Scientific Research on Yoga and the Workplace

Yoga Alliance Webinar
June 4, 2020

Sat Bir S. Khalsa, Ph.D.
Assistant Professor of Medicine, Harvard Medical School
Director of Yoga Research, Yoga Alliance
Director of Research, Kundalini Research Institute
Editor in Chief, International Journal of Yoga Therapy
Research Associate, Benson Henry Institute for Mind Body Medicine
Research Affiliate, Osher Center for Integrative Medicine
Occupational health

The main functions of WHO (occupational health) mandated in article 2 of its Constitution include promoting the improvement of working conditions and other aspects of environmental hygiene.

Recognizing that occupational health is closely linked to public health and health systems development, WHO is addressing all determinants of workers’ health, including risks for disease and injury in the occupational environment, social and individual factors, and access to health services.

WHO is implementing a Global Plan of Action on Workers’ health 2008-2017 endorsed by the World Health Assembly in 2007 with the following objectives:

- devising and implementing policy instruments on workers’ health;
- protecting and promoting health at the workplace;
- improving the performance of and access to occupational health services;
- providing and communicating evidence for action and practice; and
- incorporating workers’ health into other policies.
Developing workplace health initiatives, tools and methods for empowering companies and other work settings to take better care of health, without unduly relying on professional health services.
Stress at the workplace

Some simple questions and answers

What is a healthy job?
A healthy job is likely to be one where the pressures on employees are appropriate in relation to their abilities and resources, to the amount of control they have over their work, and to the support they receive from people who matter to them. As health is not merely the absence of disease or infirmity but a positive state of complete physical, mental and social well-being (WHO, 1986), a healthy working environment is one in which there is not only an absence of harmful conditions but an abundance of health-promoting ones.

These may include continuous assessment of risks to health, the provision of appropriate information and training on health issues and the availability of health-promoting organisational support practices and structures. A healthy work environment is one in which staff have made health and health promotion a priority and part of their working lives.
Occupational Health Psychology (OHP)

Welcome to the Occupational Health Psychology (OHP) Homepage. NIOSH has an active interest in promoting the new field of OHP. On this page you will find information about OHP, links to schools that offer graduate-level training in OHP and more.

What is OHP?

Many psychologists have argued that the psychology field needs to take a more active role in research and practice to prevent occupational stress, illness, and injury. This is what the new field of Occupational Health Psychology (OHP) is all about. Although research and practice in OHP may cover a wide range of topics, NIOSH has urged that this new field give special attention to the primary prevention of organizational risk factors for stress, illness, and injury at work. This viewpoint is expressed in the NIOSH-proposed definition of OHP: OHP concerns the application of psychology to improving the quality of work life, and to protecting and promoting the safety, health and well-being of workers. The notion of health protection in this definition refers to intervention in the work environment to reduce worker exposures to workplace hazards, while health promotion refers to individual-level interventions to equip workers with knowledge and resources to improve their health and thereby resist hazards in the work environment. Although both of these types of interventions can be defined as primary prevention, the NIOSH-proposed definition places priority on health protection. OHP is especially concerned with the dramatic transformation of work and employment that has been underway in industrial economies since the 1980s (e.g., flexible employment and production processes), and how changing organizational structures and processes are influencing the health and well-being of workers and their families.

NIOSH – APA Contributions to OHP
STRESS AT WORK

Overview

Primary themes in the NIOSH job stress research program:

1. To better understand the influence of what are commonly-termed “work organization” or “psychosocial” factors on stress, illness, and injury
2. To identify ways to redesign jobs to create safer and healthier workplaces

Examples of research topics at NIOSH within these two broad themes:

- Characteristics of healthy work organizations
- Work organization interventions to promote safe and healthy working conditions
- Surveillance of the changing nature of work
- Work organization interventions to reduce musculoskeletal disorders among office operators
- Work schedule designs to protect the health and well-being of workers
- The effects of new organizational policies and practices on worker health and safety
- Changing worker demographics (race/ethnicity, gender, and age) and worker safety and health
- Work organization, cardiovascular disease, and depression
- Psychological violence in the workplace
Employees: How to Cope with Job Stress and Build Resilience During the COVID-19 Pandemic

Whether you are going into work or working from home, the COVID-19 pandemic has probably changed the way you work. Fear and anxiety about this new disease and other strong emotions can be overwhelming, and workplace stress can lead to burnout. How you cope with these emotions and stress can affect your well-being, the well-being of the people you care about, your workplace, and your community. During this pandemic, it is critical that you recognize what stress looks like, take steps to build your resilience and manage job stress, and know where to go if you need help.

Recognize the symptoms of stress you may be experiencing.

- Feeling irritation, anger, or in denial
- Feeling uncertain, nervous, or anxious
- Lacking motivation
- Feeling tired, overwhelmed, or burned out
- Feeling sad or depressed
- Having trouble sleeping
- Having trouble concentrating

Know the common work-related factors that can add to stress during a pandemic:
“One profound demographic shift facing many industrialized nations is the increasing longevity and average age of the population. As the population ages, the available workforce is also aging. By 2020, at least quarter of the workforce in many countries is expected to be age 55 and older. At the same time, chronic health conditions are becoming increasingly important as a cause of work disability across the globe, affecting not only aging workers, but also youth in transition, and mid-career workers. Over 40% of US workers have a chronic health condition and 15–20% of workers report health-related work limitations…”
“The most common factor identified for early retirement was ill health, with ill health associated with people not being able to work or with people having difficulty in performing as expected at work.”

“Occupational health programmes were often suggested as a way of maintaining or improving the health of working people and thus ensuring or enabling their work continuation.”
Workplace Challenges

- Stress and resilience
- Burnout
- Fatigue
- Mood/emotion disturbance
- Musculoskeletal conditions
- Well-being/quality of life
- Behavior
- Sleep disturbance
- Empowerment
- Creativity
- Productivity
- Performance
- Efficiency
- Absenteeism
- Presenteeism
- Turnover
- Job Satisfaction
- Relationships
- Inequality/stigma
- Discrimination
Yoga Practices
Postures, Breathing, Relaxation, Meditation

Fitness
- Flexibility
- Strength
- Coordination/Balance
- Respiratory Function
- Self-Efficacy

Self-Regulation
- Stress Regulation
- Emotion Regulation
- Resilience
- Equanimity
- Self-Efficacy

Awareness
- Attention
- Mindfulness
- Concentration
- Cognition
- Meta-cognition

Spirituality
- Unitive State
- Transcendence
- Flow
- Transformation
- Life Meaning/Purpose

Global Human Functionality
- Physical & Mental Health, Physical Performance
- Stress & Emotion Regulation, Awareness/Mindfulness, Meta-cognition
- Positive Behavior, Wellbeing, Values, Life Purpose & Meaning, Spirituality
The Professional Transformation of Yoga into Mainstream Society

Public Schools, Workplaces, Healthcare

Research

Ashrams, Studios, Yoga Centers, Gyms, Spas
Workplace physical activity and yoga programmes are associated with a significant reduction in depressive symptoms and anxiety, respectively.

Model of yoga intervention in industrial organizational psychology for counterproductive work behavior

ABSTRACT

Counterproductive work behavior (CWB) has long been recognized as a broad spectrum of job behaviors and its link with negative affectivity and hostile behaviors. It is a major concern practically for all organizations. Repeated exposure to workplace stressor can result in a strain, an outcome of the job stress process that can be psychological, physical, or behavioral in nature, leading to CWBs. Yoga is a technique that brings an improvement on mental and physical level by means of posture, breathing control methods, and silencing the mind through meditation. Though yoga has received less scientific consideration, there has been a significant growth in the study of yoga in the healthy population. Mindfulness and self-control practices like yoga encourage individuals to be aware and accept their aggression linked thoughts and emotions simply as a short-lived state rather than to control them. The positive effects of yoga on the improvement of personality traits are already proven. This paper introduces a simple model of cost-effective, trials of yoga intervention at the workplace which could result in the twin benefits of substantial savings from losses for the employers by reducing the CWB and health improvements for the employees by reducing the negative affectivity and aggression. Internet databases such as PubMed, Google Scholar, and APA PsycNET were accessed. The available data were systematically reviewed in a structured manner and analyzed.

Keywords: Aggression, counterproductive work behavior, negative affectivity, yoga

How to cite this article: Dwivedi UC, Kumari S, Nagendra HR. Model of yoga intervention in industrial organizational psychology for counterproductive work behavior. Ind Psychiatry J 2015;24:119-24.
Review Paper

The effectiveness of physical activity interventions in improving well-being across office-based workplace settings: a systematic review

S. Abdin a,*, R.K. Welch b, J. Byron-Daniel a, J. Meyrick a

a University of the West of England, Frenchay Campus, Coldharbour Lane, Bristol BS16 1QY England, UK
b Public Health, City of Wolverhampton Council Civic Centre, St. Peter's Square, Wolverhampton WV1 1SH England, UK

ARTICLE INFO

Article history:
Received 21 December 2017
Received in revised form
7 March 2018
Accepted 21 March 2018
Available online 16 May 2018

ABSTRACT

Objectives: Although the benefits of regular physical activity (PA) are widely accepted, most of the population fails to meet the recommended levels of activity. Public health bodies such as the World Health Organisation emphasise promoting PA within workplaces as a key intervention setting to reach the health and well-being of the working population. Given the importance of well-being in workplace settings, it seems worthwhile to explore the evidence of effectiveness in the literature. This systematic review aims to assess the effectiveness of PA interventions for improving psychological well-being in working adults.

Conclusion: This review found mixed evidence that PA interventions can be effective in improving well-being across office settings. Although, the findings are promising, because of methodological failings, there is no conclusive evidence.
Employee Sleep and Workplace Health Promotion: A Systematic Review

Rebecca Robbins, PhD¹, Chandra L. Jackson, PhD, MS², Phoenix Underwood, BS¹, Dorice Vieira, MLS, MA, MPH¹, Giradin Jean-Louis, PhD¹, and Orfeu M. Buxton, PhD³,4,5,6

Abstract

Objective: Workplace-based employee health promotion programs often target weight loss or physical activity, yet there is growing attention to sleep as it affects employee health and performance. The goal of this review is to systematically examine workplace-based employee health interventions that measure sleep duration as an outcome.

Data Source: We conducted systematic searches in PubMed, Web of Knowledge, EMBASE, Scopus, and PsycINFO (n = 6177 records).

Study Inclusion and Exclusion Criteria: To be included in this systematic review, studies must include (1) individuals aged >18 years, (2) a worker health-related intervention, (3) an employee population, and (4) sleep duration as a primary or secondary outcome.

Results: Twenty studies met criteria. Mean health promotion program duration was 2.0 months (standard deviation [SD] = 1.3), and mean follow-up was 5.6 months (SD = 6.5). The mean sample size of 395 employees (SD = 700.8) had a mean age of 41.5 years (SD = 5.2). Measures of sleep duration included self-report from a general questionnaire (n = 12, 66.6%), self-report based on Pittsburgh Sleep Quality Index (n = 4, 22.2%), and self-report and actigraphy combined (n = 5, 27.7%). Studies most commonly included sleep hygiene (35.0%), yoga (25.0%), physical activity (10.0%), and cognitive–behavioral therapy for insomnia (10.0%) interventions. Across the interventions, 9 different behavior change techniques (BCTs) were utilized; the majority of interventions used 3 or fewer BCTs, while 1 intervention utilized 4 BCTs. Study quality, on average, was 68.9% (SD = 11.1). Half of the studies found workplace-based health promotion program exposure was associated with a desired increase in mean nightly sleep duration (n = 10, 50.0%).

Conclusions: Our study findings suggest health promotion programs may be helpful for increasing employee sleep duration and subsequent daytime performance.
Mindfulness and human occupation: A scoping review

Victoria Goodman, Brooke Wardrope, Suzanne Myers, Shelly Cohen, Lisa McCorquodale and Elizabeth Anne Kinsella

School of Occupational Therapy, Faculty of Health Sciences, Western University, London, Ontario, Canada

ABSTRACT
Background: Mindfulness is an emergent construct with implications for our understanding of approaches to engagement in human occupation. Little is known about how mindfulness is being applied and what its possibilities are in the occupation-based disciplines.

Objective: The purpose of this scoping review was to summarize, describe, and identify gaps in the existing literature on mindfulness in relation to human occupation.

Material and Method: A scoping review, guided by Arksey and O’Malley’s methodological framework was undertaken. The initial search yielded 929 articles; 20 articles met the criteria for inclusion. Articles included peer review and gray literature published in English between 2006-2016. Articles addressed mindfulness in OT or OS and included the terms ‘human occupation’, ‘occupational therapy’ and/or ‘occupational therapist’, and ‘mindfulness’ and/or ‘meditation’ or ‘yoga’.

Findings: The qualitative thematic analysis identified an overarching theme of mindful occupation, with 5 sub-themes including occupational presence; occupational awareness; occupational engagement; occupational well-being; and occupational fulfillment.

Conclusions and Significance: The findings have important implications for practice, education, theory and research. Future directions should focus on more depth and breadth of empirical research about mindful engagement in human occupation that can be used to implement and evaluate mindfulness in occupation-based theory and practice.
Yoga in the workplace and health outcomes: a systematic review

L. M. Puerto Valencia1,2, A. Weber2, H. Spegel2, R. Bögle3,4, A. Selmani2, S. Heinze3,5 and C. Herr1,5

1Institute for Medical Informatics, Biometry and Epidemiology (IBE) at the Ludwig-Maximilians-Universität München, Marchioninistr. 15, 81377 Munich, Germany, 2Department of Occupational and Environmental Health/Epidemiology, Bavarian Health and Food Safety Authority (LGL), Pfarrstr. 3, 80538 Munich, Germany, 3Yoga Forum München e.V, Steinstraße 42, 81667 Munich, Germany, 4Center for Behavioural Medicine, 24/1, Sahajanand Society, Kothrud, Pune 411038, India, 5Institute and Outpatient Clinic for Occupational, Social and Environmental Medicine, Ludwig-Maximilians-University Munich, Ziemssenstr. 1, 80336 Munich, Germany.

Correspondence to: L. M. Puerto Valencia, Bavarian Health and Food Safety Authority (LGL), Pfarrstr. 3, 80538 Munich, Germany. Tel +49 09131 6808-0; e-mail: laurampv8@gmail.com

| Background | Health promotion in the workplace is intended to enhance employee health and well-being. Yoga programmes are easy to implement and have been effective in the management of various health conditions. |
| Aims | To assess the evidence regarding the effectiveness of yoga programmes at work. |
| Methods | A search of electronic databases of published studies up until the 1st of April 2017. Inclusion criteria for the systematic review were randomized controlled trials of adult employees and yoga in the workplace. Quality appraisal was carried out using the Cochrane Collaboration’s tool for assessing risk of bias in randomized trials. |
| Results | Of 1343 papers identified, 13 studies met the inclusion criteria. Nine out of 13 trials were classified as having an unclear risk of bias. The overall effects of yoga on mental health outcomes were beneficial, mainly on stress. Most of the cardiovascular endpoints showed no differences between yoga and controls. Other outcomes reported positive effects of yoga or no change. |
| Conclusions | The findings of this study suggest that yoga has a positive effect on health in the workplace, particularly in reducing stress, and no negative effects were reported in any of the randomized controlled trials. Further larger studies are required to confirm this. |
Mood/Stress in Occupational Setting

Stress in Occupational Setting

Back Pain in Occupational Setting

“This study indicated that an 8-week Dru Yoga programme, compared with usual-care, was associated with improvements in health-related quality of life and reductions in both physical and psychosocial components of back pain. Yoga in the workplace appeared to be a cost-effective option, potentially reducing sickness absence due to musculoskeletal conditions.”
**Stress in Frontline Professionals**

N=71 from fields of education, healthcare, and corrections in a residential 5-day Kripalu program.

From: *Improvements in Psychological Health Following a Residential Yoga-based Program for Frontline Professionals, Trent N, Miraglia M, Miraglia M, Dusek J, Pasalis E, Khalsa SBS, Journal of Occupational and Environmental Medicine, 60:357-367, 2018*
Mindfulness in Frontline Professionals

Yoga in Education Professionals

Physician Burnout

The health care environment—with its packed work days, demanding pace, time pressures, and emotional intensity—can put physicians and other clinicians at high risk for burnout. Burnout is a long-term stress reaction marked by emotional exhaustion, depersonalization, and a lack of sense of personal accomplishment.

In recent years, the rising prevalence of burnout among clinicians (over 50 percent in some studies) has led to questions on how it affects access to care, patient safety, and care quality. Burned-out doctors are more likely to leave practice, which reduces patients’ access to and continuity of care. Burnout can also threaten patient safety and care quality when depersonalization leads to poor interactions with patients and when burned-out physicians suffer from impaired attention, memory, and executive function.
Prevalence of Burnout Among Physicians
A Systematic Review

Lisa S. Rotenstein, MD, MBA; Matthew Torre, MD; Marco A. Ramos, MD, PhD; Rachael C. Rosales, MD; Constance Guille, MD, MSCR; Srijan Sen, MD, PhD; Douglas A. Mata, MD, MPH

Perspective
To Fight Burnout, Organize
Leo Eisenstein, B.A.
UK NHS staff: stressed, exhausted, burnt out

Increased workloads, repeated reorganisation, and a culture of blame and fear are all taking their toll on the health and wellbeing of National Health Service staff. Emma Wilkinson reports.

The UK National Health Service (NHS) is under unprecedented pressure, attempting to do more with less, it is creaking at the seams. And now the latest staff survey figures suggest that 18 months, she says, and the service is currently closed to new referrals.

Unhealthy culture

Although staff are undoubtedly of temporary staff—a sign of a sick organisation, she says.

At a time when many argue that need is increasing, support services for NHS staff are closing or

Letters » Burnout

Tackling burnout in UK trainee doctors is vital for a sustainable, safe, high quality NHS

BMJ 2018; 362 doi: https://doi.org/10.1136/bmj.k3705 (Published 12 September 2018)
Cite this as BMJ 2018;362:k3705

Judith Johnson, lecturer. Chris Bu, foundation doctor year 22. Maria Panagioti, senior research fellow.
“The prevalence of physician burnout has reached critical levels. Recent evidence indicates that nearly half of all physicians experience burnout in some form. And it appears to be getting worse. The 2018 Survey of America’s Physicians Practice Patterns and Perspectives finds that … 78% of surveyed physicians experience feelings of professional burnout at least sometimes, an increase of 4% from the 2016 survey.”
NHS workers to be offered health checks and yoga classes

Simon Stevens, NHS England’s chief executive, will launch initiative to improve staff health and cut amount of sick leave
The effect of physical activity interventions on occupational stress for health personnel: A systematic review

Laura L. Bischoff, Ann-Kathrin Otto, Carolin Hold, Bettina Wollesen

Institute of Human Movement Science, University of Hamburg, Germany
Department of Human Movement and Exercise Science

ABSTRACT

Background: High occupational stress and its implications on health in people who are working in the healthcare sector are well-documented. However, less is known about beneficial effects physical activity interventions might have on occupational stress in healthcare settings.

Objective: This systematic review aims to identify the current evidence on the effect of physical activity interventions on stress outcomes in health personnel.

Design: A systematic review with quality assessment.

Method: PsycINFO, Medline and CINAHL databases were searched in February 2018 using a combination of synonyms of the terms “health personnel”, “physical activity” and “occupational stress”. The search was repeated in March 2019.

Results: N = 18 experimental studies were included, representing three specified physical activity intervention types (yoga, tai chi and qigong) and different non-specific worksite training programs. Nine studies conducted a multi component intervention with a minor part being physical activity. A total of n = 9 studies investigated the effect of a single component physical activity intervention on stress (seven RCTs, two pre-post intervention studies). Stress measurements used were heterogeneous and only five studies specifically assessed occupational stress. None of the nine studies were considered to be of high quality. All of the included studies scored lower than seven (out of a maximum quality score of 14) with risks of performance and attrition bias. Results suggest a stress reducing effect of yoga and qigong interventions, whereas general workplace physical activity programs and tai chi did not show significant effects.

Conclusions: The present review indicates that yoga and qigong might be an effective way of reducing stress in health personnel and could be incorporated into health promotion in the healthcare sector. Nevertheless, further research with appropriate planning and detailed descriptions of the conducted interventions (duration, frequency and intensity) is needed to determine the effect of physical activity interventions on occupational stress.
The Use of Yoga to Manage Stress and Burnout in Healthcare Workers: A Systematic Review

Rosario Andrea Cocchiara 1, Margherita Peruzzo 2, Alice Mannocci 1, Livia Ottolenghi 2, Paolo Villari 1, Antonella Polimeni 2, Fabrizio Guerra 2 and Giuseppe La Torre 1,*

1 Department of Public Health and Infectious Diseases, Sapienza University, 00185 Rome, Italy; rosario.cocchiara@uniroma1.it (R.A.C.); alice.mannocci@uniroma1.it (A.M.); paolo.villari@uniroma1.it (P.V.)
2 Department of Oral and Maxillofacial Sciences, Sapienza University, 00161 Rome, Italy; margherita.peruzzo@gmail.com (M.P.); livia.ottolenghi@uniroma1.it (L.O.); antonella.polimeni@uniroma1.it (A.P.); fabrizio.guerra@uniroma1.it (F.G.)
* Correspondence: giuseppe.latorre@uniroma1.it; Tel.: +39-064-9694-308

Received: 22 January 2019; Accepted: 22 February 2019; Published: 26 February 2019

Abstract: The purpose of this systematic review is to analyze and summarize the current knowledge regarding the use of yoga to manage and prevent stress and burnout in healthcare workers. In February 2017, a literature search was conducted using the databases Medline (PubMed) and Scopus. Studies that addressed this topic were included. Eleven articles met the inclusion criteria. Seven studies were clinical trials that analyzed yoga interventions and evaluated effectiveness by gauging stress levels, sleep quality and quality of life. A study on Chinese nurses showed statistical improvement in stress levels following a six-month yoga program ($\chi^2 = 16.449; p < 0.001$). A population of medical students showed improvement in self-regulation values after an 11-week yoga program (from 3.49 to 3.58; $p = 0.04$) and in self-compassion values (from 2.88 to 3.25; $p = 0.04$). Four of the included articles were observational studies: They described the factors that cause stress in the work environment and highlighted that healthcare workers believe it is possible to benefit from improved physical, emotional and mental health related to yoga activity. According to the literature, yoga appears to be effective in the management of stress in healthcare workers, but it is necessary to implement methodologically relevant studies to attribute significance to such evidence.
"A growing body of clinical studies suggests that interventions, including mindfulness, yoga, and mind-body skills training, may be helpful in building the self-awareness and resilience needed for medical students, residents, and established physicians to mitigate burnout risk. This preliminary research likely played an essential role in Harvard Medical School’s 2018 decision to now require all first years to participate in a mind-body resiliency training program."
Building Resiliency, Depth, and Grit in Medicine: Harvard Medical School’s First Mind-Body and Resilience Course

Posted On: August 23rd, 2018

Darshan Mehta, MD, MPH

As of this fall, a total of 160 newly matriculated students at Harvard Medical School will be learning mind-body and resiliency skills as a part of their coursework in Professional Development, under the direction of Dr. Fidencio Saldana, Dean of Students at Harvard Medical School.

This curriculum, entitled “Building Resiliency, Depth, and Grit in Medicine” (aka BRDG curriculum), is being led by Dr. Darshan Mehta, and involves input from several of our Osher Center affiliates (notably the Benson-Henry Institute for Mind Body Medicine at MGH).

This will be a 12-hour longitudinal curriculum that all HMS students based in the Pathways curriculum will encounter. The curriculum is experiential in nature and stems from the work that is being led at the BHI-MGH.

The curriculum will be taught by eight Harvard Medical School faculty members. The course will take place in six two-hour sessions, with three sessions taking place in August 2018. Later, the students will reconvene for the following three sessions over the course of the academic year.
Physician burnout was an epidemic BEFORE the Covid-19 pandemic. According to a 2018 study, 400 physicians die by suicide each year – double that of the general population. In addition, doctors have the highest suicide rate of any profession in the U.S including combat veterans. From an economic standpoint, studies estimate that physician burnout is costing the health care system approximately $4.6 billion per year.

Burnout has nothing to do with weakness, laziness or incompetence. “The prevailing attitude,” report Pamela Hartzband, MD and Jerome Groopman, MD in a recent NEJM article, “was that burnout is a physician problem and those who can’t adapt need to get with the program or leave.”

Some hospitals have created the position, Chief Wellness Officer. Others have offered resilience and meditation workshops, social hours and tips for maximizing productivity. But, according to Hartzman and Groopman, none of these “solutions” address the underlying problem: a profound lack of alignment between caregivers’ values and the reconfigured health care system.
Kripalu RISE in Harvard Physicians

**Burnout Score**
- Pre: 0.4
- Post: 0.7
- Follow-up: 1.0

**Interpersonal Disengagement**
- Pre: 0.15
- Post: 0.35
- Follow-up: 0.55

**Anxiety**
- Pre: 0.6
- Post: 0.9
- Follow-up: 1.2

**Professional Fulfillment**
- Pre: 3.2
- Post: 3.5
- Follow-up: #

**Work Exhaustion**
- Pre: 1.5
- Post: 1.2
- Follow-up: #

**Depression**
- Pre: 4
- Post: 5
- Follow-up: 6

* indicates statistically significant change.
# indicates trend towards change.
From: A Yoga-based Program Decreases Physician Burnout in Neonatologists and Obstetricians at an Academic Medical Center, Scheid A, Trent N, Dusek J, Khalsa SBS, Workplace Health & Safety (in press).
From: A Yoga-based Program Decreases Physician Burnout in Neonatologists and Obstetricians at an Academic Medical Center, Scheid A, Trent N, Dusek J, Khalsa SBS, Workplace Health & Safety (in press).
Kripalu RISE Program in Harvard Resident Physicians

Kripalu RISE Program in Harvard Resident Physicians

Serving the Yoga Community

Yoga Alliance® is committed to promoting and supporting the integrity and diversity of the teaching of yoga.
Scientific Research on Yoga

Substantial research has been done on many of the populations and parts of the body that COVID-19 preys on most. Use this section of Yoga Alliance's website to learn more about scientific research on the effects of yoga on the elderly, respiratory function, anxiety, and depression, to name a few.

Perhaps more than ever, yoga is being widely studied and evaluated for its positive effects and benefits. At Yoga Alliance, we curate the latest and most relevant research on yoga's applications in health, wellness, and disease. We have filtered it in a digestible manner for our Registered Yoga Schools and Registered Yoga Teachers as well as for the broader yoga community.

This evidence-based research not only reveals the science of yoga, it also explains its therapeutic efficacy when used in conjunction with conventional medicine. Our goal is that this impactful content will be utilized in a way that highlights even more of yoga's ancient, multi-faceted ability to improve lives.

Join us! Let us know how research on yoga is important or valuable to you on social media (@YogaAlliance) or by emailing us at research@yogaalliance.org. We honor and value your personal experiences and look forward to featuring your stories.

Our Research Conversation

Our Director of Yoga Research

Our Director of Yoga Research Dr. Sat Bir Singh Khalsa is a renowned yoga research expert and yoga teacher who has committed his professional life to clinical research surrounding yoga's full spectrum of healing efficacy.

Learn More

Featured Research Video

Learn about the process of aging and how yoga affects (and even slows down) aging.

Watch Now

Featured Health News

Visit our COVID-19 website, YourYA.org, for the most recent and applicable information on the coronavirus and the COVID-19 pandemic.

Learn More
Institutional/Workplace Populations

Corporations/Businesses, Schools/Educational Institutions, Healthcare Institutions, Law Enforcement, First Responders, Prisons, Correctional Institutions, Detention Centers, Military, Veterans

Our hope is for yoga schools and yoga teachers to utilize this impactful content in their teachings to promote and highlight yoga's evident multi-faceted ability to improve lives. Let us know how research on yoga is important or valuable to you on social media (@YogaAlliance) or by emailing us at research@yogaalliance.org. We honor and value your personal experiences and look forward to featuring your stories.

These citations were curated by Yoga Alliance's Director of Yoga Research, Dr. Sat Bir Singh Khalsa.

Review Papers

Mindfulness and human occupation: A scoping review.
[abstract]

Yoga in the workplace and health outcomes: a systematic review.
[abstract]

The Use of Yoga to Manage Stress and Burnout in Healthcare Workers: A Systematic Review.
[full text]

Mind-Body Therapy for Military Veterans with Post-Traumatic Stress Disorder: A Systematic Review.

Notable Publications

Yoga in Correctional Settings: A Randomized Controlled Study.
[full text]

Effects of Yoga on Stress, Stress Adaption, and Heart Rate Variability Among Mental Health Professionals-A Randomized Controlled Trial.
[full text]

Participation in a 10-week course of yoga improves behavioral control and decreases psychological distress in a prison population.
[full text]

Effective and viable mind-body stress reduction in the workplace: a randomized controlled trial.