

Chapter 1

Eudaemonic Design to Achieve Well-Being at Work, Wherever That May Be

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ABSTRACT

The concept of eudaemonia originates from neo-Aristotelian philosophy and is associated with human flourishing. Self-determination theory, a means to attain eudaemonia, is examined here as a foundational approach to drive Eudaemonic Design--a novel design strategy that aims to achieve holistic physical, mental, and social health, or eudaemonic well-being. This chapter advances Eudaemonic Design as an architectural and organizational approach to create healthful work environments that support employee and business flourishing. The authors argue that the importance of adopting Eudaemonic Design has grown in need and complexity as work is (re)shaped by the constraints and opportunities presented by the pandemic. By contrasting dominant pre-COVID-19 Work from Office expectations against the post-COVID-19 Work from Anywhere model, this chapter explores the application of Eudaemonic Design to deliver holistic workplace well-being, rather than single variable health and wellness alone, now and into the post-COVID-19 future of work.

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INTRODUCTION

In early 2020, design for health became a global priority as the world encountered the COVID-19 pandemic. This reprioritization prompted significant shifts in how and where people live and work (Boland et al., 2020; Thompson, 2020), which in turn highlighted the need to consider the physical, mental, and social dimensions of the places people work, rest, and play (WHO, 2020). This change also precipitated a shift in the range of locations considered legitimate workplaces. Indeed, wherever people worked became their place of work, including their homes. Conversations quickly transitioned from encouraging acceptable levels of health support in homes (Walsh, 2019) and offices (Caramela, 2018; Daum, 2017) to creating environments that not only sought to limit the spread of the disease (CDC, 2020) but also were attentive to meeting physical, mental, and social health needs (Khazan, 2020; Pirschel, 2020; Shade, 2020; Spangler & McLeod, 2020; Weed, 2020). As more homes and non-office environments became workplaces, what was originally envisioned as a temporary strategy quickly morphed into a new reality requiring a sustainable long-term plan. Attention logically shifted toward ensuring that these new places of work were health-protective (Work in Mind, 2020) and health-promoting (Taysom, 2021). This chapter explores the importance of workplace wellness in a Post-COVID-19 world and the contribution of the built environment in promoting wellness at work in the context of these changes.

The challenges and opportunities presented by the global COVID-19 pandemic and its impact on the spatial and temporal dimensions of work and working provide the chance to fundamentally shape understandings of achieving well-being at work. Whether workers find themselves continuing to work from home, returning to work from their Pre-COVID-19 office, or working from a “near home” office, public, or shared coworking place (Ashworth & Martinuzzi, 2020), workplace wellness remains an important consideration for employers. However, despite this recognized significance and push for supporting policy (Timm et al., 2018), there have been few concrete suggestions on how to achieve these aims. A proactive approach to designing for an optimal balance of the World Health Organization’s three aspects of health (physical, mental, and social health) (WHO, 2020) is needed—one that puts people first and balances their needs for health and happiness via enhanced well-being. By focusing on designing for the well-being of workers, their workspaces, and their workplaces and the intersection of human, technical, and socio-technical factors, Eudaemonic Design is proposed as a design solution to enhance physical and digital work environments and improve wellness of workers and the organizations in which they work.

This chapter commences by discussing the impact of the built environment on wellness and well-being before discussing the origins of Eudaemonic Design, its differences and similarities to existing approaches for designing for workplace wellness, and its potential for realizing autonomy, competence, and relatedness-driven outcomes derived from Self-Determination Theory (SDT). The potential application of Eudaemonic Design for achieving well-being at work across a wide variety of workplaces is also discussed. The chapter concludes with a discussion of areas for future research, including the potential role of technology in delivering Eudaemonic Design.

THE IMPACT OF THE BUILT ENVIRONMENT ON HEALTH AND WELLNESS

Globally it has been estimated that 98% of people spend 90% of their lifetimes inside buildings (Allen & Macomber, 2020a; Roberts, 2016). Before the COVID-19 pandemic, the amount of time spent indoors was already increasing (Klepeis et al., 2001), and it is expected to have increased further as physical and

social distancing practices restricted many to their homes. Considering these trajectories and the impact of COVID-19 in particular, it is apparent that buildings can either help or hinder well-being by “[making] you sick or [keeping] you well” (Allen, 2020, p. 1). If buildings are designed to support health and well-being, they can prevent sickness and support occupants to be healthier and happier.

The human body is a product of its environment. While this chapter does not explore the granular aspects of exposomes (Dai et al., 2017), it recognizes the significant impact built environments have on human health and wellness (Prüss-Üstün & Corvalán, 2006). In recent years, there has been a heightened interest in designing ‘healthy’ buildings and developing associated standards and certifications to define and regulate the creation of such structures (CfAD, 2021; IWBI, 2021). Because workers spend approximately 25-40% of their lifetimes at work (Campbell, 2017; Vaughn, 2018), there has been an associated emphasis on improving the physical, mental, and social conditions of work environments to harness the power of health-focused design, resulting in healthier bodies and thus less absenteeism, minimized risk of depression and anxiety, enhanced productivity, and heightened morale (BCO, 2018; Burton, 2010; Hatcher, 2018; UKGBC, 2017; WorldGBC, 2016). This improves worker lives and business profitability and performance.

Indeed, it has been noted the built environment matters for both the “health and wealth” of organizations (Allen & Macomber, 2020a, p. 42). Considering that the Wellness Real Estate market was valued at \$134 billion in 2017 and is anticipated to reach \$197 billion by 2022 (GWI, 2020), there is a tremendous business financial opportunity in improving the quality of the built environment as a means to design for wellness. By doing so, it is possible to significantly impact company recruitment and retention—by enhancing company brand appeal (e.g., depth and breadth of amenities) to recruit new quality applicants (Arruda, 2018; Petersen, 2020) and by designing-in elements of mental health support (e.g., more flexible space, better safety procedures) to benefit current employees (Lass, 2018; Orsini & Rodrigues, 2020), respectively.

Achieving Workplace Wellness Through Health-based Architectural Design

Workplace wellness has been a fundamental consideration for businesses since the *Seoul Declaration on Safety and Health at Work* (ILO, 2008) and the World Health Organization’s *Healthy Workplace Framework and Model* (Burton, 2010). The latter document positioned the argument for a global audience, augmenting awareness on the need for better approaches to achieving healthy workplaces and positioning workplace health and wellness as an ethical, operational, and legal obligation (Burton, 2010; WHO, 2020). Despite the pioneering work of the Wellness Council of America and others in advocating for employee empowerment in workspaces (Knight & Haslam, 2010), initial adoption of workplace wellness was slow as organizations instead chose the formerly prevalent approaches of rapid turnover, reallocations, and reductions in force to maintain fresh, seemingly motivated workers (T. Allen, 2018; Society for Human Resource Management (SHRM), 2020). However, in more recent years, organizations have begun to recognize the power of proactive design to infuse energy into existing workforces. Deliberately enhancing the work-related built environment was found to be a successful mechanism of influencing and improving the health of workers via their workspaces and workplaces to promote symbiotic health, while having the added benefit of potentially maintaining the workforce.

In 2014, to encourage the adoption of healthy building work, the World Green Building Council (WorldGBC) assembled a group of 60 experts from 20 countries to discuss the relationship between health and buildings. Together, they documented how a combination of quality air, temperature, humidity,

daylight, views, sound, and more could “play a crucial role in creating a healthy, productive workplace” (Alker, 2014, p. 2). The WorldGBC definitively linked health-based design to business finance by approximating that typical real estate costs break down into three parts: energy costs (1%), rental costs (9%), and staff costs (90%). The dominance of staff costs within this model underscores that “a healthy, happy workforce is a vital component of a productive, successful business in the long-term” (WorldGBC, 2016, p. 8). This cost distribution was confirmed by Jones Lang LaSalle (JLL, 2016) through global dissemination of their 3:30:300 rule, which demonstrated an average order of magnitude across company costs associated with utilities, rent, and payroll, respectively, per square foot annually. Just as the WorldGBC report had done, JLL’s work highlighted the financial value to organizations in positively impacting the payroll metric by proactively designing for people rather than focusing efforts on saving negligible amounts of money on “green building”-related efforts affecting utility spend-related energy costs or on space allocation efforts impacting rental costs.

Designing for human health via built environment health has become a driving business, especially over the past decade; but that evolution has taken time. Countless books have been written on the subject (Allen & Macomber, 2020a; Channon, 2019; De Botton, 2007; Goldhagen, 2017) and multiple interest groups and professional certifications formulated around it. This collective body of research stemmed from interest initially expressed by architects, public health practitioners, clinicians, and engineers who saw first-hand how published building standards (e.g., American Society of Heating, Refrigerating and Air, Conditioning Engineers) were not adequately supporting human health and wellness. Wellness-focused design accreditation bodies that focus on designing the built environment for human health and wellness, such as the WELL Building Standard (IWBI, 2021) and Fitwel (CfAD, 2019), have raised awareness, promulgated knowledge, and provided guidelines for effective health-driven design.

EUDAEMONIC DESIGN FOR OPTIMAL WELLNESS AND WELL-BEING AT WORK

Despite the upwards trajectory health-based design experienced prior to the pandemic, COVID-19 has transformed the meaning of the term. It is no longer just about designing for protection from the elements. It is now about preventing active pandemic spread, while also “nudging” better health practices (Thaler, 2008). Eudaemonic Design’s positive take on designing for optimal well-being while designing out disease may serve as a mechanism to accomplish all goals. By pursuing health-based design more as a means towards flourishing occupant (employee) and organizational (business) health and by centering those concepts around SDT’s tenets and values, rather than a defensive means of protection, prevention, and survival, it is possible to accomplish all goals.

Eudaemonic well-being or flourishing human health and wellness has roots in the neo-Aristotelian concept of eudaemonia (i.e., literally combining ideas of *eu*, good or healthy, and *daimon*, true self), which encourages people to be the best versions of themselves. In recent years, a variety of research has explored designing for eudaemonia-related ideals, including flow (Csikszentmihalyi, 2008, 2014), happiness (Channon, 2019; de Botton, 2007; Layard, 2005; Medina, 2019; Stevens et al., 2014), and thriving (Buettner, 2011). However, these explorations have primarily emphasized a subjective well-being focus rather than a comprehensive objective and subjective health approach, such as is offered by eudaemonic well-being (i.e., the eudaemonia-derived concept of well-being that balances optimal physical, mental, and social health, enabling people to be their best selves).

Eudaemonic Design to Achieve Well-Being at Work, Wherever That May Be

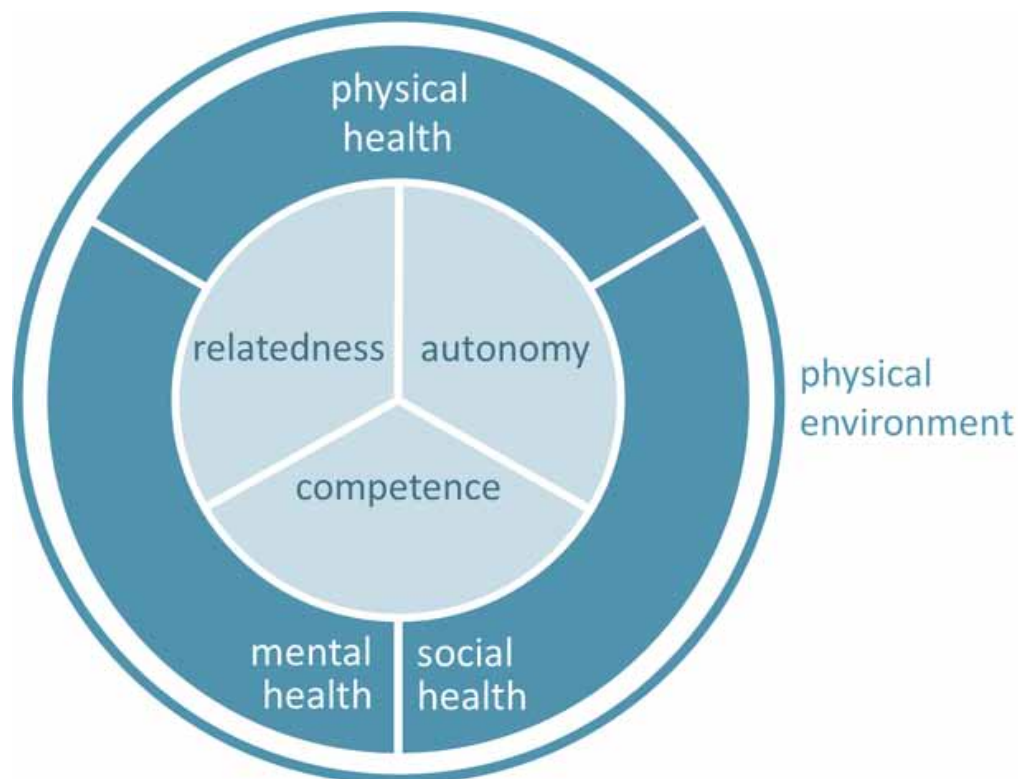
For years, psychologists have built practices on positive psychology and the philosophy of eudaemonic thought to prompt meaningful change for patients (Waterman, 2013). Considering the impact of buildings on occupant health, a similar onus could and arguably should fall on the curators, constructors, and controllers of the built environments (Jones et al., 2019) and on the businesses whose employees occupy those spaces and whose health they should protect (Allen & Macomber, 2020a). It is imperative that Eudaemonic Design be included in architectural design and organizational management plans to manage risk, meet needs, and most importantly prompt flourishing well-being in the workplace.

Applying Self-Determination Theory to Achieve Eudaemonia

Optimal health and wellness in the form of eudaemonia occurs when humans are self-determined to thrive and experience well-being. SDT explores this idea and defines what is needed to prompt intrinsic, or inwardly driven, motivation to enhance health. According to Ryan and Deci (2000), the theory “aims to specify factors that nurture the innate human potentials entailed in growth, integration, and well-being, and to explore the processes and conditions that foster the healthy development and effective functioning of individuals, groups, and communities” (Ryan & Deci, 2000, p. 7).

Figure 1. A Model for Eudaemonic Design

Source: Adapted from (Ryan et al., 2008)



SDT is built on three tenets or needs that must be met for someone to feel engaged, supported, and intrinsically motivated: autonomy (having a feeling of control in life); competence (being able to do enjoyable activities); and relatedness (enjoying good social relations for a sense of belonging) (Deci & Ryan, 2008). This theory can therefore be used to understand people's needs and to design physical environments for those requirements. Therefore, as depicted in Figure 1, SDT-designed environments can prompt experiences of flourishing eudaemonic well-being and consequently be used as a means to design for optimal workplace health.

Eudaemonic Design is by its nature inclusive. It allows a variety of stakeholders to implement ideas supportive of autonomy, competence, and relatedness tactically (bottom-up) or strategically (top-down) (Waterman, 2013). This method of organizational ownership has the potential to improve the likelihood of sustainable success. By focusing on Eudaemonic Design, rather than prescriptive health-based design methods, work environments become less about disjointed perspectives on people, places, and technology and more about the resulting collaborative experience. This means supporting workers to feel, function, and connect with their work, workspaces, workplaces, and colleagues both in-person and remotely. Eudaemonic Design provides an underlying logic or 'why' to environmental design by emphasizing the value in human-centric design, empowering all individuals, and centralizing company purpose. In essence, designing for the individuals via their environments benefits the overarching group, enabling an organization to also be the best version of itself.

Integrating Workplace Wellness Models and Eudaemonic Design

Considering Eudaemonic Design's foundation in SDT, it benefits from the universality of the theory's application (Chen et al., 2015) and can complement and enhance existing models striving for workplace wellness from organizational and architectural wellness perspectives.

A Eudaemonic Comparison with an Organizational Wellness Model

An organizational wellness model example that can be used in concert with the three tenets of SDT to achieve Eudaemonic Design is the Wellness Council of America's (WELCOA) (2021) seven areas of successful workplace wellness. As shown in Figure 2, each of the WELCOA areas—health, meaning, safety, connection, achievement, growth, and resiliency—fully or partially supports at least one of the SDT tenets, with most supporting two or more. As a result, it is possible to address each of the seven areas of organizational wellness best practices when designing through the three tenets. For example, if someone works in an environment in which they feel truly in control of their workload and environment, does something they love using skills they possess while also feeling appropriately challenged, and experiences support and connection with colleagues for motivation, they will likely meet the criteria of organizational wellness-related models like WELCOA's and feel healthy, purpose-driven, safe, connected, accomplished, challenged, and resilient.

Figure 2. The relationship between Self-Determination Theory (SDT) and Wellness Council of America's (WELCOA) Elements of Wellness



A Eudaemonic Comparison with an Architectural Wellness Model

A built environment model that can also be used symbiotically with the three tenets is Harvard's 9 Foundations of a Healthy Building, which include air quality, thermal health, moisture, dust and pests, safety and security, water quality, noise, lighting and views, and ventilation (Allen et al., 2017). As shown in Figure 3, each one of these nine foundations corresponds to at least one of the SDT tenets. This means that, when employing Eudaemonic Design, SDT's three tenets will be satisfied, and all nine foundations will likely be met. In turn, when the 9 Foundations' aspects are considered in a design, those will support SDT and thereby Eudaemonic Design. Therefore, it is possible to address each of the 9 Foundations of a Healthy Building when designing for the three tenets, and experience aspects of Eudaemonic Design if done vice versa.

For the built environment comparative example, those foundations or areas of architectural wellness that align with all three tenets are those that allow for feelings of control, being more functional, and feeling connected. Four such examples include air quality, thermal health, noise, and lighting and views, which are enhanced when built on architectural science best practices mixed with SDT's needs. If these criteria are met, it is likely occupants will be happier, healthier, more productive, and more connected. Research shows that if air quality maintains humidity levels between 30% and 60%, then odor issues are less likely, thus enabling workers to avoid unnecessary distraction (Harvard T. H. Chan, 2021). Optimal thermal health occurs when temperatures are in the low 70s Fahrenheit with humidity levels between 20% and 60% (Rosone, 2019), but maintaining 71.6 degrees Fahrenheit (22 degrees Celsius) indoors

results in 6-9% productivity increases (Wyon, 2004). When considering noise, open-plan offices allow for better interaction and socialization, however enclosed private spaces result in better air quality, noise, privacy, control, and therefore less stress (Kim & de Dear, 2013). For lighting and views, access to natural daylighting increases better sleep quality for workers and results in approximately 10% fewer sick days taken (Boubekri et al., 2014), and the incorporation of plants or elements of nature (i.e., to encourage biophilia or human's innate connection with nature) results in increased productivity of approximately 15% (Nieuwenhuis et al., 2014). Therefore, there is a logical correspondence between architectural design and Eudaemonic Design.

Figure 3. The relationship between Self-Determination Theory (SDT) and Harvard University's 9 Foundations of a Healthy Building

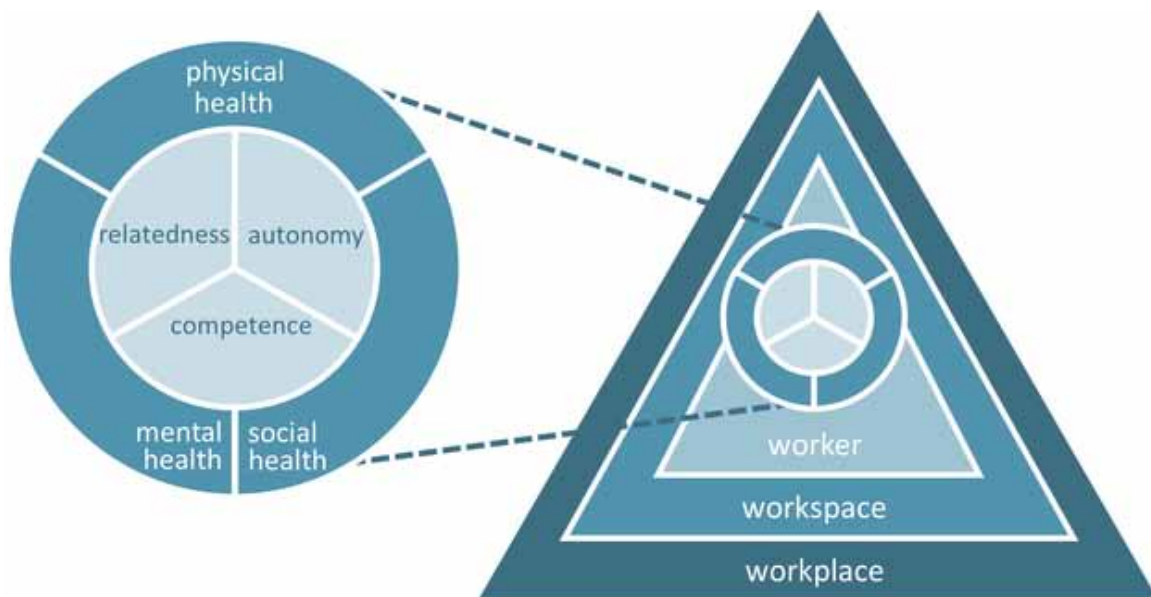


Eudaemonic Design is supportive of existing organizational and architectural wellness models. As described in the model examples above, it offers a logical and inclusive alternative to the use of formal standards while upholding the core needs of SDT, thus prompting workers, managers, and executives to feel autonomous, competent, and related.

Designing for Workers, Workspaces, and Workplaces

It is possible to design eudaemonia into an organization through physical and digital design by focusing on the interconnected levels of the worker, the workspace, and the workplace. Eudaemonic Design can be applied outside the standard office environment because it is attentive to these three levels of design need. As all organizations must consider design with respect to workers, their immediate workspaces (e.g., desks, cubicles, offices), and their workplaces (e.g., home, office, public), a robust yet simplified and flexible alternative that targets all three would likely prove useful. Figure 4 visualizes the application of eudaemonia in the workplace by incorporating Eudaemonic Design concepts from the inside out and outside in.

Figure 4. Eudaemonic Design for Well-being at Work



The Eudaemonic Design for Well-being at Work model depicted in Figure 4 is flexible and widely applicable. Its sensitivity to gender, race, and culture among other differences allows application to a variety of workers, workspaces, and workplaces. Psychological research describes that when autonomy, competence, and relatedness are designed for, they contribute to individual, team, and organizational human flourishing (Ryan & Deci, 2017). Further, when all three SDT tenets are addressed on all organizational levels simultaneously, a multiplier effect occurs, encouraging people to be intrinsically motivated to choose to act, to act effectively, and to relate to others while doing so.

The Workplace

The workplace is the comprehensive “office” environment, consisting of individual cubicles or a conglomeration of workspaces or desks in an area of a building, throughout an entire building, or spanning a

campus. The workplace has traditionally been narrowly defined to focus on the Work from Office model and associated place of work, but the definition has now been extended to include any areas where workers carry out their day-to-day work. This change has been unprecedented, especially considering having transitioned from a nearly exclusive Work from Office model Pre-COVID-19, when the vast majority (90%) of workers went to a physical office every day (GWI, 2018).

Despite ongoing workplace changes, Eudaemonic Design can be applied to achieve autonomy, competence, and relatedness in every workplace. Some examples of how to enact this include: encouraging autonomy with targeted employee engagement (e.g., occupant surveys) to ensure the organization and workplace are providing workers with what they want and need (Penny, 2020) and inclusive signage for easier, more logical wayfinding for intergenerational and neurodiverse workforces (Barton, 2019); facilitating competence with flexible work schedules based on worker work style, hour, activity, and location preferences and work location options (e.g., providing quiet “library zones” for noise sensitive workers to reduce stress and avoid heightened blood pressure) (Brown, 2020); and providing a variety of social engagement options in “social hubs” to engage workers of varying abilities, engagement styles, and play preferences and prompt relatedness (Deloitte, 2021; Smith, 2020). By providing environmental and organizational support from the outside-in, workplaces facilitate the satisfaction of the SDT tenets. This enables and encourages workers to function as their best selves physically, mentally, and socially.

The Workspace

Workspaces refer to the immediate work areas of employees. This may include something as simple as a desk, outfitted with a laptop, mouse, and chair; a cubicle or office; or a temporary hot desk or phone room. The workspace may no longer be located in an office and instead encompasses physical space wherever a worker happens to be working, whether in an office, at home, or in a near home location.

Just as there are ways to facilitate Eudaemonic Design for workplaces, there are methods of supporting autonomy, competence, and relatedness within the workspace: facilitating autonomy with funding for flexible, ergonomic furniture arrangement options (Knight & Haslam, 2010) and optional “decluttering parties” to organize workspaces and limit excess cortisol production (Lucchesi, 2019); encouraging competence with workspace personalization policies (Byron & Laurence, 2015), personal décor preferences (Kondō & Sonenshein, 2020), and access to natural daylight, fresh air, optimal thermal comfort (Rosone, 2019), and nature via biophilia (Beatley, 2018; Tabb, 2021) to enhance mood and reduce anxiety (Brown, 2020; IWBI, 2021); and providing optional socialization opportunities, both physically and digitally (e.g., enabling Zoom “happy hours”), to accommodate relatedness preferences (Work in Mind, 2021a). As with workplace design, workspace design provides outside-in support for each worker. The difference is that workspaces offer this support on a more granular scale, oftentimes resulting in impact the worker can feel viscerally, given the frequency of and tangible contact with the workspaces they inhabit. By having a eudaemonic workspace, workers can exercise choice—maintaining flexibility in when, where, and how they work and socializing on their preferred terms.

The Worker

Workers are the employees who perform paid or unpaid work on the behalf of an employer, business, or organization. These may be part-time or full-time employees, contractors, or subcontractors. While workers benefit from intentional Eudaemonic Design done for the workplace and workspace, there are

ways it can focus on the worker themselves and strengthen flourishing-focused design overall. Workers are central to the Eudaemonic Design philosophy; thus, all design decisions must focus on and support on their needs. Some examples include: ensuring managers support intrinsic, autonomous motivation (e.g., Swiss insurance worker study) (Güntert, 2014) rather than extrinsic, controlled provocation (Orsini & Rodrigues, 2020); empowering workers through competence-supportive training opportunities and validating feedback loops (Reis et al., 2000), not micromanaging or providing burnout-precipitating pressure (Moss, 2019, 2021); and considering biophilic (i.e., nature-referencing) and salutogenic (i.e., health-supporting and stress-suppressing) elements in interior architectural design to enable workers to feel more connected with the world, less overwhelmed, and more motivated to be good-natured and caring (Ryan et al., 2010) with greater feelings of sustainability and beneficence (Martela & Riekk, 2018). This worker-centered approach has the potential to result in healthier, happier workers who are likely to care about their work, workspace, and workplace and have the intrinsic motivation to maintain and improve conditions to facilitate eudaemonia.

THE IMPACT OF COVID-19 ON (RE)SHAPING THE PLACES AND SPACES OF WORK

The effects of COVID-19 can be defined as a set of overlapping eras shaped by risk, pandemic prevalence, time period, and geographical location (refer Figure 5). The COVID-19 era notionally commenced in early 2020, when COVID-19 was recognized as a global pandemic. At this time, utilizing healthy buildings as a means to design for human and business health was already on an upswing. However, as human health became the core priority, health-based design transitioned from being a luxury to becoming an organizational priority (Kehrt, 2020).

Figure 5. The evolution of the COVID-19 eras, progressing from Pre-COVID-19 era through COVID-19 and culminating in the present-future Post-COVID-19 era



Although COVID-19 is still a very real problem as of February 2021, vaccine introduction has prompted a deflection point from which many countries are transitioning from COVID-19 to Post-COVID-19 activities, whether that involves minimal physical distancing measures alone (e.g., Australia) or extreme physical distancing measures with mandatory Personal Protective Equipment (PPE) usage (e.g., United States). Therefore, COVID-19 is likely to extend past February 2021 for many countries, just as Post-COVID-19 is likely to be underway in other countries, with post-vaccine sub-eras occurring as vaccines

become available. Regardless, it appears that hybrid work practices will be the preference going forward (Gensler Research Institute, 2021; McLaurin & Barber, 2020; (PwC), 2021; Work in Mind, 2021a).

The Evolution of the COVID-19 Workplace

COVID-19 has reshaped where and how people work. As of late February 2021, COVID-19 has caused over 2.5 million deaths worldwide and continues as a global pandemic with serious public health consequences (WHO, 2021). The world now falls into two evolving groups—those still in an active COVID-19 era and those moving toward the Post-COVID-19 era. Post-COVID-19 countries are considered those with minimal risk of contagion and therefore no longer requiring the mandatory PPE use or large-scale lockdowns. Some of these will include vaccinated countries as those increase in prevalence while others will result from effective lockdown measures. It is likely that this era will overlap with COVID-19 eras of other countries and will be significantly shaped by the widespread uptake of global vaccination programs underway. However, the transitions between eras and the reintroduction of mitigation measures will likely continue to change for some time. Thus, it is important to understand how the workplace evolved from Pre-COVID-19 to the current ongoing COVID-19 and Post-COVID-19 eras to learn from our history to curate a better future.

Pre-COVID-19 to Early COVID-19 Era

When COVID-19 was declared an international pandemic in early 2020, an epic experiment began. To reduce risk of exposure, companies around the globe shuttered offices and transitioned operations to be based at home. As the months elapsed and people became more comfortable in their home environments, many were hesitant to return to office buildings for work. Since then, employees continue to receive notice of Human Resources-related policies allowing and even advocating for working from home temporarily (e.g., Google (Liu, 2020)), part-time going forward (e.g., Salesforce (Rizzi, 2021)), and indefinitely (e.g., United States (US)-based Twitter and Facebook (Liu, 2020), Australia-based Atlassian (Novet, 2020), and most recently US-based Spotify (Gourarie, 2021)).

Prior to COVID-19, workspaces varied from being makeshift (if at home) (Detwiler, 2020) or overly sterile (if in an office) (Mudditt, 2020), both oftentimes ineffective or at least sub-optimal. Many company cultures were considered “toxic”, and remote working was the exception (~10% of the workforce) and oftentimes an unacceptable option due to a pervasive lack of trust (Kehrt, 2020). However, once COVID-19 hit, the conversation shifted almost overnight from Pre-COVID-19 talks of maintaining barely adequate levels of health support in homes and offices to COVID-19 discussions focused on proactively curating optimal health-supportive environments for personal and professional use, for the unforeseen future and perhaps forever as a new way of working.

COVID-19 Era

In March 2020, a Harvard Business School report described how COVID-19 was already impacting the future of business only one month into the pandemic (Gerdman, 2020). Allen (a public health practitioner, researcher, and academic) and Macomber (a real estate finance practitioner, researcher, and academic) indicated that people and buildings would need to become significantly healthier in the future—setting higher standards to actively monitor and attain. Just three months after their prediction, a shift occurred

emphasizing the interest of tenants and investors in “healthy buildings” for economic organizational survival (Allen & Macomber, 2020b). Websites such as Glassdoor began reporting on office conditions, which factored into workers’ decisions relating to their work in general, where they did it (i.e., at home, in an office, or elsewhere), and if they kept or left their jobs.

Looking back on 2020, according to the UK-based Chartered Institute of Personnel and Development’s (CIPD) 2020 report, more organizations (44%) were executing a strategic approach to employee well-being, being more proactive (than reactive) in their well-being strategies than those from 2019 and “taking a holistic approach to supporting people’s health and well-being, with mental health the most common priority” (CIPD, 2020, p. 7). That is certainly a step in the right direction. In December 2020, WIRED Magazine published an article entitled “The ‘Healthy Building’ Surge Will Outlast the Pandemic”, and indeed it has (Kehrt, 2020). Healthy buildings for workplace wellness are no longer a trend. They are becoming a business strategy and general best practice.

Post-COVID-19 Era

At the time of this book chapter, knowledge about workplace wellness is becoming more widespread, recognized, and respected each day, and the interest in understanding, designing, and learning new ways to facilitate healthy buildings is increasing. Businesses are no longer relying on the 3:30:300 rule to rationalize design for worker health and productivity. They are now seeking simple, smart ways to design for disease-free health-promoting environments that enable employees to feel protected yet autonomous, supported yet competent, and physically distanced yet connected.

The post-pandemic future provides humanity with an opportunity to make impactful changes for people and society (Kehrt, 2020). There has already been talk about how the pandemic offers opportunities to rethink wrongs of the past and rewrite the future (IFTF, 2020). A theory-based, industry-supported approach that is founded on positive psychology, empowerment, and community meets this need while also addressing the desired autonomy, competence, and relatedness tenets. Eudaemonic Design offers this with pragmatic application to intrinsically motivate and empower workers so they can be their best selves while “at work”—be it when working in the office, at home, or elsewhere.

Anticipated Post-COVID-19 Global Trends

Global workplace studies were conducted by Gartner, JLL, and Gensler between mid-2020 and early 2021, identifying anticipated future trends globally but focusing on Australia, the US, and the UK in particular. Each varied in some ways, but there were key themes across all three sets of findings. Gartner’s 2020 report (Baker, 2020) highlighted what company leaders were willing to allow in a Post-COVID-19 workplace. This included terms around remote work (82% to permit remote work part of the time and 47% all of the time) and flexibility (40% to support flex hours and days). A follow-up report in 2021 (Baker, 2021) increased these figures to 90% and 65%, respectively, and included the addition of needs-based benefits for 44%. JLL’s 2020 report (Murray, 2020; Pradere, 2020) highlighted needs paralleling Eudaemonic Design objectives: flexible working locations and hours (autonomy); improved work-life balance and allowances for work support (competence); and enriched human connection (relatedness). Most people wished to have an opportunity to come to an office, but half wanted to work both in an office and remotely. Locations were said to vary by purpose with each place having its advantages for collaboration, focus, and socializing. Gensler’s 2021 reports (Cohen et al., 2021; Gensler, 2021) focused

on experience and the desire to reconnect. For workplaces, they emphasized the need for work and place “uncoupling”; a culturally enticing work experience; enhanced “choice, autonomy, health, and well-being”; and flexibility and adaptability (Gensler, 2021, p. 3).

Of the findings, the most compelling and consistent findings related to accommodating hybrid work (McLaurin & Barber, 2020; PwC, 2021); providing choice through flexibility (Parker et al., 2020); curating workplaces with cultural experiences and connections (Davis, 2020); and strengthening meaning and purpose (Gershon, 2017; Leinonen, 2020). Workers expressed a wish to prioritize work-life balance, even if it meant sacrificing approximately 10% salary (Murray, 2020). But companies now know that if they want to be competitive and retain their best employees, they should be proactive in addressing these wishes so employees do not have to make concessions. Good workplaces make for good workers and thus good business.

DESIGNING FOR POST-COVID-19 WELL-BEING AT WORK

There are a variety of Post-COVID-19 workplace models that are anticipated to be part of the future. These include Working from Home (WfH), Working from Near Home (WfNH), Working from Office (WfO), and the all-encompassing Working from Anywhere (WfA) model. Each has evolved as a result of the pandemic and each has its own Eudaemonic Design considerations and unique challenges and opportunities.

Eudaemonic Design Considerations for Working from Home

Working from Home (WfH) is a spatial model of work in which the worker engages in work from their home. It is a type of remote work that originated over the past 10-20 years with the proliferation of high-speed internet and Wi-Fi bandwidth, enabling connection while at home. While up until COVID-19, this was a limited way of work (accounting for between 10% and 20% of the workforce), it has become the “new normal” in the COVID-19 world.

In a US-based FlexJobs survey of 4000 people working remotely during the pandemic, 95% said productivity has been at the same level or greater than that of the past due to fewer interruptions, more focused time, quieter work environments, more comfortable workplaces, and lack of office politics (Pelta, 2020). Two-thirds of this group would like to become full-time remote employees while one-third would prefer a hybrid option. One reason WfH became feasible was because of companies such as Zoom Video Communications, which provides the now well-known remote videoconferencing software that grew thirtyfold in the first half of 2020 (Iqbal, 2020). While collaboration-promoting software like Zoom provided the flexibility appreciated by many early in the COVID-19 era, allowing endless opportunities to address autonomy, competence, and relatedness needs (Pelta, 2020), others experienced negative repercussions such as lack of work-life balance (Boland et al., 2020) and longer hours (Work in Mind, 2021c), an ongoing “cycle of [physical, cognitive, and emotional] fatigue” (Work in Mind, 2021b) or inability to “disconnect” (AP, 2020), as well as “Zoom fatigue” (Franklin, 2021).

There is a tremendous opportunity in learning how to design for WfH effectively. Studies show that most people have enjoyed the flexibility and safety on offer when working from their homes (Baker, 2020; Gensler, 2021; Pradere, 2020); and because workers are assumed to have control over their home environment, it seems possible that they could personalize a workspace to their optimal work specifi-

cations without having to compromise with colleagues. Unfortunately, they may not be able to do this easily due to family obligations or financial issues.

Eudaemonic Design can play an important role when incorporated across WfH workplaces, workspaces, and workers. When considering and planning WfH support options, companies should address assumptions early to identify what is needed for each worker to work best when at home. Only then can support mechanisms be put in place, such as providing home care monetary support, establishing flexible working hour policies, providing guidelines of how to set up optimal working conditions, supplementing ergonomic furniture purchases, furnishing technology to ensure seamless co-worker interaction, and conducting training to ensure trust-based collaboration. Workers can augment these workplace initiatives by designating work hours and sticking to them, establishing a family code of conduct when working-from-home, and prioritizing work-life balance. By combining these Eudaemonic Design workplace, workspace, and worker strategies, it is possible to make WfH work.

Eudaemonic Design Considerations for Working from Near Home

Working from Near Home (WfNH) is a spatial model in which the worker engages in work in a location within geographical proximity to where the worker lives, thereby reducing commute time. Options include company satellite offices; public options such as a library, park, or café; or coworking spaces. This model has become popularized over the past five to ten years but only recently been named (Ashworth & Martinuzzi, 2020). Pre-COVID-19 work done from this model commonly involved isolated tactical work, such as finishing a report or conducting a client meeting, rather than entire days of work. The exception was coworking spaces (e.g., WeWork), which people used similar to everyday offices.

While many home workers wish to continue to do remote work, others have expressed interest in returning to a place of work with their colleagues for socialization purposes without necessarily returning to the office of old, per se.

...People don't really want to get back to the office. They want to get out of their apartments, their houses, their parents' houses. They want their children back in school, and also out of the house. They want to see people's faces again, and have conversations with people who are closer than six feet from them. But that doesn't mean that they actually want to be back in the office — at least not the way the office was before. (Petersen, 2020, p. 1)

The WfNH model offers a “happy medium” alternative for people undecided between whether they wish to work from home or from the office. It provides an opportunity to do work the worker wants, when and how they want; to experience location flexibility enabling the worker to choose a place that facilitates activity-based working and background noise and lighting levels of choice; and to socialize with non-work-colleagues if desired.

While WfNH is a good option for working, it does not provide much choice for personalization options that can be maintained. Instead, WfNH locations offer temporary solutions which should be considered when choosing this as a work environment. If someone wishes a change of condition, they may have to choose a new location or even venue, requiring a potentially taxing relocation of workspace hardware and interrupting train of thought. Therefore, when selecting a WfNH location, workers should be cognizant to sit in a position where they will not experience excess noise, smell, glare, or temperature fluctuation and where they anticipate feeling comfortable, at least for the day.

It is difficult to truly personalize WfNH options unless a worker discovers an already curated environment that meets their needs. While this scenario is possible in coworking locations that design for wellness (Bolt, 2019), it is not always an available option, based on cost or location. As an alternative, workers can formulate a “work kit” to customize workspaces. Kits often include ergonomic set-ups such as a laptop shelf for better posture, a comfortable mouse for ergonomic support, and noise-cancelling headphones for noise pollution protection. These kits can be easily constructed and carried, and commonly result in a more work-conducive environment.

A WfNH model works especially well if workers allocate appropriate activities agreeable with the venue. Such activities may include socializing or creating new material—actions that are best suited to times when workers are inspired while comfortable, motivated but not stressed, and connected but not distracted. If workers can strike this balance and deliberately align work activities suitable to work locations, WfNH options could prove effective for them and for downsizing companies who no longer have the office footprint to accommodate employee needs.

Eudaemonic Design Considerations for the New Working from Office

The new Working from Office (WfO) model is likely to be different in size, shape, and design than that of the past. While a majority of workers spent time in offices Pre-COVID-19, few organizations are expected to grow their office or portfolio footprint Post-COVID-19 (Smith, 2021) and many are already downsizing (Griffiths & Clarence-Smith, 2021). As organizations sacrifice square footage quantity, they are transitioning to focus on quality design solutions instead. Organizations now have the opportunity to entice employees by “[cultivating] an aesthetic and culturally relevant environment that enables people to feel comfortable and reach their potential” (Taysom, 2021).

A variety of studies have been conducted to identify workforce needs for new WfO models (Baker, 2021; Pradere, 2020; Cohen et al., 2021). While some have involved new requirements, many relate to issues prevalent Pre-COVID-19 but exacerbated by the pandemic. Of the five future office trends identified by Gensler (Gensler Research Institute, 2021), all relate to SDT tenets and therefore align to Eudaemonic Design. These include but are not limited to provisions of mobility, choice, privacy, unassigned seating, and health and well-being (McLaurin, 2021).

Most of the identified needs can be met with an agile approach to Eudaemonic Design, allowing for options that meet workers’ resounding preferences for choice. Examples include open inclusive entryways, collaborative hot-desking versus library quiet zones, supplemental health support and exercise facilities, as well as flexible workspaces appealing to a variety of workers (Smith, 2021). Adaptable workspaces may include “Zoom Rooms” and Breakout Spaces with whiteboard walls and moveable furniture for collaboration and interactive ideating (Smith, 2021) versus quiet enclosed areas such as library zones or meditation rooms that allow for contemplation, deep thinking, and analysis (IWBI, 2021).

While number of hours and days worked per week have become more flexible over the past five to ten years, a 40-hour work week spread across five days has been the ongoing accepted standard of work. Revisiting this antiquated scheduling model would augment feelings of work choice and promote work hour variations that enable meeting home life responsibilities, provide opportunities for working at times they personally work best and experience “flow” (Csikszentmihalyi, 2008), and decrease risk of unnecessary interaction during high sessions of flu or cold sickness. The office of the future should be a place of inspiration, support, collaboration, and connection (Pradere, 2020) and provide opportunities for excitement, intrigue, and culture for added allure and engagement (Taysom, 2021), not be stuck

in illogical standards and protocols that worked poorly in the past. Transformational change through Eudaemonic Design is possible and feasible.

Eudaemonic Design Considerations for the Emerging Work from Anywhere Model

As clearly indicated in the JLL, Gensler, and Gartner reports (Baker, 2021; Pradere, 2020; Cohen et al., 2021), it is likely that the Post-COVID-19 working world will require a hybrid approach to workplaces. One term that has recently gained momentum in industry is the Working from Anywhere (WfA) model, which encompasses working from home, near home, and/or the office, as shown in Figure 6.

Figure 6. The Post-COVID-19 Work from Anywhere (WfA) Model that occurs at the intersection of Work from Home (WfH), Work from Near Home (WfNH), and Work from Office (WfO)



The new WfA model accommodates all work models and is therefore appropriate for all workers, including their range of work preferences, styles, and industries. Though the remote work movement has been most embraced and encouraged by the 18-24-year-old demographic (Work in Mind, 2021a), all generations have the potential to benefit. Whether conducted by design firms (Gensler Research Institute, 2021; McLaurin & Barber, 2020), real estate groups (Deloitte, 2021; Murray, 2020), remote

working companies (Pelta, 2020), or research think tanks (Baker, 2020; Parker et al., 2020), all 2020-2021 studies declare that 60% to 70+% of the workforce favor a flexible hybrid workplace future, such as that offered by the WfA model.

This amount of flexibility will require an agile way of thinking and intensive inclusive design efforts, as well as inherent trust among co-workers and between workers and management. Therefore, designing for the WfA of the future must involve a key understanding—“Remote work will have to be viewed as equally important as in-person work” (Petersen, 2020, p. 3). Only with mutually valued recognition can a proper balance of autonomy, competence, and relatedness be realized and therefore organizational eudaemonia achieved. Work models must work seamlessly. This will require physical, organizational, and digital infrastructural support so workers can “plug into” a work environment effortlessly when remote such that they can continue to work from their last stopping point, manage data without issue, and collaborate with colleagues as needed and desired.

Despite the variation across the WfA model, best practices exist when applying Eudaemonic Design. These consider the SDT tenets across the workplace, workspace, worker model in ways that promote WfA flexibility. Having the opportunity to WfA is the best way of encouraging autonomy at work (e.g., enabling workers to fully control when and where they work). Providing workers with the conditions they need to do their work at home (by providing them with funding for ergonomic furniture), when near home (by allowing them to select activity-based near home locations), or at the office (by creating zones of varying light, noise, and temperature levels) encourages competence. Further, identifying policy and physical space protocols that designate social versus library zones allows for intentional or unintentional interaction that supports relatedness but allows for individual preference. As the Post-COVID-19 era evolves to include vaccinations and recurrences of new strains, workplace requirements and worker needs will continue to vary. Workers’ work styles, workloads, and preferred working conditions will change. Offices will likely transition to be more social hubs for people to connect and collaborate with colleagues, and homes and near home work locations will continue to offer both opportunities for focus as well as distraction. Change is inevitable, yet it must be planned for and accommodated through adaptable design.

The WfA model provides what workers desire—flexibility, convenience, and support—and what companies are willing to accommodate—worker needs without maintaining a large real estate portfolio in a high-cost central business district location. Companies can lease annex locations outside of the city closer to employee homes or occupy coworking locations in those areas. With this flexible approach, workers and organizational preferences can evolve and be accommodated over time. It is a realistic approach and therefore one likely to succeed.

FUTURE RESEARCH DIRECTIONS

Suggested future work involves building upon the Eudaemonic Design model. Co-design can be used as a methodology to customize user or organization-centric Eudaemonic Design processes and outcomes. Eudaemonic Design as a Service could be explored as a potential offering by WfA affiliates, such as coworking companies, and technology can be utilized to operationalize design protocols that evolve as appropriate and proven.

Developing and Implementing the Model

Future research directions include validating the proposed Eudaemonic Design model and cross-referencing it more closely with existing models to understand implementation efficacy for workplaces and other asset types where health and wellness are of high importance (e.g., healthcare, schools). It may also prove useful to understand how co-design could factor into this process and how coworking companies can meet prime WfA requirements.

Co-Design as a Means of Achieving Work from Anywhere Eudaemonic Design

Co-design has long been considered an effective means of designing with and for a user group, especially when considering health (Slattery et al., 2020). More recently, scholarship has surfaced around research through co-design as a means to understand the process of co-design and how it can inform not only the design it results in but also the process through which that output is derived (Busciantella-Ricci & Scataglini, 2019). One possible way of deriving Eudaemonic Design specific to one company or one workforce is via research through co-design. By building on the core concepts of autonomy, competence, and relatedness, a co-design facilitator could work with user groups to fully develop what they individually desire with respect to work. Doing so will likely result in curated Eudaemonic Design that accounts for current worker to workplace needs and processes that may be repeatable when revisiting Eudaemonic Design at times of flux in the future.

Coworking Companies as Work from Anywhere Eudaemonic Design Service Providers

According to 2020-2021 reports on Post-COVID-19 projections, companies may return to the coworking model as one means towards WfA in the Post-COVID-19 future as they decrease their historical office footprints. Therefore, the new WfA preferred future model could infuse new energy into the coworking spaces that were burgeoning prior to COVID-19 but have since lost momentum (Scruggs, 2021). As workers look for alternative means of socializing on their own terms (outside of their offices and homes), coworking spaces could provide not only that relatedness aspect but also the competence and autonomy desired through choice, not to mention the favorable beauty-related neuroaesthetics that are commonly associated with coworking spaces. Global coworking company WeWork proclaims that “A well-designed workspace is more than just visually appealing—it enables you to get work done, keeps you motivated, and connects you to your team” (Bolt, 2019). That very definition encapsulates what Eudaemonic workspaces can offer. If coworking spaces can be designed with those qualities in mind and offered as a service while corporate culture is maintained and employee experience optimized (Baker, 2020), coworking indeed may offer the next best WfA solution to providing what workers and companies require to thrive.

The Role of Technology in the Post-COVID-19 Workplace

While technology should not be seen as a “panacea” (de Lange, 2013; Wiig, 2015), it does have a place in the Post-COVID-19 future. Its incorporation into work must be done intentionally, with employee health and well-being in mind, and operationalized once optimized.

Applying Technology for Employee Health and Well-Being

According to the UK's CIPD, technology's impact on employee well-being is primarily positive (42%) rather than negative (30%) (CIPD, 2020). However, it is vital that technology be incorporated into Eudaemonic Design with intention and care.

Ultimately, the benchmark for successful technology comes down to whether it's helping the humans in an organization do what they need to do. Businesses that want to continue to deliver value and help ensure enterprise resiliency in this time of rapid change should aim to become Human Enterprises—putting humans and their needs at the center of their strategies, values, processes, and operations, with technology serving as an enabler rather than a driver of change. (Higgins & Bianzino, 2020, p. 4)

If this call for human-centric technology as a necessary centralized concept for the built environment's new normal (Deloitte, 2021) is done right, technology integration can meet Eudaemonic Design's requirements for autonomy (feeling of control), competence (ability to do things), and relatedness (good social relations) and be applied for the worker, their workspace, and the workplace to achieve wellness. Some Eudaemonic Design-supportive technology examples include project management technologies (e.g., Trello) for autonomy, online centralized collaboration tools (e.g., Miro) for competence, and videoconferencing software (e.g., Zoom) for relatedness. From a built environment perspective, these needs can be further accommodated by providing spaces conditioned to worker specifications.

Operationalizing Eudaemonic Design with Smart Building Technology

Smart building technologies have the potential to operationalize Eudaemonic Design-supportive environmental conditions and do so predictively. They have also been recognized as a means to support SDT needs satisfaction (Chirkov et al., 2003). Therefore, while this chapter does not focus on technology's role in Eudaemonic Design, it does recognize the potential for technology to serve as a facilitator of Eudaemonic Design when considering the built environment's role in workplace wellness in the near future, especially as technology becomes less expensive, more attainable, more user friendly, and thereby ubiquitous.

Assuming buildings have Building Management Systems, it is possible to set and ensure delivery of “a workplace that is consistently conducive to health and productivity” (e.g., air quality, light levels, noise levels, temperature and humidity) (Hatcher, 2018). Therefore, once Eudaemonic Design requirements are established for a project, they can be built into the back end building management system algorithms for optimal workplace conditioning and enforced using Fault Detection and Diagnostics notification software to trigger alarms if conditions drift outside of the acceptable thresholds.

Indeed, there is opportunity in employing the technical factor (technology) for the socio-technical factor (environment) to improve the human factor (humans). The Human-Building Interaction field of domain focuses on three similar subjects—computing, built environment, and people (Wiberg, 2020)—and emphasizes the “multifunctional phenomenon of the building” (Alavi et al., 2019, p. 6:4). Given the interaction of these cross-factors, there is potential for exploring Eudaemonic Design in the context of Human-Building Interaction, whichever “workplace” model is being considered—whether the building in question is a home, an office, a local coworking space, or a public library.

Indoor Location Technologies and Occupancy Analytics

As physical distancing continues to be a standard policy for workforce reintegration, one technology that is of interest is occupancy-related technology. Market interest in related analytics was projected to be high before COVID-19 hit but is already accelerating more quickly than anticipated (Memoori, 2020). With indoor location technologies, it is possible to count people anonymously (i.e., to ensure maximum occupancy levels are met); determine distance among occupants (i.e., to confirm social distancing is adhered to); track vaccinated and unvaccinated occupants (Abate, 2021); and machine learn worker, workspace, and workplace activity, including movement and object placement. While much of this data is meant to be anonymous, privacy is at risk if for example identification badges are used for access. Therefore, while it is possible to monitor occupancy using indoor location technologies and dynamic occupancy management software and to measure body temperature levels using infrared kits, these protocols contradict Eudaemonic Design ideals and are therefore discouraged by the authors.

CONCLUSION

The global vaccination programs currently underway may prove to be a turning point from which many countries may transition to a Post-COVID-19 era, whether that involves the continuation of physical distancing measures alone or extreme physical distancing measures associated with the mandatory use of PPE. What is certain is that the pandemic has had a significant impact on the spatial and temporal dimensions of work globally, as workers have developed new preferred ways and locations of working. Physical workplaces have long served a disciplining function where work could be observed while being performed, resulting in toxic cultures based on notions of presenteeism where physical presence was the measure of performance and burnout pervaded work culture (Moss, 2019). COVID-19 has presented the opportunity to rethink how people work and how people design for work.

It is vital that a new design approach be considered to foster flourishing health and well-being in the new agile “workspace” of working from literally anywhere. Like health-based design, Eudaemonic Design can contribute to organizational profitability and sustainability. However, Eudaemonic Design goes beyond wellness to advocate design that not only meets health needs but also meets needs for autonomy, competence, and relatedness and allows for the possibility to extend efforts towards inclusive design. The Eudaemonic Design focus on flourishing and well-being at the level of the worker, the workspace, and the workplace also responds to Petersen’s provocation:

If the future of work is flexibility, our challenge now is to make sure that future doesn’t just worsen the ever-widening divide in American society between those promised a new vision of the good, balanced life, and those for whom ‘flexibility’ means effacing your wants and needs and dreams, once again, to the fickle demands of your employer. (2020, p. 4)

Applying Eudaemonic Design to provide flourishing work environments for workers can deliver well-being at work, wherever that might be.

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REFERENCES

- Abate, D. (2021, February 26). *Hong kong's covid-19 vaccination program: Considerations for employers*. Society for Human Resource Management (SHRM). <https://www.shrm.org/resourcesandtools/hr-topics/global-hr/pages/coronavirus-hong-kong-vaccination-program.aspx>
- Alavi, H. S., Churchill, E. F., Wiberg, M., Lalanne, D., Dalsgaard, P., Schieck, A. F. G., & Rogers, Y. (2019). Introduction to human-building interaction (HBI): Interfacing HCI with architecture and urban design. *ACM Transactions on Computer-Human Interaction*, 26(2), 6:1-6:10.
- Alker, J. (2014, September 25). Office buildings are key to workers' health, wellbeing and productivity. *The Guardian*. <https://www.theguardian.com/sustainable-business/2014/sep/24/office-building-design-worker-health-wellbeing-productivity>
- Allen, J. G. (2020, March 4). Your building can make you sick or keep you well. *The New York Times*. <https://www.nytimes.com/2020/03/04/opinion/coronavirus-buildings.html>
- Allen, J. G., Bernstein, A., Cao, X., Eitland, E. S., Flanigan, S., Gokhale, M., Goodman, J., Klager, S., Klingensmith, L., Laurent, J. G. C., Lockley, S. W., MacNaughton, P., Pakpour, S., Spengler, J., Val-larino, J., Williams, A., Young, A., & Yin, J. (2017). *The 9 foundations of a healthy building* (No. 1). Harvard University. https://forhealth.org/9_Foundations_of_a_Healthy_Building.February_2017.pdf
- Allen, J. G., & Macomber, J. D. (2020a). *Healthy buildings: How indoor spaces drive performance and productivity* (3rd ed.). Harvard University Press.
- Allen, J. G., & Macomber, J. D. (2020b, June 8). Tenants and investors will be looking for healthy buildings. *Urban Land Magazine*. <https://urbanland.uli.org/sustainability/tenants-and-investors-will-be-looking-for-healthy-buildings/>
- Allen, T. (2018, November 18). Layoffs on the horizon? How to lead through a reduction in force. *Forbes*. <https://www.forbes.com/sites/terinaallen/2018/11/28/do-all-of-this-before-you-lay-me-off-how-gm-and-others-can-get-this-right/>
- Arruda, W. (2018, April 7). 10 employee wellness ideas that will help you attract top talent. *Forbes*. <https://www.forbes.com/sites/williamarruda/2018/04/08/10-employee-wellness-ideas-that-will-help-you-attract-top-talent/>
- Ashworth, M., & Martinuzzi, E. (2020, November 9). *Wfh is old news: The 'near home' office is the next big thing*. <https://www.bloomberg.com/opinion/articles/2020-11-09/stanchart-wants-to-go-way-beyond-wfh>

Associated Press (AP). (2020, December 2). *EU pushes for “right to disconnect” from work at home*. AP News. <https://apnews.com/article/europe-europe-coronavirus-pandemic-f6f-56884206c921a379ae5a060511571>

Baker, M. (2020, July 14). *Gartner survey reveals 82% of company leaders plan to allow employees to work remotely some of the time*. Gartner. <https://www.gartner.com/en/newsroom/press-releases/2020-07-14-gartner-survey-reveals-82-percent-of-company-leaders-plan-to-allow-employees-to-work-remotely-some-of-the-time>

Baker, M. (2021, January 4). *9 tips for managing remote employees*. Smarter with Gartner. www.gartner.com/smarterwithgartner/9-tips-for-managing-remote-employees/

Barton, S. (2019, November 20). Why designing for dementia means designing for everyone. *Work in Mind*. <https://workinmind.org/2019/11/20/designing-for-dementia/>

Beatley, T. (2018). Biophilic flourishing: The role of nature in creating healthy cities. In T. Beatley, C. Jones, & R. Rainey (Eds.), *Healthy Environments, Healing Spaces* (pp. 81–106). University of Virginia Press. doi:10.2307/j.ctv8d5sgp.8

Boland, B., de Smet, A., Palter, R., & Sanghvi, A. (2020, June 8). *Reimagining the office and work life after COVID-19*. <https://view.ceros.com/mckinsey/coronavirus-promo-video-desktop>

Bolt, L. (2019, May 28). The science behind smart office design. *Ideas*. <https://www.wework.com/ideas/office-design-space/the-science-behind-smart-office-design>

Boubekri, M., Cheung, I. N., Reid, K. J., Wang, C.-H., & Zee, P. C. (2014). Impact of windows and daylight exposure on overall health and sleep quality of office workers: A case-control pilot study. *Journal of Clinical Sleep Medicine*, 10(6), 603–611. doi:10.5664/jcsm.3780 PMID:24932139

British Council of Offices (BCO). (2018). *Wellness matters: British Council for Offices completes major research study into health and wellbeing in offices*. <https://www.bco.org.uk/News/News34396.aspx>

Brown, D. (2020, November 17). *Coronavirus: How to be happier while working from home*. BBC. <https://www.bbc.com/news/uk-54886125>

Buettner, D. (2011). *Thrive: Finding happiness the blue zones way* (Illustrated ed). National Geographic.

Burton, J. (2010). Who healthy workplace framework and model: Background and supporting literature and practices (No. 1). World Health Organization.

Busciantella-Ricci, D., & Scataglini, S. (2019). *A co-model for research through co-design*. Academic Press.

Byron, K., & Laurence, G. A. (2015). Diplomas, photos, and tchotchkes as symbolic self-representations: Understanding employees' individual use of symbols. *Academy of Management Journal*, 58(1), 298–323. doi:10.5465/amj.2012.0932

Campbell, L. (2017, October 19). We've broken down your entire life into years spent doing tasks. *Huffington Post*. https://www.huffingtonpost.com.au/2017/10/18/weve-broken-down-your-entire-life-into-years-spent-doing-tasks_a_23248153/

Caramela, S. (2018, February 21). 4 ways to create a healthier workplace for your employees. *Business News Daily*. <https://www.businessnewsdaily.com/10065-create-healthy-workplace.html>

Center for Active Design (CfAD). (2021, February). *About Fitwel*. <https://fitwel.org/>

Centers for Disease Control and Prevention (CDC). (2020, July 24). *Communities, schools, workplaces, and events*. <https://www.cdc.gov/coronavirus/2019-ncov/community/index.html>

Channon, B. (2019). *Happy by design: A guide to architecture and mental wellbeing*. RIBA Publishing. doi:10.4324/9780367814625

Chartered Institute of Personnel and Development (CIPD). (2020). *Health and well-being at work*. https://www.cipd.co.uk/Images/health-and-well-being-2020-report_tcm18-73967.pdf

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2), 216–236. doi:10.1007/11031-014-9450-1

Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, 84(1), 97–110. doi:10.1037/0022-3514.84.1.97 PMID:12518973

Cohen, A., Hoskins, D., Shick, R., & Taylor, L. (2021). *Design forecast 2021: Reconnect* (Design Strategies for a Post-COVID World). Gensler.

Csikszentmihalyi, M. (2008). *Flow: The psychology of optimal experience* (1st ed.). Harper Perennial.

Csikszentmihalyi, M. (2014). *Flow and the foundations of positive psychology the collected works of Mihaly Csikszentmihalyi* (1st ed.). Springer.

Dai, D., Prussin, A. J. II, Marr, L. C., Vikesland, P. J., Edwards, M. A., & Pruden, A. (2017). Factors shaping the human exposome in the built environment: Opportunities for engineering control. *Environmental Science & Technology*, 51(14), 7759–7774. doi:10.1021/acs.est.7b01097 PMID:28677960

Daum, K. (2017, January 20). *25 ways you can make your life healthier in the office*. Inc.Com. <https://www.inc.com/kevin-daum/25-ways-you-can-make-your-life-healthier-in-the-office.html>

Davis, D. (2020, November). *The workplace beyond 2020*. Hassell. <https://www.hassellstudio.com/conversation/the-workplace-beyond-2020>

de Botton, A. (2007). *The architecture of happiness*. Penguin.

de Lange, M. (2013). The smart city you love to hate: Exploring the role of affect in hybrid urbanism. *ResearchGate*, 8.

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, 9(1), 1–11. doi:10.1007/10902-006-9018-1

Eudaemonic Design to Achieve Well-Being at Work, Wherever That May Be

Deloitte. (2021, February 17). JLL: Human-centric tech will recast the workplace. *The Wall Street Journal*. <https://deloitte.wsj.com/cio/2021/02/17/jll-human-centric-tech-will-recast-the-workplace/>

Detwiler, J. (2020, October 23). *You are your workspace*. Medium. <https://forge.medium.com/you-are-your-workspace-eede562b36fb>

Franklin, N. (2021, March 1). *Zoom fatigue is real and has four basic causes*. Workplace Insight. <https://workplaceinsight.net/zoom-fatigue-is-real-and-has-four-basic-causes/>

Gensler. (2021). *Design forecast 2021: Places and spaces in a post-covid world*. https://www.gensler.com/research-insight/publications/design-forecast/reconnect?utm_source=gensler-home-dsk

Gensler Research Institute. (2021). *Workplace surveys: Research and insight*. Gensler. <https://www.gensler.com/research-insight/workplace-surveys>

Gerdman, D. (2020, March 16). *How the coronavirus is already rewriting the future of business*. HBS Working Knowledge. <https://hbswk.hbs.edu/item/how-the-coronavirus-is-already-rewriting-the-future-of-business>

Gershon, L. (2017, September 12). *Does a job need to be meaningful?* The Orange Dot. <https://www.headspace.com/blog/2017/09/12/meaningful-job/>

Global Wellness Institute (GWI). (2018). *Build well to live well: Wellness lifestyle real estate & communities*. <https://globalwellnessinstitute.org/industry-research/wellness-real-estate-communities-research/>

Goldhagen, S. W. (2017). *Welcome to your world: How the built environment shapes our lives* (1st ed.). Harper.

Gourarie, C. (2021, February 12). Spotify will allow its staff to work from anywhere permanently. *Commercial Observer*. <https://commercialobserver.com/2021/02/spotify-will-allow-its-staff-to-work-from-anywhere-permanently/>

Griffiths, K., & Clarence-Smith, L. (2021, February 24). HSBC to cut office space by 40 per cent. *The Times*. <https://www.thetimes.co.uk/article/hsbc-to-cut-office-space-by-40-per-cent-xgg3dxq3w>

Güntert, S. (2014). The impact of work design, autonomy support, and strategy on employee outcomes: A differentiated perspective on self-determination at work. *Motivation and Emotion*, 39(1), 74–87. doi:10.1007/11031-014-9412-7

GW. (2020). *Statistics and facts*. <https://globalwellnessinstitute.org/press-room/statistics-and-facts/>

Harvard, T. H. C. (2021). *9 Foundations of a Healthy Building*. 9 Foundations. <https://9foundations.forhealth.org/>

Hatcher, J. (2018, November 1). Smart building controls are delivering a way to wellness. *Smart Buildings Magazine*. <https://smartbuildingsmagazine.com/features/smart-building-controls-are-delivering-a-way-to-wellness>

Higgins, D., & Bianzino, N. M. (2020, October 12). Tech should enable change, not drive it. *Harvard Business Review*, 6.

Institute for the Future (IFTF). (2020). *After the pandemic: Writing the stories of the future*. Writing the Stories of the Future. <https://www.iftf.org/our-work/health-self/whathappensnext/writing-the-stories-of-the-future/>

International Labour Organization (ILO). (2008). *Seoul declaration on safety and health at work*. https://www.ilo.org/safework/info/promo/WCMS_151736/lang--en/index.htm

International WELL Building Institute (IWBI). (2021). *WELL v2 standard*. <https://v2.wellcertified.com/wellv2/en/overview>

Iqbal, M. (2020, October 30). *Zoom revenue and usage statistics*. Business of Apps. <https://www.businessofapps.com/data/zoom-statistics/>

Jones, M., Rice, L., Meraz, F., & ProQuest. (2019). *Designing for health & wellbeing: Home, city, society*. Vernon Press.

Kehrt, S. (2020, December 15). The ‘healthy building’ surge will outlast the pandemic. *Wired*. <https://www.wired.com/story/healthy-building-outlast-pandemic/>

Khazan, O. (2020, May 4). Work from home is here to stay. *The Atlantic*. <https://www.theatlantic.com/health/archive/2020/05/work-from-home-pandemic/611098/>

Kim, J., & de Dear, R. (2013). Workspace satisfaction: The privacy-communication trade-off in open-plan offices. *Journal of Environmental Psychology*, 36, 18–26. doi:10.1016/j.jenvp.2013.06.007

Klepeis, N. E., Nelson, W. C., Ott, W. R., Robinson, J. P., Tsang, A. M., Switzer, P., Behar, J. V., Hern, S. C., & Engelmann, W. H. (2001). The National Human Activity Pattern Survey (NHAPS): A resource for assessing exposure to environmental pollutants. *Journal of Exposure Science & Environmental Epidemiology*, 11(3), 231–252. doi:10.1038/j.jea.7500165 PMID:11477521

Knight, C., & Haslam, S. A. (2010). The relative merits of lean, enriched, and empowered offices: An experimental examination of the impact of workspace management strategies on well-being and productivity. *Journal of Experimental Psychology. Applied*, 16(2), 158–172. doi:10.1037/a0019292 PMID:20565201

Kondō, M., & Sonenshein, S. (2020). *Joy at work: Organizing your professional life*. Little, Brown Spark.

Lass, H. (2018). Developing intra-personal skills as a proactive way to personal sustainability. In O. Parodi & K. Tamm (Eds.), *Personal Sustainability: Exploring the Far Side of Sustainable Development* (1st ed., pp. 21–21). Routledge. doi:10.4324/9781315159997-7

Layard, P. R. G. (2005). *Happiness: Lessons from a new science*. Penguin Press.

Leinonen, T. (2020, December 28). Wellbeing of a university community and its members during remote working. *Teemu Leinonen*. <https://teemuleinonen.fi/2020/12/28/wellbeing-of-a-university-community-and-its-members-during-remote-working/>

Liu, J. (2020, May 27). *So your company has said you can work from home forever—Now what?* CNBC. <https://www.cnbc.com/2020/05/27/so-your-company-has-said-you-can-work-from-home-forever-now-what.html>

- Lucchesi, E. L. B. (2019, January 3). The unbearable heaviness of clutter. *The New York Times*. <https://www.nytimes.com/2019/01/03/well/mind/clutter-stress-procrastination-psychology.html>
- Martela, F., & Riekkari, T. J. J. (2018). Autonomy, competence, relatedness, and beneficence: A multicultural comparison of the four pathways to meaningful work. *Frontiers in Psychology*, 9, 1157. doi:10.3389/fpsyg.2018.01157 PMID:30042710
- McLaurin, J. P. (2021). *5 trends driving the new post-pandemic workplace*. Gensler. <https://www.gensler.com/research-insight/blog/5-trends-driving-the-new-post-pandemic-workplace>
- McLaurin, J. P., & Barber, C. (2020, December 8). *Surprising truths about the new hybrid workplace*. Gensler. <https://www.gensler.com/research-insight/blog/surprising-truths-about-the-new-hybrid-workplace>
- Medina, S. (2019, May 7). *How the “happiness industry” is changing architecture*. Metropolis. <https://www.metropolismag.com/architecture/cca-happy-life-architecture-exhibition/>
- Memoori. (2020). *Occupancy analytics and in-building location based services research: Commercial office space 2019 to 2024*. <https://memoori.com/portfolio/occupancy-analytics-in-building-location-based-services/>
- Moss, J. (2019, December 11). Burnout is about your workplace, not your people. *Harvard Business Review*. <https://hbr.org/2019/12/burnout-is-about-your-workplace-not-your-people>
- Moss, J. (2021, February 10). Beyond Burned Out. *Harvard Business Review*. <https://hbr.org/2021/02/beyond-burned-out>
- Mudditt, J. (2020, May). *How offices will change after coronavirus*. BBC. <https://www.bbc.com/worklife/article/20200514-how-the-post-pandemic-office-will-change>
- Murray, B. (2020, November 17). *Tomorrow’s office to be a mix of work styles, workspaces: JLL*. Commercial Property Executive. <https://www.cpexecutive.com/post/tomorrows-office-to-be-a-mix-of-work-styles-workspaces-jll/>
- Nieuwenhuis, M., Knight, C., Postmes, T., & Haslam, S. A. (2014). The relative benefits of green versus lean office space: Three field experiments. *Journal of Experimental Psychology. Applied*, 20(3), 199–214. doi:10.1037/xap0000024 PMID:25068481
- Novet, J. (2020, August 7). *Atlassian tells employees they can work from home indefinitely*. CNBC. <https://www.cnbc.com/2020/08/07/atlassian-tells-employees-they-can-work-from-home-indefinitely.html>
- Orsini, C., & Rodrigues, V. (2020). Supporting motivation in teams working remotely: The role of basic psychological needs. *Medical Teacher*, 42(7), 828–829. doi:10.1080/0142159X.2020.1758305 PMID:32366152
- Parker, K., Horowitz, J. M., & Minkin, R. (2020, December 9). How coronavirus has changed the way Americans work. *Pew Research Center’s Social & Demographic Trends Project*. <https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/>

- Pelta, R. (2020, September 21). *Survey: Productivity, work-life balance improves during pandemic*. FlexJobs Job Search Tips and Blog. <https://www.flexjobs.com/blog/post/survey-productivity-balance-improve-during-pandemic-remote-work/>
- Penny, J. (2020, November 12). *Five ways buildings can improve mental health (Greenbuild 2020)*. Buildings. <https://www.buildings.com/articles/42623/buildings-improve-mental-health>
- Petersen, A. H. (2020, December 23). Are you sure you want to go back to the office? *The New York Times*. <https://www.nytimes.com/2020/12/23/opinion/covid-offices-remote-work.html>
- Pirschel, C. (2020, April 15). *Places matter: Best practices for working from home*. International WELL Building Institute. <https://resources.wellcertified.com/articles/places-matter-best-practices-for-working-from-home/>
- Pradere, F. (2020). *Reimagining Human Experience* (No. 1). Jones Lang LaSalle.
- PricewaterhouseCoopers (PwC). (2021, February). *Changing places: How hybrid working is reinventing the Australian CBD*. <https://www.pwc.com.au/important-problems/future-of-work-design-for-the-future/changing-places-australian-cbd.html>
- Prüss-Üstün, A., & Corvalán, C. (2006). *Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease*. World Health Organization.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, 26(4), 419–435. doi:10.1177/0146167200266002
- Rizzi, N. (2021, February 9). Salesforce to allow remote work for most staff permanently. *Commercial Observer*. <https://commercialobserver.com/2021/02/salesforce-to-let-most-staff-work-remote-permanently/>
- Roberts, T. (2016, December 15). *We spend 90% of our time indoors: Says who?* BuildingGreen. <https://www.buildinggreen.com/blog/we-spend-90-our-time-indoors-says-who>
- Rosone, M. (2019, April 8). *Office temperature and productivity in the workplace*. Arista. <https://aristair.com/blog/office-temperature-and-productivity-in-the-workplace/>
- Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist*, 55(1), 68–78. doi:10.1037/0003-066X.55.1.68 PMID:11392867
- Ryan, R. M., & Deci, E. L. (2001). On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, 52(1), 141–166. doi:10.1146/annurev.psych.52.1.141
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Publications. doi:10.1521/978.14625/28806
- Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: A self-determination theory perspective on eudaimonia. *Journal of Happiness Studies*, 9(1), 139–170. doi:10.1007/10902-006-9023-4

- Ryan, R. M., Weinstein, N., Bernstein, J., Brown, K. W., Mistretta, L., & Gagné, M. (2010). Vitalizing effects of being outdoors and in nature. *Journal of Environmental Psychology*, 30(2), 159–168. doi:10.1016/j.jenvp.2009.10.009
- Scruggs, G. (2021, February 28). Co-working companies tap into customers facing work-from-home fatigue. *Washington Post*. <https://www.washingtonpost.com/road-to-recovery/2021/02/28/remote-work-flex-office-work-home/>
- Shade, M. (2020, April 20). *Pro tips for working from home and staying healthy*. CNN. <https://www.cnn.com/2020/04/20/health/staying-well-working-from-home/index.html>
- Slattery, P., Saeri, A. K., & Bragge, P. (2020). Research co-design in health: A rapid overview of reviews. *Health Research Policy and Systems*, 17(1), 1–13.
- Smith, J. (2020, November 23). *The workplace to become more human-centric than ever, as priorities change*. Workplace Insight. <https://workplaceinsight.net/the-workplace-to-become-more-human-centric-than-ever-as-priorities-change/>
- Smith, J. (2021, February 19). *‘Zoom rooms’ and breakout space top of the agenda for post-COVID offices*. Workplace Insight. <https://workplaceinsight.net/zoom-rooms-and-breakout-space-top-of-the-agenda-for-post-covid-offices/>
- Society for Human Resource Management (SHRM). (2020, March 25). *Reduction in force (RIF) strategy and selection checklist*. <https://www.shrm.org/resourcesandtools/tools-and-samples/hr-forms/pages/downsizingchecklist.aspx>
- Spangler, A., & McLeod, V. (2020, April 24). *New rhythms of working: How to work WELL from home*. <https://resources.wellcertified.comzh-cn//articles/working-well-from-home>
- Stevens, R., Petermans, A., & Vanrie, J. (2014). Converting happiness theory into (interior) architectural design missions. Designing for subjective well-being in residential care centers. *Proceedings of the Annual Architectural Research Symposium in Finland*, 53–67.
- Tabb, P. J. (2021). *Biophilic urbanism: Designing resilient communities for the future*. Routledge.
- Taysom, T. (2021, February 24). *Post-Covid offices will become cultural hubs and even art galleries to tempt staff back to the office*. CityAM. <https://www.cityam.com/post-covid-offices-will-become-cultural-hubs-and-even-art-galleries-to-tempt-staff-back-to-the-office/>
- Thaler, R. H. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.
- Thompson, D. (2020, March 13). The Coronavirus experiment in working from home. *The Atlantic*. <https://www.theatlantic.com/ideas/archive/2020/03/coronavirus-creating-huge-stressful-experiment-working-home/607945/>
- Timm, S., Gray, W. A., Curtis, T., & Chung, S. S. E. (2018). Designing for health: How the physical environment plays a role in workplace wellness. *American Journal of Health Promotion*, 32(6), 1468–1473. doi:10.1177/0890117118779463b PMID:29972070

UK Green Building Council (UKGBC). (2017, September 21). *Health, wellbeing and productivity in offices: The next chapter for green building*. <https://www.ukgbc.org/ukgbc-work/health-wellbeing-productivity-offices-next-chapter-green-building/>

Vaughn, K. (2018, May 5). *You will spend 90,000 hours of your lifetime at work. Are you happy?* Medium. <https://kassandravaughn.medium.com/you-will-spend-90-000-hours-of-your-lifetime-at-work-are-you-happy-5a2b5b0120ff>

Walsh, C. (2019, June 20). Harvard researchers outline steps to a healthy home. *Harvard Gazette*. <https://news.harvard.edu/gazette/story/2019/06/harvard-researchers-outline-steps-to-a-healthy-home/>

Waterman, A. S. (2013). *The best within us: Positive psychology perspectives on eudaimonia* (1st ed.). American Psychological Association. doi:10.1037/14092-000

Weed, J. (2020, June 21). How to succeed in your office job when there is no office. *The New York Times*. <https://www.nytimes.com/2020/06/21/business/work-home-coronavirus.html>

Wellness Council of America (WELCOA). (2021). *The key to creating thriving organizations*. <https://www.welcoa.org/blog/definition-of-wellness/>

WHO. (2021, February 27). *WHO Coronavirus Disease (COVID-19) dashboard*. <https://covid19.who.int>

Wiberg, M. (2020, March-April). Interaction and architecture is dead: Long live architectural interactivity! *Interaction*, 27(2), 72–75. doi:10.1145/3378567

Wiig, A. (2015). IBM's smart city as techno-utopian policy mobility. *City*, 19(2–3), 258–273. doi:10.1080/13604813.2015.1016275

Work in Mind. (2020, November 19). *Safety concerns driving continued demand for remote working*. <https://workinmind.org/2020/11/19/safety-concerns-driving-continued-demand-for-remote-working/>

Work in Mind. (2021a, January 20). *Hybrid working: Hybrid model of work is being led by 18-24-year-olds*. <https://workinmind.org/2021/01/20/hybrid-working-hybrid-model-of-work-is-being-led-by-18-24-year-olds/>

Work in Mind. (2021b, February 10). *Workers report a cycle of fatigue when working from home*. <https://workinmind.org/2021/02/10/pedalling-furiously-workers-report-a-cycle-of-fatigue-when-working-from-home/>

Work in Mind. (2021c, February 16). *How do we really feel about working from home? – Microsoft explains*. <https://workinmind.org/2021/02/16/how-do-we-really-feel-about-working-from-home-microsoft-has-the-answers/>

World Green Building Council (WorldGBC). (2016). *Health, wellbeing and productivity in offices: The next chapter for green building*. World Green Building Council (WorldGBC).

World Health Organization (WHO). (2020, August). *World Health Organization Constitution*. <https://www.who.int/about/who-we-are/constitution>

Wyon, D. P. (2004). The effects of indoor air quality on performance and productivity. *Indoor Air*, 14(Suppl 7), 92–101. doi:10.1111/j.1600-0668.2004.00278.x PMID:15330777

ADDITIONAL READING

Allen, J. G., & Macomber, J. D. (2020a). *Healthy buildings: How indoor spaces drive performance and productivity* (3rd ed.). Harvard University Press.

Baker, M. (2020, July 14). *Gartner survey reveals 82% of company leaders plan to allow employees to work remotely some of the time*. Gartner. <https://www.gartner.com/en/newsroom/press-releases/2020-07-14-gartner-survey-reveals-82-percent-of-company-leaders-plan-to-allow-employees-to-work-remotely-some-of-the-time>

Cohen, A., Hoskins, D., Shick, R., & Taylor, L. (2021). *Design forecast 2021: Reconnect* (Design Strategies for a Post-COVID World). Gensler.

Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, 9(1), 1–11. doi:10.1007/10902-006-9018-1

Pradere, F. (2020). *Reimagining Human Experience* (No. 1). Jones Lang LaSalle.

Prüss-Üstün, A., & Corvalán, C. (2006). *Preventing disease through healthy environments: Towards an estimate of the environmental burden of disease*. World Health Organization.

Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: A self-determination theory perspective on eudaimonia. *Journal of Happiness Studies*, 9(1), 139–170. doi:10.1007/10902-006-9023-4

Waterman, A. S. (2013). *The best within us: Positive psychology perspectives on eudaimonia* (1st ed.). American Psychological Association. doi:10.1037/14092-000

World Green Building Council (WorldGBC). (2016). *Health, wellbeing and productivity in offices: The next chapter for green building*. World Green Building Council (WorldGBC).

KEY TERMS AND DEFINITIONS

Autonomy: One of the three tenets of Self-Determination Theory; refers to the need to have a feeling of control in life, feel ownership of behavior, and maintain volition in actions.

Competence: One of the three tenets of Self-Determination Theory; refers to the need to be able to do enjoyable activities, feel effective in taking action (ideally to the point of mastery), and produce good outcomes and desired results.

COVID-19 Era: The period commencing in early 2020, when COVID-19 was recognized as a global pandemic.

Eudaemonia: Originating from neo-Aristotelian philosophy, refers to flourishing health, happiness, and “living life in a full and deeply satisfying way” (Deci & Ryan, 2008, p. 1). Alternate spelling is Eudaimonia or Eudemonia.

Eudaemonic Well-Being: A perspective on well-being that originated with Ryan and Deci’s (2001) take on eudaemonia and evolved into a combined subjective and objective interpretation considered in both narrow (self-realization) and broad (flourishing) terms; this paper recognizes the broad (flourishing) definition by Waterman (2013) that represents a eudaemonia-driven perspective on flourishing physical, mental, and social health (compare to well-being).

Exposome: A measure of all the exposures of an individual in their lifetime and how these relate to health; includes exposures before birth and environmental and occupational sources.

Health: The physical, mental, and social conditions of the body; being free of illness, disease, or injury (compare to well-being).

Miro: A software tool that enables online mind-mapping and a centralized means of team collaboration.

Personal Protective Equipment (PPE): Anything used or worn to minimize risks to workers' health and safety, including face masks.

Post-COVID-19: A term relating to countries or areas considered to be of minimal contagion risk and therefore no longer requiring mandatory personal protective equipment use or large-scale lockdowns; an era that is likely to overlap with COVID-19 eras of other countries and likely to be significantly shaped by the widespread uptake of COVID-19 vaccines.

Pre-COVID-19: The period occurring before the COVID-19 era began in early 2020.

Relatedness: One of the three tenets of Self-Determination Theory; refers to the need to enjoy good social relations, promote effective relationships, and establish a sense of belonging.

Self-Determination Theory (SDT): A theory established by Richard Ryan and Edward Deci (Ryan & Deci, 2000) that is based on empowerment and concepts of intrinsic motivation, centering around three cornerstones: autonomy, competence, and relatedness.

Trello: A software tool that supports individual worker task organizing and collective team project management scheduling.

Well-Being: A holistic balance of optimal physical, mental, and social health dimensions (compare to wellness).

Wellness: The quality or state of being in good health; the process of improving aspects of health to attain well-being (compare to well-being).

Worker: Anyone who performs paid or unpaid work in any capacity for an employer, business, or organization; synonymous with employee and may include contractors and subcontractors.

Working From Anywhere (WfA): The idea that work can occur in any location, including any historical model; encompasses Work from Home, Work from Near Home, and Work from Office workplace models; also known as Work from Anywhere.

Working From Home (WfH): A spatial model of work in which the worker engages in work from their home; also known as Work from Home.

Working From Near Home (WfNH): A spatial model of work that has evolved into a variety of locations within local geographical proximity to the worker's home, reducing the need for significant commuting; includes a company's decentralized or satellite office; local café, public library, or park; or coworking space; also known as Work from Near Home.

Working From Office (WfO): A spatial model of work in which the worker attends a physical corporate workplace, often referred to as the office, to engage in work; also known as Work from Office.

Workplace: The comprehensive "office" environment (e.g., individual cubicle or conglomeration of workspaces); was traditionally defined to focus on the Work from Office model and associated "workplace", but the definition has now been extended to include all Work from Anywhere model places where workers carry out their day-to-day work.

Workplace Wellness: A concept relating to the ongoing improvement of workplace conditions to improve worker and thereby organizational health (compare to wellness).

Workspace: The immediate working area (e.g., desk, chair, computer) of a worker, regardless of physical workplace; may include desk-space alone, a cubicle, or an enclosed office (compare to workplace).

Zoom: A software tool that offers video-conferencing capabilities to remote workers.