A New Performance Paradigm
Can 1-2 Minutes of Movement Transform Your Organization?

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The United States workforce is facing a massive productivity crisis. According to the American Psychological Association (APA), a survey of 1,546 working adults found that 44 percent felt that their stress levels have increased over the last five years, and more than a third said they felt tense or stressed out during their workday, citing low salaries, lack of opportunities for advancement, heavy workloads, unrealistic job expectations, and long hours. Stress is probably one of the major forces behind costly turnover in organizations.

Given the high levels of workplace stress, it's no wonder that 54 percent of all American employees are not engaged in their work (essentially, they are sleepwalking through their daily jobs). According to a study published in October 2011 by the Gallup organization, fully 71 percent of American workers are not engaged or are actively disengaged from their workplaces, and so are less likely to be productive than “engaged” workers. At the 2011 Conference of the National Business Group on Health, Gallup's authors noted that employees reported that their disengagement would not change in the future and that job stress would only continue to rise.

When the majority of a workforce is not engaged or disengaged, business productivity and profits often suffer. Additionally, employees under stress exhibit survival-based behaviors such as impatience, uncooperativeness, defensiveness, frustration, hyper-criticality, and pessimism. All these emotions decrease their ability to perform effectively with their work teams. The cost of underutilized human assets can run from the tens into the hundreds of millions of dollars, depending on the size of the firm.

Fortunately, these trends can be reversed. Our research has shown that a surprisingly simple, cost-effective engagement intervention that quickly shifts an individual’s state of mind from stress to calm can markedly improve individual and organizational performance. This intervention is based on the landmark research conducted by renowned performance psychologist Jim Loehr. He found that tennis players can improve their performance when they learn to perform in intervals -- that is, to disengage from stress (produced by the effort of playing a point) and return to a calm state of mind within 16 seconds before the next serve.

In exercise physiology and sport science, there is a plethora of research that looks at the benefits of interval training on expanding capacity. Business people, too, can become more effective and efficient when they work in intervals. Indeed, a Harris Interactive survey of 1099 employees found that more than half of those asked said that “if a 10-minute ‘recess’ break was initiated at their workplace every day, it would make them a healthier, happier and more productive employee.” Research has shown that when employees physically move at regular intervals throughout the day — as little as 1 to 2 minutes at a time, at least once every 30 minutes — they can “reset” themselves so that they feel less stressed and more energized, mentally focused, emotionally connected with others and engaged in their work, and more aligned with the organization’s mission.

1 America Psychological Association Stressed in America survey, January 2011
3 Jennifer Robison, 2010, Business Case for Well Being, Gallup Management Journal
In the following pages, we examine the physiology behind the notion of such intervals of motion and show how it contributes overall to peak organizational performance. We will also offer the example of New Balance®, a company that — having instituted a radically different, yet very simple and cost-free change in employee behavior — has observed a noticeable leap in employee energy and performance.

**The Physiology of Motion**

To begin, it is important to consider the potential effect of the brain’s involvement in motion and the effect of motion on the brain. The brain is the control center for motor control and coordination of movement. According to Dr. John Ratey, Associate Clinical Professor of Psychiatry at Harvard and the author of *Spark: The Revolutionary New Science of Exercise and the Brain*, when the body starts moving, the brain “lights up” in almost all areas and the result is improved cognition, creativity, and problem-solving.8

Conversely, extended sitting is, quite simply, hazardous to one’s health and well being. One study has noted that even if one engages in regular daily exercise, doing so may not be enough to counteract the effects of too much sitting during the rest of the day.9 Because the body’s large muscle groups aren’t moving when one is sitting for more than half an hour, the body’s metabolism slows down. “We just aren’t really structured to be sitting for such long periods of time, and when we do that, our body just kind of goes into shutdown,” says Dr. Toni Yancey, a professor of health services at the University of California, Los Angeles, and author of *Instant Recess: Building a Fit Nation 10 Minutes at a Time*.10 Lack of motion also contributes to “fight or flight” mechanisms constantly being on alert, according to Ratey.11

All this means that the brain of the person who sits too long will start dimming, even to the point that “brain waves fall into a slumbering state.”12 Ratey furthers this explanation with the statement that “when a nerve cell is called into action, its metabolic machinery switches on like a pilot light in a furnace.”13 Research led by Jeff W. Lichtman, currently the Jeremy R. Knowles Professor of Molecular and Cellular Biology at Harvard University, indicates that a loss of nerve signals due to inactivity causes a loss of acetylcholine receptors in the brain. In other words: if an employee stops moving, he or she loses the receptors and the synaptic connection. If that happens, the employee loses brain processing speed and the ability to learn, and encounters short-term memory loss.14 All of this may negatively affect his or her business performance.

**The Importance of Motion**

Given the connection between employee health and productivity, many organizations support employees’ health through on-site gyms and gym memberships, numerous types of wellness programs, and so on.15

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13 Ibid Ratey
15 A November 2010 study in a 5 county area of Southeastern Pennsylvania determined that $795 million in medical costs was avoided annually in the area through physical activity that takes place on protected open space in the region. In addition, the study estimated that businesses in southeastern Pennsylvania avoid $485 million in lost productivity costs per year as a result of the physical activities their employees engage in on protected open space in the region. Economic Value of Protected Open Space in Southeastern Pennsylvania Report. November 16, 2010, By the Economy League of Greater Philadelphia, Econsult Corporation and the Keystone Conservation Trust for The GreenSpace Alliance and the Delaware Valley Regional Planning Commission
However, we can go further by addressing the core performance problem — the fact that sedentary employees are unable to function at their best. So what works?

Our answer is simple: employees should move often to get their brains to re-engage. Our research, in a pilot project with New Balance®, shows that just one to two minutes of motion at 30-minute intervals during meetings and throughout the day can strongly mitigate against the forces of stress and disengagement in the workplace. Why? Physiologically speaking, triggering motion and causing muscles to engage activates brain receptors, which in turn help to keep brain synapses stable. Even small movements cause improved brain processing speed, learning, and short-term memory.16 Additionally, these small movements may have a big impact on overall health.

Studies by Dr. Genevieve Healy, a research fellow at the School of Population Health at Australia’s University of Queensland, show that the number of breaks one takes to get up and move around makes a positive difference.17 “Overall, for length of sedentary time, the most clinically significant findings were for reduction in blood fats and markers of insulin resistance,” Healy notes. “For the number of breaks in sedentary time, the most significant differences were observed for waist circumference. The top 25 percent of people who took the most breaks had on average, a 4.1 cm smaller waist circumference than those in the lowest 25 percent.”18

According to Dr. James Levine, a world-renowned obesity specialist at the Mayo Clinic in Rochester, Minnesota, the mere act of getting up out of one’s chair is all it takes to break out of “hibernation mode”. Here, Levine is referring to the seriousness of our sedentary state, discussing how, even at the cellular state, our bodies begin slowing down when we are not moving. Activities such as walking to lunch, taking the stairs, and even tapping your toes can break down fat molecules at the cellular level, which raises metabolism.19 Just standing up can improve one’s ability to think; standing while working also improves posture and reduces aches and stiffness. People who choose to stand instead of sitting note that their minds feel clearer and that they are better able to concentrate. Standing often leads to other movement, such as pacing while on the phone or walking to the copier. All these small movements may add up to 50 extra calories burned per hour.

One to two minutes of moderate to vigorous activity are important because that is how long it takes for the brain to “autoregulate,” or re-calibrate itself. In a landmark research article called “When Air Hits Your Brain,” researchers Bollo, et al., found, in a case study with one subject, that within 20 seconds of initiating a bicycle pedaling exercise, transient oxygen increased in the brain, went back down, and then rose again until it stabilized at one minute and six seconds. Researchers saw similar results at the onset of a running exercise; oxygen increased within 10 seconds, then decreased over the next 20 seconds, and peaked again until it stabilized at two minutes. Accordingly, exercise intervals of one to two minutes, every 30 minutes, can make a difference in performance. The authors of this study offer that these findings, this one to two-minute period of hyperoxygenation, could be one “mechanism by which exercise achieves myriad cognitive benefits.”20

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16 Based on The Positive Impact of Physical Activity on Cognition During Adulthood: A Review of Underlying Mechanisms, Evidence and Recommendations, by John J. Ratey and James E. Loehr
18 Ibid.
Experiments at New Balance

Of course, cultural change is difficult, and changing endemic and long-settled assumptions about labor takes a long time. Happily, a few organizations have taken the extra measure of encouraging employees to take frequent movement breaks during the day. Top managers have even given permission for employees to stand up and move around during meetings.

One such firm is the athletic shoe-maker New Balance, which has initiated a pilot project to determine the impact of small and frequent amounts of movement on employees’ energy levels, cognition, creativity, and problem solving throughout the day.

The initial part of the experiment involved nearly 50 employees in the product management, marketing, and design groups at the Boston-based firm. Though most employees exercise regularly outside of work, they are like most white-collar employees and spend most of their eight to twelve hour work day sitting in extended meetings and on long conference calls at their desks.

Prior to the experiment, 90% of participants said they were not as active as they would like to be; and almost all — 88% — said they move less often than every half-hour.

In the month-long pilot, participants engaged in brief one to two minute “motion breaks” at frequent intervals throughout the day. They received ongoing support and daily e-mail tips reminding them that it was time to move, and to encourage regular participation; group champions inspired employees to run or walk down the hall and take stairs to meetings on different floors, rather than taking the elevators. During meetings, people stood up and walked around the room.

At the end of the 30 days, these employees were assessed to identify positive changes in their engagement, and the project yielded some very encouraging results. More than two-thirds of participants said that they made changes that they would likely continue. Of those who increased their level of physical activity — even a little — an astonishing 82 percent reported that they felt increased energy levels and an enhanced ability to focus. According to Executive Vice President Joe Preston, some of these employees said that they were “thankful” for the experiment, and that New Balance hopes to expand these practices throughout the company and “make it part of the fabric of the way we operate.”

Due to its success, New Balance has now extended the pilot for 90 days and more than 400 employees. To increase engagement and ensure a more cohesive Phase II launch, New Balance appointed movement champions to drive participation by implementing fun and creative ways to make movement core to their daily business routine. “Our brand essence is focused on moving the world — to offer products that help people move more and move better, but it begins with our own employees and providing an environment that supports and encourages movement to keep them engaged and energized,” Mr. Preston shared.

How To Become an Organization in Motion

Individuals and organizations that want to follow New Balance’s example can use the following set of tips to get started:

Encourage leadership large and small. It’s critical to put top- and line-level leadership in place to support an organization in motion. Because a motion-based organization is so counterintuitive, it’s critical for leaders to start by running experiments, as New Balance® is doing. Managers can ask a small group of
people who want to improve their energy levels to volunteer, and to appoint “champions” who will set half-hour alarms at their desks and rally their colleagues to participate.

**Encourage frequency.** Employees should never go more than 30 minutes without moving. Even some very brief low to moderate-intensity motion is better than none. Ask employees to set their calendar alarms reminding them to get up out of their chairs and move.

**Eliminate “permissions” to move.** When in meetings, remember that people have permission to get up, stretch, and move around the room while staying connected to the meeting at hand.

Finally, here are a few suggested ideas to help put your organization in motion — whether in meetings, while working at desks, or taking breaks:

**When in meetings.** Assure that meetings will last no more than one hour, and call for a one to two minute movement exercise at the half hour. Give people permission to move during the meeting. Even small motions while sitting can help, such as:

- Tilting the neck forward and backwards
- Flexing, extending and rotating the feet
- Bending and extending knees (while sitting, pull your knee to chest)
- Standing up and making small circles with outstretched arms
- Using resistance bands to stretch
- Calling a 15 minute “recovery break” (not just bathroom break) every 90 minutes, during which people can stand up and sit down, find stairs to climb, or take a walk. Their assignment: Return to the meeting with more energy.
- Calling “walking meetings” with two to four people (if people need to write things down, they should stop, write their notes, and then continue to walk)

**For employees working at the desk**

- Provide a standing desk, or a desk that rises up and down, so workers can move up and down as well. If standing is difficult, provide balance ball chairs.
- Provide wireless headsets so employees can walk while on the phone
- Provide exercise bands
- Discourage internal (in-building) e-mail: instead, encourage personal contact
- Instead of sending an e-mail or text, get up and walk to the people’s offices to communicate/connect with them

**For breaks**

- Before going into the break, encourage employees to disengage from what they have been doing, and then to get recovery. Recovery is the recapture of energy, that can easily be gained by walking, climbing stairs, getting a quick healthy snack, etc.
- Walk two to three flights of stairs
- Go outside and walk briskly
- If going to the washroom, use one on a different floor
End Word
This paper has dealt with the physical dimension of who we are as human beings, and how we work, but the concept of an “organization in motion” can be much more. We believe that an organization in motion can become emotionally resilient, focused, confident, competent, and aligned.

Remember: if organizations want to improve individual and team performances, their employees should try getting up and moving on a regular basis. To build productivity, firms need to shift the paradigm of the corporate culture from one of endless energy-sapping and brain-draining inactivity during the day to one of frequent one to two minute intervals of energizing motion and brain recovery. To do this, corporate leaders must create “organizations in motion.” In so doing, they can help to improve employee health and happiness as well as their company’s bottom line.

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Dr. Jack Groppel is an internationally recognized authority and pioneer in the science of human performance, and an expert in fitness and nutrition. Dr. Groppel served as an Adjunct Professor of Management at the J.L. Kellogg School of Management at Northwestern University for several years and continues to instruct courses at the University in a supplementary role.

Dr. Groppel authored The Corporate Athlete, a book on achieving the pinnacle of corporate performance and co-authored The Corporate Athlete Advantage. He developed the Corporate Athlete® concept for his training program while serving as an associate professor of kinesiology and bioengineering at the University of Illinois helping both business executives and athletes increase performance levels. In 1992, he combined his program with Dr. Jim Loehr to form the Human Performance Institute, Inc.

A Fellow in both the American College of Sports Medicine and in the American College of Nutrition, Dr. Groppel is a former Research Associate to the U.S. Olympic Training Center. Dr. Groppel also served as the Chairman of the National Sport Science Committee of the United States Tennis Association for 16 years.

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Prior to his role with Wellness & Prevention, Ben was Senior Director, Advanced Technology for the Johnson & Johnson Consumer & Personal Products Worldwide Division of Johnson & Johnson Consumer Companies, Inc. In this role, he was named a 2008 Johnson Medal recipient for his work on key behavioral studies of the effect of rituals in improving infant sleep behaviors.

In 1995, Ben joined the Corporation as a Group Leader, Models & Methods within the Johnson & Johnson Consumer & Personal Products Worldwide Division of the Johnson & Johnson Consumer Companies, Inc. He went on to hold positions of increasing responsibility within Research & Development in such areas as the Adult Skin & Hair, Infant and Wound Franchises. Prior to joining Johnson & Johnson, Ben was a scientist with Procter & Gamble.

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