The Interdisciplinary Center for Healthy Workplaces is somewhat unique among institutes, centers, and programs targeting the health and well-being of Americans and people across the world. Our uniqueness comes from our desire to understand how and why people change their behavior toward more healthy work- and life-styles, and how and why features within the physical and psychological environment facilitate health and well-being.

We know from our reviews of the scientific literature across disciplines that single program or practice solutions do not move the needle much if at all in addressing this multi-faceted issue in our workplaces. Consensus is that we need holistic and integrated solutions, ones that are based on our best knowledge of what will make a difference in how organizational leaders make investment decisions regarding employee health and well-being and how individual employees make decisions about their own preferences and behavior. Holistic and integrated solutions require collaborations among experts in different sectors of knowledge. Over the last four years I have learned that each discipline has strengths and weaknesses: experts know a lot about some things but little about others. When experts from different disciplines cross-pollinate, something very interesting happens – the weaknesses in one discipline are complemented by the strengths of another. No one discipline has it all, and it is only through their combination that most gaps can be filled to create a whole picture of what we need to understand. This may sound too daunting to many, but experience has led me to believe that this is where we will make significant progress and move the needle significantly.

It will be by bringing together experts across disciplines to discuss what they know and what they need to know, and discovering that their partners across the table have the information that fills this need. Let me also say that I don’t believe that creating healthy workplaces will be a matter of adding elements together from each discipline in a 1 + 1 + 1 strategy. Rather, I believe that it will take thinking about how the elements combine and integrate to form something new. This is our challenge here at the Center—bringing knowledge together to help everyone understand the problem we are facing and to formulate ideas for how to move the needle toward greater health. Our featured researcher in this issue, Dr. John Swartzberg, will help us move forward.
This issue, we are pleased to present our featured researcher, John Swartzberg, MD, FACP. Dr. Swartzberg is a clinical professor emeritus at UC Berkeley’s School of Public Health, chair of the editorial board chair BerkeleyWellness.com, and director of coverage at the Berkeley Wellness Letter since 2001. He is also past director of the UC Berkeley–UCSF Joint Medical Program.

Dr. Swartzberg spoke at the HealthyWorkplaces Science to Practice: Building the Best Workplace Conference on May 4th, where he presented research on workplace health. A webinar of the conference including his lecture will be posted on the HealthyWorkplaces website later this month.

For this newsletter, we interviewed Dr. Swartzberg about the physiological responses to the workplace with an emphasis on stress and sedentary behavior. Dr. Swartzberg provided strong evidence to make the case for crucial workplace interventions.

STRESS
Humans are biologically adapted to adjust to physical and psychological stressors with a physiological response—a critical mechanism to protect us from real threats, but problematic when the stress is chronic. In fact, chronic stress has been linked to decreased stem cell growth (Mol Psychiatry. 2014 December; 19(12): 1275-1283). Chronic stress is a great concern in the workplace -- factors such as lack of insurance, shift work, long hours, low job control, and organizational injustice (pictured below) are all stressors that the employer can control for better outcomes.

Coupled with chronic stress, workplaces can have a strong influence on resilience of these stressors. Dr. Swartzberg shared research studies indicating that social support is a key factor in developing resilience to stress. In fact, numerous studies reveal that low social support is associated with heightened stress reactivity such as heart rate and blood pressure. Thus, considering building social relationships within the workplace is not just a fun perk—these benefits can be quite profound.

SITTING
Between long seated commutes, sitting at work, and sitting at meetings, the sedentary nature of jobs have significant health consequences. Of 131 million working days lost to sickness, the largest contributing factor is back, neck, and muscle pain. Given that we know that sedentary behavior is a primary contributor to such musculoskeletal pain, workplace interventions are critical.

What solutions may combat sitting? One study researched the efficacy of 5-minute walking breaks every hour with women at high risk of type 2 diabetes. The results? These breaks reduced postprandial glucose, insulin, and non-esterified fatty acids. Other research indicates a 22% decrease in mortality with just 75 minutes of moderate-to-vigorous activity per week. Also, studies show that spending time standing at the desk (as opposed to sitting) reduces cardiovascular disease, musculoskeletal problems, mental health problems, and mortality.

These studies have major implications for wellness programs and policy. Interventions such as a sit-stand desks and walking breaks are proven to improve health and increase productivity.

CONCLUSION
There’s good science behind the idea that modest interventions in the workplace translate into significant health benefits. HealthyWorkplaces hopes that our research for Transamerica on wellness programs will encourage empirically validated, healthy interventions in the office.

References
- Curr Diab Rep 2014;14:522)
- Mol Psychiatry. 2014 December; 19(12): 1275-1283
Introducing our Science to Practice Series: Building the Best Workplace for Health and Well-Being

A large part of our mission is bringing experts together and sharing knowledge across disciplines and to the public. We recently had a chance to fulfill that part of our mission when we held our first conference in our new “Science to Practice” series. This day-long conference centered on research and issues around the built environment and health and well-being. It was well-received, with 8 speakers and over 50 in attendance from various disciplines. The conference speakers’ slides and transcript from the presentations will be available on our website in webinar form and book form this fall. In this section, we give a short summary of the speaker topics and our plans for future conferences in this series.

Gretchen Gscheidle from Herman Miller spoke on “Building for Well-Being: Productivity: What Choices?” Gscheidle focused on the office design and features that are within the office environment, touching on topics from open office layout and cubicles to ergonomics and chairs. Gscheidle presented on Herman Miller’s international research on their Living Office design, concluding that planning offices for the people in them and with their feedback greatly improves their fundamental human needs, their satisfaction with the workplace, and their well-being.

Sally Augustin from Design with Science spoke on “Designing for the Right Emotions.” As an environmental psychologist, Augustin presented from the perspective of how your work environment affects your emotional experience. There are five factors which influence the emotional experience: fundamental, universal processing; individual place experience or history; group culture; national culture; and personality. Augustin explained that when designing work environments, we can create the experience we want employees to have because we know how people in general respond to their environment.

Lee Mokri from Byte foods presented on “Little Touches that Matter” that can change behavior in a space. Mokri presented on how technology Byte foods developed and how their healthy vending machines have a place in the workplace, on campuses, and in public spaces. He described how the convenience of healthy foods make it easy to make healthy choices, and what kind of impact that has on your overall health.

We had participants from Engineering, Ergonomics, Business, Public Health, Medicine, Architecture and Design, Finance, Real Estate, Technology, and Psychology. Our biggest feedback participants gave was that they enjoyed the interactive component of the conference and wanted more discussion to follow up on the ideas and research findings that our speakers shared. Some participants from seemingly unrelated disciplines shared with us that they never realized how applicable the information presented at this conference was to their industry. This is what we like to hear. We know that we can take what is already known from other disciplines to give us a more complete picture of solutions to workplace issues. This conference demonstrated that it can be done.

Thanks to overwhelming positive feedback of this conference, we are scheduling a second conference on the topic of understanding the effects of the workplace on the mind and body. This conference, planned for October, will feature experts in fields such as Culture, Burnout, Medicine, Psychology, and Nutrition.
The Psychological States Framework - a closer look at Engagement/Accomplishment

As a result of our extensive and selective literature search, we have constructed a framework of well-being that posits a number of psychological states that correlate with well-being. Positive emotions are a central component of the framework and through which we ultimately experience well-being and build resilience. Positive emotions broaden our capabilities in the present and build social, physical, psychological, and emotional resources for the future. They also buffer us against the harmful effects of stress and help us recover more quickly.

Let’s look at Engagement and Accomplishment. What do we know about Engagement and Accomplishment? Promoting these basic needs in the workplace is important as it relates to both health and productivity. Engagement means working in the absence of boredom and feeling committed to your work. It is a state of involvement in and attachment to the work. Engagement is necessary for employees to complete their tasks, therefore contributing to the productivity of the organization as a whole. Engaged employees are also more committed to the organization making them less likely to leave. Accomplishment is closely linked with Engagement, and in fact contributes to the same sense of involvement and commitment. It is feeling you can complete your work and feeling recognized for your work. These are important needs to fulfill because individuals not only need to be able to deliver an outcome related to their task, but they also need to feel like that work is recognized as something important to the organization so they can invest in the organization.

How is Engagement and Accomplishment related to health? The literature in psychology supports the assertion that engagement and accomplishment are important for mental well-being of individuals as well as influences productivity of organizations. Engagement also contributes to the physiological component of health by affecting stress levels and health behaviors.

So how can engagement and accomplishment be promoted in the workplace? There are many different ways to foster engagement, from making physical changes to a workplace that helps the user invest in the space, to adding technological features that help the employee do their work more efficiently, to changing the work culture and the job design to promote intrinsic motivators. Promoting Accomplishment can be achieved by introducing things like recognition for employee skills or work, and flexibility with their space or schedule.
Center Projects

Investigating Participation in Wellness Programs in Small & Medium Sized Businesses

INVESTIGATORS: CRISTINA BANKS, ISABELLE THIBAU, CAROLYN WINSLOW, PAULINE SIMES, MAX PITTMAN, MIKAELA BURNS, ASTRID ZAMORA, JUSTINE YU

The objective is to understand and identify successful determinants of employee engagement and participation in behavior change and wellness programs. The primary outcome of this project is an employer guide for employee engagement in healthy behavior change for small and medium-sized business. This project is being funded by the Transamerica Center for Health Studies.

Determining Measurement Criteria for Use in Ergonomics and Human Factors Research

INVESTIGATORS: CRISTINA BANKS, ALLISON BAKAMJIAN, QUYNH-TRANG NGUYEN, ISABELLE THIBAU

The objective of this project is to create an inventory of scientifically-sound criterion measures for use in human factors/ergonomic research studies. This project is being funded by the Office Ergonomics Research Committee.

Graduate Student Health & Well-Being

INVESTIGATORS: CRISTINA BANKS, SHELDON ZEDECK, ISABELLE THIBAU, MAX PITTMAN, IRIS ANANTHSET, FRAN KIPNIS

The aim of this project is to collect information on graduate student well-being as a function of their study environments. The survey, developed by HealthyWorkplaces, has been administered to UC Berkeley graduate students campus-wide (except students from the College of Letters and Science and Law School). HealthyWorkplaces will use the results of this survey to understand the current student work environment and examine relationships between this environment and student health and well-being outcomes.

Professor Siw Tone Innstrand of Norwegian University of Science and Technology is working to expand to her university in Norway.

Factors that Support Healthy Universities

INVESTIGATORS: CHRISTINA MASLACH, CRISTINA BANKS, SIW TONE INNSTRAND, CHRISTOPHER LOWENSTEIN, ISABELLE THIBAU, INTERDISCIPLINARY RESEARCH TEAMS

The objective is to create a way to assess the degree to which a university campus embodies a healthy workplace for its students, staff, and faculty, and to provide guidance on how to build or change workplace factors in order to improve the health of those on university campuses. We are analyzing the results of a survey (Knowledge Intensive Work Environment Survey Target) used by a Norwegian intervention program as a tool for promotion of psychosocial factors in the work environment. Visiting scholar and Norwegian University of Science and Technology professor Siw Tone Innstrand is working with HealthyWorkplaces to collect and analyze the survey data.

Designing for a Healthy Office

INVESTIGATORS: CAITLIN DECLERCQ, MAX PITTMAN, GALEN CRANZ, CRISTINA BANKS, ISABELLE THIBAU

The objective is to explore new ways of designing workspace from the perspective of psychological impact. HealthyWorkplaces hosts focus groups to gather information on what elements to build into work environments that will promote certain drivers of health and well-being.

How the Built Environment Supports Worker Health and Productivity

INVESTIGATORS: MAX PITTMAN, SALLY AUGUSTIN, CRISTINA BANKS

The objective is to summarize physical environmental factors within the built environment literature that impact employee health status and important organizational outcomes (e.g. creativity, performance).

Physiological Impact of Everyday Work Environments

INVESTIGATORS: JOHN SWARTZBERG, INES IVANOVIC

The project aims to explore the physiological effects of the workplace in the four domains of stress, physical activity, nutrition, and infectious disease. Connecting the existing literature in these four areas of health to behaviors, environments and situations in the workplace will illuminate how they can jeopardize or conversely how they may enhance the well-being of those involved.

FOR MORE DETAILS about ongoing and completed projects, visit our projects page -
http://healthyworkplaces.berkeley.edu/project/
The Leadership

Cristina Banks, PhD

Dr. Banks is Director of the Interdisciplinary Center for Healthy Workplaces. In collaboration with Dr. Sheldon Zedeck, Dr. Banks leads a team of 30 researchers spanning multiple disciplines and 20+ affiliates in collecting and integrating known scientific findings and creating new research programs to advance our knowledge in this area. Dr. Banks brings her 35 years of experience in consulting and studies of work and organizational processes to the Interdisciplinary Team.

Sheldon Zedeck, PhD

Dr. Zedeck, Associate Director of the Interdisciplinary Center for Healthy Workplaces, Professor Emeritus of Psychology and former Vice Provost of Faculty for UCB, has nearly 50 years of experience as an academic and practitioner focused on workplace issues. He has published research on a variety of topics including employment discrimination, work/life balance, performance management, and employment law compliance.

Isabelle Thibau, MPH

Isabelle Thibau is a Researcher for HealthyWorkplaces. Her interests lie in public health nutrition, physical activity, and in understanding lifestyle factors that affect health and human behavior. She leads several research projects and initiatives at the center. Formerly, Isabelle worked for three years for the National Institute on Drug Abuse as a policy analyst and science writer. She received her MPH at the University of California, Berkeley in 2016, and received her BS in Chemistry and BA in French from The College of William & Mary in 2011.

Max Pittman

Max is a junior researcher for HealthyWorkplaces and the Center for the Built Environment. He is a recent Berkeley Psychology graduate interested in how psychological well-being and performance can be improved by physical design interventions. His goal is to discover easy and efficient ways to improve spaces, and to create a new occupant-centered standard in office design. He is enrolled in a doctoral program at the University of Victoria beginning Fall 2017.

Pauline Simes

Pauline Simes is a fourth-year undergraduate at UC Berkeley studying psychology. She joined HealthyWorkplaces October 2016 as a research assistant. She has a particular interest in understanding how policy in the workplace can create a community of health and wellbeing, or lack thereof. Pauline is also research assistant for the Social Research on Healthcare group at UC Berkeley where she studies the trajectory of patients with complex chronic illness in the medical industry.
Interdisciplinary Team

The HealthyWorkplaces team members collaborate to develop and research the most effective workplace elements and practices that promote worker health and well-being. Team members also collaborate to integrate these elements for more effective and sustained positive outcomes in workers and organizations.

- Arthur Giacalone, PhD; Consulting Expert
- Michael Pearn, PhD; Consulting Expert
- Caitlin DeClercq, MS; UC Berkeley College of Environmental Design
- Isabelle Thibau, MPH; UC Berkeley HealthyWorkplaces
- Christina Maslach, PhD; UC Berkeley Department of Psychology
- David Lindeman, PhD; UC Berkeley Center for Information Technology Research in the Interest of Society, Center for Technology and Aging
- David Rempel, MD, PhD; UC Berkeley Department of Bioengineering; UCSF Department of Medicine
- Ed Yelin, PhD; UCSF School of Medicine
- Gail Brager, PhD; UC Berkeley College of Environmental Design, Center for the Built Environment
- Galen Cranz, PhD; UC Berkeley College of Environmental Design
- Gervais Tompkin, AIA, LEED AP; Gensler
- Jane Mauldon, PhD; UC Berkeley Goldman School of Public Policy
- John Swartzberg, MD, FACP; UC Berkeley School of Public Health; UCSF School of Medicine
- Ken Jacobs; UC Berkeley Labor Center
- Kristine Madsen, MD, MPH; UC Berkeley School of Public Health
- Laura Stock, MPH; UC Berkeley Labor Occupational Health Program
- Max Pittman; UC Berkeley HealthyWorkplaces
- Sally Augustin, PhD; Design with Science
- Siw Tone Innstrand, PhD; Norwegian University of Science and Technology
- Stefano Schiavon, PhD; UC Berkeley Center for Built Environment
- Stephen Shortell, PhD, MPH, MBA; UC Berkeley School of Public Health
- Sylvia Guendelman, PhD, MSW; UC Berkeley School of Public Health

Conference Presentations


June 7-10, 2017. Cristina Banks, Isabelle Thibau, Caitlin Declercq, Siw Tone Innstrand and Sally Agustin presented at the 2017 Work, Stress, and Health Conference in Minneapolis, MN.

Upcoming Conferences

October 3-6, 2017. Cristina Banks will present at the Seventh International Conference on Health, Wellness, & Society with a focus on New Directions in Health and Wellness.

October 9-13, 2017. Cristina Banks will present at the HFES 61sts International Annual Meeting.

October 25-57, 2017. Cristina Banks, Caitlin Declercq, and Isabelle Thibau will present at the Understanding Small Enterprises Conference which focuses on Worker Well-Being and Sustainable Business Health.

November 5-7, 2017. CoreNet Global Summit. The 2017 CoreNet Global Summits will explore ways you can transcend traditional boundaries through divergence.
Affiliated Center Updates

**The Center for Information Technology Research in the Interest of Society**

Two UC Berkeley undergraduates recently won the Win Lemelson MIT student prize for their creation of an open-source smart add-on system for wheelchairs. An article on the award can be found here: [http://citris-uc.org/uc-berkeley-undergraduates-win-lemelson-mit-student-prize/](http://citris-uc.org/uc-berkeley-undergraduates-win-lemelson-mit-student-prize/)

**Institute for Research on Labor and Employment (IRLE)**


**Center for Occupational and Environmental Health (COEH)**

On Thursday June 29th COEH hosted a course titled: E-Cigarettes: Policy, Toxicology, and Occupational Health and Safety. The goal of the course is to understand the current landscape of e-cigarette use and policies, identify toxicological of e-cigarettes, and develop an understanding of worker health and safety in these occupational environments. To register for the event, visit [https://www.coehce.org/CourseStatus.awp?&course=17JH Fo62q](https://www.coehce.org/CourseStatus.awp?&course=17JH Fo62q)

In addition, COEH will host a conference titled: New Exposure Assessment Methods in Ergonomics on July 10th and 11th from 8 AM – 5PM. More information here: [http://coehce.org/ergonomics.html](http://coehce.org/ergonomics.html)

**Labor Occupational Health Program (LOHP)**

Jacqueline Sullivan of LOHP recently released an article on the effects of the minimum wage increase in Fresno California. Sullivan discusses the positive and negative consequences of the policy change. The article can be found here: [http://news.berkeley.edu/2017/02/13/research-zeroing-in-on-fresno-shows-15-california-minimum-wage-has-big-impact-on-pay-none-on-jobs/](http://news.berkeley.edu/2017/02/13/research-zeroing-in-on-fresno-shows-15-california-minimum-wage-has-big-impact-on-pay-none-on-jobs/)

**Center for the Built Environment**

In early May, CBE organized a panel on “Technologies that Enhance Occupant Experience” at CBE’s industry advisory board meeting. The meeting posed the question of whether controlling indoor spaces with mobile devices is the future of human experience indoors. One of the panelists, Chris Pyke, posted a blog about the topic, which can be found here: [https://blog.aclima.io/apps-vs-infrastructure evidenced](https://blog.aclima.io/apps-vs-infrastructure evidenced)

**The Berkeley Food Institute**

The Berkeley Food Institute has published the Foodscape Map! This map provides a snapshot of all food-related initiatives on campus, compiling and showcasing the history, outcomes, and future potential of: UC Berkeley teaching, student and faculty research, student organizations, administrative decisions and initiatives, and dining services and procurement. The map also traces the evolution of food studies and food-related initiatives at UC Berkeley in an effort to highlight opportunities for equity-oriented change and meaningful, diverse engagement. The map can be found here: [https://food.berkeley.edu/foodscape/map](https://food.berkeley.edu/foodscape/map)

**Nutrition Policy Institute**

Pat Crawford and Wendi Gosliner of the Nutrition Policy Institute have penned an op-ed urging changes in public policy to address the threat of caffeine in energy drinks, after the death of a teen last month from over-consumption of caffeine. The op-ed appears in the *Washington Post*, and states: “The government must take steps to reduce caffeine levels allowed in energy drinks; to clearly provide recommendations on safe caffeine consumption for children and adolescents; to ban the marketing of energy drinks to young people of all ages; and to help educate the public on the health risks of high caffeine intake.” This topic of caffeine is even pertinent in the workplace, where some places may offer a bottomless supply of energy drinks. Link to the article here: [https://www.washingtonpost.com/opinions/energy-drinks-are-killing-young-people-its-time-to-stop-that/2017/05/25/6343be9c-3ff8-11e7-9869-bac8b446820a_story.html?utm_term=.29d184632ca](https://www.washingtonpost.com/opinions/energy-drinks-are-killing-young-people-its-time-to-stop-that/2017/05/25/6343be9c-3ff8-11e7-9869-bac8b446820a_story.html?utm_term=.29d184632ca)

**The Berkeley Population Center**

Kristen Harknett and Danny Schneider of The Berkeley Population Center recently received a grant from the Department of Labor to study the effects of city ordinances designed to regulate scheduling practices. Additionally, they have a recent award from the Robert Wood Johnson Foundation that looks at the health effects of these practices more broadly. Danny Schneider has grants that are supporting our work on unstable and unpredictable scheduling practices in the retail sector and the effects of exposure to those practices on worker health and wellbeing.
HealthyWorkplaces is completely self-supporting. We depend on donations and grants to enable our work. We need further support to continue our research activities and public outreach. Please join our team of supporters!

Your gift supports the research and work of HealthyWorkplaces, such as:

- Graduate student assistantships to help members of the Interdisciplinary Team on cutting-edge research studies on different aspects of the HealthyWorkplaces Model
- Mini-conferences of subject matter experts to share state-of-the-art knowledge in their respective fields and to work together on implications for practice
- Publishing papers and guides to inform the general public of new ways of promoting health and well-being in the workplace
- Stakeholder “mixers” to promote information exchange and facilitate new relationships around mutual interests

HealthyWorkplaces operates independently as a non-profit under the banner of the University of California. Contributions to HealthyWorkplaces are fully tax-deductible.

Give online using your credit card: healthyworkplaces.berkeley.edu/donate
Checks should be written to "Regents of the University of California" with "ICHW" on the notes line. Donations should be mailed to:

HealthyWorkplaces
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50 University Hall, #7360
Berkeley, CA 94720

If you would like to become a corporate member of HealthyWorkplaces, please contact us at healthyworkplaces@berkeley.edu.

Thank you contributors for the kind support:
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