

# Mindfulness as a Method to Enhance Cognitive Performance in Future Strategic Leaders

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## Abstract

This article addresses cognitive performance as a current shortfall within the Army strategic leader developmental paradigm as written about by contemporary military senior leaders. Today's cognitive challenges are correlated to the writings of classic military strategists who placed great emphasis on clarity of thought and presence of mind. A recommendation is provided for integrating the scientifically-proven technique of mindfulness into the leader development paradigm to enhance the cognitive performance of future military strategic leaders.

The Army strategic leader development paradigm—the framework that promotes critical thinking, strategic reasoning, and an environmental acumen—is under the microscope of senior leaders who have expressed unease with its current state.<sup>1</sup> Over the course of our nation's involvement in both Iraq and Afghanistan, Army senior leaders expressed various concerns with the state of strategic leadership.<sup>2</sup> The greatest unease involved strategic leaders' ability to address complex problems and pursue strategic objectives.<sup>3</sup> Thinking critically and operating in the realm of strategy are cognitive abilities that continue to be fundamental challenges to the strategic leader development paradigm.<sup>4</sup> As years of conflict have illuminated, the Army needs a modern approach to increase the cognitive performance of strategic leaders.

The current strategic leader development paradigm is an industrial-aged development system that lacks the requisite framework to generate future force strategic leaders, and it must change to address the concerns of senior leaders.<sup>5</sup> Challenges to the current paradigm are with *when* strategic leader development happens and *what* areas of concentration the training emphasizes.<sup>6</sup> Strategic leader development is currently focused on ranks at and above colonel and tends to have an insular academic focus.<sup>7</sup> To be effective, change must emphasize a long-term developmental

approach, meaning strategic leader candidates must be developed over time to place increased emphasis on their own personal cognitive development.<sup>8</sup>

Cognitive development techniques currently applied in business strategy development such as the practice of *mindfulness*—a practice used to focus one’s attention to achieve moment-to-moment awareness without judgment—can teach leaders to take a more mindful approach to formulating strategy.<sup>9</sup> Carl von Clausewitz infers that a repeated cognitive examination of this sort, while faced with an ambiguous environment, is requisite of military genius.<sup>10</sup>

Currently, Army strategic leaders are not trained specifically to use mindfulness, a scientifically-proven technique for cognitive enhancement, to develop their mental aptitude for strategy during war.<sup>11</sup> What follows is a closer examination of mindfulness as a potential enhancement to the current strategic leader development paradigm to improve the cognitive performance of Army strategic leaders. The change in the current development paradigm will aid in what senior leaders require most of the modern strategist: a mindful approach toward strategy development to fight and win in a complex world.<sup>12</sup>

## Challenging the Assumptions

As alluded to in Ian Goldin and Chris Kutarna’s *Age of Discovery: Navigating the Risks and Rewards of our New Renaissance*, the world as we know it is changing around us, and we may be on the fringe of a new global Renaissance period.<sup>13</sup> This period will insist upon change. Gen. Mark A. Milley stated, “Every assumption we hold, every claim, every assertion, every single one of them must be challenged.”<sup>14</sup> This assertion suggests that the developmental process for leaders at all levels must catch up to, and evolve with, the changing times. A cultural shift must occur to better develop promising tactical leaders for the transition to strategic leadership.

The cultural shift will require leaders to demonstrate the ability to grasp new concepts like the necessity for “mindful” approaches with the aim to enhance cognitive performance. According to Dr. Ronald D. Siegel, assistant clinical professor of psychology at Harvard Medical School, mindfulness is “awareness of present experience with acceptance, and is a reliable pathway to increased wisdom.”<sup>15</sup> Elizabeth A. Stanley, associate professor of security studies at Georgetown University, adds that benefits from the practice of mindfulness include one’s ability to still the body and mind and call forth

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the strength necessary to endure harsh environmental conditions and a keen sense of awareness of the wider environment.<sup>16</sup>

Further analysis indicates that mindfulness aligns with Clausewitz's assertion as to what aids in the development of military genius.<sup>17</sup> He emphasizes, "What we must do is survey all those gifts of mind and temperament that in combination bear on military activity, taken together constitute the essence of military genius."<sup>18</sup> Mindfulness is a practice that advances the regulation of one's mind and temperament.<sup>19</sup> Practicing these techniques allows one to achieve emotional regulation and presence of mind. It also aids in identifying the characteristics considered necessary for enhanced cognitive performance, as Clausewitz advocates.<sup>20</sup> Mindfulness is perhaps the requisite approach to enhance the cognitive performance of modern strategic leaders beyond professional military education or other civilian education systems.

## Classic Writings on Contemporary Cognitive Challenges

Clausewitz and Baron Antoine-Henri de Jomini, both esteemed military strategic theorists for their research on war, explain mindful approach toward strategy formulation as *coup d'oeil*. Coup d'oeil is the ability of an individual to achieve an acute presence of mind to draw out an almost instinctive conceptualization of the strategic environment through steady cognitive concentration.<sup>21</sup>

Gen. Helmuth von Moltke the Elder, a renowned classic military strategist, possessed the ability for constant cognitive concentration and a keen aptitude for war.<sup>22</sup> Moltke was chief of the Prussian and German army general staffs for thirty years and highly acclaimed for his strategic prowess. He displayed an acumen for swift decision-making and deliberate action while facing potential danger, and an acute understanding of environmental complexities removed from the opinions and attitudes of the time and his own prejudices.<sup>23</sup> Like Jomini and Clausewitz, Moltke was dismissive of environmental influence and demonstrated a very acute presence of mind. Moreover, in a review of Moltke's strategic prowess, Hans H. Hinterhuber and Wolfgang Popp explain that Moltke believed "the highest level of strategic competence is achieved only through a lifetime of work and training."<sup>24</sup> Further, in direct correlation to Moltke's statements on strategic leader development, Winston Churchill alluded to the same. In his 1915 essay "Painting a Pastime," Churchill explains that "one must plant a garden and tend to it so that over the years, it will 'bloom and ripen' and be better cultivated."<sup>25</sup>

The theories of Moltke and Churchill also correlate to the Department of the Army Pamphlet 600-3, *Commissioned Officer Professional Development and Career Management*; all three emphasize that long-term approaches are required.<sup>26</sup> As Churchill explains, "building strategic artists takes time, and so the seeds must be planted well in advance of wanting them to bear fruit, and then must be tended through subsequent assignments."<sup>27</sup>



Given the context of these classical military strategic theorists' thoughts regarding developing mental prowess, one can argue that the modern strategic leader developmental paradigm needs a swift, deliberate change, and that change should place an emphasis on practical approaches toward mindfulness. In most instances, this change will benefit both the mind and temperament, which are two elements that are necessary to manage future complexities and achieve a deeper understanding of war.<sup>28</sup>

## The Science of Mindfulness

*Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.*<sup>29</sup>

—Marcus Aurelius

Mindfulness, if sincerely and often practiced, promotes an advanced cognitive presence of mind that may alleviate, if not eliminate, reactive approaches to problem solving. Most importantly, it positively impacts the mind by limiting distraction and enhancing a leader's ability to sustain his or her attention.

Presence of mind is a requisite trait for all leaders. Unfortunately, thoughts often become clouded because of the inability to maintain an unwavering attention to what is occurring in the present.<sup>30</sup> Marcus Aurelius, a second-century Roman emperor and esteemed leader, recorded his beliefs regarding the necessity for one to attain an acute presence of mind or awareness in a series of notes written during the many battle campaigns he led.<sup>31</sup> Aurelius's notes, branded as "Meditations," present a common theme, emphasizing that to understand the world better, one must clear the mind of the noise associated with life and its challenges, which as Aurelius wrote, has the "power to broaden the mind." Gaining and sustaining clear presence of mind and awareness for what lies beyond the surface of everyday life requires an active redirecting of one's attention to those specific areas of importance.

William James, considered the father of American psychology, wrote:

Whether the attention come by grace of genius or dint of will, the longer one does attend to a topic the more mastery of it one has. And the faculty of voluntarily bringing back a wandering attention over and over again is the very root of judgment, character, and will. And education which should improve this faculty would be the education par excellence.<sup>32</sup>

In consideration of such a powerful statement, future strategy development will arguably continue to see deterioration unless military leaders are taught practical measures early to begin to focus on advanced cognitive self-development



(i.e., mindfulness). Specifically, military leaders should learn how to balance distractions with reality to attain the clear presence of mind and awareness required of military strategic leaders.

Research for business applications on the necessity of a more mindful approach toward decision-making and strategy development has not been extended sufficiently beyond those circles, meaning that emerging military strategic leaders are not benefiting from this area of concentrated study.<sup>33</sup> As this topic is further researched and examined in the business world, the military and national security enterprise should seek to integrate practical approaches to similarly aid leaders in managing potential irrational mindsets common to the human experience.<sup>34</sup>

Current military strategic leaders do not receive such long-term strategies for their growth and development, especially in methods that train mindfulness to enhance the mental aptitude for strategy.<sup>35</sup> The military strategic leader development paradigm is insular, short-termed, and limited in scope. In contrast, longer-term approaches can help the Army develop strategic leaders who systematically approach situations mindfully.<sup>36</sup>

### The Practice of Mindfulness

Mindfulness is not a belief system, religion, or spiritual activity that requires practitioners to adopt new or unusual activities. Mindfulness is the practice of “developing the ability to see what is clearly occurring at any given moment to diminish [former] exaggerated responses and negative perceptions.”<sup>37</sup> Dr. Amishi P. Jha, neuroscientist and facilitator of the Department of Defense grant that funded the Schofield Barracks Training and Research on Neurobehavioral Growth project, explains that mindfulness is “a mental mode characterized by attention now experienced without judgment, elaboration, or emotional reactivity.”<sup>38</sup> Siegel adds, “Mindfulness practice is also itself a form of empirical inquiry, an investigative tool for a sort of inner science.”<sup>39</sup> Under these interpretations, mindfulness is the practice of actively redirecting one’s attention to those specific areas of importance.

Empirical research indicates that mindfulness decreases emotional reactivity that is often caused by environmental stimuli. Essentially, mindfulness enhances the brain regions responsible for *executive functioning*, the areas responsible for working memory, mental flexibility, and self-control.<sup>40</sup> Jha and other social scientists explain that mindfulness supports the development of an individual’s capacity to mitigate emotion-filled responses to stimulus by cultivating one’s ability to limit “ruminating about the past or worrying about the future.”<sup>41</sup> When faced with a challenging situation, leaders trained in the practice of mindfulness can address the situation with clear, unemotional insights, reflective of an enhanced cognitive presence of mind.



## Mindfulness Changes the Brain

The practice of mindfulness affords the practitioner the ability to train the mind to become less reactive and more *aware* of the current moment by actively redirecting attention to those specific areas of importance.<sup>42</sup> Often misinterpreted, the practice of mindfulness was once considered an old, Eastern religion-based meditative practice. Mindfulness has since transitioned to the Western mainstream as a scientifically sound method used to promote positive effects on the mind and temperament. Scientific findings have found that the practice of mindfulness has profound redemptive qualities such as the ability to “keep important parts of our brain from withering with age.”<sup>43</sup>

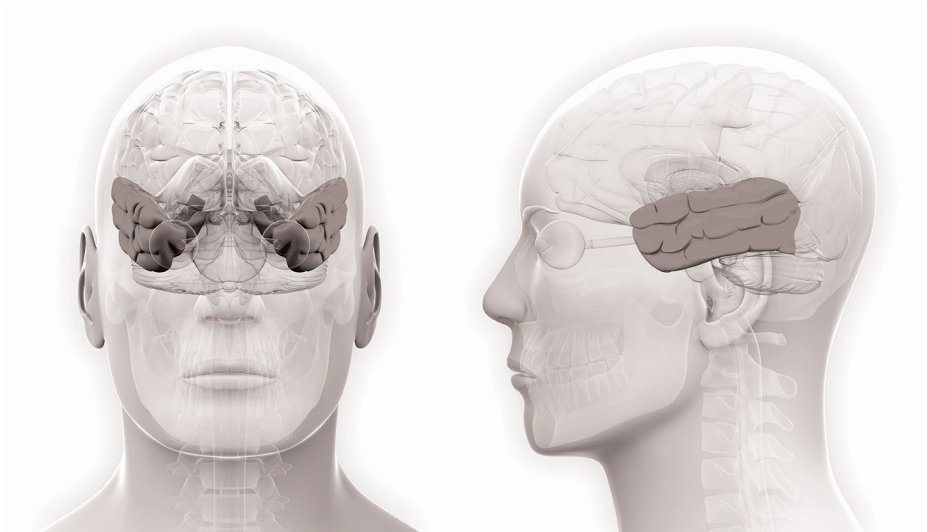
Extensive research has found that “mindfulness can literally change your brain.”<sup>44</sup> Data pooled from over twenty studies have scaled the impact of the practice of mindfulness to eight specific regions of the brain.<sup>45</sup> Two of those eight regions, also indicated as being of interest to business professionals, explicitly relate to developing strategic leaders.<sup>46</sup>

First, the anterior cingulate cortex or ACC, located behind the frontal lobe of the brain, is of interest. The ACC is found to have a direct correlation with self-regulation—the ability to actively redirect attention to specific areas of importance, and mitigate quick, exaggerated, emotion-filled responses—and rigidity, which are essential for developing branches and sequels to strategic plans.<sup>47</sup> Leaders with damage to the ACC may demonstrate limited self-regulation through impulsivity and unchecked aggression.<sup>48</sup> Further, inflexibility and ineffective problem-solving strategies are the results of impaired ACC connections. Practitioners of mindfulness, however, strengthen the ACC through rigorous practice, allowing the practitioner to attain stronger neural connections, an acute presence of mind for better change management, and flexibility in reasoning for dealing with ambiguous threat environments across multiple domains.

Second, the hippocampus (see figure, page 17), located on each side of the temporal lobe of the brain is of importance because of its association with emotion and memory. The hippocampus varies in size and has many receptors that are sensitive to stress, specifically chronic stress, as indicated by research.<sup>49</sup> High-stress levels result in a smaller hippocampus, which has been directly related to lower resilience.<sup>50</sup> The practice of mindfulness reportedly produces positive effects, as it significantly aids in one’s ability to reduce stress. Mindfulness has demonstrated its redemptive qualities to the hippocampus with increases of gray matter within the brain of practitioners, and has shown significant improvements in areas involved in emotion regulation, self-referential processing, and perspective taking.<sup>51</sup>

Mindfulness promotes the advanced cognitive state, specifically the presence of mind as advocated for by classic military theorists and strategists. Practiced mindfulness can alleviate reactive approaches to problem-solving and even some forms of leader toxicity caused by absent cognitive faculties, but most important-





(Figure by decade3d-anatomy online, [Shutterstock.com](https://www.shutterstock.com))

**Figure. The Hippocampus**

ly, it will enhance focus, mitigate distraction, and enhance the strategic leader's ability to sustain awareness and attention to those specific areas of importance in the realm of strategy development.<sup>52</sup>

## Conclusion

This article explored and sought to highlight current limitations of the institutionalized practices of cognitive development of future strategic leaders. A need is established for strategic leaders to have developed as advanced practitioners of mindfulness.<sup>53</sup> A recommendation is made for developing strategic leaders using mindfulness as a modern, scientifically-proven and practical approach for enhancing cognitive performance, abilities, and the overall well-being of future strategic leaders. The primary aim of the article is to encourage the Army to consider this as a program enhancement to the present strategic leader developmental paradigm. The analysis of research and existing literature emphasized the importance of developing strategic leaders using long-term approaches. To be effective, mindfulness training must begin early and continue throughout military leader development to later influence the decision-making process at strategic levels of leadership. Cognitive enhancement goes beyond training and coaching, however, as it is highly personal and requires an equally high level of cultural support and individual commitment. ☞





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## Notes

1. Michael Shekleton, "Developing Strategic Leaders," Real Clear Defense online, 6 December 2016, accessed 13 September 2017, [http://www.realcleardefense.com/articles/2016/12/07/developing\\_strategic\\_leaders\\_110453-2.html](http://www.realcleardefense.com/articles/2016/12/07/developing_strategic_leaders_110453-2.html); Mark Rhodes, "What Is a Strategic Leader? A Person of Imagination," The Free Management Library website, 12 September 2011, accessed 13 September 2017, <http://managementhelp.org/blogs/strategic-planning/2011/09/12/what-is-a-strategic-leader-a-person-of-imagination/>; Gordon B. "Skip" Davis Jr., Thomas C. Graves, and Christopher N. Prigge, "The Strategic Planning 'Problem,'" *Military Review* 93, no. 6 (November-December 2013): 12.
2. Robert H. Scales, "Are You a Strategic Genius?: Not Likely, Given Army's System for Selecting, Educating Leaders," Association of the United States Army (AUSA) website, 13 October 2016, accessed 13 September 2017, <https://www.ausa.org/articles/are-you-strategic-genius-not-likely-given-army%E2%80%99s-system-selecting-educating-leaders>; Davis, Graves, and Prigge, "The Strategic Planning 'Problem.'"
3. Davis, Graves, and Prigge, "The Strategic Planning 'Problem.'"
4. U.S. Army War College, "Key Strategic Issues List, Academic Year 2016–2017" (Carlisle Barracks, PA: U.S. Army War College Press, 31 July 2016), 10, accessed 13 September 2017, <https://ssi.armywarcollege.edu/pdffiles/PUB1334.pdf>; Paul Yingling, "A Failure in Generalship," *Armed Forces Journal* online, May 2007, accessed 13 September 2017, <http://armedforcesjournal.com/a-failure-in-generalship/>; William E. Rapp, "Civil-Military Relations: The Role of Military Leaders in Strategy Making," *Parameters* 45, no. 3 (Autumn 2015): 25, accessed 13 September 2017, [http://ssi.armywarcollege.edu/pubs/parameters/issues/Autumn\\_2015/5\\_rapp.pdf](http://ssi.armywarcollege.edu/pubs/parameters/issues/Autumn_2015/5_rapp.pdf).
5. Michael J. Colarusso and David S. Lyle, *Senior Officer Talent Management: Fostering Institutional Adaptability* (Carlisle Barracks, PA: U.S. Army War College Press, February 2014), 2, accessed 13 September 2017, <https://ssi.armywarcollege.edu/pdffiles/PUB1188.pdf>; Robert P. Callahan Jr., "The Problem with Personnel Reform: Who Are the Army's Best and Brightest?," *Small Wars Journal* website, 18 March 2016, accessed 13 September 2017, <http://smallwarsjournal.com/jrnl/art/the-problem-with-personnel-reform-who-are-the-army%E2%80%99s-best-and-brightest>; Raven Bukowski et al., "Creating an Effective Regional Alignment Strategy for the U.S. Army," *Officer Talent Management Series* vol. 7 (Carlisle Barracks, PA: U.S. Army War College Press, November 2014), 3, accessed 13 September 2017, <http://www.dtic.mil/dtic/tr/fulltext/u2/a611494.pdf>.
6. J. D. McCausland, *Strategic Leaders for the 21st Century*, U.K. ed. (Hauppauge, NY: Nova Science Publishers, 2009), 13.
7. Rapp, "Civil-Military Relations," 25; Dan Ciampa, "Almost Ready: How Leaders Move Up," *Harvard Business Review* 83, no. 1 (January 2005): 46–53, accessed 14 September 2017, <https://hbr.org/2005/01/al-most-ready-how-leaders-move-up>.
8. Bukowski et al., "Creating an Effective Regional Alignment Strategy for the U.S. Army," 3; Ram Charan, "Ending the CEO Succession Crisis," *Harvard Business Review* 83, no. 2 (February 2005): 72–81, accessed 13 September 2017, <https://hbr.org/2005/02/ending-the-ceo-succession-crisis>; Giovanni Gavetti, "The New Psychology of Strategic Leadership," *Harvard Business Review* (July-August 2011), accessed 13 September 2017, <https://hbr.org/2011/07/the-new-psychology-of-strategic-leadership>.
9. Justin Talbot-Zorn and Frieda Edgette, "Mindfulness Can Improve Strategy, Too," *Harvard Business Review*, 2 May 2016, accessed 13 September 2017, <https://hbr.org/2016/05/mindfulness-can-improve-strate>



[gy-too](#); Ronald D. Siegel, *The Science of Mindfulness: A Research-Based Path to Well-Being* (Chantilly, VA: The Great Courses, 2014), accessed 13 September 2017, <http://people.math.umass.edu/~rsellis/Honors391AH/2siegel-mindfulness.pdf>.

10. Carl Von Clausewitz, *On War*, trans. and eds. Michael Howard, Peter Paret, and Bernard Brodie (Princeton, NJ: Princeton University Press, 1984), 103–4.

11. Ibid.

12. U.S. Department of the Army Pamphlet (DA Pam) 600-3, *Commissioned Officer Professional Development and Career Management* (Washington, DC: U.S. Government Publishing Office, 26 June 2017); U.S. Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World* (Fort Eustis, VA: TRADOC, 31 October 2014).

13. Ian Goldin and Chris Kutarna, *Age of Discovery: Navigating the Risks and Rewards of Our New Renaissance* (London: Bloomsbury Information, 2016).

14. Rick Maze, “Radical Change Is Coming: Gen. Mark A. Milley Not Talking about Just Tinkering around the Edges,” AUSA website, accessed 13 September 2017, <https://www.ausa.org/articles/radical-change-coming-gen-mark-milley-not-talking-about-just-tinkering-around-edges>.

15. Siegel, *The Science of Mindfulness*.

16. Elizabeth Stanley, “Cultivating the Mind of a Warrior,” *Inquiring Mind* 30, no. 2 (Spring 2014): 16–31, accessed 13 September 2017, <http://www.inquiringmind.com/Articles/CultivatingMindOfWarrior.html>.

17. Clausewitz, *On War*, 100; Siegel, *The Science of Mindfulness*.

18. Clausewitz, *On War*, 100.

19. Siegel, *The Science of Mindfulness*.

20. Daphne M. Davis and Jeffrey A. Hayes, “What Are the Benefits of Mindfulness,” *Monitor on Psychology* 43, no. 7 (July/August 2012): 64.

21. Clausewitz, *On War*, 103–4; Antoine-Henri Jomini, *Summary of the Art of War, or a New Analytical Compend of the Principle Combinations of Strategy, of Grand Tactics and of Military Policy* (1854) (New York: G. P. Putnam, 1854; repr. North Charleston, SC: CreateSpace, 2014).

22. Hans H. Hinterhuber and Wolfgang Popp, “Are You a Strategist or Just a Manager?” *Harvard Business Review* (January–February 1992), accessed 13 September 2017, <https://hbr.org/1992/01/are-you-a-strategist-or-just-a-manager>.

23. Ibid.

24. Ibid.

25. Winston S. Churchill, “Painting as a Pastime,” in *Amid These Storms: Thoughts and Adventures* (New York: Charles Scribner’s Sons, 1932), 305–20.

26. DA Pam 600-3, *Commissioned Officer Professional Development and Career Management*, 6.

27. Shekleton, “Developing Strategic Leaders.”

28. Clausewitz, *On War*.

29. Gary Kline, ed., “The Meditations of Marcus Aurelius,” *TransFinite: The Journal of Ideas and Literature* website, accessed 13 September 2017, <http://transfinite.thought.org/philosophy/marcus/>.

30. Siegel, *The Science of Mindfulness*, 6.

31. Kline, “The Meditations of Marcus Aurelius.”



32. William James, *William James: Writings 1878–1899: Psychology, Briefer Course/The Will to Believe/Talks to Teachers and Students/Essays*, ed. Gerald E. Myers (New York: Library of America, 1992), 228.
33. Talbot-Zorn and Edgette, “Mindfulness Can Improve Strategy, Too”; Stephen J. Gerras, ed., *Strategic Leadership Primer*, 3rd ed. (Carlisle Barracks, PA: U.S. Army War College, 2010), 66.
34. Jen Shirvani, *Ego vs. EQ: How Top Leaders Beat 8 Ego Traps with Emotional Intelligence* (Brookline Village, MA: Bibliomotion, 2013); Talbot-Zorn and Edgette, “Mindfulness Can Improve Strategy, Too.”
35. Clausewitz, *On War*.
36. Shekleton, “Developing Strategic Leaders.”
37. Kathryn Brohl, “The Effectiveness of Mindfulness Meditation to Address Mental Illness,” 2, accessed 13 September 2017, [https://s3.amazonaws.com/EliteCME\\_WebSite\\_2013/f/pdf/SWUS04EM14.pdf](https://s3.amazonaws.com/EliteCME_WebSite_2013/f/pdf/SWUS04EM14.pdf).
38. Amishia P. Jha et al., “Examining the Protective Effects of Mindfulness Training on Working Memory Capacity and Affective Experience,” *Emotion* 10, no. 1 (February 2010): 54.
39. Siegel, *The Science of Mindfulness*, 8.
40. Rasmus Hougaard, Jacqueline Carter, and Gitte Dybkjaer, “Spending 10 Minutes a Day on Mindfulness Subtly Changes the Way You React to Everything,” *Harvard Business Review*, 18 January 2011, accessed 13 September 2017, <https://hbr.org/2017/01/spending-10-minutes-a-day-on-mindfulness-subtly-changes-the-way-you-react-to-everything>.
41. Amishia P. Jha et al., “Minds ‘At Attention’: Mindfulness Training Curbs Attentional Lapses in Military Cohorts,” *PLoS ONE* 10, no. 2 (2015): 3, accessed 13 September 2017, <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0116889>; Siegel, *The Science of Mindfulness*.
42. Christina Congleton, Britta K. Hölzel, and Sara W. Lazar, “Mindfulness Can Literally Change Your Brain,” *Harvard Business Review*, 26 September 2016, accessed 13 September 2017, <https://hbr.org/2015/01/mindfulness-can-literally-change-your-brain>.
43. *Ibid.*, 7.
44. *Ibid.*
45. *Ibid.*
46. *Ibid.*
47. Yi-Yuan Tanga et al., “Short-term Meditation Induces White Matter Changes in the Anterior Cingulate,” *PNAS* 107, no. 35 (31 August 2010), accessed 13 September 2017, <http://www.pnas.org/content/107/35/15649.full>.
48. *Ibid.*
49. Kieran C. R. Fox et al., “Is Meditation Associated with Altered Brain Structure? A Systematic Review and Meta-analysis of Morphometric Neuroimaging in Meditation Practitioners,” *Neuroscience & Biobehavioral Reviews* (June 2014): 48–73.
50. Congleton, Hölzel, and Lazar, “Mindfulness Can Literally Change Your Brain.”
51. Britta K. Hölzel et al., “Mindfulness Practice Leads to Increases in Regional Brain Gray Matter Density,” *Psychiatry Research* 191, no. 1 (January 2011): 36–43.
52. Joe Gould, “Ousted 172nd Infantry Brigade Commander not Liked,” *Outside the Wire* website, 5 January 2011, accessed 13 September 2017, <http://outsidethewire.armytimes.com/2011/01/05/ousted-172nd-infantry-brigade-commander-not-liked/>; Talbot-Zorn and Edgette, “Mindfulness Can Improve Strategy, Too.”
53. Gavetti, “The New Psychology of Strategic Leadership.”

