The organizational cost of insufficient sleep

Sleep-awareness programs can produce better leaders.

by Nick van Dam and Els van der Helm

Thou hast no figures nor no fantasies,
Which busy care draws in the brains of men;
Therefore thou sleep'st so sound.

—William Shakespeare, *Julius Caesar*

In the passage above, the playwright's tragic antihero Brutus enviously reflects on the timeless truth that people without worries and anxieties (in this case, his servant Lucius) generally enjoy the most peaceful and uninterrupted rest.

Some senior business people skillfully and consciously manage their sleep, emerging refreshed and alert after crossing multiple time zones or working late into the night. Yet we all know caffeinated and careworn executives who, after hours of wakeful slumber, struggle to recall simple facts, seem disengaged and uninspired, lack patience with others, and can't think through problems or reach clear-cut decisions.

Sleep (mis)management, at one level, is obviously an individual issue, part of a larger energy-management challenge that also includes other forms of mental relaxation, such as mindfulness and meditation, as well as nutrition and physical activity. But in an increasingly hyperconnected world, in which many companies now expect their employees to be on call and to answer emails 24/7, this is also an important organizational topic that requires specific and urgent attention.

Research has shown that sleep-deprived brains lose the ability to make accurate judgments. That, in turn, can lead to irrational and unjustified claims such as "I do not need sleep" or "I'm doing fine with a couple of hours

of sleep." Our own recent survey of executives (see sidebar "Highlights from our survey of 196 business leaders") demonstrates how many of them remain in denial on this point. Yet our respondents contradicted themselves by suggesting that companies should do more to help teach leaders the importance of sleep.

On this point, they are right. Many companies do not do enough to promote healthy sleep, which can have serious consequences. As we will demonstrate, sleep deficiencies impair the performance of corporate executives, notably by undermining important forms of leadership behavior, and can thereby hurt financial performance. This article will demonstrate and explore the link between sleep and leadership behavior before discussing solutions that can improve both individual well-being and organizational efficiency and effectiveness.

THE LINK TO ORGANIZATIONAL LEADERSHIP

The last part of our brain to evolve was the neocortex, responsible for functions such as sensory perception, motor commands, and language. The frontal part of the neocortex, the prefrontal cortex, directs what psychologists call executive functioning, including all the higher-order cognitive processes, such as problem solving, reasoning, organizing, inhibition, planning, and executing plans. These help us get things done.

It's long been known that all leadership behavior relies on at least one (and often more than one) of these executive functions and therefore, in particular, on the prefrontal cortex. Neuroscientists know that although other brain areas can cope relatively well with too little sleep, the prefrontal cortex cannot.[1] Although basic visual and motor skills deteriorate when people are deprived of sleep, they do not do so nearly to the same extent as higher-order mental skills.

Previous McKinsey research has highlighted a strong correlation between leadership performance and organizational health,[2] itself a strong predictor of a healthy bottom line. In a separate study of 81 organizations and 189,000 people around the world, we have found that four types of leadership behavior are most commonly associated with high-quality executive teams: the ability to operate with a strong orientation to results, to solve problems

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[1] Namni Goel et al., "Neurocognitive consequences of sleep deprivation," *Seminars in Neurology*, 2009, Volume 29, Number 4, pp. 320–39; Ilse M. Verweij et al., "Sleep deprivation leads to a loss of functional connectivity in frontal regions," *BMC Neuroscience*, 2014, Volume 15, Number 88, biomedcentral.com.

[2] We define organizational health as the ability to align around a clear vision, strategy, and culture; to execute with excellence; and to renew a company over time by responding to market trends.

HIGHLIGHTS FROM OUR SURVEY OF 196 BUSINESS LEADERS

- Almost half (46 percent) believe that lack of sleep has little impact on leadership performance.

- Four out of ten (43 percent) say they do not get enough sleep at least four nights a week (and nearly six out of ten that they do not sleep enough at least three nights a week).

- Sixty-six percent said they were generally dissatisfied with how much sleep they get, and 55 percent were dissatisfied with the quality of sleep.

- Almost half (47 percent) of the leaders in our survey felt that their organizations expect them to be "on" too long and too responsive to emails and phone calls.

- Over a third (36 percent) said that their organizations do not allow them to make getting enough sleep a priority.

- Eighty-three percent of the leaders said their organizations did not spend enough effort educating leaders about the importance of sleep.

effectively, to seek out different perspectives, and to support others.[3] What's striking, in all four cases, is the proven link between sleep and effective leadership (exhibit).

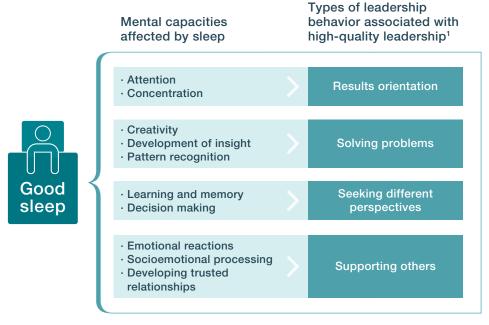### Operating with a strong orientation to results

To do this well, it's important to keep your eye on the ball and avoid distractions, while at the same time seeing the bigger picture—that is, whether your company is heading in the right direction. Scientists have found that sleep deprivation impairs this ability to focus attention selectively. Research shows that after roughly 17 to 19 hours of wakefulness (let's say at 11 PM or 1 AM for someone who got up at 6 AM), individual performance on a range of tasks is equivalent to that of a person with a blood-alcohol level of 0.05 percent. That's the legal drinking limit in many countries. After roughly 20 hours of wakefulness (2 AM), this same person's performance equals that of someone with a blood-alcohol level of 0.1 percent, which meets the legal definition of drunkenness in the United States.[4]

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[3] See Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, "Decoding leadership: What really matters," *McKinsey Quarterly*, January 2015, mckinsey.com.

[4] A. M. Williamson and Anne-Marie Feyer, "Moderate sleep deprivation produces impairments in cognitive and motor performance equivalent to legally prescribed levels of alcohol intoxication," *Occupational and Environmental Medicine*, 2000, Volume 57, Number 10, pp. 649–55, oem.bmj.com.

The link between effective leadership and a good night's sleep is clear.

Mental capacities affected by sleep	Types of leadership behavior associated with high-quality leadership[1]

Good sleep

· Attention · Concentration	Results orientation
· Creativity · Development of insight · Pattern recognition	Solving problems
· Learning and memory · Decision making	Seeking different perspectives
· Emotional reactions · Socioemotional processing · Developing trusted relationships	Supporting others

[1]Based on a McKinsey study of 81 organizations and 189,000 people around the world. For more, see Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, "Decoding leadership: What really matters," *McKinsey Quarterly*, January 2015, mckinsey.com.

Source: McKinsey analysis and synthesis of neuroscience research. See article for additional citations.

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Solving problems effectively

Sleep is beneficial for a host of cognitive functions—insight, pattern recognition, and the ability to come up with innovative and creative ideas—that help us solve problems effectively. One study has shown that a good night's sleep leads to new insights: participants who enjoyed one were twice as likely as those who didn't to discover a hidden shortcut in a task. Likewise, an afternoon nap has been found to aid creative problem solving: subjects who took a nap after struggling on a video-game problem were almost twice as likely to solve it as subjects who had remained awake. Other research has established that creative thinking is especially likely to take place during dream sleep, enhancing the integration of unassociated information and promoting creative solutions.

Seeking different perspectives

A wealth of scientific studies have also highlighted the impact of sleep on all three stages of the learning process—*before* learning, to encode new information; *after* learning, in the consolidation stage, when the brain forms new connections; and *before* remembering, to retrieve information from memory. An important consideration for leaders seeking different perspectives is the ability to weigh the relative significance of different inputs accurately, to avoid tunnel vision, and to reduce cognitive bias. Sleep has been shown to improve decision making for tasks that mimic real life, such as complex cognitive–emotional ones which integrate emotional responses by involving financial rewards and punishments. Science supports the commonly heard advice that rather than making an important decision or sending a sensitive email late at night, you should sleep on it.[5]

Supporting others

To help other people, you must first understand them—for example, by interpreting the emotions on their faces or their tone of voice. In a sleep-deprived state, your brain is more likely to misinterpret these cues and to overreact to emotional events,[6] and you tend to express your feelings in a more negative manner and tone of voice.[7] Recent studies have shown that people who have not had enough sleep are less likely to fully trust someone else, and another experiment has demonstrated that employees feel less engaged with their work when their leaders have had a bad night of sleep.[8]

WHAT ORGANIZATIONS CAN DO

How can organizations improve the quality and efficiency of sleep to ensure that their leaders attain—or recapture—the highest performance levels? At McKinsey, we've been working on this issue with our own colleagues, as well as with business leaders, over the past year. We offer this menu of possible solutions for companies to consider. As we are the first to admit, our own people do not always practice what we preach. In any case, certain types

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[5] Matthew P. Walker and Els van der Helm, "Overnight therapy? The role of sleep in emotional brain processing," *Psychological Bulletin*, 2009, Volume 135, Number 5, pp. 731–48, apa.org/pubs.

[6] Els van der Helm, Ninad Gujar, and Matthew P. Walker, "Sleep deprivation impairs the accurate recognition of human emotions," *Sleep*, 2010, Volume 33, Number 3, pp. 335–42, journalsleep.org; Els van der Helm et al., "REM sleep depotentiates amygdala activity to previous emotional experiences," *Current Biology*, 2011, Volume 21, Number 23, pp. 2029–32.

[7] Eleanor L. McGlinchey et al., "The effect of sleep deprivation on vocal expression of emotion in adolescents and adults," *Sleep*, 2011, Volume 34, Number 9, pp. 1233–41, journalsleep.org.

[8] William H. Macey and Benjamin Schneider, "The meaning of employee engagement," *Industrial and Organizational Psychology*, 2008, Volume 1, Number 1, pp. 3–30, my.siop.org/journal; and Steven A. Stumpf, Walter G.Tymon Jr., and Nick van Dam, "Felt and behavioral engagement in workgroups of professionals," *Journal of Vocational Behavior*, 2013, Volume 83, Number 3, pp. 255–64, journals.elsevier.com/journal-of-vocational-behavior.

of organizations cannot implement these ideas without an accompanying change in the underlying culture.

Training programs

Interestingly, 70 percent of the leaders in our survey said that sleep management should be taught in organizations, just as time management and communication skills are now. Ideally, such programs should be part of a unified learning program that includes a number of components, such as online assessments, in-person workshops, and a performance-support app offering reminders, short inspirational videos or animations, additional assessments, and opportunities to connect with online communities. (For a selection of healthy sleep habits, see sidebar "Sleep tips.")

Companies should embed sleep training in a broader approach to well-being that takes in other topics, notably exercise, nutrition, mindfulness, and energy management. Yet it can be daunting for leaders to go about changing a lot of behavior at once, so it's important to allow time for new habits to stick.

Company policies

Before introducing new policies, businesses should start a conversation among their leaders to determine which ideas will best suit the organization, particularly bearing in mind the fact that working cultures differ.

Travel. Companies should encourage flexibility—for example, by allowing employees, if possible, to take an earlier plane (rather than an overnight "red eye" flight) to get a good night's sleep before an important meeting.

Team working. Companies must increasingly be responsive 24/7, but this doesn't mean that specific people should bear the brunt of the burden single-handedly. IT help desks in many global organizations have shown the way—shifting location every eight hours. Likewise, other groups should work to alleviate the pressure by creating "tag teams" of employees who seamlessly hand over the reins to other teams, in different time zones, at the end of their shifts. Phone calls and home-based videoconferences do run the risk of extending the workday but, used judiciously, can cut unnecessary travel-to-work time. Leaders should set an example by being mindful of local times (and the time preferences of the people involved) when scheduling global calls. Simply knowing the participants' preferences can help reinforce a sleep-friendly culture.

Emails. A number of companies have imposed blackout times on work emails. A large European car business, for example, programs the smartphones of its nonmanagement employees to switch off work emails automatically between 6 p.m. and 7 a.m. In many companies, particularly knowledge-based ones, this would be disruptive and counterproductive—but provided there are overrides, such a policy can send a clear signal of management's intent.

Work-time limits. Some companies known for a "long-hours culture" have been implementing rules to curb working very late at night. One major financial-services business, for example, specifically required its summer interns to leave the office before midnight each day to ensure that they were not subjected to "all-nighters." This organization's full-time employees have been told to stay out of the office from 9 p.m. Friday to 9 a.m. Sunday.

SLEEP TIPS

Here's a selection of sleep tips we share with McKinsey consultants.

CREATE THE RIGHT SLEEP ENVIRONMENT

1. Remove the smartphone from your bedroom: your brain associates it with stress and excitement (even when it's off), which can hinder deep and restorative sleep. The screen's blue light tricks the brain into thinking it's still daytime, not bedtime. Research has shown that late-night smartphone use significantly reduces performance at work the next day through its pernicious effects on sleep.

2. Don't use the bedroom for work.

3. Keep the bedroom cool, allowing your core body temperature to drop, which helps you fall and stay asleep.

4. On business trips, take items that remind your brain of home, such as your own pillow, pajamas, shower gel, and toothpaste.

WIND DOWN

Quality of sleep is compromised when you don't sufficiently relax and reduce stress in the evening. It's critical to wind down at night and "unplug," perhaps with meditation.

STOP SNOOZING

Don't set multiple alarms in the morning. The waking-brain state is very different from the sleeping-brain state, and the brain prefers to wake up naturally. Don't force it to make this transition multiple times; instead, get a longer bout of consolidated sleep without interruptions.

BE EFFICIENT WITH YOUR TIME

1. Go to bed early—a recipe for deeper and more restorative sleep—rather than sleeping in late.

2. Try napping in the early afternoon—either a short nap of less than 30 minutes or a recovery nap of around 90 minutes for a full sleep cycle.

Mandatory work-free vacations. A US software company gives employees a $7,500 bonus if they follow two rules: (1) They have to actually go on vacation or they don't get the money. (2) They must disconnect, and hence cannot work, on vacation.

'Predictable time off' (PTO). Leslie Perlow, a professor at Harvard Business School, introduced a good way to catch up on lost sleep: a planned night off, with no email, no work, and no smartphone. A large global consulting firm found that productivity went up when it tested this approach, which is now the basis for a company-wide program.

Napping rooms or pods. The image of a sleeping manager is easy to mischaracterize. Research has shown that a short nap of 10 to 30 minutes improves alertness and performance for up to two and a half hours.[9] Over half of the leaders in our survey wanted their businesses to imitate the large technology companies and telcos that have already successfully adopted sleep pods and nap rooms.

Smart technology. Companies should consider supplying (or at least informing their employees about) some of the gadgets and tools designed to improve sleep management. Examples include the f.lux application, which limits blue light on computers and iPhones, thereby boosting reduced levels of the sleep hormone melatonin. Other apps on the market provide individualized jetlag-minimizing schedules.

ORGANIZATIONS OF THE FUTURE

Much attention has been focused on the importance of sleep for top-performing athletes, musicians, and even politicians. Expert violinists, for example, have cited practice and sleep as two of the most important drivers of performance. (One study shows that the top performers consistently take a nap and get over half an hour more sleep than their less well-regarded peers do.) Former US president Bill Clinton once admitted, "Every important mistake I've made in my life I made when I was tired." Business people have often lagged behind others in both their willingness to acknowledge the issue and their readiness to act on it.

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[9] Amber Brooks and Leon Lack, "A brief afternoon nap following nocturnal sleep restriction: Which nap duration is most recuperative?," *Sleep*, 2006, Volume 29, Number 6, pp. 831–40, journalsleep.org.

A recent Harvard Medical School study surveyed senior leaders and found that 96 percent reported experiencing at least some degree of burnout. One-third described their condition as extreme.[10] It's time for organizations to find ways of countering the employee churn, lost productivity, and increased healthcare costs resulting from insufficient sleep. If it is true that some millennials care less about high salaries and more about work–life integration, the next generation of employees will demand solutions even more strongly. ⓠ

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[10] Leslie Kwoh, "When the CEO burns out," *Wall Street Journal*, May 7, 2013, wsj.com.

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