulness training.

Conclusion

Mindfulness training presents an untapped competitive advantage that can help senior military leaders achieve the intellectual overmatch needed to win in today’s complex environment. Mindfulness training has been shown to optimize performance, reduce emotional reactivity, and increase wellness.¹⁴¹ In addition, mindfulness training is linked to increases in the strategic thinking competencies essential to senior military leadership, such as critical and creative thinking, convergent and divergent thinking, perspective taking, and moral and ethical decision making.¹⁴² Mindfulness training also promotes the cognitive resilience necessary to sustain operations under stressful conditions.¹⁴³ Optimizing senior military leader performance and wellness, mindfulness training is especially relevant for the pivotal midlife years and can help develop pre-silience against personal and professional stressors.¹⁴⁴

To reap these benefits, senior military leaders may integrate mindfulness training into their daily activities. Institutional implementation opportunities include incorporating mindfulness training into Professional Military Education and Army Resilience structures, implementing Mindfulness-Based Attention Training at scale, and pinning mindfulness training to existing organizational activities. While adopting mindfulness training may require cultural shifts in the U.S. Army, these changes dovetail with the U.S. Army’s emphasis on people as top priority.

Above all, implementing mindfulness practice could help the U.S. Army train for competition and prepare for conflict, as enhancing soldiers’ ability

140. U.S. Army, *FM 7-22*, 13-3.

141. Tang, Hölzel, and Posner, “The Neuroscience of Mindfulness Meditation,” 213–225; Garland, Hanley, Goldin, and Gross, “Testing the Mindfulness-to-Meaning Theory,” 1-19.

142. Noone, Bunting, and Hogan, “Does Mindfulness Enhance Critical Thinking?” 20-43; Doesum, de Vries, Blokland, Hill, Kuhlman, Stivers, Tybur, and Van Lange, “Social Mindfulness,” 183-193; Greenberg, Reiner, and Meiran, “Mind the Trap,” e36206; Colzato, Ozturk, and Hommel, “Meditate to Create,” 116.

143. Jha, Zanenco, Denkova, Morrison, Ramos, Chichester, Gaddy, and Rogers, “Bolstering Cognitive Resilience Via Train-the-Trainer Deliver of Mindfulness Training,” 684.

144. Jha, Stanley, Kiyonaga, Wong, and Gelfand, “Examining the Protective Effects of Mindfulness Training,” 54-64.

to maintain situational awareness and process information supports cognitive dominance and are essential skills for fighting and winning in Multi-Domain Operations. Adopting mindfulness training can help senior military leaders answer Lieutenant General Piatt's question, "What are we doing to train the mind?"

Key Takeaways

- Mindfulness is understood as a natural human capacity that can be improved with practice.
- Mindfulness supports the sense-making and sense-giving skills required of senior leaders to effectively perform in today's complex and dynamic world.
- Mindfulness can strengthen core cognitive control processes that support learning, comprehension, and memory. Studies suggest cognitive optimization through improved attention and working memory.
- Institutionalized mindfulness practice in the Army could strengthen our cognitive advantage.



For this and other publications, visit us at armywarcollege.edu



This Publication

USAWC Website