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Personal Productivity

Research: Why Breathing Is So Effective at Reducing Stress

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Illustration by Giulia Neri

Summary. Anxiety in the workplace is a serious problem. What can you do to stay calm, rational, and productive when dealing with a stressful situation? In several recently published studies, the authors explored the effectiveness of different techniques and found that... [more](#)

When U.S. Marine Corp Officer Jake D.'s vehicle drove over an explosive device in Afghanistan, he looked down to see his legs almost completely severed below the knee. At that moment, he remembered a breathing exercise he had learned in a book for young officers. Thanks to that exercise, he was able to stay calm enough to check on his men, give orders to call for help, tourniquet his own legs, and remember to prop them up before falling unconscious. Later, he was told that had he not done so, he would have bled to death.

If a simple breathing exercise could help Jake under such extreme duress, similar techniques can certainly help the rest of us with our more common workplace stresses. The combination of the Covid-19 pandemic and battles for social justice have only exacerbated the anxiety that many of us feel every day, and studies show that this stress is interfering with our ability to do our best work. But with the right breathing exercises, you can learn to handle your stress and manage negative emotions.

In two recently published studies, we explored several different techniques and found that a breathing exercise was most effective for both immediate and long-term stress reduction.

In the first study run by our research team at Yale, we evaluated the impact of three wellbeing interventions:

- **Breathing Exercises:** in our experiments, we measured the impact of a particular program, SKY Breath Meditation, which is a comprehensive series of breathing and meditation exercises learned over several days that is designed to induce calm and resilience.
- **Mindfulness-Based Stress Reduction:** a meditation technique in which you train yourself to be aware of each moment in a non-judgmental way.
- **Foundations of Emotional Intelligence:** a program that teaches techniques to improve emotional awareness and regulation.

Participants were randomly assigned to one of the three programs or to a control group (no intervention). We found that the participants who practiced SKY Breath Meditation experienced the greatest mental health, social connectedness, positive emotions, stress levels, depression, and mindfulness benefits.

In a second study, conducted at the University of Arizona, SKY Breath Meditation was compared to a workshop that taught more conventional, cognitive strategies for stress-management (in other words, how to change your thoughts about stress). Both workshops were rated similarly by participants and they both produced significant increases in social connectedness. However,

SKY Breathing was more beneficial in terms of immediate impact on stress, mood, and conscientiousness, and these effects were even stronger when measured three months later.

Before and after the workshops, participants underwent a stress task that simulated a high-pressure performance situation, akin to presenting at a business meeting. In anticipation of the stressful performance, the group that had completed the cognitive workshop showed elevated breathing and heart rates, as expected. In contrast, the SKY Breathing group held steady in terms of breathing and heart rate, suggesting the program had instilled in them a buffer against the anxiety typically associated with anticipating a stressful situation. This meant that they were not only in a more positive emotional state, but also that they were more able to think clearly and effectively perform the task at hand.

Similarly, in a study with veterans from Iraq and Afghanistan who struggled with trauma, we found that not only did SKY Breath Meditation normalize their anxiety levels after just one week, but they also continued to experience the mental health benefits a full year later.

So what makes breathing so effective? It's very difficult to talk your way out of strong emotions like stress, anxiety, or anger. Just think about how ineffective it is when a colleague tells you to "calm down" in a moment of extreme stress. When we are in a highly stressed state, our prefrontal cortex — the part of our brain

responsible for rational thinking — is impaired, so logic seldom helps to regain control. This can make it hard to think straight or be emotionally intelligent with your team. But with breathing techniques, it is possible to gain some mastery over your mind.

Research shows that different emotions are associated with different forms of breathing, and so changing how we breathe can change how we feel. For example, when you feel joy, your breathing will be regular, deep and slow. If you feel anxious or angry, your breathing will be irregular, short, fast, and shallow. When you follow breathing patterns associated with different emotions, you'll actually begin to feel those corresponding emotions.

How does this work? Changing the rhythm of your breath can signal relaxation, slowing your heart rate and stimulating the vagus nerve, which runs from the brain stem to the abdomen, and is part of the parasympathetic nervous system, which is responsible for the body's "rest and digest" activities (in contrast to the sympathetic nervous system, which regulates many of our "fight or flight" responses). Triggering your parasympathetic nervous system helps you start to calm down. You feel better. And your ability to think rationally returns.

To get an idea of how breathing can calm you down, try changing the ratio of your inhale to exhale. This approach is one of several common practices that use breathing to reduce stress. When you inhale, your heart rate speeds up. When you exhale, it slows

down. Breathing in for a count of four and out for a count of eight for just a few minutes can start to calm your nervous system. Remember: when you feel agitated, lengthen your exhales.

While a short breathing exercise like this can be effective in the moment, a comprehensive daily breathing protocol such as the SKY Breath Meditation technique will train your nervous system for resilience over the long run. These simple techniques can help you sustain greater wellbeing and lower your stress levels — at work and beyond.

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