



Results on eMindful Stress and Resiliency Programs

Five years of data reveal how webinar-style mindfulness classes have enriched employees' health, reduced stress levels, and increased productivity.

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Executive Summary

Elevated stress is prevalent in the workplace, contributing to unhealthy lifestyles, chronic illness, job dissatisfaction, and burnout. Mindfulness practices have been found effective in countering these stressors, and a rapidly growing number of employers are now offering mindfulness-based stress management and resilience programs.

As a provider of live, online mindfulness-based programs to employers, eMindful has provided training to thousands of people from 135 countries. The company began measuring outcomes in 2010. Rather than simply asking about participants' experiences, the company carefully selected scientifically reliable, validated instruments – the same used in published medical studies.

Five years later, results show considerable improvement: For participants in the company's stress and resilience programs (Stress Less Live More and Mindfulness at Work) stress levels decrease from the 69th to the 41st percentile. Sleep quality improves, resulting in better daytime functioning. Increased productivity results in an estimated gain per employee of almost one workweek per year. Even levels of pain decrease. Moreover, companies see an average return of almost \$10 for every \$1 invested in the program. This paper shares the details of these findings.

Overview

Scientific studies on mindfulness have burgeoned recently, with demonstrated benefits ranging from decreased stress and anxiety to increased immune system functioning and pain tolerance. In business settings, mindful employees have lower levels of frustration, absence and burnout. The costs of stress for employers include not only losses in productivity and absenteeism, but also in medical costs related to unhealthy behavior patterns (e.g. excessive alcohol or drug consumption, overeating, smoking) and stressful lifestyles (e.g. hypertension, heart disease).

eMindful started offering mindfulness courses in its webinar-style classrooms in 2007, and began collecting data on its stress reduction courses in 2010. (This paper does not include results from the company's many other programs, such as those for metabolic disorder or smoking cessation.) Before taking each course, participants fill out survey instruments that measure perceived stress, productivity at work, sleep habits, and levels of physical pain. After the course, participants repeat the surveys. eMindful's Analytics Team then analyzes results to determine whether changes are statistically significant.

The survey instruments used (Figure 1) have been scientifically validated, meaning they have been previously tested in the scientific literature to verify that they obtain what they were designed to measure. They are also statistically reliable, meaning they yield consistent results over time and among different populations. Since 2010, thousands of employees around the world have experienced eMindful's stress-related programs, and eMindful has successfully collected pre-post data on over 1,200 participants.

FIGURE 1 SURVEY INSTRUMENTS

PERCEIVED STRESS SCALE

How often have you found your life unpredictable, uncontrollable or overloaded?



WORK LIMITATIONS QUESTIONNAIRE

How much did physical health or emotional problems affect your job?



PITTSBURGH SLEEP QUALITY INDEX

How would you rate your sleep quality and daytime functioning?



PAIN QUESTIONNAIRE

How much pain have you been experiencing?



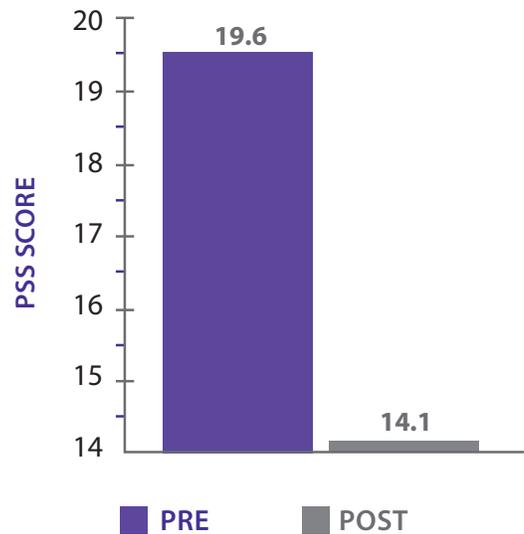
Perceived Stress

The Perceived Stress Scale¹ (PSS) has been used for over three decades in scientific studies to assess the degree to which people perceive their lives as stressful. Participants answer 10 questions that indicate how often they have found their lives unpredictable, uncontrollable and overloaded in the last month.

Responses are totaled to yield an aggregate PSS score. Surveys from eMindful's 1,200-plus research participants showed a 29 percent reduction in perceived stress, from 19.6 to 14.1. Compared to national averages,² this represents a dramatic decline, from the 69th percentile to the 41st percentile.

FIGURE 2

TOTAL PSS SCORES

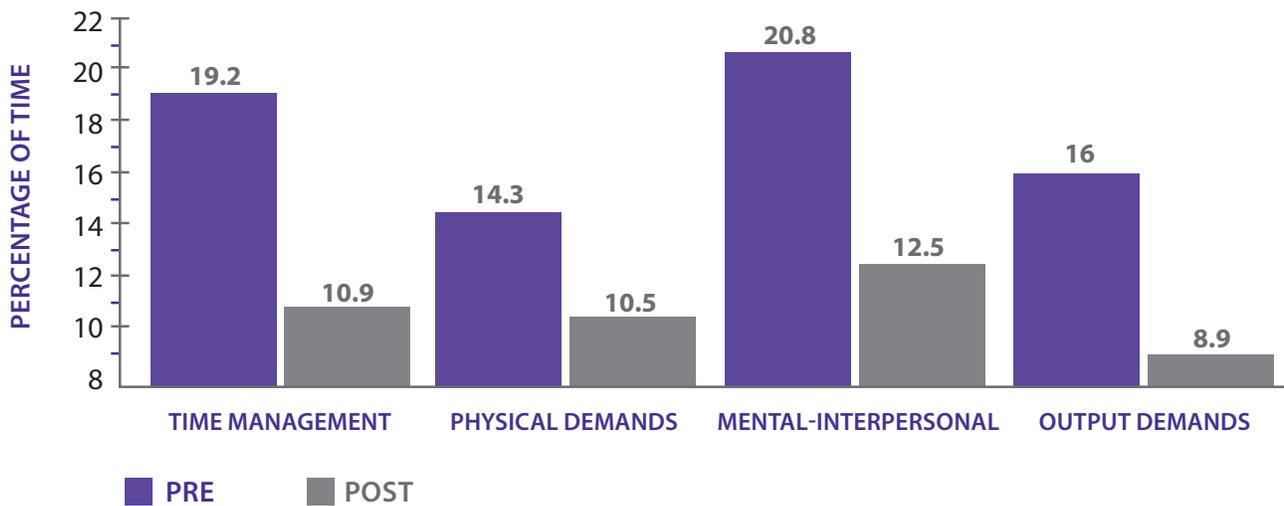


Productivity

The Work Limitations Questionnaire³ assesses the degree to which physical health or emotional problems interfere with one's ability to perform job roles. It estimates the percentage of time employees had difficulty performing tasks in the following categories: Time

Management, Mental-Interpersonal Demands, Physical Demands, and Output Demands. Results demonstrated that employees had considerable improvements in all four categories (Figure 3).

FIGURE 3 PERCENTAGE OF TIME EMPLOYEES HAD DIFFICULTY PERFORMING TASKS



The Time Management scale measures difficulties getting going at the beginning of the workday, and starting the job as soon as arriving at work. Before the eMindful course, participants reported difficulty with these time management tasks 19.2 percent of the time. After the course this had fallen to 10.9 percent.

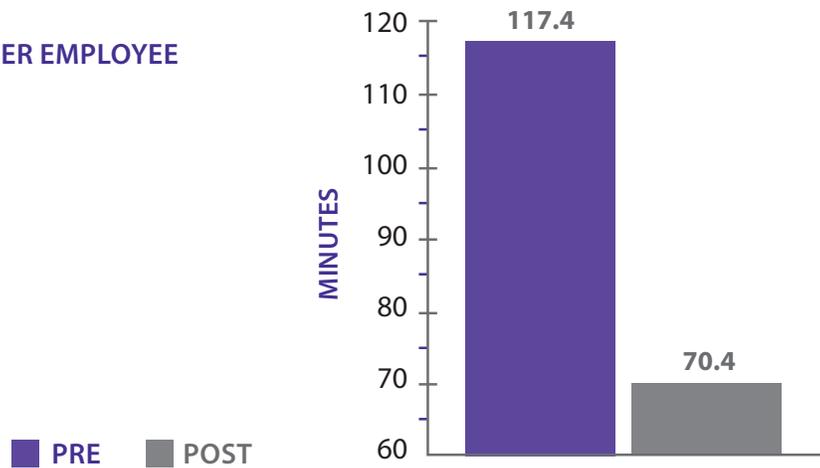
The Mental-Interpersonal Demands Scale, which evaluates challenges concentrating on work and speaking with others, showed a significant reduction as well. Before the course, employees reported having difficulty with these tasks 20.8 percent of the time, and this declined to 12.5 percent. Employees also reported an easier time with the Physical Demands of their jobs, with a reduction from 14.3 percent to 10.5 percent of

the time. When asked how much time they had trouble handling the workload and finishing work on time (Output Demands), participants reported a decrease from 16.0 percent to 8.9 percent of the time.

These changes are combined to estimate how much time is lost during the workweek. Before taking eMindful courses, employees were losing an estimated 117.4 minutes of productive time per week. After completing the program, this was reduced to 70.4 minutes. This gain of 47.0 minutes per week in productive time per employee translates to 37.6 hours per year, nearly an extra week of work, as seen in Figure 4 on the following page.

FIGURE 4

MINUTES LOST PER WEEK, PER EMPLOYEE FROM LOST PRODUCTIVITY



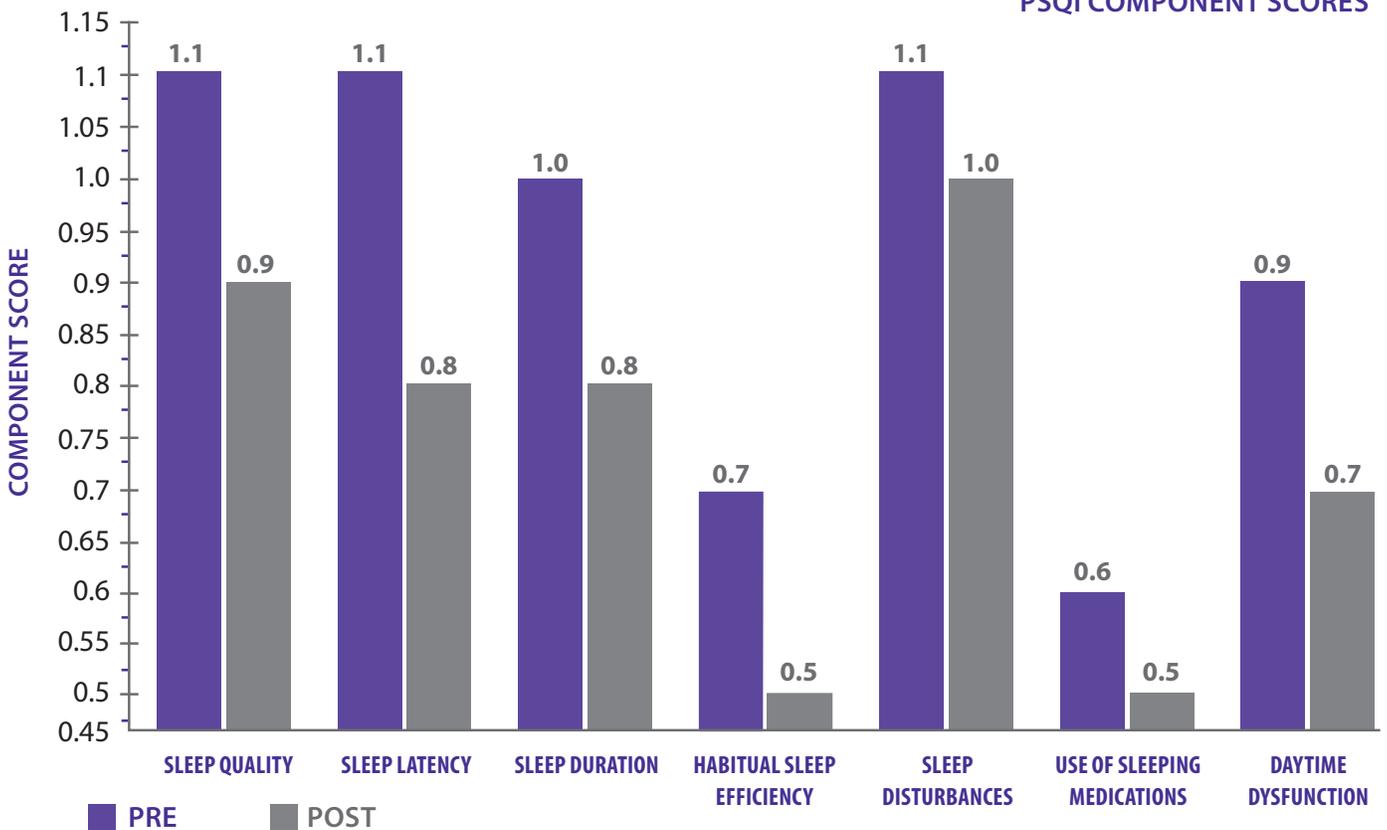
Sleep Quality

The Pittsburgh Sleep Quality Index⁴ (PSQI) assesses sleep habits, sleep quality, and their result on daytime functioning. The survey yields seven component scores:

1. Subjective sleep quality
2. Sleep latency (time it takes to fall asleep)
3. Sleep duration
4. Habitual sleep efficiency (proportion of time in bed spent sleeping)
5. Sleep disturbances
6. Use of sleep medication
7. Daytime dysfunction

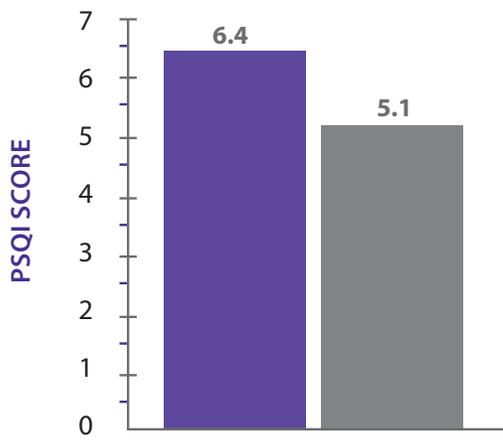
FIGURE 5

PSQI COMPONENT SCORES



Each component score has a possible range of 0-3 points, with lower scores indicating better sleep. As seen in Figure 5, all component scores decreased significantly. Particular improvements were seen in Sleep Latency (the amount of time it takes to fall asleep), Sleep Duration (hours of sleep per night), and Daytime Functioning (finding it easier to stay awake and having the energy to get things done). The seven component scores are added to yield one global score. (Figure 6) The global PSQI score declined from 6.4 to 5.1, or 20.3 percent.

FIGURE 6 AVERAGE GLOBAL PSQI SCORE



Pain

Although stress and resiliency courses do not specifically address pain management, research has found that mindfulness practices commonly help alleviate physical pain. This was assessed by asking participants to choose a number from 1 to 10 that best described pain: a) at its worst in the last 24 hours; b) the amount of pain on average; and c) the current level of pain. Data from before and after eMindful’s stress program showed a significant reduction in employees’ ratings on all three scales. When scores were totaled, the Total Pain scores showed a significant decrease from 7.8 to 6.5, indicating a 16.7 percent reduction in pain.

FIGURE 7 SUM OF PAIN RATINGS

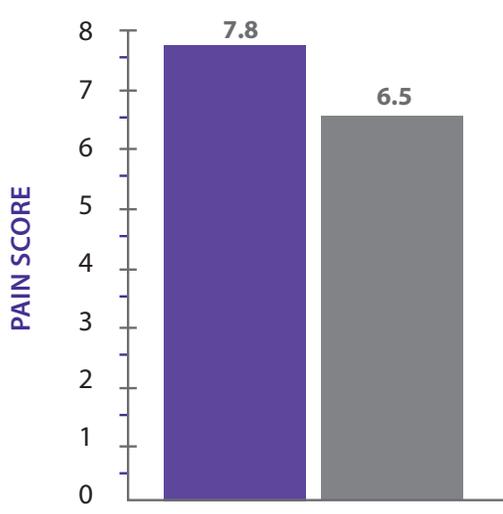
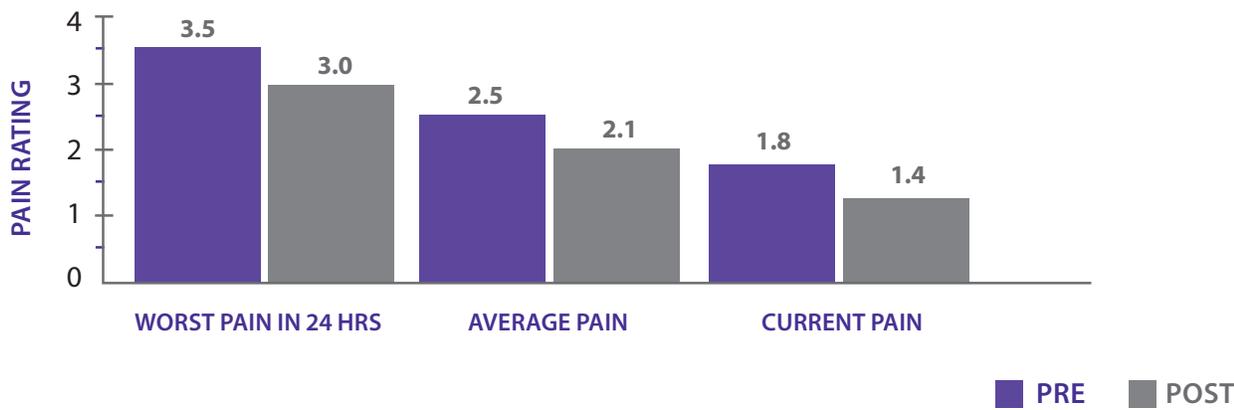


FIGURE 8 HOW WOULD YOU RATE YOUR PAIN ON A SCALE OF 1 - 10?



Return on Investment

To translate these findings into a more appreciable dollar amount for employers, eMindful estimates a Return on Investment based upon employer outcomes data, as well as published research into the medical costs associated with stress. Company savings are calculated for improved employee productivity and reduced medical costs. Below is an example based upon reasonable assumptions for employment costs within a large U.S. organization.

Savings from Improved Employee Productivity

Using a salary of \$65,000 plus 30 percent benefits, the estimated annual cost to the company is \$84,500 per employee. If an employee works 48 weeks per year and 40 hours per week, this translates to a cost of \$44.01/hour. Recall that the Work Limitations Questionnaire showed a gain of 37.6 hours per year per employee from increased productivity. At \$44.01 per hour that 37.6 hours translates into a recapture of \$1,655 per employee in productive time.

Savings from Reduced Company Medical Costs

The Perceived Stress Scale (PSS) indicated that participants' self-reported stress scores decreased 5.6 points. Research⁵ by a large national insurance company showed that stress is strongly correlated with medical costs, and that employees in the top quintile of stress on the PSS had medical claims nearly \$2,000 per year higher than employees in the bottom quintile. That research showed that a decrease of one point on the PSS was associated with an annual savings of \$96.36 in medical costs. Multiplying \$96.36 per point by the 5.6 points that stress was reduced leads to an estimated annual savings of \$540 from reduced health care costs per employee.

The total gain from improved productivity and medical claims is \$2,195. Considering an estimated cost of \$225 per participant for eMindful's stress and resiliency courses (and the program costs less on a per employee per month basis), this savings represents an estimated ROI for companies of 976 percent, or \$9.76 for every \$1 invested.

Moreover, this ROI is based on one year returns on improved productivity and health care costs. Although these gains are expected to be ongoing, a conservative ROI based on a single year return is used.

Conclusion

Stress in the workplace, and outside of work, has a debilitating effect on the health, productivity, and quality of life for employees at all levels. Stress is inevitable, but scientific research is showing that mindfulness practices help to cope with it.

Examining five years' data on participants in its live, online stress and resiliency programs, eMindful has found in the first known study of its kind that participants from around the world have materially improved their stress levels, sleep quality, daytime functioning, work productivity, and physical pain.

These improvements yield a financial incentive for employers, with an estimated Return on Investment of 976 percent. As well, employees appreciate that their companies are willing to invest in their health and well-being.

References:

- 1) Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and social behavior*, 385-396.
- 2) Cohen, S., & Janick-Deverts, D. (2012). Who's Stressed? Distributions of Psychological Stress in the United States in Probability Samples from 1983, 2006, and 2009. *Journal of Applied Social Psychology*, 42(6), 1320-1334.
- 3) Lerner, Debra, et al. "The work limitations questionnaire." *Medical care* 39.1 (2001): 72-85
- 4) Buysse, D. J., Reynolds, C. F., Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. *Psychiatry research*, 28(2), 193-213.
- 5) Baime, M. J., Wolever, R. Q., Pace, W., Morris, W. M., & Bobinet, K. J. (April 2011). Perceived stress scale correlates with health care costs. Poster session presented at the 32nd Annual Meeting and Scientific Sessions of the Society of Behavioral Medicine, Washington, DC.

About eMindful

eMindful is a leading provider of evidence-based programs targeting the largest healthcare cost drivers today: **stress, obesity, chronic pain, stress-related health issues, smoking, diabetes, cancer, and more**. Our scalable, online applied mindfulness-based programs target the root causes of chronic conditions that undermine health and productivity. Developed with top universities and luminaries in the field of mindfulness, our online and mobile interactive courses have been delivered to a wide range of individuals, corporations and government institutions.

Our programs are delivered through a live, virtual classroom where participants see, hear, speak to, and interact with an expert instructor as well as other class participants. Participants enjoy the flexibility of joining the classrooms from any location with a broadband internet connection.

eMindful has successfully delivered weekly and monthly programs to participants around the world since 2007. A detailed program catalog is available upon request. For more information about how we can deploy a customized, private platform and begin offering benefits to your employees, contact us at info@emindful.com.

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