
DIFFERENT VOICE

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Managers apply pressure to themselves and their teams in the belief that it will make them more productive. After all, stress is an intrinsic part of work and a critical element of achievement; without a certain amount of it, we would never perform at all.

Yet the dangers of burnout are real. Studies cited by the National Institute for Occupational Safety and Health (NIOSH) indicate that some 40% of all workers today feel overworked, pressured, and squeezed to the point of anxiety, depression, and disease. And the problem is getting worse, thanks to intensified competition, rapid market changes, and an unending stream of terrible news about natural disasters, terrorism, and the state of the economy. The cost to employers is appalling: Corporate health insurance premiums in the United States shot up by 11.2% in 2004—qua-

druple the rate of inflation—according to survey figures from the Henry J. Kaiser Family Foundation. Today, the American Institute of Stress reports, roughly 60% of doctor visits stem from stress-related complaints and illnesses: In total, American businesses lose \$300 billion annually to lowered productivity, absenteeism, health-care, and related costs stemming from stress.

So the question is: When does stress help and when does it hurt? To find out, HBR senior editor Bronwyn Fryer talked with Herbert Benson, M.D., founder of the Mind/Body Medical Institute in Chestnut Hill, Massachusetts. Also an associate professor of medicine at Harvard Medical School, Benson has spent more than 35 years conducting research in the fields of neuroscience and stress. He is best known for his 1975 bestseller, *The Relaxation Response*. He first de-

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scribed a technique to bring forth the complex physiologic dance between stress and relaxation, and the benefits to managers of practices such as meditation, in "Your Innate Asset for Combating Stress" (HBR July–August 1974). His most recent book is *The Breakout Principle* (Scribner, 2003) with William Proctor.

Benson and Proctor have found that managers can learn to use stress productively by applying the "breakout principle"—a paradoxical active-passive dynamic. By using simple techniques to regulate the amounts of stress one feels, a manager can increase performance and productivity and avoid burnout. In this edited conversation, Benson describes how managers can tap into their own creative insights, boost their productivity at work, and assist their teams to do the same. He is quick to acknowledge the large part Proctor's thinking has played in the ideas he discusses here.

We all know that unmanaged stress can be destructive. But are there positive sides to stress as well?

Yes, but let's define what stress is first. Stress is a physiological response to any change, whether good or bad, that alerts the adaptive fight-or-flight response in the brain and the body. Good stress, also called "eustress," gives us energy and motivates us to strive and produce. We see eustress in elite athletes, creative artists, and all kinds of high achievers. Anyone who's clinched an important deal or had a good performance review, for example, enjoys the benefits of eustress, such as clear thinking, focus, and creative insight.

But when most people talk about stress, they are referring to the bad kind. At work, negative stressors are usually the perceived actions of customers, clients, bosses, colleagues, and employees, combined with demanding deadlines. At the Mind/Body Medical Institute, we also encounter executives who worry incessantly about Sarbanes-Oxley compliance, the impact of China on their companies' markets, the state of the economy, the world oil supply, and so on. Additionally, people bring to work the stress aroused by dealing with family problems, taxes, and traffic jams, as well as anxieties

stemming from a continuous diet of bad news that upsets them and makes them feel helpless—hurricanes, politics, child abductions, wars, terrorist attacks, environmental devastation, you name it.

Many companies offer various kinds of stress-reduction programs, from on-site yoga classes and massage to fancy gyms to workshops. What's wrong with these?

It's critical that companies do something to address the rampant negative effects of workplace stress if they want to compete effectively, but often the kinds of programs they institute are stopgaps. HR may bring in a lecturer once or twice a year or set up tai chi sessions and urge everyone to go, but few people show up because they feel they can't take the time to eat their lunch, much less spend an hour doing something perceived as both unrelated to work and relaxing to boot. Unless the leadership and culture explicitly encourage people to join in, employees will continue to feel guilty or worry that they'll be seen as slackers if they go.

This state of affairs is inexcusable if you look at the billions lost to absenteeism, turnover, disability, insurance costs, workplace accidents, violence, workers' compensation, and lawsuits, not to mention the expense of replacing valuable employees lost to stress-related problems. Fortunately, each of us holds the key for managing stress, and leaders who learn to do this and help their employees to do likewise can tap into enormous productivity and potential while mitigating these costs.

What is the science behind your latest research, and what does it reveal?

First, let me say that we at the Mind/Body Medical Institute didn't discover anything new. The American philosopher William James identified the breakout principle in his *Varieties of Religious Experience* in 1902. What we set about to do was explore the science behind what James had identified.

Over the past 35 years, our teams have collected data on thousands of subjects from population studies, physiologic measurements, brain imaging, molecular biology, biochemistry, and other approaches to measuring bodily reactions to stress. From these we identified the relaxation response and could see how powerful it was. It is a physical state of deep rest that counteracts the harmful effects of the fight-or-

flight response, such as increased heart rate, blood pressure, and muscle tension.

Neurologically, what happens is this: When we encounter a stressor at work—a difficult employee, a tough negotiation, a tight deadline, or worse—we can deal with it for a little while before the negative effects set in. But if we are exposed for excessively long periods to the fight-or-flight response, the pressure on us will become too great, and our system will be flooded with the hormones epinephrine, norepinephrine, and cortisol. These cause blood pressure to rise and the heart rate and brain activity to increase, effects that are very deleterious over time. But our latest findings indicate that by completely letting go of a problem at that point by applying certain triggers, the brain actually rearranges itself so that the hemispheres communicate better. Then the brain is better able to solve the problem.

The best way to understand this mechanism is to go back nearly 100 years to the work of two Harvard researchers, Robert Yerkes and John Dodson. In 1908, these two demonstrated that efficiency increases when stress increases, but only up to a point; after that, performance falls off dramatically (see the exhibit “The Yerkes-Dodson Curve”). We found that by taking the stress level up to the top of the bell curve and then effectively pulling the rug out from under it by turning to a quieting, rejuvenating activity, subjects could evoke the relaxation response, which effectively counteracts the nega-

tive effects of the stress hormones. Molecular studies have shown that the calming response releases little “puffs” of nitric oxide, which has been linked to the production of such neurotransmitters as endorphins and dopamine. These chemicals enhance general feelings of well-being. As the brain quiets down, another phenomenon that we call “calm commotion”—or a focused increase in activity—takes place in the areas of the brain associated with attention, space-time concepts, and decision making.

In eliciting the relaxation response, individuals experience a sudden creative insight, in which the solution to the problem becomes apparent. This is a momentary phenomenon. Thereafter, the subjects enter a state of sustained improved performance, which we call the “new-normal” state, because the breakthrough effect can be remembered indefinitely.

We find this to be an intriguing phenomenon. By bringing the brain to the height of activity and then suddenly moving it into a passive, relaxed state, it’s possible to stimulate much higher neurological performance than would otherwise be the case. Over time, subjects who learn to do this as a matter of course perform at consistently higher levels. The effect is particularly noticeable in athletes and creative artists, but we have also seen it among the businesspeople we work with.

So how would a manager actually go about tapping into the breakout principle?

A breakout sequence occurs in four steps. The first step is to struggle mightily with a thorny problem. For a businessperson, this may be concentrated problem analysis or fact gathering; it can also simply be thinking intently about a stressful situation at work—a tough employee, a performance conundrum, a budgetary difficulty. The key is to put a significant amount of preliminary hard work into the matter. Basically, you want to lean into the problem to get to the top of the Yerkes-Dodson curve.

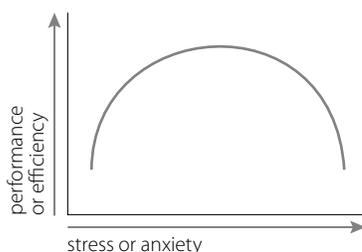
You can tell when you have neared the top of the curve when you stop feeling productive and start feeling stressed. You may have unpleasant feelings such as anxiety, fearfulness, anger, or boredom, or you may feel like procrastinating. You may even have physical symptoms such as a headache, a knot in the stomach, or sweaty palms. At this point, it’s time to move to step two.

Step two involves walking away from the

The Yerkes-Dodson Curve

Stress is an essential response in highly competitive environments. Before a race, before an exam, before an important meeting, your heart rate goes up and so does your blood pressure. You become more focused, alert, and efficient. But past a certain level, stress compro-

mises your performance, efficiency, and eventually your health. Two Harvard researchers, Robert M. Yerkes and John D. Dodson, first calibrated the relationship between stress and performance in 1908, which has been dubbed the Yerkes-Dodson law.



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The relaxation response is a physical state of deep rest that counteracts the harmful effects of the fight-or-flight response.

problem and doing something utterly different that produces the relaxation response. There are many ways to do this. A ten-minute relaxation-response exercise, in which you calm your mind and focus on your out-breath while disregarding the thoughts you've been having, works extremely well. Some people go jogging or pet a furry animal; others look at paintings they love. Some relax in a sauna or take a hot shower. Still others "sleep on it" by taking a nap or getting a good night's rest, having a meal with friends, or listening to their favorite calming music. One male executive I know relaxes by doing needlepoint. All of these things bring about the mental rearrangement that is the foundation for new insights, solutions, and creativity. The key is to stop analyzing, surrender control, and completely detach yourself from the stress-producing thoughts. When you allow your brain to quiet down, your body releases the puffs of nitric oxide that make you feel better and make you more productive.

One executive we observed was worried about a big presentation she had to make before some top-level managers. She worked and worked on it, but the harder she worked the more befuddled she became and the more anxiety took over. Fortunately, she had learned to evoke her relaxation response by visiting the art museum near her office. So she did. After a while, she felt a sense of total release as she stood there looking at her favorite pictures. At that point, she suddenly had the insight that she was trying to cover too many topics at once and needed to pare down the presentation to a single, overriding concept she could illustrate with solid examples. She felt inspired and confident that she had the answer. She went back to the office, redid the presentation and, feeling relaxed and happy, went home for the day.

This third step—gaining a sudden insight—is the actual breakout. Breakouts are also often referred to as "peak experiences," "flow," or "being in the zone." Elite athletes reach this state when they train hard and then let go and allow the muscle memory to take over. They become completely immersed in what they're doing, which feels automatic, smooth, and effortless. In all cases, a breakout is experienced as a sense of well-being and relaxation that brings with it an unexpected insight or a higher level of performance. And it's all the result of a simple biological mechanism that we can tap into at will.

The final step is the return to the new-

normal state in which the sense of self-confidence continues. The manager who reorganized her presentation, for example, came in the next morning knowing all would be well. The meeting did go well, and she received accolades for her work from her bosses and colleagues.

Does a breakout occur all the time or just occasionally? What percentage of people, according to your research, experience breakouts in this way?

We don't yet have hard data on this, but anecdotally I can tell you that when you compare groups of people who have been trained to evoke the relaxation response to groups who lack such training, the former experience breakouts much more frequently. About 25% of people trained in this process, and sometimes many more, can reliably reach the breakout stage.

Can teams or groups do this together or somehow feed off one another?

Certainly. The benefits of mind/body management are by no means limited to individuals. Those who become skilled in these techniques can also expect to have an exponential impact in groups or teams; they can work together to solve organizational problems as part of what we might call a mind/body orchestra.

Let me give you an example of how this works. A few years ago, three software executives with whom we had worked spent two days trying to cajole venture capitalists in Singapore to fund several projects having to do with a new kind of encryption technology. They had all thought long and hard about the problems with encryption, both at their home office in the States and in their preparations for the Singapore presentation. This produced significant levels of stress hormones.

After the meetings finally ended, the three of them took a cab to the airport. The drive was long, and they all felt they could finally let their hair down and relax. Through no planning on anyone's part, the environment in the taxi produced the required break from prior thinking patterns and emotions. The sense of relief, the release from days of high stress, the feeling of camaraderie, and the mentally lulling ride in the dark taxi clearly triggered the relaxation response. That put them all in a neurological position to focus and think clearly about encryption.

The inventor of the technology was the most creative thinker of the three, the one who could best integrate his left- and right-brain functions. He tossed out a thought that had just come to him for a revolutionary product. The others, who were more linear and practical in their thinking style, got excited and chimed in with all kinds of questions and ideas for marketing and selling it. By the end of the cab ride, the trio had fashioned an entirely new encryption product—without taking a single note as the final idea emerged in their minds. They filed a provisional patent three weeks afterwards and their final patent application one year later. They are now selling a version of the product as part of a multimillion-dollar enterprise.

Unwinding after a long trip is one thing, but if you were a manager dealing with a project team in a conference room, what might you do to evoke a breakout?

First, I would lay out a picture of an especially difficult project. I'd ask everyone to come to the meeting having thought very hard about their particular task and how that task affects other parts of the project. I would open the meeting by saying something about what we were all trying to achieve.

Then I would tell the group that we want to shift our thinking to produce a breakthrough idea, and we can do that by evoking the relaxation response. When I work with groups of people, I ask them to close their eyes and relax all their muscles, beginning at their feet and progressing up from the feet and legs through the torso, and finally to their shoulders, neck, and head. I ask them to focus on breathing slowly. Every time they breathe out, they should silently say a word or phrase that is personally meaningful to them, like "calm" or "peace." If they happen to be religious, they might say something like the first line of the twenty-third psalm. I instruct them not to worry about what they're doing or what they attach to the thoughts that come into their heads; they should just say to themselves, "oh well," and return to the repetition. This process goes on for about eight to ten minutes. When they finish, they sit quietly with their eyes closed for a minute or so and a moment longer with their eyes open.

After this exercise, they can begin to focus on the assignment. It's very likely that more than one insightful solution will emerge from

the group.

It's hard to imagine any leader doing that. It sounds much too soft.

Actually, it's not soft at all. It's a matter of learning to shift our internal biology at will so that we increase production of nitric oxide and the neurotransmitters associated with well-being and increased creativity. And if you think about it, most people experience breakthrough moments at one time or another. Managers can doubtless recall times when they've had an "aha" moment at the gym or on the golf course or in the shower. All I'm saying is that it is possible to leverage this invaluable biological tool when we want or need to.

It sometimes takes a serious illness caused or exacerbated by stress for people to have their "aha" moments. One well-known CEO we worked with spent years putting in more than 60 hours a week at his intensely stressful job. He came to us after he had been diagnosed with a silent heart attack. His world had completely turned upside down. He took a leave of absence from work to focus on healing, to ask himself why he was on the planet, and to spend time with his family. We trained him to use the relaxation response and the breakout principle. He recovered and came back to work far more resilient and productive than he was before.

Ultimately, leaders need only look at the high cost of stress to their businesses to understand why this is so important. They are losing out because they are not paying proper attention to teaching their employees a simple approach—one that can not only save their companies enormous costs but also free the productivity and creativity in their workers.

In the West, we are accustomed to linear thought patterns, which are generally the domain of the left hemisphere of the brain. We excel at technology, science, and analysis. If you are a creative person, you must literally step outside the linear, analytic way of thinking to do your work. This is not so much the case in other cultures, particularly Asian ones, which tend to view things more holistically. In China, for example, thinking is more contextual. If a Westerner gets involved in an argument with a Chinese person, the Westerner will try to gain the upper hand by rationally eliminating contradictions. The Chinese person, by contrast, will incorporate the contradictions and adopt an evolving, less rigid point of

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view—essentially using both hemispheres of the brain.

Now that you've established the biological basis of the breakout principle, what do you think is the next frontier in mind/body medicine?

It's clear that mind/body medicine is the third leg of a three-legged stool of health and well-being, the other two legs of which are pharmaceuticals and surgery. As people take more responsibility for their own care through diet, exercise, and tools such as the relaxation response, they will become less dependent on the other two legs of the stool.

At the Mind/Body Medical Institute, one frontier is to further demonstrate the applicability of the principle in places where it hasn't been routinely used, especially in the business world. I am convinced that companies that can bring these principles to bear will maximize the brain capabilities of their entire organizations, make them healthier and more productive, and help them compete effectively in this challenging global economy.

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