# The Workspace Nudge™
for Well-Being

In this paper, we show how office design features, interior architecture, furnishings, and technology can be designed to "nudge" people towards behaviors and decisions that reduce stress and positively influence their well-being. The potential to leverage workspace to prevent health problems and promote well-being could improve the lives of millions of people and reduce costly healthcare expenses for people and organizations.

Workspace Design Can Be Used to "Nudge" People to Well-Being

Corporate wellness programs have long been in place to improve the physical health of employees. But there are three problems with wellness programs. First, they address existing health or behavioral issues (such as obesity, diabetes, smoking, depression), rather than preventing them. Second, these programs target specific health issues, rather than the whole person. And third, the money invested in wellness is simply wasted. These programs are used by only a fraction of the typical workforce, offer a poor experience, and don't provide a return on the investment of wellness dollars for improved health metrics.

While wellness is largely about fixing the existing physical health issues of the employee, well-being addresses the whole person— the intersection of physical, cognitive, emotional health, and social context. A well-being approach is proactive in that it seeks to "nudge" people to maintain and promote healthy decisions and behaviors through policies, programs, work culture, and workspace design.
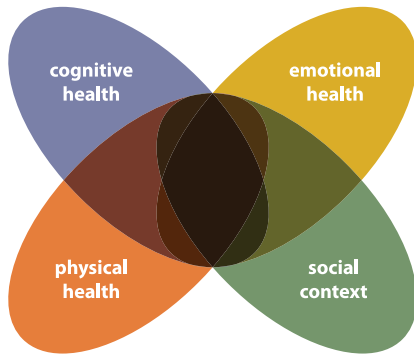
A significant body of research shows that well-being is directly and indirectly affected by many features of the physical office environment.[1] This research also shows that work stress is the single biggest enemy of well-being. People spend most of their lives indoors and spend all their work lives enclosed within buildings between 45-60 hours each week.

47-60 hours

average time per week **AT WORK**

work   sleep   other
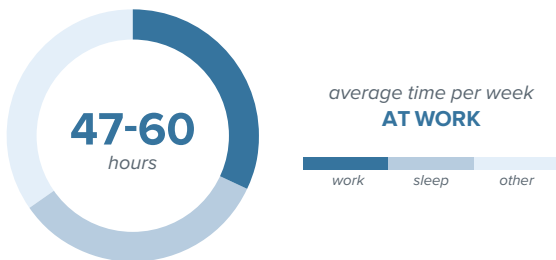
Thus, it is critical to understand how office workspace design can reduce work stress. This is where the role of the Workspace Nudge comes in. [2]

Insurance and Healthcare Costs Will Become Unsustainable

Business organizations collectively spend $43 billion per year on employee wellness programs. The problem is that corporate wellness programs and training are too narrowly focused. They are designed to address existing physical and mental health conditions and foster behavioral change (such as smoking cessation and weight loss) through amenities and programs (e.g., workout rooms, recreational and accident prevention training). Meanwhile, insurance costs and the percentage of the population with chronic conditions escalate every year. In fact, every dollar of increased GDP productivity generated in the United States since 1994 has been completely absorbed by increased healthcare spending. For many occupations, wages have remained stagnant because of the size of the annual increase in healthcare spending for employees. Companies spend these extra annual dollars on increased insurance costs instead of larger pay raises. The oft-reported statistic of a 3:1 return on investment in dollars spent on wellness programs and resulting health savings is simply not true. At some point in the not-too-distant future, healthcare costs to businesses, institutions, and our economy will become unsustainable.

a promised payback of **$3 FOR EVERY DOLLAR SPENT**

to back these claims

We Need to Refocus from Wellness to Well-Being

The wellness problem needs reframing from the current approach, which narrowly focuses on existing health conditions, to well-being, which is a holistic consideration of the state of the whole person: cognitive, emotional, and physical. The whole person, not just the employee, comes into work each day, along with the entire fabric of their life. The notion of well-being also includes family and community context, organizational culture, and leadership that emphasizes well-being as an actively sought goal. As we define it, well-being is a state that drives other desirable outcomes such as increased employee engagement and performance, lower physical and psychological stress, greater happiness, a meaningful work life—and physical health.

Stress is the Biggest Obstacle to Well-Being

The largest cause of stress in most people's lives is work. In fact, work stress-related disease is the fifth leading cause of death in the US.[3]
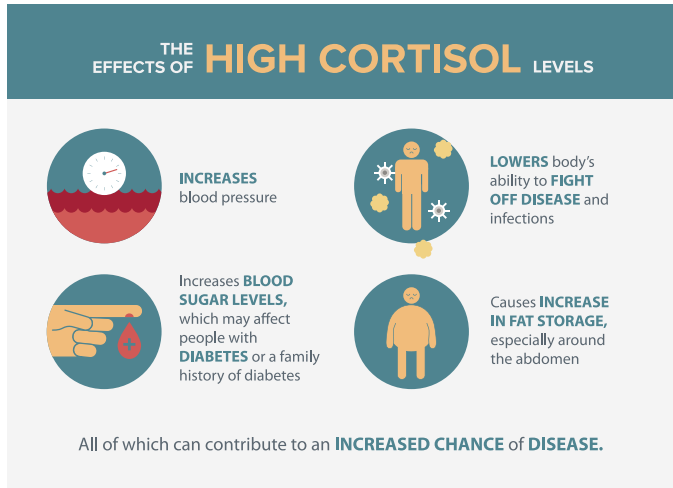
Stress is such a dangerous threat to well-being because it triggers the release of cortisol, a hormone. The adrenal glands release

1   O'Neill, 2007, 2010.

2   Miller, Williams, and O'Neill, 2018; Parsons et al, 2012.

3   Pfeffer, 2018.

this hormone in response to fear or stress as part of the "fight-or-flight" mechanism. Cortisol is now thought of as "the gateway to disease" in the body, related to an expanding array of diseases and mental and physical health issues. To name a few, elevated cortisol levels increase coronary heart disease, interfere with learning and memory, lower immune function, and increase weight gain, blood pressure, and cholesterol levels. Chronic stress and elevated cortisol levels also increase risk of depression; mental illness; risky behaviors such as a sedentary lifestyle, lack of exercise, overeating, and alcohol and drug abuse. These are all issues directly related to well-being.

THE EFFECTS OF HIGH CORTISOL LEVELS

INCREASES blood pressure

LOWERS body's ability to **FIGHT OFF DISEASE** and infections

Increases **BLOOD SUGAR LEVELS,** which may affect people with **DIABETES** or a family history of diabetes

Causes **INCREASE IN FAT STORAGE,** especially around the abdomen

All of which can contribute to an **INCREASED CHANCE** of **DISEASE.**

By the way, not all stress is bad for you.[4] Good stress (eustress) at work increases your body's arousal and can invigorate you to achieve a specific work goal. Cortisol levels return to normal upon completion of the task.[5] Bad stress (distress) is ongoing and does not use the cortisol released into the body, which then remains in circulation for about twenty-four hours.

Jobs Have Implicit Designs that Influences Stress

Like buildings and workspaces, each job or role at work has a "design," intentional or not. Two aspects of job design—work demands and job control—influence the amount and type of stress experienced for that occupation.[6] In general, jobs with high demands (cognitive workload) and low control (decision making, autonomy, pace of work) are high in "bad" stress. Today, some of the highest stress (office work) occupations are call center agent, event coordinator, and newspaper reporter. Some of the lowest stress jobs (as of this writing) include diagnostic medical sonographer—the least stressful job in the US— compliance officer, university professor, and some engineering professions.

Workspace Design Can "Nudge" People to Reduce Stress

People spend 90 percent of their lives indoors, surrounded by four walls and a ceiling. And as adults we spend most of our waking hours at work, between 47 to 60 hours per week, on average.
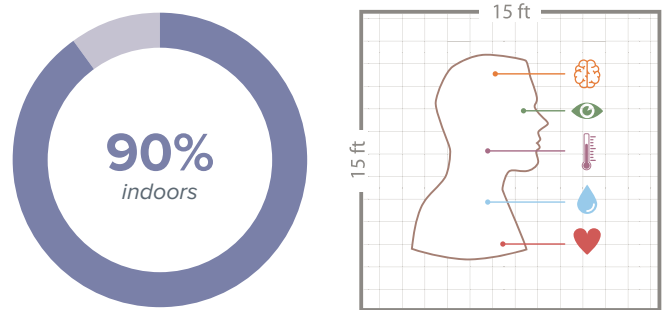

A Nudge Story

The intention of a nudge is to make it easy for people to "make the best decision." As an example, behavioral economist Richard Thaler was involved in a project to improve participation in 401k (retirement) plans. He redesigned the policy from the original "opt-in" plan, which required people to enroll and specify deductions and investments, to an "opt-out" plan, automatically enrolling new employees in 401k plans making minimum contributions. This nudge drastically increased the percentage of employees in the US that have become participants in retirement plans. This change in policy was easy to engineer, inexpensive, and it did not eliminate anyone's choice options. Staying in was simply the easier choice, a choice that has benefitted many people.

Therefore, if we can design interior workspaces to reduce stress, the space itself could passively act on employees to influence their well-being *every moment they are in the building.*

In our research, and through that of others, we discovered capabilities in the furnishing and design of office space that can "nudge" people towards work behaviors and activities that can lower stress and improve health, performance, meaningful work, sense of well-being, and even happiness.[7] Before we describe those capabilities, let's explore the concept of the "nudge."


90%
indoors

15 ft

15 ft

"Work stress is the enemy of well-being. We can improve well-being by designing workspaces to reduce stress."

– Dr. Mike O'Neill

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4   Selye, 1974.

5   Selye, 1955.

6   Habibi, et. al., 2015; Collins, et.al., 2005.

7   O'Neill, 2017; Evans, 1982.

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What's a Nudge?

Richard Thaler, a 2017 Nobel prize winning economist, published his influential book, *Nudge,* in 2008.[8] The book criticized the assumption that people make rational decisions when it comes to major financial or life choices, whether buying a car, saving for retirement, or choosing a career. Most traditional economic models that attempt to predict decision-making assume that people make completely rational choices; they always make the most financially advantageous decision. It turned out that these "rational choice" models omitted the psychology of people and thus were not very good at predicting choice and behaviors, or for shaping public policy.

Policy Nudge

Workspace Nudge
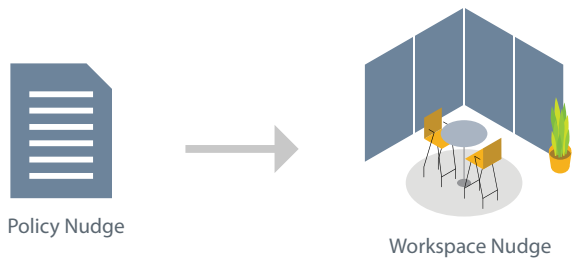
To address this problem, in the 1970s Thaler and his peers founded a new branch of the science, behavioral economics. Putting people back into the economic equation, along with the psychology of their often-irrational choices, improved the accuracy of economic choice models. They began to apply what they learned to government policy, to help people make better decisions. Their approach used the idea of "choice architecture," that is, designing a structured situation to "nudge" people to make the best choice. Their approach does not eliminate choice options; they simply create nudges that make the "better choice" the easier and most attractive alternative.

Three Simple Rules for Designing an Effective Nudge

1. The nudge should be cheap and easy to implement. It should not require significant investment or add complexity or time to a situation.

2. Nudges can be for good or bad. Candy placed at the checkout line of a grocery store is a bad nudge. Fruit placed at eye level for easy reach (and candy placed in a less convenient or even hard-to-find location) creates a good nudge.

3. A nudge is not a rule; it cannot eliminate a choice from a situation. Putting candy in a less accessible spot is a nudge; eliminating the sale of candy is not a nudge. When you are designing a nudge for good, you should be confident that the nudge will lead to a healthier choice.

Environmental Control and Legible Space Can Provide Healthy Nudges

It is a wonderful small irony that Richard Thaler used the term "choice architecture" in designing nudges, since we are now

applying his concept to *interior architecture*. Two key capabilities that provide nudges and increased choices for well-being, leading to lower stress, are **legible space** and **environmental control.** Both capabilities have an extensive body of research showing links to reduced psychological and physical stress symptoms.[9]

Legible
space

User
control

Together, legibility and environmental control can be used to offer a subtle "push" that increases the chance for healthy choices by people and groups. Another benefit is that a Workspace Nudge is equally available to every employee using the space and affects (or nudges) them every work day in the building. The positive effect continues long after the investment in workspace has been made—for as long as the space remains in use. This is a distinct advantage over traditional "wellness" programs that address a narrow range of physical health issues, are not equally available (and only used by 15% of workers) to everyone in a workforce, and require ongoing financial resources.

The Environmental Control Nudge

Environmental control is the capability of individuals, groups, or entire organizations to modify features of the physical workplace and choose location, time, and how to work to better support their work needs and business goals.[10] The concept of environmental control includes: knowledge of how to act on capabilities that provide control (through programs and training), policies that support control through choice of location and time of work, and design characteristics of the workspace and technologies that enhance control. Put in behavioral economics terms, environmental control expands the number of positive "choice architecture" options within the workspace. The presence of these features, and knowledge of their availability and use, can nudge people to make healthy and productive choices in their use of the space.

A growing body of research shows strong beneficial links between the degree of environmental control and outcomes, such as: psychological stress, group and work performance.[11] These studies show that the benefits of environmental control transcend age, generational affiliation, gender, and other demographic characteristics.

Control nudges can be provided through a wide variety of architectural, interior, and furniture design features and workspace options (such as flexible meeting spaces, movable partition walls, unassigned workspaces and lounge areas, movable storage units, seating, adjustable shelving, task lighting, monitor arms, etc.).

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8   Thaler and Sunstein, 2008.

9   O'Neill, 2007; 2010.

10   O'Neill, 2010; 2014.

11   O'Neill, 2007.

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Technology options enable people to work from a wide variety of locations and times. Training can nudge employees with knowledge of how to modify workspace features or make good choices about which spaces to use. Workplace management policies and programs can provide employee choice over the time and location of their work; guidelines can nudge workers by reinforcing "permission" of employees to make those choices.

Environmental control provides a means of self-managed change to workspaces and furnishings that is direct and immediate; people can modify features themselves or take advantage of different locations to work when needed—based on feedback about ongoing business and work process demands and goals.[12] Ideally, workspace furnishings and work tools can be adjusted or modified without costly and time-consuming formal workplace redesign projects and with minimum facility management resources.

Control nudges can be created at three levels: Organization (facility: entire organization or business unit), Group (meeting spaces: team and share work modes), and Individual (workspace: focus work mode).

1. **Organization** – Examples at the organization level include: policies and spaces that offer employee choice over time and location of work, mobility programs with unassigned workspaces, and architectural design features that support expansion and reuse of space as needed. Site selection can play a role in offering healthy nudges. For instance, select a site that can promote walking with outdoor trails. In more urban areas, choose a walkable neighborhood for the office site. Include pedestrian amenities along outside paths: benches, movable chairs and tables, and access to drinking water. To promote a more active lifestyle and transportation choices, offer showers and bike racks as a nudge.

2. **Group** – Give groups more control through improved choice over interaction setting. Provide a variety of types, sizes, and locations of meeting spaces, and group reservation software to make the choice easy. Within the spaces, flexible furnishings provide a visual nudge to let people arrange the setting to fit the work as needed.

   Social interactions and connection need to be supported at work. Options for settings that reflect group size and nuances from formal to completely casual can be a nudge for people to select the space that best supports more formal work interactions or social cohesion. **Conveniently located small meeting spaces** near individual workspaces can nudge people to take a short healthy walk to the meeting location. **Social and interaction spaces** (café, lounge) located on main circulation routes, or in prominent locations within the building, can nudge workers to take a break, interact with a work friend, and take a moment to recharge—all healthy behaviors.

3. **Individual** – Some examples of workspace features that provide control at the individual level include: flexibility/adjustability of furniture (seating, tables, tackboards, whiteboards, monitor arms, and lighting), tools to organize work materials, ease of adjustment of storage and display features, and ease of rearranging furnishings and work tools. **A height-adjustable table** coupled with technology can nudge workers to vary their position throughout the day. Varying posture during the day improves circulation and can reduce risk of musculoskeletal injury. **Move storage out of the individual workstation** and into a common area with lockers, or shared storage, which also provides a surface to

Private, heads-down work zone

Large, informal collaboration space

Project room for large groups

Quick collaboration zones

Semi-private meeting space in common area

12   O'Neill, 2010; 2015.

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support small, quick, unplanned meetings. This will nudge people to get up and move to retrieve or replace items and reinforce social connections with casual interactions in the shared storage area.
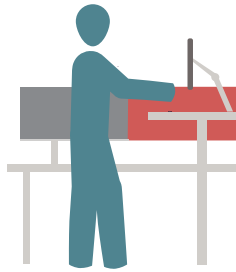
Fundamentally, environmental control is about improving the quality of the "choice architecture," the invisible architecture of the workspace. It gives people more and better choices over how and when they use the physical workspace in pursuit of their work goals. Thus, we see environmental control as a key nudge that organizations should invest in to enhance their competitive advantage.

Legible Design Nudges

Legibility can be "designed in" to the office space by offering a floorplan layout that is easy to understand and learn, landmarks that help people orient themselves, visual access within the space and outside to landmarks, zones that serve as supersized landmarks

and reinforce group identity, signage that guides people with information about the intention and use of the space, and spaces whose intention is clearly communicated through design.

Six Elements of Legible Design

1. **Plan Configuration** – The floorplan layout of a legible office space should be clearly organized in terms of the paths created by walls and furnishings. Think of these paths as the main streets and side streets of an urban landscape. Plan configuration of the space can affect ease of understanding of space layout. Highly irregular path layouts can be confusing, and too many paths crossing, forming intersections, can offer too many decision points—leading to confusion and problems getting lost. The form of the paths, like the streets of a city, should let people create a "mental map" of the layout and find any location within the building, even with limited experience within the space.[13] In terms of design, the layout of the office should set up a predictable rhythm that makes it easy for people to learn, or easily guess, how to navigate[14] from one location to another, or where a desired space type or resource might be found.

   A rigid grid layout is not the answer. For instance, a "cube farm," where the floorplan is laid out with monotonous regularity and no landmarks, means that every location looks the same, forming a disorienting maze. On the other hand, overly complex layouts can suppress desirable movement of workers between workspaces, increase wasted time, and reduce employees' sense of control.

Legible workplace design includes:

clear *graphics/signage* for navigation

effective use of **landmarks**

architectural differences in the space and furnishings that indicate its function

easily identifiable **plan configurations**

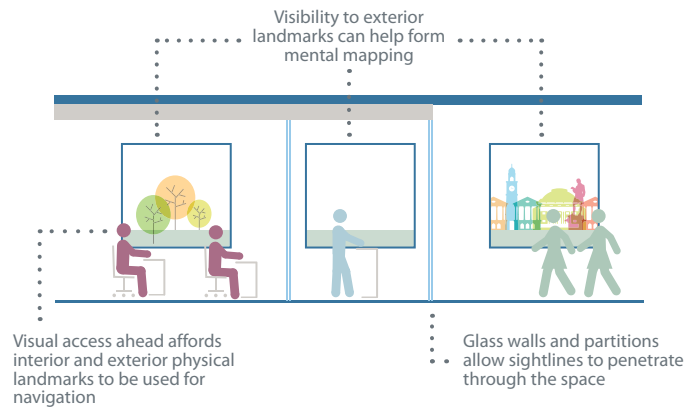**visual access** to landmarks

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13   Weisman, 1981.

14   Evans, 1982.

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There is a significant amount of research showing that legible plan configuration can reduce stress. A legible plan configuration reduces the number of choices a person must make while navigating a space and increases the chances of making the correct wayfinding choice. When good plan configuration is combined with the other elements of legibility, it can create a space that fosters well-being.
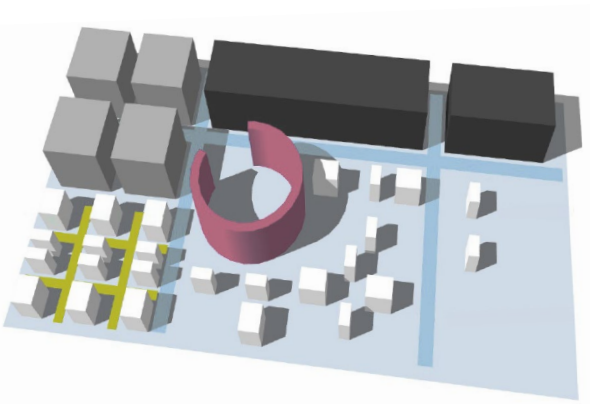

2. **Landmarks** – Landmarks serve as important physical cues about locations within the building. Significant interior features such as a café, a wall area with a contrasting color or artwork, or other elements can act as landmarks upon which people can anchor themselves in space. **Highly visible, centrally located stairs** can nudge people to healthy outcomes in two ways. First, by forming a landmark that improves the legibility of the space; and second, to offer a visual nudge to take the stairs instead of elevators. Elevators should be placed in a slightly less conspicuous location (though not unsafe, and meeting code requirements). Another option in an existing space is to slow the response speed of the elevators as a nudge for people to use the stairs—the quicker option.

3. **Visual Access** – Visual access allows people to see ahead to landmarks or other areas for navigation and improved wayfinding, which reduces stress. Having workstations with low horizons and avoiding architectural elements that may block visual access to the building core can help to open the space. Visual access outside the space through windows can give people sightlines to elements outside the facility that act as landmarks for orientation as they move through the space. Views to the outside from workspace locations can also nudge workers to take visual breaks from the close work at hand, to take a moment to refocus their eyes to a distant object or view out the window.

4. **Zones** – Zones are like "super-sized" landmarks—large areas within a building that are visually distinct in some way, such as wall or floor color or materials, or interior architectural features. A zone can be a unified color scheme that identifies an entire department or a similar look and feel of a large area of space. Zones not only help people understand their location within the building, but they also provide a nudge

towards stronger group identity and social cohesion (big stress reducers) for departments or teams through carpet or wall colors that visually define an area of the building.

Visibility to exterior landmarks can help form mental mapping

Visual access ahead affords interior and exterior physical landmarks to be used for navigation

Glass walls and partitions allow sightlines to penetrate through the space

5. **Signage and Graphics** – These elements can provide information about people's location (including directions to resources or other important areas) and **nudges about intended use of spaces** or behavioral expectations for the use of a space.
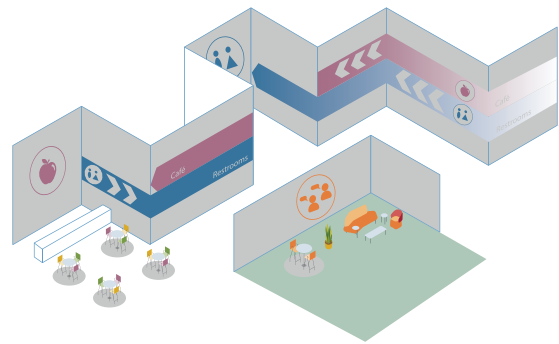
6. **Intention of Space** – If the intended use of a space is ambiguous (such as quasi-social work areas like café spaces, lounge areas, etc.) people will avoid using them or waste time trying to figure out how to use the space and furnishings. The **space design, the furnishings selected, and their arrangement should nudge people about the intended use of the space** and help them make the best choice for the type of work or social activity the space can support.

Healthy Nudges for Cafeteria Spaces

1. **Do not remove vending machines with unhealthy content** (candy bars, soda). **Instead, add machines with healthier options** such as bottled water, fruit, and other low-sugar snacks. Install vending machines with junk food that require change and other cash, and machines with healthy options that accept credit cards (which are much handier to use). And, locate less healthy food source options in slightly less convenient locations. Place a full-length mirror next to junk

food vending machines and a sticker reading "Each item = 20 minutes of exercise." All these nudges do not reduce choices but make it more likely that people will make healthier food choices.

2. **Use taller or smaller containers for food and drinks.** Taller (and thinner) containers look like they are holding the same volume as a standard container.

3. **Keep the salad bar open all day** and close less healthy food sources after lunch.

4. **Display healthy foods in the cafeteria at eye level;** make desserts harder to reach or in places that require asking staff to access.

5. **Offer free water as the default beverage** in inexpensive or free cups.

Organizations typically develop plans for workspace design, technology applications, training, programs, and policies in isolation, which does not take advantage of the potential to create the reinforcing effect of a variety of nudges (all aimed at reducing stress and enhancing well-being). If all these potential sources for nudges are developed together in a holistic manner, it could greatly increase the well-being of workers. Remember, workplace nudges act on employees every hour of their workday.

The journey that started ten years ago with Thaler's "choice architecture" is now moving rapidly into the world of workspace design. A simple, inexpensive Workspace Nudge approach can impact the performance and well-being of 160 million American office workers every day of their work lives—and put the population of working people back on a journey to true well-being.

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Haworth research investigates links between workspace design and human behavior, health and performance, and the quality of the user experience. We share and apply what we learn to inform product development and help our customers shape their work environments. To learn more about this topic or other research resources Haworth can provide, visit www.haworth.com.

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