Experts: In wake of COVID-19, employers must make offices healing spaces

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The COVID-19 pandemic emptied many offices, and there are some indications the exodus isn't temporary. The American Psychological Association points to a 2020 survey by PwC that shows more than half

of U.S. employees expect to continue working from home at least one day a week.

So, what does that mean for employers? University of Arizona researchers Altaf Engineer and Dr. Esther Sternberg have some ideas and have come up with a roadmap to help companies rethink their office spaces in ways that could make workers happier and healthier.

Sternberg, a professor of medicine and member of the university's BIO5 Institute, is a leading expert on how the spaces where we live and work can reduce stress and enhance overall health and well-being. She holds the Andrew Weil Chair for Research in Integrative Medicine and is the research director for the Andrew Weil Center for Integrative Medicine. She also is founding director of the university's Institute on Place, Wellbeing & Performance, a partnership that includes the Andrew Weil Center for Integrative Medicine, the College of Medicine—Tucson and the College of Architecture, Planning and Landscape Architecture.

Engineer is an assistant professor of architecture and a faculty member in the Institute on Place, Wellbeing & Performance, as well as faculty adviser for the Master of Science in Architecture program's health in the built environment concentration.

The two researchers are the lead authors of a new paper that aims to be the go-to guide for architects, planners and others in the building industry for designing spaces that help improve people's emotional well-being and physical health. The paper, now published online, will appear in the November print issue of the journal *Building and Environment.*

Based on established research in the field of integrative medicine and integrative health, the paper proposes a seven-domain framework—developed at the Andrew Weil Center for Integrative Medicine—for designing the built environment for well-being. The work

draws on Sternberg's studies with the U.S. General Services Administration, which showed that office space layout can encourage a person to move more and, in turn, reduce stress and improve sleep. The paper cites many other studies, such as those showing the sleep-improving effects of natural light, the well-being benefits of nature and the health benefits of proper building air circulation, which can improve cognitive functioning and reduce fatigue by reducing pollutants.

"The built environment strongly influences behavior, especially behavior that determines health," said Dr. Andrew Weil, founder and director of the Andrew Weil Center for Integrative Medicine and the Lovell-Jones Endowed Chair in Integrative Medicine. "The framework we describe for embedding integrative health into the built environment is even more important now, for post-COVID re-entry, to help keep people resilient and enhance mental health and well-being. This is the next frontier of integrative health."

Engineer and Sternberg make the case that by fostering integrative health practices, a thoughtfully designed built environment can help make people more resilient to infections, including viruses such as coronaviruses. They say the pandemic has forced companies to rethink the role of offices in employee health and well-being and to prioritize designing for well-being.

The paper's other UArizona authors are Weil; Dr. Robert Crocker, director of strategic clinical planning and implementation at the Andrew Weil Center for Integrative Medicine; and Dr. Victoria Maizes, executive director of the Andrew Weil Center for Integrative Medicine.

Q: Your paper aims to connect seven established core areas of integrative health—sleep, resiliency, environment, movement, relationships, spirituality,

and nutrition—to the built environment. Why is this important now?

Sternberg: This paper is a merging of two fields: integrative health and the built environment. The concept of designing the built environment for physical health and emotional well-being has been around for decades but wasn't really the focus across all design fields until very recently. COVID shone a very bright spotlight on designing for mental health because in the wake of the pandemic, there is a pandemic of mental health, of stress, of anxiety around the world. The built environment can play a very important role in reducing stress and enhancing all those elements of integrative health.

Engineer: Design professionals need more guidance as to how to connect these integrative health domains to actual built environment outcomes. There's a lot of confusion out there and there's a lot of information out there about what you should or shouldn't do, so we need a scientific framework to present to architects, researchers and people in the industry that shows how to actually implement these measures. That's what the article does. COVID-19 efforts have been focused on mitigation so far. As we say in the article, pandemics have occurred before; there's one right now and there will be more in the future, unfortunately. We don't have to wait for a pandemic to make these changes.

Q: How has the pandemic changed the way employers think about physical workplaces?

Sternberg: I can't tell you how many companies I started conversations with pre-pandemic about implementing various approaches to designing for well-being, and there was no traction. It didn't go anywhere because it was not a business priority. Post-pandemic, organizations all around

the world are asking this existential question: "Why do we need to go into work? Why do we need to all work together at the same time when we can work effectively remotely?" The pandemic is forcing changes in design of the workplace to attract people back to the office. Social interaction is key, and there is a lot of thought going into figuring out how to design the workplace to enhance social interactions, while at the same maintaining distancing to reduce the risk of transmitting the virus.

Q: How does chronic stress affect the immune system's ability to fight infections such as coronaviruses? And how can the built environment affect stress?

Sternberg: It's important to not give the impression that by designing the built environment a certain way, you're going to prevent all viral infections. You're not. But there is no question that chronic stress can make you more prone to more frequent and more severe viral infections. In the field of stress and illness, there's a concept called allostatic load: Imagine if when you wake up in the morning, you have an empty sack on your back, and with every single stressor you put in the sack—little or big—by the end of the day, you're weighed down with this heavy sack of stressors. That's what makes you more likely to get sick if you are exposed to an infectious agent.

To the extent that we can design the built environment to reduce that daily load of stress on the body, that can help people in that built environment be more resilient. It is estimated that Americans spend over 90% of the day indoors. Since you're spending that much time indoors, if that built environment is contributing in any way to your stress levels, that is very important. If you can design that built environment to reduce stress and enhance well-being, then it can help make the occupants more resilient and be less affected if and when they are exposed to a virus.

This, coupled with appropriate ventilation to reduce viral spread, does make the built environment a very powerful viral deterrent.

Q: You write in your paper that pandemics and other public health events have changed the way architects and planners design cities. What changes are already occurring, or do you foresee as a result of COVID-19?

Engineer: There are going to be changes related to public transportation because of the risk associated with that during a pandemic. At the same time, mass public transportation seems to be the way of the future, so what we consider at the building scale also applies to, for example, a New York City subway car. Also, the density of major U.S. cities is steadily increasing, as the recent Census has indicated. While cities are getting denser, a question planners have to answer is how do you implement public health measures such as physical and social distancing and design public spaces that people feel comfortable using at the same time? Public spaces and activities and spaces are so integral to the functioning of a city and the well-being of the people who live there. You can't just say, "Cities are not going to be dense anymore." There needs to be built environment measures to reduce these risk factors. I don't have all the answers right now, but I am certain it can be done.

More information: Altaf Engineer et al, An integrative health framework for wellbeing in the built environment, *Building and Environment* (2021). DOI: 10.1016/j.buildenv.2021.108253

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