

Workplace Well-being: Cultivating a Resilient Organizational Culture

by

Caitlin E. Iverson

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The dissertation is approved by the following members of the Final Oral Committee:

Patty Loew, Co-chair, Professor Emeritus, Life Sciences Communication
Dominique Brossard, Co-chair, Professor, Life Sciences Communication
Richard J. Davidson, Professor, Psychology
Patrick Remington, Professor Emeritus, Population Health Sciences
Paul Robbins, Professor, Environmental Studies
Rob Beattie, Faculty Associate, Environmental Studies
Tom Eggert, Faculty Associate, Environmental Studies

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Finally, an African Proverb that inspired the tone for much of this work, *“If you want to go fast, go alone. If you want to go far, go together.”* In order to create a culture of well-being, we must go together.

ABSTRACT

This dissertation explores workplace well-being. Chapter 1 presents a rationale for well-being, and clarifies the concepts of well-being, mindfulness and neuroplasticity.

As growing interest increases worldwide in the concept of mindfulness, it is important to establish what mindfulness means, and what it does not include. Chapter two provides a concept analysis of workplace mindfulness, specifically noting the need for methodological rigor, objective measures, and indicators of community well-being.

Workplace intervention research concentrates mostly on the efficacy of the intervention, but typically does not emphasize efforts in organizational readiness and communication plans. Chapter three explores strategies for cultivating well-being by incorporating theories of health communication, organizational readiness, and diversity inclusion in the implementation of an employee well-being program.

From an exploratory study of employee health beliefs, motives, and perceptions, I developed recommendations and strategies to cultivate a resilient organizational culture, and a business rationale for well-being. Whether the motive is a.) improving performance and productivity, b.) reducing health care costs and stress, c.) enhancing organizational relationships and climate, d.) decreasing burnout and turnover, or e.) all of the above in order to remain competitive, organizations should strongly consider incorporating employee well-being as part of their strategic plan.

Chapter five provides directions for future research, highlighting the importance of theory-based investigations, expansion of the scope of work-related outcomes studied, and the continued study of best practices for creating contemplative workplace communities. A proposed study is introduced in a higher education setting with the focus of well-being and sustainability for healthy minds, community and planet.

Finally, I emphasize the importance of a collaborative research team with health communication researchers, bioethicists, organizational change researchers, evaluators, sustainable business experts, leadership development specialists, data scientists and well-being researchers in order to make a sustainable impact and resilient culture change.

CHAPTER 1. Overview of Workplace Well-being and Contemplative Practices

Biographical note:

In my graduate career, I cultivated my academic voice to one that bridges research to practice and can communicate the nuances of scientific discoveries into digestible information for the broader community. Through community engaged research, I have been able to respond to questions from industry, organizations and community members; and ensured shared meaning of concepts like well-being, by expanding our common understanding with each conversation. As a scientist, I see myself as a communicator, connecting bodies of literature that often exist in silos, as well as translating academic discourse across disciplines. My ultimate goal for this dissertation is to be useful to both academics exploring workplace well-being, and for organizations undergoing transformations in their corporate culture. I will begin the even chapters (2 and 4) with an overview as if addressing a broader audience much like a white paper, then transition into a more traditional academic paper. This first chapter is intended to be entirely for promoting science literacy.

1.1 Introduction

In this dissertation I explore workplace well-being, specifically seeking to understand why businesses embrace employee mental health. I examine approaches in implementing organizational change, incorporating a contemplative corporate culture and cultivating well-being with diverse populations. I present best practices in communicating both the business and personal rationale for resilience practices. I will discuss commonly referred to outcomes such as, increasing performance and reducing stress and finally address how to incorporate contemplative practices and highlight examples from mindful leaders.

Chapter one of this dissertation is an overview, I will present a rationale for workplace well-being, clarify the meaning of well-being and mindfulness, and briefly explain the concept of mindfulness and neuroplasticity.

Richard Davidson is a pioneer in researching qualities of a healthy mind. His research has shown that well-being, much like most skills in life, can be learned. His vision for 2030 is that “mental exercise will be regarded with as much attention as physical exercise.” I believe that just like a triathlon is not for every physical body, a 10-day silent meditation retreat is not for every mind. That said, just as there are numerous

options for engaging in physical activity such as walking, gardening, swimming, running, competitive sports, weight lifting and stretching. Similarly, there are an ever-increasing number mental exercises that can range from quiet sitting, guided meditation to journaling.

Workplace Well-being

For many years, the discourse of workplace wellness in public health revolved around access to physical fitness classes and quality of the cafeteria food. The contemplative or mindful movement is expanding wellness to well-being and incorporating mental health, sleep, community involvement and quality relationships into the discussion. Yet, even the term mental health has historically been used to discuss illness rather than positive connotations of mental fitness. If we embrace the broader use of this term, we can think about training our minds the way we think about training our muscles. In this perspective, the conversation around workplace well-being expands to stress management, contemplative meetings, quiet spaces, and flexible work hours.

After a 4-week course on cultivating well-being that focused on contemplative practices, the Chief Executive Officer of UW Health commented, “I now see well-being skills not as a luxury, but as an investment.” People often view self-care as a luxury, when in reality, we cannot attend to our families, our colleagues, or our projects unless we first attend to ourselves.

1.2 Mindfulness and Contemplative Practices

Mindfulness is a word with many different meanings, even within the field of well-being research there are two distinctly different definitions where one path discusses mindfulness meditation as a way to ameliorate negative health effects and the other focuses on mindfulness practices that promote creativity, collaboration and connection. Based on the confusion with the word mindfulness, I recommend using the terms contemplative, awareness or resilient practices. Contemplative practices refer to all the different exercises that build awareness and connection with the ultimate goal to create the space to make the best decisions. For example, contemplative practices include walking meditations, rituals, yoga, dance, deep listening, volunteering, drawing, visualizations and mindfulness meditations.

See Figure 1.1 for a visual of contemplative practice examples that are in the categories of stillness practices, movement practices, community practices, creative practices, and generative practices. Some examples of stillness practices would be silent meditations or movement practices that could include yoga, gardening, and hiking; community practices that might revolve around volunteering; creative practices like singing, drawing, and journaling. Finally, generative practices can be types of visualization meditation practices like

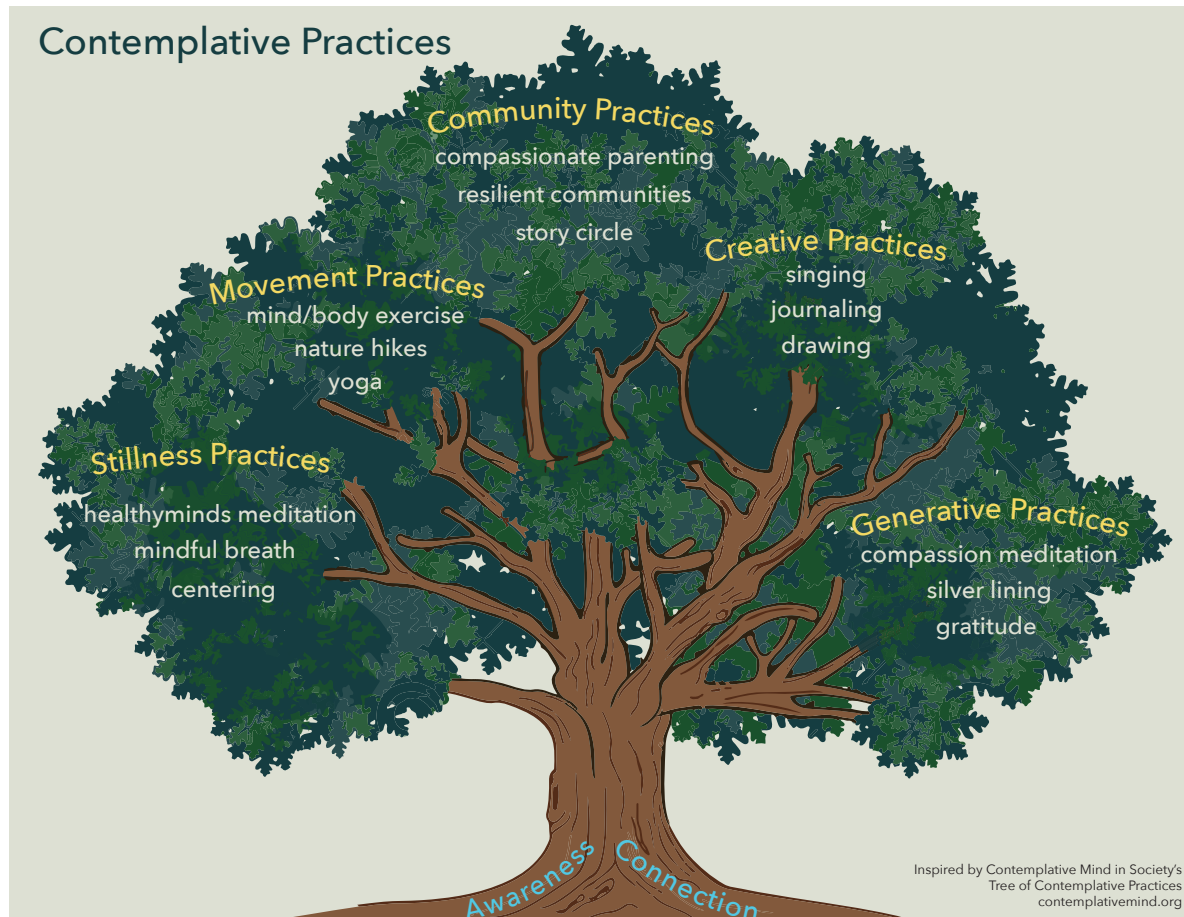


Figure 1.1 Contemplate Practices Example Tree. At the root of every contemplative practice is an exercise that cultivates (self)-awareness and connection (blue). Contemplative practices can be grouped into large branches of stillness, movement, community, creative, and generative practices (yellow). The examples in each of the five categories are three personal examples of the many available examples of contemplative practices (white).

compassion, gratitude and silver lining. The salient belief of mindfulness is that it belongs solely in silent practices category, when in fact it can be incorporated in all of these practices. Thus, it is important to broaden the scope of well-being to be more inclusive and to understand that mindfulness is one component in a larger concept of well-being (Davidson and McEwen, 2012).

Optimal Health

Like a physical workout should incorporate all major muscle groups in their full range of motion, healthy mental exercise ultimately should aim to incorporate several practices in order to cultivate resilience, emotional agility, mental fortitude, purpose and compassion. Or perhaps a better analogy would be to think

about healthy nutrition. We would not want to eat the same vegetable every day; instead, we would diversify our phytochemicals by eating different colored fruits and vegetables to support healthy growth in different areas of our bodies. In addition, optimal health comes with rotating the types of produce with the season, in order to reduce the energy needed to not only digest, but to sustainably procure local food. Our current understanding of the mind and brain is only beginning to discover our human potential. However, I predict that like our muscles and our digestive system; a healthy incorporation of a variety of contemplative practices will increase our quality of life.

We understand that both compassion meditation and loving-kindness meditation practices build one's capacity for altruistic behavior such as compassion, empathy and kindness (Condon, 2019; Jazaieri et al., 2013; Lutz et al., 2008b; Weng et al., 2013). In addition, there is evidence to suggest that loving-kindness meditation can decrease implicit bias (Kang et al., 2014), leading to a more harmonious existence. Body scan meditations supports self-awareness and increased happiness (Bornemann et al., 2015; Dambrun, 2016). Gratitude practices support stronger relationships among many other health benefits including happiness (Emmerling and Boyatzis, 2012; Gordon et al., 2012; Michie, 2009; Sheldon and Lyubomirsky, 2006). I believe that an inclusion of multiple simple practices would cultivate optimum mental health. That said, research shows that finding an activity that is a good personal fit, for example it feels natural, enjoyable, and valuable, increases the likelihood that it will become a habit (Lyubomirsky and Layous, 2013).

Creating a Habit

Again, like exercise and dieting or any good habit we are trying to build for a healthier lifestyle, these practices are best when incorporated into our everyday lives. We can think of mental training as part of our daily hygiene. The more we practice mental hygiene, the more it becomes habitual and it becomes easy to make the healthy choice. We know the importance of physical exercise and proper nutrition, and we as a culture are just beginning to realize that well-being also includes enough sleep, healthy relationships, connection to community, commitment to our planet, financial stability and healthy mental exercise.

Why Mindfulness?

From athletic teams to top businesses and even in popular magazines, our culture is discussing mindfulness. In many circles, the number \$300 Billion per year is attributed to the cost of stress on the economy in the United States alone (cited many times, however the actual study is difficult to find.) This estimate summates absenteeism, diminished productivity, turnover, and medical costs associated with stress. With

ever increasing workloads, and the need to keep up with innovation, digitization, and globalization our culture needs better tools to manage stress.

In the past decade, there has been exponential growth in scientific studies discussing mindfulness, particularly as a tool for reducing stress and creating more resilience. For example, in 2010 there were dozens of published articles in a handful of fields. By 2020 there were thousands of articles in many different schools of thought. While not all of these studies were done with scientific rigor, the point is that there are many, many more studies in many facets of research. There is evidence that mindfulness training reduces stress, anxiety and depression, while improving the immune system and cognitive resources such as attention and memory (Brown and Ryan, 2003; Davidson et al., 2003; Good et al., 2016).

1.3 Neuroplasticity and Mindfulness

Much of this research focuses on neuroplasticity, the brain's ability to change in response to correlative experience and training. Our brains, like our muscles respond and adapt based on experiences. Meditation and other resilience practices train our brains in a calm environment, in hopes of maintaining that sense of clarity during stressful events.

Neuroscience research can explain the relationship between the prefrontal cortex, also referred to as the “thinking brain” because it is responsible for higher cognitive functioning and reasoning, and the amygdala, often referred to as the “emotional brain” because of its responsibility for the perception of certain emotions. When these two parts of the brain communicate, we are able to respond rationally. However, the amygdala does not know the difference between an oncoming attack from a lion and an upsetting email. Both stimuli can trigger a fight, flight or freeze response, often resulting in an emotional reaction or outburst. Conversely, when we consistently practice resilience, we are able to activate our prefrontal cortex in those moments of stress. Ultimately, instead of reacting, we can respond wisely, with purpose. By changing the relationship with our emotions and thoughts we are able to change from a reaction to a response. For example, when we change from identifying with the feeling, “I am angry” to noticing what anger physiologically feels like in the body, the prefrontal cortex is activated, thus creating the opportunity to see different perspectives and choose the best response.

Viktor Frankl, a wise survivor of the holocaust and writer has a famous quote saying “between stimulus and response, there is a space. In that space lies our freedom and our power to choose our response. In our

response lies our growth and our happiness.” Contemplative practices cultivate that space between stimulus and response.

Another way to illustrate this concept of mindfulness and neuroplasticity is to think of your automatic responses like mindless “highways of habit” (term coined by Shauna Shapiro.) In our work lives we have habits of response to emails, coworkers, and phone calls. We are often in this mode of automatically reacting without thinking. Contemplative practices can create a space, sometimes just one breath can provide that space allowing us to think before we act. Every time we take a pause before we respond we exit the mindless highway and take a mindful path instead. Over time we pave a new path so that the automatic response includes a pause to think before we respond.

1.4 Reflections & Recommendations

This work is unique in that it brings together an academic and business perspective. To understand the current workplace well-being research and business landscape, I read over 100 studies, attended conferences, listened to podcasts, and participated in countless webinars. From this foundational knowledge, I was able to provide four overarching recommendations for future investigations.

First, is the need to collaborate. This important work cannot be solved by thought leaders alone, expertise from many different fields including non-academic partners needs to be integrated.

Next, from an academic perspective better indicators of community well-being need to be developed. For example, there are measures to know when a community is unhealthy vs healthy, but there is a spectrum of healthy that are missing in current public health measures.

Many interventions focus on the efficacy of the intervention, but typically not on the readiness of the organization to adopt a change. I recommend several activities such as a communication plan, readiness assessments, and diversity inclusion efforts that are essential to implementing sustainable change.

Finally, I believe there is a reason why resilience is used in both ecological sustainability and psychological health contexts, I see a natural synergy that has untapped potential and recommend a combined effort of well-being and sustainability for a healthy minds, community and planet project. I proposed a resilient workplace project in a higher education setting.

I also conducted interviews with organizations as they implemented an employee well-being program at their organization. From these interviews, I observed outcomes of employee well-being such as improved decision-making, capacity for attention, and effective communication as well as reduced stress, exhaustion, and insomnia.

I examined the notion of workplace well-being from a business perspective. The main rationale includes the importance of reducing stress and the associated costs; increasing attention and cognitive functioning, which can increase productivity and performance; finally, cultivating team cohesion and effective communication. The growing body of evidence for employee emotional well-being demonstrates a clear need to continue to examine this line of inquiry.

There is more work to be done in cultivating well-being in workplaces and in our culture. We are only beginning to understand how to promote well-being both individually and collectively in communities. One thing we know, is that well-being is a skill that can be learned (Center for Healthy Minds). In my career, I plan to collaborate with researchers and organizations interested in creating opportunities for engagement and continued support in healthy, sustainable lifestyles.

1.5 Conclusion of Overview

This dissertation consists of five chapters. Chapter two provides a concept analysis of workplace mindfulness; chapter three focuses on best practices in cultivating resilience by exploring strategies for implementation, using theories of communication and best practices for creating contemplative workplace communities; the forth chapter begins to illuminate why a business might embrace employee well-being and finally, chapter five provides directions for future research, highlighting the importance of theory-based investigations, increased methodological rigor, and an expansion of the scope of work-related outcomes studied.

CHAPTER 2. Concept Analysis of Workplace Mindfulness

Context

As growing interest in the concept of mindfulness increases worldwide, it is important to establish what mindfulness means, and what it does not include. Mindfulness is a universal conceptual term used to broadly define and characterize practices, processes, interventions, mental states and traits associated with the capacity to be present with acceptance, attention, and awareness. Even among the research community there are different definitions, operations and uses that have emerged. In addition, due to its growing use in both research and mainstream culture, the term mindfulness is packed with many concepts, claims and salient beliefs, and its meaning has become increasingly unclear and more and more diluted in substance.

Contemplative Practice

Contemplative practice is the broadest term of mental exercise that can range from solitary stillness practices like meditation to relational practices like deep listening and storytelling. It includes walking meditations, rituals, yoga, dance, activism, volunteering, drawing, visualizations and mindfulness meditations. Contemplative practice can be almost any activity that cultivates connection and awareness. As a comparison, physical exercise is also an umbrella term that includes walking, gardening, swimming, running, playing tag, competitive sports, weight lifting and stretching.

Mindfulness meditation is one of many contemplative practices and can incorporate different types of meditation such as open awareness, complete breath, and loving-kindness meditation. The practice can be silent or guided, and is typically done while sitting or lying down. Like mindfulness meditation, strength training is one of many types of physical exercise and can include a broad range of exercises such as weight lifting, body weight exercises, and suspension training. There are many other forms of physical activity, such as endurance training, calisthenics and daily activities; just like there are many other forms of contemplative practices than solely meditation.

Mindfulness is one of many contemplative practices that promote well-being. Employee well-being includes mindfulness among many other practices that promote cognitive functioning, connection, insight and cre-

ativity. Employee mindfulness solely refers to one type of training in a workplace setting that can improve attention and awareness.

Resilience

While the term contemplative practice has been used in academic discourse for decades, it is not commonly used in corporate settings. According to Whil, a leading company in the field of employee well-being, resilience resonates with non-academic audiences and is less prone to misinterpretation than mindfulness. Resilience refers to the ability “to bounce back from adversity, persevere through difficult times, and return to a state of internal equilibrium” (Edward, 2005, p.143). Resilience is a skill that can be learned as a result of contemplation practices (Lutz et al., 2013; Weng et al., 2018).

Due to the discrepancies among researchers, and the fact that the concept of mindfulness is compounded, I propose using a term with corporations called *resilience practices*. Resilience practices or resilience training could then be akin to the scientific term, contemplative practices for a broader audience.

2.1 Concept Analysis of Workplace Mindfulness

Background

In the past three decades, there has been exponential growth in the body of research and the application of mindfulness concepts. (Baer, 2003; Brown et al., 2007a; Kabat-Zinn, 2016; Shapiro et al., 2008; White, 2014) Research in disciplines such as psychology, psychiatry, neuroscience, and medicine show that mindfulness positively impacts human functioning and psychological well-being. There is a wealth of evidence demonstrating that mindfulness positively affects aspects of well-being, including happiness, life satisfaction, immune system response, and cognitive skills that are essential for high performance such as cognition, attention and focus (Davidson et al., 2003; Grossman et al., 2004; Keng et al., 2011; Langer and Ngnoumen, 2019; Lutz et al., 2008a,b). There is even a growing body of research in organizational management connecting mindfulness practices to favorable corporate climates and workplace outcomes like productivity and decision-making. (Duerr, 2004; Glomb et al., 2011; Good et al., 2016).

Growing Interest

It comes as no surprise that the growing interest in mindfulness in both research and cultural contexts would expand into workplace settings. Our current business culture is characterized by continuous change, increasing complexity, and uncertainty. In the information age, more and more industries are breaking away from the standard office hours of 9am to 5pm. As the pressure to be available increases, so does the number

of highly stressed employees (Reid and Ramarajan, 2016). This state of continuous stress can play a major factor in preventing employees from attending to their personal well-being, and often leads to burnout and a myriad of health issues (Aherne et al., 2016). Burnout is a term that refers to the “multifaceted work-related disorder which includes: emotional exhaustion, depersonalization and reduced personal accomplishment” (Maslach et al., 2001). As we zoom out from the individual to the organizational effects of burnout, we find increased turnover, absenteeism, and unproductive corporate cultures (Potter et al., 2010). Since the business environments of fast-paced, globalization and high demands is not likely to change, there is a need for better tools to manage stress at the individual and cultural level.

Expanding Resources

Organizations have been expanding preventative care resources for their employees from simply offering fitness classes, to education and training in stress management, emotional intelligence and contemplative practices. In 2013, over 35% of US employers offered stress reduction programs to their employees (Birdie, 2015). By 2016, 20% of employers provided mindfulness training Kong and Jolly (2019). That number continues to increase. Organizations like Google (Tan, 2012), Aetna (Wolever et al., 2012), and General Mills (Gelles, 2016) have found that incorporating mindfulness into their corporate culture has not only ameliorated employee stress, but improved cognitive performance such as increased focus (Levy et al., 2012), working memory and emotional regulation (Jha et al., 2010). Many studies have shown that mindfulness training reduces stress, anxiety and depression while improving immune functioning and the cognitive skills that are key to high performance. However, there is still a lack of research in the mechanisms, the measurements and the readiness for mindful organizational change.

Caution

It is important to include here the perceptive and cautionary words of Jon Kabat-Zinn from over a decade ago:

Because interest in mindfulness and its applications to specific affective conditions is likely to increase even further, [...] it becomes critically important that those persons coming to the field with professional interest and enthusiasm recognize the unique qualities and characteristics of mindfulness as a meditative practice, with all that implies, so that mindfulness is not simply seized upon as the next promising cognitive behavioral technique or exercise, decontextualized, and “plugged” into a behaviorist paradigm with the aim of driving desirable change, or of fixing what is broken. (Kabat-Zinn, 2003)

In addition, the question arises, **will the benefits of mindfulness workplaces persist if the motivation is for higher profits rather than higher purpose.**

Thus, we need to be cautious in touting mindfulness, as the panacea to fix everything that is broken in our society and work cultures. Mindfulness practices should be incorporated as one among many strategies to cultivate well-being. There are risks, albeit minimal, to mindfulness at work. For example, mindfulness can be presented inauthentically, such as forcing participation in group meditations during the workday. Other concerns such as the need for trauma-sensitive language and ensuring that the environment, both the culture and space, is inclusive for all employees and all abilities. Finally, we need to be careful not to use mindfulness as a tactic to transfer the blame of poor working conditions onto employees unable to cope with unrealistic demands or toxic work cultures. In addition, as addressed previously, there are misconceptions in real-world uses of the term and its plethora of meanings.

Concept Amalgamation

There is a lack of clarity even among experts and researchers regarding how to define and operationalize mindfulness (Glomb et al., 2011; Grossman, 2008; White, 2014). Additionally, the concept of mindfulness is understood differently and thus used differently across disciplines. One challenge to defining and conceptualizing mindfulness is the inherent difficulty in conceptualizing an experiential process (Shapiro and Carlson, 2009). Despite this challenge, to successfully integrate mindfulness into organizations and evaluate interventions, it must be conceptually developed. A concept analysis of mindfulness can provide clarity in its use, mechanism and operation. This information could be useful for evaluating programs or organizational change tools by highlighting indicators and measures of well-being.

2.2 Rodgers' Evolutionary Method of Concept Analysis

2.3 Conceptualizing Workplace Mindfulness

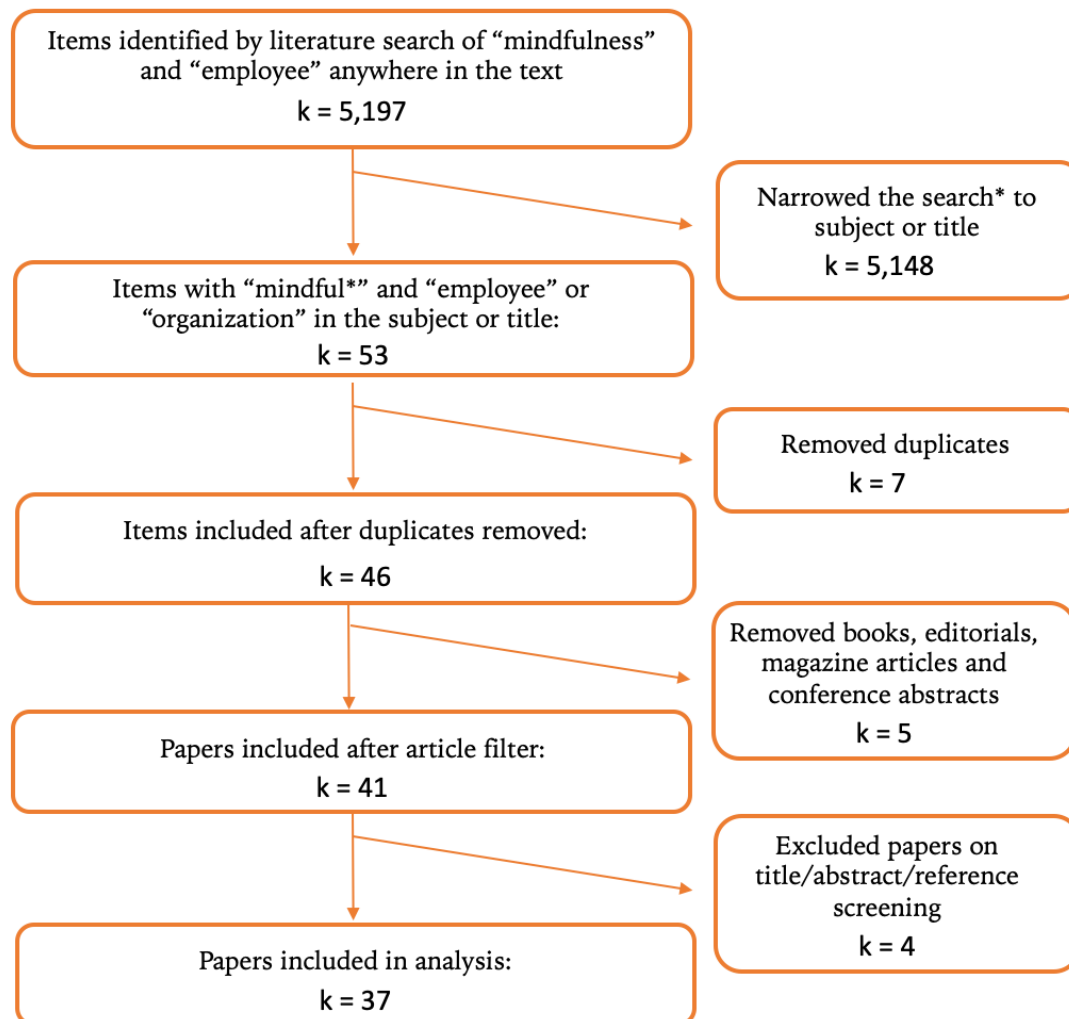
Rodgers' evolutionary method of Concept Analysis (2000) uses the philosophical perspective of concepts as "context-dependent, dynamic and constantly evolving" (Rodgers, 2000, p.97). Additionally, Rodgers' evolutionary concept analysis has been validated as a scientific method (Toftthagen and Fagerstrøm, 2010). The purpose is not to create a definitive definition, instead to describe the current use in order to further develop working knowledge of the concept. A previous concept analysis of mindfulness using Rodgers' evolutionary method of concept analysis narrowed the scope on healthcare and medical journals (White,

2014). The following is a concept analysis of workplace mindfulness using Rodgers' evolutionary method of concept analysis as a theoretical framework widening the scope to all bodies of literature (Rodgers, 2000). Then, narrow the focus to its application and use in organizations and workplace settings across multiple disciplines of research. This approach will be used to capture the current state of workplace mindfulness research in order to provide recommendations and inform future inquiries in this field.

Primary activities in Rodgers' evolutionary method of concept analysis include: identify concept of interest and proxy terms; identify and select setting and sample; collect data with focus on concept attributes, context of concept use, interdisciplinary, sociocultural and temporal variations; analyze data; finally, identify implication and analysis and future development of the concept.

In 2010, there were 16,622 articles published with the word “mindfulness” anywhere in the text. In the next decade that number exponentially increased to 70,506. When the focus is narrowed to include research with employees, in 2010 there were a total of 973, at the time of this search there were 5,197 articles published with “mindfulness” and “employee” anywhere in the text. In order to capture mindfulness and its uses and applications in workplaces, a further filter was added for “mindful*” “employee” or “organization” to be in the subject, abstract or title and that led to a result of 53 articles. A filter to remove duplicates, book reviews, magazine articles, editorials and conference abstracts resulted in 37 journal articles. Description of search terms used and results obtained is shown in Figure 2.1 and are from the UW System Libraries' Article Search that draws from the Primo Central Index. The dates searched were all-inclusive of the Primo Central Index and fell between 1920 and 2019. Inclusion criteria required English journal articles with theoretical or research-based mindfulness in workplaces content. Screening on titles, abstracts and references was conducted to ensure that the studies were mindfulness workplace interventions or contributed to the conceptualization of workplace mindfulness and referenced at least one relevant seminal author (e.g., Ruth Baer, Richard J. Davidson, Jon Kabat-Zinn, Ellen Langer, Shauna Shapiro, and/or John Teasdale). The final sample for this analysis included 37 articles that were published between 2009 and 2019.

All articles in the sample were identified with a number and read through at least once to create a sense of immersion in the concept from the individual and collective works. Code sheets for data management were created with the following categories: rationales, conceptualizations, attributes, measures, consequences, related terms, forms of application, and workplace-specific implications for research and practice. After the first round of coding, the category “methodological issues” was added as many of the research papers had incongruences and study design concerns.



Using mindful in the search includes all words with the root mindful (mindfulness, mindfully, mindful, etc.)

Figure 2.1 Flow Diagram for inclusion criteria

I will refer to the term ‘code’ as defined as “a word or short phrase that assigns a summative, salient, essence-capturing, evocative attribute for a portion of language-based or visual data.” Drawing from *The Coding Manual for Qualitative Researchers*, I used a systematic approach to coding articles that was cyclical and heuristic (Saldaña, 2016, p.4). In each category, common themes were organized and rearranged until the trends were clearly identified and labelled. This analysis focused primarily on future research directions and the development of mindfulness in workplace settings.

Formal analysis should be conducted after completion of data collection according to Rodgers (2000) because often “the researcher [can] get stuck on a particular idea and, consequently, [be] unable to allow the characteristics of the concept to emerge from the data” (Rodgers, 2000, p.94).

2.4 Data Collection

In order to get a sense of current research on workplace mindfulness, I began by reading the systematic reviews of mindfulness interventions in workplaces. I was specifically interested in what sources were cited for rationale; uses of conceptualizations; attributes identified; what measures were used to ascertain outcomes; and any significant outcomes of mindfulness interventions. These became the larger categories I used to begin coding the remaining papers to look for themes and connections.

Unfortunately, many of the reviews found more study design problems than outcomes. These included positive bias reporting, to non-randomized control trials, poor methodology, modifications to training without evaluation on the efficacy of the training. Other criticisms involved not using an operative definition of mindfulness in the training and not measuring intended outcomes. For example, 8 of the 14 studies on resilience training did not even measure resilience in participants, and those that did sometimes used inconsistent definitions of resilience, coping and mindfulness (Robertson et al., 2015). As mentioned earlier, I created a sixth category titled “methodological issues”

The inclusion criteria for this analysis were studies that systematically reviewed mindfulness interventions in workplaces (k=5), shared findings from a mindfulness intervention (k=12), examined beliefs regarding feasibility, acceptance and other workplace implications of mindfulness (k=6), or contributed to the theoretical model and conceptualization of workplace mindfulness (k=14). See Table 2.1 for the complete list of studies with author, year and shortened title.

Contributions from the studies that were included in the 5 systematic reviews (74) augmented this concept analysis; thus a separate concatenated table is found in Appendix Table A.1. The appendix table includes reviewer(s), author, study design, workplace setting, and intervention type.

Table 2.1: List of 37 Articles Included in Concept Analysis of Workplace Mindfulness. Interventions (gray), Beliefs (orange), Theoretical Contributions (yellow) Systematic or Literature Review (green).

To shorten titles, M=Mindfulness

	Author	Year	Shortened Title
1	Aikens et al.	2014	M Goes to Work: Online Workplace Intervention
2	Bartlett et al.	2017	Acceptability, Feasibility, and Efficacy of a Workplace M Program
3	Berthon and Pitt.	2019	Types of M in an age of digital distraction
4	Birdie	2015	M and its role in workplace
5	Charoensukmongkol	2016	The role of M on employee reactions
6	Dane and Brummel	2014	Examining workplace M & job performance and turnover intention
7	de Bruin et al.	2017	Mindful2Work: A Proof of Concept Study
8	Eatough	2015	How Does ee M Reduce Psychological Distress?
9	Gärtner	2013	Enhancing Readiness for Change by Enhancing M
10	Gilmartin et al.	2017	Brief M Practices for Healthcare Providers
11	Good et al.	2016	Contemplating M at Work
12	Gunasekara and Zheng	2019	Examining the effect of different facets of M on work engagement
13	Haun et al.	2018	Being mindful at work & at home
14	Holm	2015	Cultivating alt mindsets to enhance organisational Well-being
15	Hülshager et al.	2015	A low-dose M intervention and recovery from work
16	Jamieson & Tuckey	2017	M interventions in the workplace: A crit of the lit
17	Janssen et al.	2018	Effects of MBSR on employee mental health: A systematic review
18	Kersemaekers et al.	2018	A Workplace M Intervention
19	Klatt et al.	2009	Effects of Low-Dose MBSR on working adults
20	Kong & Jolly	2019	Implicit Mindfulness Theory & Its Workplace Implications
21	Lange & Rowold	2019	Mindful leadership: Evaluation of a M-based leader intervention

Table 2.1: List of 37 Articles Included in Concept Analysis of Workplace Mindfulness. Interventions (gray), Beliefs (orange), Theoretical Contributions (yellow) Systematic or Literature Review (green).
To shorten titles, M=Mindfulness

	Author	Year	Shortened Title
22	Lau et al.	2012	Preferences for Access to MBCT to Reduce the Risk of Depression
23	Leroy et al.	2013	M, authentic functioning, and work engagement
24	Li et al.	2018	How Does M Improve Emotion Regulation & Job Performance?
25	Luberto et al.	2017	Feasibility, Acceptability, and Preliminary Effectiveness of M
26	Mellor et al.	2016	M training and employee well-being
27	Pinck & Sonnentag	2018	Leader M and employee Well-Being
28	Ravalier et al.	2016	Systematic review: complementary therapies and ee well-being
29	Reb et al.	2015	Antecedents & Consequences of Awareness & Absent-mindedness
30	Robertson et al.	2015	Resilience training in the workplace from 2003 to 2014
31	Schuh et al.	2019	The Interpersonal Benefits of Leader M
32	Schultz et al.	2015	M, Work Climate, & Psych Need in Well-being
33	Shapiro et al.	2005	MBSR for Health Care Professionals
33	Slutsky et al.	2019	M training improves employee well-being
35	Sutcliffe et al.	2016	M in Organizations: A Cross-Level Review
36	Tuckey et al.	2018	Are state M & state work engagement related during the workday?
37	Wolever et al.	2012	Effective and viable mind-body stress reduction in the workplace

Systematic Reviews

Robertson et al. (2015) reviewed 14 studies on resilience training in the workplace, and was included here as many of the studies measured mindfulness as an outcome. An Occupational Medicine review explored 10 randomized control-trial studies with the aim to determine whether complimentary therapies in workplaces actually improve employee well-being (Ravalier et al., 2016). Gilmartin et al. (2017) reviewed 14 papers and focused on brief mindfulness interventions of less than 4 hours. Also in 2017, Jamieson and Tuckey critiqued 40 papers on workplace mindfulness interventions and identified ways in which the methodology could have

been improved. Janssen et al. 2018 from management research reviewed 24 articles that studied effects of Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982) and Mindfulness-Based Cognitive Therapy (MBCT; Teasdale et al., 2000) on mental health of employees. Of the 24 articles, only 2 were determined to be of high methodological quality (Janssen et al., 2018). From these 5 systematic reviews 101 studies were reviewed, 27 were duplicates in this concept analysis for a total of 74 additional studies.

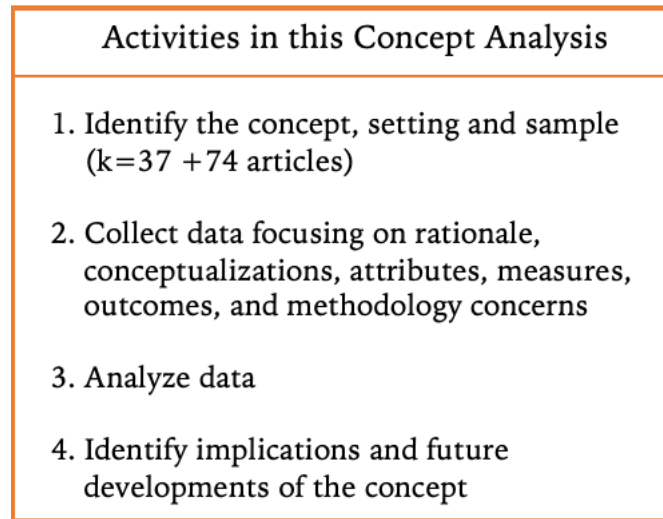


Figure 2.2 Activities in Rodger's Method Adapted for this Concept Analysis

2.5 Data Analysis

2.5.1 Rationales for Workplace Mindfulness

Often at the introduction of a study, there is a rationale for why the researchers believed a mindfulness workplace study is relevant. I was increasingly interested in how workplace mindfulness was presented, as an overarching question in this dissertation is "Why Employee Well-being" and what is the business case for employers.

Cost of Stress

The leading rationale for workplace well-being discusses the cost of stress and need for stress management. This argument often begins with stating the cost of stress at 3 Billion dollars per year on the US economy, how the average employee reports above-average stress levels, and how mindfulness training can reduce stress. Stress is a physical response that prepares the body to respond to challenges, distress arises when demands and pressures are perceived to outweigh individual coping abilities (Cartwright and Cooper, 2014).

An example of the stress rationale used by Aikens et al. states “Occupational pressure is now recognized as the major source of stress for US adults, representing a serious hazard to employee health and productivity (Aikens et al., 2014, p.721).

Job strain characterized by high demands and low job control is a major source of stress for working adults. This leads to physical and mental illness and even risky behaviors such as smoking, drinking, physical inactivity and excessive eating. Stress has been shown to have negative effects on personal health and well-being and can lead to increased depression, psychological distress, even suicide (Harnois et al., 2000; Jain et al., 1996). In the context of workplace stress, individuals show decreased attention, muddled decision-making skills, decreased job satisfaction, emotional exhaustion and burnout (Blix et al., 1994; Lloyd et al., 2002). Highly stressed individuals are at greater risk for illness including cardiovascular disease, cancer, depression, anxiety, obesity, musculoskeletal pain, stroke, and autoimmune disorders. (Byrne and Espnes, 2008; Kemeny and Schedlowski, 2007; Reuter et al., 2010; Sharkey et al., 2005). Left untreated, chronic employee stress is associated with higher medical costs, extended sick leave, absenteeism, lengthy return-to-work programs, burnout, turnover and is a major contributor to workers’ compensation claims (Bhui et al., 2012; Jarman et al., 2014; Richardson and Rothstein, 2008).

In workplaces that are characterized by complexity and uncertainty, stress will never go away. A main tenet of workplace mindfulness is that the intention is not to remove stress, but to calmly, effectively and wisely work within intermittent stressful situations.

Improving stressful working conditions and training employees on mindfulness as a stress management technique can reduce health care costs (Rahe et al., 2002), improve psychosocial working conditions (Virgili, 2015), and increase employee cognitive flexibility (Moore and Malinowski, 2009). There is evidence that mindfulness training can ameliorate the negative impacts of stress most notably with insomnia (Gross et al., 2011), chronic pain (Kabat-Zinn, 1982a; Morone et al., 2008), depression (Teasdale et al., 2000) and anxiety (Vøllestad et al., 2011). In addition, there is evidence that mindfulness meditation training enhances coping skills (Grossman et al., 2004), promotes feelings of well-being (Jung et al., 2010), and even improves immune functioning (Davidson et al., 2003).

Attention Economy

A close second, frequently used rationale for the justification of workplace well-being, and often also included with the stress argument is the rationale discussing aspects of attention economy and how attention is our scarcest resource. How a lack of attention can lead to distracted decision making, missed deadlines, decreased

productivity, burnout, and turnover. Researchers might discuss the growing evidence of mindfulness on task performance such as increased judgement accuracy (Kiken and Shook, 2011), problem solving (Ostafin and Kassman, 2012) and executive functioning (Zeidan et al., 2010).

An example of a study using both stress and lack of attention as their rationale is, “The lifestyle in the contemporary 24-h economy is characterized by speed, time pressure, competition, job insecurity, being constantly available due to modern telecommunication, an overload of stimuli, and multi-tasking in different roles that we fulfil” (de Bruin et al., 2017, p.204). Glomb et al. (2011) explains that mindfulness programs in the workplace should lead to improvements in task performance and social relationships because mindfulness improves the ability of an individual to self-regulate their attention.

Contemplative Organizations

A less often used concept, but growing in recent popularity, is the collective mindfulness or contemplative organizations rationale that is used to provide an exemplar organization. This rationale discusses goals for business and mentions the leading organizations like Aetna, Google, and General Mills that have changed their corporate culture. For example, mindfulness training not only for stress management, but for the development of positive organizational behavior (Aikens et al., 2014).

In a similar vein, mindful workplace consultants discuss the need to consider a values-on-investment argument rather than the typical return on investment. Mindfulness can impact the organization in many ways, making the return on investment difficult to measure. That said, workplace mindfulness has the potential to provide a significant competitive advantage through a recipe of improved employee well-being, enhanced human performance, and decreased health care costs.

Sutcliffe et al. (2016) provides examples of organizational outcomes of mindfulness including “greater consumer satisfaction (Ndubisi, 2012); more effective resource allocation (Wilson et al., 2011); greater innovation (Vogus and Welbourne, 2003); and improved quality, safety, and reliability (Vogus and Sutcliffe, 2007)” (p.56).

Neuroplasticity

In a similar vein of positive reinforcement, rather than trying to fix what is already unhealthy, a final rationale for workplace mindfulness deals with the changeable structure of the brain, known as neuroplasticity. Davidson and colleagues examined brain changes in response to experience, and found cortical thickening in long-term meditators (Davidson et al., 2007; Lutz et al., 2004). Stress can cause cortical thinning (Geuze

et al., 2008), and the study on SuperAgers (80+ year olds with memory performance equivalent to middle-aged adults) found that their memory performance correlated positively with cortical thickness (Harrison et al., 2012). There is also preliminary evidence that mindfulness training may “slow, stall, or even reverse age-related brain degeneration” (Luders et al., 2015, p.1). Jon Kabat-Zinn is known for saying “train your mind like you would train your body as if your life depended on it” or as the age-old saying goes, “use it or lose it.”

Whether the rationale is to reduce stress and the associated costs, increase attention and cognitive functioning, cultivate team cohesion and communication, and/or promote health and slow the process of aging, the growing body of evidence for employee mindfulness demonstrates a clear need to continue to examine this line of inquiry. Many authors have emphasized that workplace well-being research is in its infancy, and rationales and research questions should then be supported by rigorous methods and study design.

2.5.2 Conceptualizations of Workplace Mindfulness

Grossman (2008) stated “Mindfulness is a difficult concept to define, let alone operationalize” (p.405). Even though the concept of mindfulness is difficult to define, it is important to capture its current use in order to design studies that can evaluate mindfulness training and its impact in workplaces. In addition, Berthon and Pitt (2019) wrote “The marketplace meaning of mindfulness has become so diffuse as to almost be meaningless” (p.131). Though it may be difficult to conceptualize a word that is used as a state, trait, practice, skill, process and operation, we can narrow the focus to mindfulness in the context of workplace settings, draw from previous theoretical frameworks to further develop our working knowledge of the concept. From that work, we can potentially clarify what we mean and what we don’t mean when we use the term workplace mindfulness. If not, we can provide justification for using terms like contemplative, resilient and even sustainable organizations, depending on our audience.

To conceptualize workplace mindfulness, we must start by clarifying mindfulness. Table 2.2 is a list of definitions of state mindfulness that were either stated or referenced at least once from the list of 37 papers. Several of the papers, however, did not even reference or discuss a definition and simply dove into the details of the intervention or how they plan to develop the concept. Others however, discussed at length the different definitions and history of the term.

Components of Mindfulness

Source	Definition of State Mindfulness
Kabat-Zinn (1994, p.4)	awareness that arises through paying attention in a particular way: on purpose, in the present moment, and non-judgmentally
Marlatt and Kristeller, (1999, p.68)	bringing one's complete attention to the present experience on a moment-to-moment basis
Langer and Moldoveanu, (2000, p.2)	active and effortful mode of conscious awareness characterized by a heightened state of involvement and wakefulness
Glomb et al., (2001, p.119)	paying attention to what is happening in the moment - both internal (thoughts, bodily sensations) and external stimuli (physical and social environment) – and observing those stimuli without judgment or evaluation, and without assigning meaning to them and without assigning meaning to them
Baer, (2003, p.125)	nonjudgemental observation of the ongoing stream of internal and external stimuli as they arise
Brown and Ryan, (2003, p.822)	being attentive to and aware of what is taking place in the present
Grossman et al., (2004, p.109)	a self-directed practice for relaxing the body and calming the mind through focusing on present-moment awareness
Shapiro et al., (2005, p.166)	awareness and acceptance of whatever is occurring in the present moment.
Bishop et al., (2006, p.232)	a kind of nonelaborative, nonjudgmental, present-centered awareness in which each thought, feeling, or sensation that arises in the attentional field is acknowledged and accepted as it is (Kabat-Zinn, 1990, 1998; Shapiro & Schwartz, 1999, 2000; Teasdale, 1999b; Segal, Williams, & Teasdale, 2002).
Brown et al., (2007, p.212)	a receptive attention to and awareness of present events and experience
Dane, (2007, p.1000)	a state of consciousness when people focus attention on what is happening here and now while adjusting the focus and content of awareness in order to accurately reflect on reality (Brown & Ryan, 2003; Epstein, 1999; Kabat-Zinn, 1990).
Gärtner, (2013, p.55)	a state of consciousness when people focus attention on what is happening here and now while adjusting the focus and content of awareness in order to accurately reflect on reality (Brown & Ryan, 2003; Epstein, 1999; Kabat-Zinn, 1990).
Klatt et al., (2016, p.140)	non-judgmental, sustained moment-to-moment awareness of physical sensations, perceptions, affective states, thoughts, and imagery

Table 2.2 Definitions of State Mindfulness use in the Concept Analysis Studies

It is clear, there is no one-size fits all definition, as mindfulness can take on many meanings and many forms. Some authors even use the terms meditation and mindfulness interchangeably (see for example: (Greeson, 2009; Chiesa et al., 2011)). However, there are certain components that are present in most of the definitions. Many of the definitions in table 2.2 build from Jon Kabat-Zinn’s initial interpretation (in bold). This definition involves four components that will be more thoroughly discussed in the next section (Attributes):

1. Self-regulation of **awareness**
2. **Directed attention** to internal and external stimuli
3. Observation of **present moments**
4. Embracing a **non-judgmental** attitude

Creating Space

Brown et al. (2007) further explains Kabat-Zinn’s definition in that it includes a promotion of self-regulation by providing a reflective space where people can make informed choices and respond wisely to situations, rather than reacting impulsively. Similarly, Klatt et al. (2016) posits that mindfulness “may create an interval of time where one is able to view one’s mental landscape, including one’s behavioral options, rather than just reacting to interpersonal events” (p.140). This is also known as response flexibility, which is the capacity to create space in between stimulus and response and in that space, providing an opportunity to make a wise decision on how to respond.

Mind the Gap

As mentioned earlier, there is a deviation in mindfulness literature between work that is developed from Jon Kabat-Zinn’s school of thought and from Ellen Langer and her colleagues. Kabat-Zinn’s conceptualization of mindfulness is multifaceted, meditative, and aims to lessen the burden of illness. Whereas Langer’s conceptualization is a more singular cognitive process designed to promote creativity. That is perhaps an incredible oversimplification, however, an insightful paper called “Mind the Gap” further teases out the nuances of the different lines of research Hart et al. (2013). The meditation vs. creativity split is just one of many silos in mindfulness research.

Mindfulness: State, Trait, Practice and Skill

State mindfulness can be conceptualized as the degree at which an individual engages in states of mindfulness (Brown and Ryan, 2003). Trait mindfulness can then be thought of as the duration, frequency, and intensity

with which an individual cultivates states of mindfulness (Hülshager et al., 2013). Where a positive correlation occurs in that an individual who engages frequently in states of mindfulness, embodies an enhanced trait mindfulness. Mindfulness practice is a mechanism focused on enhancing one's state mindfulness and subsequently trait mindfulness. Simply clarified, mindfulness is a state, varying between situations within individuals; a trait, varying between individuals; a practice, focusing on bringing awareness and attention to the present moment; and a skill, an inherent capacity that can be enhanced through training (Hülshager et al., 2013; Brown et al., 2007b).

Others have conceptualized mindfulness by describing mechanisms that are at the base of mindfulness practice and they include: attention, intention and attitude (Shapiro et al., 2006). Attention would be directed toward internal or external stimuli; intention could be thought of as a mantra or your answer to "why practice"; and attitude refers to the qualities (such as openness, acceptance and non-judging) one brings to the practice (Hart et al., 2013, p.9).

Workplace Mindfulness

As the main tenets of mindfulness include cultivating awareness and attention, there is a clear transition from clinical research into application in hospitals, corporate workplaces, schools, and communities. Initial research on mindfulness in workplaces was primarily with health care professionals and exploring the positive effect of mindfulness training on mental health, stress reduction and burnout of individuals (Chesak et al., 2015; Manotas et al., 2014; Pipe et al., 2009; Duchemin et al., 2015; Cohen-Katz et al., 2005).

Hunter and McCormick (2008) published an exploratory study in which they conducted in-depth interviews with professionals with a meditation practice. They proposed that there is a broader effect on organizations than individual stress reduction such as more external awareness, situational acceptance, realistic goal setting, resilience, and better interpersonal relationships. This expansion of the potential measures of workplace intervention is the stepping stone to another divergence in the workplace mindfulness research. One body of research focuses on the processes of individual mindfulness within an organization and the other explores the community or collective mindfulness and its outcomes at the organizational level. Some emerging studies have begun to explore multiple levels of organizational outcomes and have found processes from both top-down and bottom-up engaging in collective mindfulness (Sutcliffe et al., 2016).

Collective Mindfulness

Introduced to organizational psychology and organizational behavior in 1999, Weick et al. defined collective mindfulness or mindful organizations as "the collective capability to discern discriminatory detail about

emerging issues and to act swiftly in response to these details” (Sutcliffe et al., 2016, p.56). This definition draws from Langer’s conceptualization of mindfulness as an information-processing cognitive style. While Ndubisi uses a definition that builds from Kabat-Zinn’s and maps it onto organizations, “a way of working marked by focus on the present, attention to operational detail, willingness to consider alternative perspectives, and an interest in investigating and understanding failures” (Ndubisi, 2012, p.537). Much of the work done in this regard has focused on high-reliability organizations (HRO), which are near error-free performing organizations even though they deal with a great deal of risk like nuclear power plants and flight operations. In an attempt to reduce the amount of errors, healthcare organizations began recommending a “culture of safety” in order to increase performance. Through examining HROs, a theory was established that safety cultures are enacted through the behavioral process of collective mindfulness (Weick et al., 1999). Five dimensions of collective mindfulness were then developed by Weick and Sutcliffe, 2001 that include: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise. Again, this work stems from Langer’s definition and would likely be very different if studied under the more meditative school of thought from Kabat-Zinn. As we continue to examine workplace mindfulness, a closer look at how to define and measure this concept of collective mindfulness would be useful. As we continue to examine workplace mindfulness, a closer look at how to define and measure this concept of collective mindfulness would be useful.

It is possible that there is no need for total agreement of a definition as there are multiple perspectives on mindfulness, from different schools of thought. One could see inconsistency as alarming, or perhaps it is a sign of the richness of the construct and the vast inquiry that is important in cultivating mindfulness in the broadest of scopes. Regardless of the nuances, and different conceptualizations, it is important to look at the entire landscape of mindfulness research in order to discover opportunities and design more comprehensive future directions for the field.

2.5.3 Attributes of Workplace Mindfulness

Attributes are the central characteristics of the concept that are core to both the conceptualization and analysis Tofthagen and Fagerstrøm (2010). The most frequently cited definition in the literature is from Kabat-Zinn (1994) who conceptualized mindfulness as “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (p.4). Through the analysis, five attributes of mindful-

ness emerged. Awareness, attention and acceptance are the foundation to the experience and process of mindfulness.

Attributes:

1. Awareness
2. Attention
3. Acceptance
4. Experience
5. Process

The attributes of mindfulness are incredibly interconnected and thus there will be overlap in the explanations of each attribute. These components can be thought of as “aspects of a cyclic process and occur simultaneously” (Shapiro et al., 2006, p.375). Additionally, White (2014) points out that “one [attribute] cannot be appreciated contextually without the others” (p.285).

Awareness

Awareness of the present moment is the capacity to witness events, thoughts and emotions from a degree of distance from both the stimuli and judgements (Good et al., 2016). This is also referred to as “decentering,” the ability to observe without reaction, interpretation or evaluation (Brown et al., 2007a). One study described mindful awareness as “noticing one’s own thinking ... separate[ing] “self” from sensations and thoughts by allowing, identifying, and acknowledging them” (Eatough, 2015, p.644).

In mindfulness practice, awareness does not mean sitting quietly and creating a to do list. Planning is important, but it is not mindfulness. However, you can mindfully plan your day and ensure that you are honoring your highest priorities and attending to them rather than for example, reacting to emails.

Awareness of the present moment also does not mean that you are ruminating over past conversations that you wish had gone differently. When you notice, and become aware that your mind is no longer focused on the present moment, simply redirect your attention. That moment of awareness in which you realize your mind has wandered is cultivating mindfulness. Redirecting to the present moment, builds that muscle memory of awareness, attention and acceptance.

Attention

Attention is one's ability to maintain focus on that which s/he is aware of without becoming distracted or lost in thought (White, 2014). In other words, it is the ability to stay in the present moment. Many have used terms such as: "mindful attention," "focused attention," "directed attention," "enhanced attention," "sustained attention," and "present-centered attention" to emphasize the pivot from habitual patterns of thinking to intentionally noticing each moment.

"Both awareness and attention allow the practitioner to understand that neither thoughts nor emotions are eternal but subject to change" (Hülshager et al., 2015, p.466). The idea of moment-to-moment attention builds on the understanding that thoughts and emotions are transient. For example, when a threatening stimulus is detected, such as an internal experience of anger or fear, you can pay attention to the physiological reactions to that stimulus (heart racing, heat on the neck or face). Instead of an outburst or impulsive reaction, you are able to understand that this moment is emotional, but it will not last, and that shift in perspective allows an opportunity for a sagacious response.

Paying attention on purpose is a directed focus on a particular stimulus. For example, many practices focus on the breath. Even in something as routine as a breath, there are multiple areas of engagement in attention, such as the feel of the exhale on your skin from your nostrils, the rise and fall of your chest, the expansion of your rib cage, any ease or tension as you inhale. When we pay attention to one simple stimuli for an extended amount of time we cultivate our capacity of attention. Just like our muscles and bones are shaped by our physical experiences, our brain is shaped by our mental experiences. The more comfortable we are with paying attention in calm moments, the better we are at maintaining attention in uncertain, complex and stressful moments.

Acceptance

Acceptance is being able to observe experiences without judgments or reactions. It is the ability to accept each moment as it arises with a sense of equanimity. Practicing acceptance is that non-judgmental aspect of Kabat-Zinn's definition of mindfulness. Bishop et al. (2006) further explains that mindfulness involves an open, curious, accepting attitude without "trying to produce a particular state such as relaxation or to change what he or she is feeling in any way" (p.233). Again, this idea of acceptance is actively allowing thoughts and sensations to appear and also to dissolve.

When people are new to mental hygiene and specifically meditation, they often have not yet developed this sense of acceptance of whatever is present, and feel as though they are "doing it wrong" or initially feel as though they are "bad at meditating." Richie Davidson says, "People don't meditate to be better

meditators, we meditate to be more awake, alert and alive in our everyday lives”. A skilled mindfulness meditation trainer would reiterate the importance of cultivating acceptance for the practice, the experience of the present moment, and of course for the practitioner (self-acceptance).

Experience

The mindfulness experience, also referred to by Jon Kabat-Zinn as “openhearted presence” (Kabat-Zinn, 2003) or “being in the moment” (Cohen-Katz et al., 2004) it is the ability to be present. This experience is not detached, but rather engaged with attention, awareness and acceptance of the present moment.

The present moment experience involves observing the here and now, rather than processing what is happening, or thinking about past events or future possibility. The stimuli for the experience can be internal such as thoughts and emotions; and also, external, sounds and smells. This experience is active, open and intentional attention on a moment-to-moment basis.

Rather than passively going through the motion of your day, when you are present, you awaken to the experience of your life. Here is where some folks are uncomfortable with mindfulness, as perhaps their life situation is not how they envisioned, and mindlessly living, or endlessly working allows them to ignore discomforting realizations. Mindfulness does not equal happiness. However, the practice provides an opportunity to interrogate your mind and find comfort in the uncomfortable thoughts and emotions. Instead of ignoring those sensations, when you are in the present moment experience, you can create space from those emotions, gain perspective and perhaps even insight into finding the best way forward.

Process

Many authors in this analysis referred to mindfulness as a process of continual development (Shapiro et al., 2006; Bishop et al., 2004; Leroy et al., 2013). This idea of a transformative process or mindset invites practitioners to be patient, flexible and committed to the practice.

Mindfulness practice can be formal (e.g., body scan, mindful breathing, open awareness) for some minutes per day, but also informal moments throughout the day that are dedicated to being aware and present in daily activities; that can range from simple tasks like washing dishes to professional setting like being present in meetings for your job. The change from finding it difficult to pay attention to your breath for more than 2 minutes, to incorporating mindful moments throughout your day, and eventually dedicating 30 minutes to an hour or more in your daily practice is a transformational process with both concrete and immeasurable outcomes.

Antecedents

In this concept analysis 5 attributes of mindfulness emerged. In the literature, other attributes were described. (Baer et al., 2006), for example describes 5 central facets of mindfulness: observation, description, non-judgement, non-reactivity, and acting aware. (Shapiro and Carlson, 2009) developed 3 interrelated elements of mindfulness as 1) intention, reflecting on one's personal goals and values 2) attention, attending to experiences 3) attitude, paying attention with curiosity and compassion. Whereas (Bishop et al., 2006) discusses two components of mindfulness: self-regulation of attention and having an open, curious, accepting attitude.

The different ways of concept mapping are not mutually exclusive or in competition. These attributes are overlapping and cyclical, so it is no surprise that there are different ways to organize and label them.

All of these attributes have underpinnings or antecedents of: decentering, equanimity, patience, curiosity, openness, commitment to practice, non-striving, self-compassion, flexibility, insight and purpose.

2.5.4 Measures of Workplace Mindfulness

Individual, Occupational, Organizational Program Evaluation

Measures of workplace mindfulness have been grouped into individual, occupational, organizational, and program evaluation measures. Individual measures assess concepts related to psychosocial health and well-being such as mindfulness, perceived stress, life satisfaction, depression, anxiety, disposition, affect, perceived health and well-being. Occupational measures include individual aspects of work-related concepts such as burnout, occupational stress, job satisfaction, productivity, engagement and performance. Organizational measures examine collective qualities such as climate, culture, leadership, collective mindfulness, customer satisfaction, and organizational effectiveness. Finally, program evaluation measures ensure that any adaptations to validated interventions do not also effect the integrity and efficacy of the intervention. Table 2.3 shows the categories of measures used in this concept analysis.

Self-Reported versus Objective

A final classification split the measures across two axes; one with individual versus organizational (and occupational) and the other self-reported versus objective measures, see Figure 2.3. The measures are ordered within the quadrants from most used to least utilized. Immune and brain functioning were only assessed in one of the 37+74 studies (Davidson et al., 2003). The majority of the studies measured at least

Category	Measures
Individual Measures	
Affect	Positive and negative affect, Life Satisfaction, Profile of moods, Anger
Depression & Anxiety	Depression, Rumination, Anxiety, Suicide ideation
Disposition	Hope, Forgiveness, Empathy
Emotional Regulation	Resilience, Emotional reactivity, Emotional stability, Coping strategies
Health & Well-being	Psychological well-being, Physical health, Sleep quality
Mindfulness	Mindfulness, State mindfulness, Trait mindfulness
Self-concept	Self-compassion, Locus of control
Stress	Perceived stress, Psychological distress, Biomarkers
Occupational Measures	
Attention	Attention, Concentration, Sustained attention
Burnout	Burnout, Emotional exhaustion, Turnover intention
Engagement	Engagement, Vigor, Dedication, Deviance
Job Satisfaction	Task routineness, Job (dis)satisfaction, Psychological need satisfaction,
Occupational Stress	Job stressors, Perception of work characteristics
Performance	Executive processing, Task performance, Working memory, Intelligence
Productivity	Work limitations, Presenteeism
Org Measures	
Climate	Climate, Org citizenship behaviors, Org constraints
Culture	Compassion, Empathy, Forgiveness
Leadership	Transformational leadership, Supervisor support, Resource allocation
Org Mindfulness	Managing uncertainty, Trust in leadership, Org response
Program Evaluation	
Intervention Evaluation	
Trainer Efficacy	
Org = Organizational	

Table 2.3 Categories of measures used in the 37 + 74 studies

two individual, self-reported measures and one occupational measure. Mindfulness, perceived stress, and burnout were the most commonly assessed measures of this analysis.

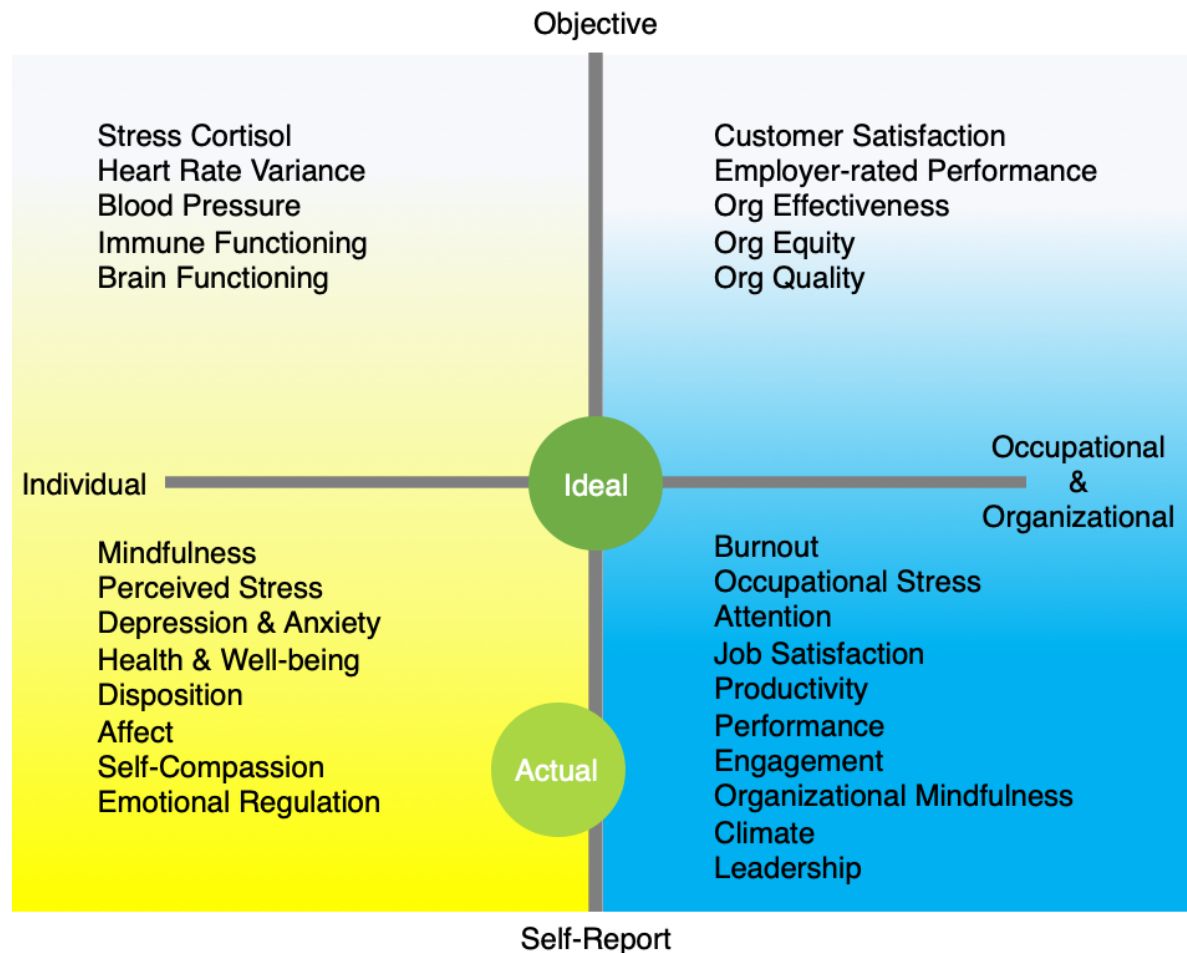


Figure 2.3 Types of measures are grouped across a spectrum of individual versus occupational and organizational measures; self-reported versus objective measures. The gradient is depicting the most commonly used measures were self-reported rather than objective. The green dots show that an ideal study would include at least one of each type of measure, whereas the actual studies mostly focused on individual self-reported assessments with one or two occupational and/or organizational measure.

Methodological Concerns

There is an over-reliance of self-reported measures in mindfulness research, meaning studies are susceptible to validity concerns such as response bias (Hyland et al., 2015). The reliance on self-reported measures presents a challenge to mindfulness research (Davidson and Kaszniak, 2015). Triangulation across different measurement approaches with experience sampling or informant reports, for example, could augment the

validity of the findings (Jamieson and Tuckey, 2017). In addition, objective measures, such as heart rate variance and stress hormone concentration are other examples of infrequently assessed measures that could provide support to self-reported measures (Allen et al., 2015). These issues will be further discussed in the section called methodological concerns in workplace mindfulness studies.

Measurements of Mindfulness

Several individual, self-reported mindfulness assessments have been developed. This phenomenon of multiple measures for one concept is not, however, unique to mindfulness. Table A.2 shows the many measures to test individual concepts like mindfulness, stress, or depression and anxiety. Additionally, this list is not exhaustive, the measures listed were those used at least once in the conceptual analysis studies (see Table A.1 for a list of all the studies). That said, when studies use different measures for one concept it creates another challenge for assessing significant outcomes across mindfulness interventions. This measurement challenge could be yet another consequence of the lack of a coherent definition, though this could be mitigated with improved study designs which will be discussed in the section Implications and Future Developments. The following mindfulness measurements are ordered from most frequently assessed to least frequently cited.

Five-Faceted Mindfulness Questionnaire

The Five-Faceted Mindfulness Questionnaire (FFMQ; (Baer et al., 2006) is one of the most commonly used and includes five subscales: observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience (Baer et al., 2006, 2008). Observing is the tendency to notice internal and external stimuli such as thoughts, emotions, sounds and smells. Describing deals with labeling experiences. Paying attention on a moment-to-moment basis rather than being easily distracted or acting on auto-pilot is acting with awareness. Being non-judgmental of inner experience means to take a non-evaluative perspective toward thoughts and emotions. Non-reactivity to inner experience means allowing thoughts of emotions to arise and pass. For example, an item for this would include: “I watch my feelings without getting lost in them.”

Mindful Attention Awareness Scale

Another very broadly used measure is the Mindful Attention Awareness Scale (MAAS; (Brown and Ryan, 2003). MAAS is shorter than the FFMQ and as the name suggests, focuses on two attributes of mindfulness: attention and awareness. The MAAS uses a Likert 6-point scale to measure the frequency at which participants experience situations like: “I snack without being aware that I’m eating.” and “I find myself listening to someone in one ear, doing something else at the same time.” This scale is developed around the

idea that humans have the capacity to notice internal and external experiences, that capacity is awareness. Attention is cultivated by harnessing the focus of that awareness. Mindfulness practice enhances attention to and awareness of the present moment.

Implicit Mindfulness Theory

Whereas other mindfulness scales measure attention and awareness of an individual, Kong and Jolly (2019) developed Implicit Mindfulness Theory (IMT) to address beliefs about fixed versus malleability of mindfulness specifically for workplace settings. Items include for example: “The level of people’s attention to what is taking place in the present is something about them that they cannot change very much.” and “If they want to, people can change the level of their awareness of what is taking place at the moment.” The authors point out evidence that individual behaviors may be adaptable through intervention, and that this information could be useful in customizing workplace interventions (Kong and Jolly, 2019).

Langer’s Mindlessness Scale

Far less utilized in this cohort of studies, though worth mentioning for organizations interested in different ways to cultivate creativity is Langer’s Mindlessness Scale (LMS; (Langer, 2004). Again, Langer’s conceptualization of mindfulness diverges from other’s as it focuses on harnessing creativity and awareness of only one’s external environment. The four subscales in LMS are engagement, flexibility, novelty seeking and novelty producing. The latter three are intended to be attributes that inspire creative thinking, while the engagement subscale captures mindful attention (Hart et al., 2013). For example, an engagement item would include, “I am rarely aware of changes” and a novelty seeking item would be, “I try new ways of doing things.”

Occupational Measures

The majority of studies in this analysis used several individual measures (e.g., mindfulness, perceived stress, depression anxiety) taken together with one or two occupational measures. The Maslach Burnout Inventory (MBI; Maslach et al., 1986) was the most frequently assessed occupational measure. Measures for job satisfaction, engagement, turnover intention and even productivity were rarely used. The Salutogenetic Subjective Work Analysis (SALSA; (Rimann and Udriș, 1997), 1997) assesses the subjective perception of work characteristics specifically in job demand, occupational stress, and organizational resources. Bartlett et al. (2017) examined occupational mindfulness by adapting Brown Ryan’s self-report MAAS to Observer-MAAS using informant-reports (up to three colleagues, family or friends) and changed items for example, from “I break or spill things because of carelessness, not paying attention or thinking of something else”

(MAAS) to “The person tends to have a lot of minor mishaps or accidents.” In that same study, Bartlett et al. (2017) developed another informant-scale to evaluate proposed course outcomes, Observable Mindful Behaviors (OMB), that included items such as “The person is good at regulating his/her emotions” and “The person is a good listener.”

Organizational Measures

Two studies in this analysis (Lange and Rowold, 2019; Pinck and Sonnentag, 2018) either examined or recommended for future studies Podsakoff and colleagues’ Organizational Citizenship Behaviors (OCB; (Moorman and Blakely, 1995) and Transformational Leadership Inventory (Podsakoff et al.,) in order to get a better sense of organizational impacts of mindfulness trainings. OCB explores voluntary, non-rewarded actions that go above and beyond formal expectations with the aim at benefitting the organization and its stakeholders.

Another interesting organizational measure that was only used by Kersemaekers et al. (2018) is the Landau Organization and Team Climate Inventory (LOTI; Müller and Koblenz-Landau, 2007). LOTI assesses team climate with the scales: cooperation and collaboration, leadership and organization, decision-making and creativity. LOTI also measures organizational climate with scales of: appraisal and respect, atmosphere and satisfaction. Finally, personal performance is assessed with scales: pressure and stress, and productivity and concentration.

(Sutcliffe et al., 2016) was the only study to discuss organizational or collective mindfulness. If mindfulness in workplace research is in its infancy, even less mature is the body of knowledge for organizational mindfulness. The measures for organizational mindfulness that Sutcliffe et al. (2016) described are: 1) Organizational Mindfulness (OM; Valentine et al., 2010) that measures dedication to stakeholder interest, quality assurance, managing uncertainty and positive business practices; 2) Organizational Mindfulness Processes (OMP, Mu and Butler, 2009); 3) High-Reliability Organizational Perceptions (HROP, Barrett et al., 2003), measures self-efficacy and organizational risk response factors; and 4) Safety Organizing Scale (SOS; Vogus and Sutcliffe, 2007), measures trust in leadership and affective commitment. As mentioned earlier in discussing collective mindfulness, these measures are developed from Langer’s creative concept of mindfulness and would be different if examined with a more meditative definition of mindfulness.

More exploration of organizational readiness is needed in order to decide what is the best approach or conceptualization of workplace mindfulness. I have a sense that for some organizations Langer’s approach could be a better fit, and perhaps some organizations would benefit from practices in both camps, and certainly some that would prefer Kabat-Zinn’s mindfulness practices. The two concepts of mindfulness

are as distinctly different as meditative mindfulness and Csikszentmihalyi's (1990) concept of flow. They all involve directed attention on the present moment. The difference is in breadth of attention, in that meditative mindfulness engages with both internal and external experiences, and flow as well as Langer's creative mindfulness focus only on external experiences. Perhaps included in an organizational readiness questionnaire could include items exploring fit for the organization (to be further discussed in Implications and Future Developments).

2.5.5 Outcomes of Workplace Mindfulness

Individual Outcomes

It should come as no surprise at all, especially given that the most common mindfulness-based intervention is called Mindfulness-Based Stress Reduction (MBSR), that the most common significant outcome is a decrease in perceived stress (Shapiro et al., 2005; Wolever et al., 2012; Kersemaekers et al., 2018; Aikens et al., 2014; Klatt et al., 2009; Chesak et al., 2015; Gauthier et al., 2015; Ratanasiripong et al., 2015; Sood et al., 2014). Mindfulness is thought to interrupt the stress cycle by cultivating awareness and being able to name the stressor, which then can reduce its intensity. Once the intensity is reduced, perspective can be gained, resulting in greater response flexibility and increased coping strategies (Bartlett et al., 2017).

A close second significant outcome is increased mindfulness itself (Leroy et al., 2013; Kersemaekers et al., 2018; Aikens et al., 2014; Klatt et al., 2009; Kemper, 2017; Gauthier et al., 2015). My assumption is that the nature of the term and the complexity of its definitions, attributes to difficulty in measuring and thus reporting significant outcomes. Mellor et al. (2016) used Kentucky Mindfulness Inventory Skills (KIMS, Baer et al., 2004) that focuses on four skills: *observing, acting with awareness, describing and accepting without judging*. Participants significantly increased their observation and acting with awareness skills, suggesting that perhaps the latter two mindfulness skills take longer to develop (Mellor et al., 2016). The Five Facets of Mindfulness (FFMQ, Baer et al., 2006) consisted the mentioned four facets and also includes non-reactivity. Similarly, Asuero et al. (2014) found significant increases in all subscales of mindfulness, except for describing. This faceted approach to mindfulness measures, as well as the intervention might not have covered all of the facets, creates a compound effect when reporting significant outcomes of mindfulness.

In addition to reduced stress and increased mindfulness, many studies have provided evidence for increased overall employee well-being through measures of anxiety (Shonin et al., 2014), resiliency (Aikens et al., 2014), quality of life (Shapiro et al., 2005), satisfaction with life (Mackenzie et al., 2006), relaxation (Poulin et al.,

2008), well-being (Kersemakers et al., 2018), sleep quality (Wolever et al., 2012), self-compassion (Shapiro et al., 2005) and vigor (Aikens et al., 2014), and not in this analysis but worth mentioning again, the potential to slow the aging process (Luders et al., 2015).

One study with employees at DOW chemical company, measured mindfulness, resilience and vigor after an online mindfulness intervention. Aikens et al. (2014) found that online interventions are both practical and effective at reducing stress, increasing mindfulness, resilience and vigor, thus enhancing overall employee well-being.

Another study attempted to use objective measures for assessing stress. Klatt et al. (2009) discusses the complex nature of using salivary cortisol as a solitary marker of physiological manifestations of stress, and how it can be affected by both diet and physical activity. A social support measure was recommended as an additional measure of stress, as social support can increase coping capacity of stress. This intervention explored a shortened version of MBSR (60 min weekly sessions, 6 weeks, 20min daily practice) and still found the typical outcomes of decreased perceived stress, improvements in sleep quality and mindfulness (Klatt et al., 2016).

Occupational Outcomes

Mindfulness influences work-related outcomes in different ways. Increased attention is thought to be the key mechanism for the majority of workplace outcomes (Good et al., 2016). Attentional stability can then enhance self-regulation, cognition, and performance (Glomb et al., 2011). Response flexibility, in a work-related context is said to improve decision making and communication (Bishop et al., 2004). In addition to response flexibility, Glomb et al. (2011) identified seven processes in which mindfulness practices are able to “improve employee functioning: decreased rumination, greater empathy, increased response flexibility, improved affect regulation, increased self-determination and greater persistence, enhanced working memory, and greater accuracy in affective forecasting” (p.124.) Roeser et al. (2013) used triangulation by assessing focused attention and working memory capacity, and discussed how increasing working memory could improve ability to handle work demands and perform under stress.

The most common significant occupational outcome was burnout (Ravalier et al., 2016; Kersemakers et al., 2018; Hülshager et al., 2015; Mackenzie et al., 2006; Asuero et al., 2014; Roeser et al., 2013; Shonin et al., 2014; Taylor et al., 2016; Cohen-Katz et al., 2005). Maslach Burnout Inventory (MBI) assess three subscales: emotional exhaustion, depersonalization and personal accomplishment. Meaning that to reduce perceived

burnout, emotional exhaustion and depersonalization should decrease, while personal accomplishment increases.

Ravalier et al. (2019) posited that mindfulness interventions may be helpful in increasing psychosocial workplace health and workplace performance, through decreasing perceived stress, anxiety and burnout.

Wolever et al. (2012) found significant improvements in perceived stress, sleep quality, and heart rhythm coherence ratio of the heart rate variance. They then discussed the potential implications in organizational cost savings from decreased medical utilization.

Slutsky et al. (2019) measured productivity using a 6-point Likert scale of 1=(not at all), 6=(very much) to the question how productive were you today, and found a slight increase in productivity as well as increased attentional focus at work and decrease in work-life conflict.

Reb et al. (2015) noted that trait mindfulness, which according to Hülsheger et al. (2013) is the duration, frequency and intensity with which an individual tends to engage in states of mindfulness, was associated with higher ethical and pro-social behavior.

As mindfulness increases, so does authentic functioning and engagement (Leroy et al., 2013). Leroy et al. (2013) describes authentic functioning as “an open and non-defensive way of interacting with oneself and others” and proposed a model in which mindfulness practices enhances work engagement directly and indirectly via increased authentic functioning.

Taken together, these occupational outcomes are promising. Though, more evidence to support these claims is needed, as well as more diverse occupational measures. It would also be a powerful rationale for businesses to be provided with evidence of improved employee functioning and associated workplace outcomes by further exploring the processes Glomb et al. (2011) identified.

Organizational Outcomes

As discussed earlier, there is an imbalance in individual versus organizational measures and thus a lack of organizational outcomes reported. In addition, many organizational measures had insignificant results at the time of measurements. Again, very few of the studies conducted follow-ups beyond 3-months and organizational outcomes might take longer to see any effect. Many studies, recommended a longer follow-up period in order to explore organizational benefits (Mellor et al., 2016; Gilmartin et al., 2017; Jamieson and Tuckey, 2017).

Using Laudau Organizational and Team Climate Inventory (LOTI) to measure 1) team and 2) organizational climate as well as 3) personal performance, Kersemaekers et al. (2018) found significant increases in all three scales, with the largest improvements on the measures for team cooperation and personal productivity. However, a control group was not used, only pre-post measurements were assessed, thus more evidence with RCT studies using LOTI would augment the statement that mindfulness increases team cooperation and productivity.

Birdie (2015) cited Lazenby regarding anecdotal evidence from NBA coach Phil Jackson, who considers the mindfulness sessions he held for his players to be a competitive secret that contributed to his team's success. This is certainly not unique as many professional teams tout the benefits of mindfulness, however, it is the first professional sports league reference in this literature that supports the claim that mindfulness enhances organizations.

Sutcliffe et al. (2016) suggests that a recipe of increased work engagement Leroy et al. (2013), improved job performance (Dane and Brummel, 2014), lower turnover rates (Vogus and Sutcliffe, 2007), and greater customer satisfaction (Ndubisi, 2012) from mindfulness trainings, leads to improvements in an organization's bottom line. Many employers would likely want more evidence in this line of inquiry.

Belief Outcomes

Several of the studies in this analysis explored employee beliefs of workplace mindfulness and its implications without any interventions.

Dane and Brummel (2014) found workplace mindfulness (likely closer to trait or dispositional mindfulness) of employees in the service industry positively correlated with job performance and negatively correlated with turnover intention. Kong and Jolly (2019) found that some individuals view mindfulness as a mostly fixed quality. They point out that that perspective can change, this theory is supported by Baer (2003), as trait mindfulness increases via training over time so can one's implicit theories of mindfulness (Kong and Jolly, 2019).

Charoensukmongkol (2016) studied employees at a financial institution in Thailand a week before a merger and acquisition from a Japanese bank. Employees with higher levels of mindfulness (using MAAS), reported lower levels of behavioral resistance to the merger and acquisition. More evidence is needed to make this generalizable, however mindfulness could be another approach to help employees cope with anxiety toward

uncertainty (Charoensukmongkol, 2016). In a time of great uncertainty, this seems to be one of the most significant outcomes.

2.5.6 Methodological Concerns in Workplace Mindfulness Studies

Conceptualization

In many studies mindfulness is referred to as a state, a trait, a practice, and/or an intervention. The concerning issue is when there is inconsistency within the same study, using multiple conceptual definitions of mindfulness. This concept confusion could lead to difficulty in finding the distinctive outcomes and impacts from workplace mindfulness rather than, for example, other stress management interventions. In order to improve study validity researchers should define mindfulness and clearly communicate which conceptualization is being utilized in the study. Finally, when there are multiple conceptualizations within the same study, that too needs to be clarified. In other words, when referring to mindfulness practices, one could use: the practices, contemplative practices, and/or mental hygiene practices in order to reduce confusion.

Objective Measures: “Which Mindfulness Measures to Choose to Use?” (Qu et al., 2015)

There is an over reliance on self-reported measures in this field. Among the many issues with that, including response bias, is that mindfulness has become a socially desirable characteristic which could inflate scores even on reliable measures. In order to mitigate the issue of construct validity, objective measures or some sort of triangulation to confirm the self-reported results should be included in future study designs.

Unfortunately, salivary cortisol (a biomarker for stress) as well as heart rate variability has been difficult to accurately capture in the field and have provided inconsistent results (Roeser et al., 2013; Allen et al., 2015). A study that uses objective measures of stress, perhaps even a longitudinal study using hair samples measuring cortisol, could be very useful. Though, we would likely need to put an asterisk on 2020 to remind readers of the incredible uncertainty that the COVID-19 pandemic triggered.

In addition to the need for objective measures, several studies assessed productivity using the self-reported Work Limitations Questionnaire (WLQ). WLQ Lerner et al. (2002) comprises of measures of physical demands, time demands, mental-interpersonal demands, and output demands. An item for example in the physical demands measure asks, “In the past 2 weeks, how much of the time were you able to walk or move around different work locations (for example, go to meetings) without difficulty caused by physical health or emotional problems?” For the following examples, they all start with “In the past 2 weeks, how much of the time did your physical health or emotional problems make it difficult for you to...” A time

demands item would ask, "...do your work without stopping to take breaks" A mental-interpersonal demand item sample is, "...speak with people in person, in meetings or on the phone" Finally, an output demands example, "...handle the workload." These items capture something closer to the 'ability to be physically and emotionally present at work' rather than the business sense of the term productivity. When we use the term productivity there is an inherent quality of output and that is not what the WLQ assesses. We need to be cautious with how we discuss results of mindfulness interventions as well as honest about the limitations of the measures actually implemented.

Rigorous Methodology: "What do we really know about MBSR?" Bishop (2002)

This body of literature on workplace mindfulness is in its infancy. Almost two decades ago, Bishop (2002) declared MBSR research "rife with methodological problems." Unfortunately, as Goldberg et al. (2017) points out, even in the face of exponential growth of publications in this field, we have not seen a significant increase in methodological quality. This is often attributed to the emphasis on publishing even with low sample sizes and thus low statistical power. There is even a study that looked at the positive publication bias in mindfulness interventions (see Coronado-Montoya et al., 2016). In addition, Janssen et al. (2018) reviewed 23 MBSR and employee's mental health studies and only 2 were of high methodological quality.

One rationale that Goldberg et al. (2017) highlights is that when interventions are being generated and refined, the initial studies are less rigorous as they are testing feasibility and evaluation of the program. Recently, a great deal of mindfulness-based interventions has been created, and once piloted we in the research community can only hope that more attention to quality study designs will come in the very near future.

Adaptations

Many studies adapted established mindfulness interventions, specifically MBSR or MBCT. Of the 80 intervention studies (listed in [A.1](#)) 57 were MBSR-based and/or MBCT-based, only 11 were actual MBSR and/or MBCT. Developed by Jon Kabat-Zinn (1982) MBSR consists of 8 weekly 2.5 hour didactic and practice sessions, one full-day silent retreat (8 hours), and a request for 45 minutes of daily independent meditation practice, for a total of about 84 hours over 8 weeks (Kabat-Zinn, 1982b). Acknowledging the fact that MBSR is a large time commitment and often unrealistic for most organizations to initially undergo, many studies adapted a mindfulness intervention to be more feasible for the average working adult. Gilmartin et al. (2017) reviewed 14 studies with under 4 total hours in the intervention. Though 5 of the 14 studies found improvements in stress, 8 studies found no effect on some or all measures (mindfulness, burnout, fatigue,

resilience, and job satisfaction). It is also important to note that the studies with no effect, also did not measure adherence to the daily practice recommendations. This dose of 4 hours or less and then very little follow up might have been too small to produce any changes (Gilmartin et al., 2017).

The concern is when established interventions are adapted, it is difficult to ensure that the key elements are maintained. Looking at the outcomes from the MBSR-based studies, there is mixed support for efficacy of mindfulness interventions in facilitating organizational outcomes. Providing a training without adhering to the process, specifically the uncomfortable initial phase of training your mind seems like a disservice to both the participants as well as to the research community seeking to compare and find impacts of workplace mindfulness. New or adapted interventions should focus on rigorously evaluating both the content and the trainer with fidelity assessments, manipulation checks, attrition, acceptability and feasibility in work settings (Jamieson and Tuckey, 2017).

Overarching Concerns

The main methodological issues are: inconsistent conceptualizations and accompanying measurement challenges (Qu et al., 2015); over reliance on self-report measures (Hyland et al., 2015); lack of triangulated concept measurements (Jamieson and Tuckey, 2017); infrequency of randomized controlled trials (as shown in the appendix [A.1](#) 40% of the studies were not RCT); scarceness of studies that examine long-term effects Ravalier et al., 2016 reviewed 10 articles and none of them conducted a followed up at 12 months); and lack of comprehensive information regarding attrition, adherence and engagement (Goldberg et al., 2017).

In conclusion, researchers should address these issues in their study designs, for example, by improving construct validity, administering compliance checks to capture participant adherence, using triangulation and a multifaceted approach that looks at both self-reported and objective measures and incorporate more measures beyond health and well-being such as organizational citizenship and unconscious bias.

2.6 Implications, Future Developments and Open Questions

2.6.1 Implications

Implications

The most common rationales for why employers should embrace employee well-being programs used in this analysis were to reduce stress and the associated costs; increase attention and cognitive functioning; improve interpersonal relationships and communication; and promote health and potentially slow the process of

aging. Based on this analysis, notwithstanding the methodological concerns, there is a substantial amount of evidence that supports the need to continue to investigate employee well-being interventions and outcomes.

Re-branding

Due to the complexity and ambiguity with the word mindfulness, I propose using different terms in order to clearly communicate with organizations. The goal of a mindfulness training program is never to solely increase mindfulness, rather it is the effects of increased attention and awareness; and decreased stress that are sought after. The focus of a program should be on cultivating employee well-being by reducing stress, increasing resilience, improving cognitive performance, and building community. Thus, it might be worth experimenting using an intervention for workplace well-being without using the word mindfulness. Another approach could be to never use mindfulness without context such as “mindfulness meditation”, “mindfulness practices”, “mindfulness skills”. Leading organizations in the field often use terms like emotional intelligence, resilience training, awareness practices, compassionate leadership, and mental qualities as those phrases hold less ambiguity.

Caution

I would like to caution that if employee well-being programs are introduced without the support and commitment of leadership and employees, it will appear inauthentic and likely have no lasting significant changes on individuals or the organization. To reiterate a previous statement, it is unlikely that the benefits from well-being training would be observed if the intent is for higher profits rather than a higher organizational purpose. In order to protect against the use of mindfulness-based interventions as a means of transferring the burden of an unhealthy working environment to employees, a cross-level approach that targets both the individual level and the organizational level would be better suited to address any systemic problems.

Methodological rigor, a balance and diversity of measures

There is currently a great deal of unexplored outcomes in this area of research. Providing evidence that workplace mindfulness-based training can improve well-being, reduce stress, and increase cognitive capacity is just the initial step. Future employee well-being studies should be conducted with methodological rigor, a balance and diversity of measures.

2.6.2 Future Developments in Workplace Well-being

A more in-depth study design will be provided in chapter 5, (Proposed Study in a Higher Education Setting). Here I will provide a brief introduction of a workplace well-being intervention based on implications from this concept analysis.

Virtual Interventions

Now more than ever we need quality virtual interventions and well-being measures. As more and more training and professional development resources are transferring from in-person delivery to online-based, an online program would be the most practical, cost-effective approach to ensure all employees are able to engage with the well-being program. There is evidence that online mindfulness interventions are effective and feasible in producing the intended results (Aikens et al., 2014).

Communication Assessments

Employee well-being studies would be significantly improved by using a mixed methods approach and including research on employee beliefs and perceptions before the pre-intervention assessments. Communication research should be implemented to assess attitudes to employee well-being, best approaches in messaging about employee well-being, and progress throughout the program. From a research perspective, it is important to consider how the study is communicated in order to have compliance as well as reliable responses. An area of investigation, that will be further discussed in the section (Open Questions as well as Chapter 3), explores the imperative and complex nature in communicating progress in mental health and well-being.

Organizational Readiness

In addition to communication assessments before program delivery, there should also be an organizational readiness assessment. The organizational readiness assessment would consist of: readiness for change, culture, team climate, sustainability plan, leadership commitment, openness to change, organizational authenticity and goals. This assessment would be intended to provide insight into the organization, specifically for any adaptations for workplace setting and schedule. It would also provide a better understanding of support, cultural acceptance, and attitudes of employees and leadership towards employee well-being.

The organizational readiness assessment could identify the goals of the program, and then those concepts of interest to organizations could be used in the intervention assessments. For example, if increased productivity and performance was identified as an organizational goal, the study design could include (additional) measures to ascertain these concepts. Studies in this analysis used WLQ as an assessment of productivity, whereas measures that more accurately capture quality output or effort should be explored. Additionally,

for ease of data collection, another way to measure productivity would be to explore whatever the organization or team is already using (e.g., 360-degree feedback, project management software, and of course, profit measurements).

Methodological Rigor

The gold standard of human experiments should be utilized. A randomized controlled trial (RCT) study could consist of two treatment groups; one with the well-being program, the second group could experience another stress management program, and a third group would be in the wait list control group, receiving assessments only. New or adapted interventions should focus on rigorously evaluating the content, trainer and participants' engagement with fidelity assessments, manipulation checks, attrition, acceptability and feasibility in work settings (Jamieson and Tuckey, 2017).

Balanced Measures

There should be a balance of individual, occupational and organizational measures assessed. In addition, there should be a balance of self-reported and objective measures. Qualitative interviews and program evaluations should also be conducted to ensure integrity of the program. Finally, virtual measures, such as in-app surveys, could be implemented in order rapidly assess employees throughout the well-being program.

Longer Study Design

Many studies in this analysis indicated the need for a longer follow up in order to assess both the individual sustained benefits as well as capture any organizational benefits.

Interviews

To explore concepts that have not been empirically supported, such as community indicators of well-being, in-depth interviews should be conducted throughout the program to further assess the subjective and collective experiences of the participants. A virtual option could be to collect in-app voice responses to reflection prompts.

Workplace Settings

In any collaboration, relationships take time. Initial workplace studies likely began with mindfulness researchers contacting their networks. Thus, the majority of early mindfulness interventions were conducted by clinical psychologists in health care settings. In this concept analysis, 40% of the interventions were in health care settings (see [A.1](#)). I would like to see more diversity in workplace settings as well as research collaborations.

Measures

A large portion of this chapter is dedicated to assessments. The following is a brief overview of measures that if given unlimited resources in budget, human hours, and willing organizations I would recommend implementing.

Individual Measures

Cost of Stress

As most of the rationales for workplace well-being programs are concerned with the consequences of stress, perceived stress and an objective measure for stress should be assessed. The Perceived Stress Scale (PSS; Cohen et al., 1983) provides insight into the individual's coping capacity by measuring the degree one's situations are appraised as stressful. Biomarkers have been used in order to assess physiological manifestations of stress, though salivary cortisol has provided inconsistent results (Klatt). I recommend a large participant, longitudinal study with hair cortisol samples.

Well-being

Many studies explored life satisfaction, sleep quality, profile of moods, depression, anxiety, affect, and health locus of control. In order to reduce the amount of time to administer assessments, I would prioritize the shortest and still effective indicator of psychological health. WHO-5 is a 5-item scale that measures positive aspects of well-being and could be used to rapidly assess subjective well-being.

Another measure of psychological health that was not utilized in this analysis is Emotional Styles Questionnaire (ESQ; Kesebir et al., 2019). ESQ is a 24-item questionnaire that assesses emotional well-being with 6 scales: resilience, outlook, self-awareness, social intuition, sensitivity to context and attention. In my opinion, this assessment could be used in the place of other well-being assessments and even a mindfulness assessment as it integrates into outcomes of workplace interest more readily than mindfulness as it captures awareness, attention, and resilience rather than simply a measure of mindfulness.

That said, if a mindfulness measure were to be needed, again in order to reduce time spent on assessments for each participant, MAAS would be a good option as it is only an 11-item assessment. In addition, if offered within the application, there is a 5-item MAAS scale used to capture current expression of state mindfulness.

Slow Aging

Another avenue of research could further explore the mental hygiene and slow aging connection in the context of workplace well-being interventions. Brain scans could be conducted to see if there is in fact slow,

reduced natural thinning in response to contemplative habits. Of course, this would incur large costs to the project, but for interested executive leaders, it could be a selling point for participation and even fund raising (something along the lines of, “interested in brain scans of your executive team? For an additional donation of \$100,000 or more . . .)

Unconscious Bias

Another measure that was not implemented in this analysis, but is a question worth exploring is the connection between improvements in well-being and unconscious bias. Implicit association test (IAT; Greenwald et al., 1998) could be one way of assessing unconscious bias and whether implicit beliefs and attitudes change with increased emotional well-being.

Occupational Measures

Attention

The desire for cognitive improvements and increased performance from employees was the second leading rationale for workplace well-being studies. Attention is typically regarded as a cognitive ability and closely related to performance. There is evidence that mental training can improve performance on attention tasks (Lutz et al., 2009). ESQ should be administered to measure self-reported Attention. Additionally, attention could be triangulated with a sustained attention task, such as the Cambridge Test (CANTAB; Sahakian and Owen, 1992) that objectively measures cognitive function.

Burnout

Burnout and turnover are tremendously costly to organizations. Maslach’s Burnout Inventory was the most commonly assessed occupational measure in this analysis as it measures emotional exhaustion, depersonalization and personal achievement. Turnover intention (Kelloway et al., 1999) could also be used if organizations are interested in the aggregate data.

Performance

Performance measures could be gleaned from interviews with the organization regarding how they measure high-performing employees. For example, Dane and Brummel (2014) used manager assessments to obtain a measure of performance regarding high performing restaurant servers and their ability to handle busy sections. This high-performance measure was discovered after background interviews to better understand the workplace.

Diversity of Occupational Measures

Few of the studies in this analysis examined work characteristics such as job control, job demands, work relationships, work pressure and emotional load. The Salutogenetic Subjective Work Analysis (SALSA; Rimann and Udris, 1997) could be used to address a few of these concepts, specifically job characteristics, job demands, occupational stress, organizational resources and social resources in the workplace. In order to enhance a business case for workplace well-being, the mechanisms that Glomb et al. (2011) theoretically presented regarding how mental practices can improve employee functioning by looking into employee accuracy in affective forecasting, self-determination and persistence as well as response flexibility at work should be empirically explored. One study assessed behavioral reports from colleagues as a way to triangulate self-reported measures (Observable Mindful Behaviors and Observable-MASS; Bartlett 2017). It would be interesting to explore this further by assessing observations of emotional reactivity, compassion for colleagues, and creativity. Future research could address work-related perceptions and occupational mindfulness. Certainly, self-report and objective measurements are not the only assessment approaches. Experience sampling, for example, such as the daily reconstruction method (Kahneman et al., 2004) is an option that could reduce recall biases embedded in self-reported measures (Davidson and Kaszniak, 2015).

Organizational Measures

Organizational Readiness

I highly recommend the need for an organizational readiness assessment before implementation of a workplace intervention. This would ensure that there is a shared meaning of terms, a mutual understanding of purpose of the program, and the questions about resource allocation and sustainability might prompt discussions for the leadership team to be more proactive than reactive.

Collective Mindfulness

Improvements in organizational capacity was another leading rationale for workplace well-being. The idea of collective mindfulness should incorporate attention and awareness not only to the organizational strategies, but also to the interpersonal relationships. For this reason, I recommend a collective mindfulness measure could be further developed.

Citizenship Leadership

Organizational Citizenship Behaviors (OCB; Moorman and Blakely, 1995) and Transformational Leadership Inventory (TLI; Podsakoff et al., 1990) were used in this analysis to capture the behaviors that inspire others to go above and beyond required work tasks and see if that amount and frequency changed after an employee well-being program. Reb et al. (2015), for example, assessed an organization without an intervention and

found a positive relationship between work-related mindfulness and organizational citizenship behavior. This could be further studied before and after an intervention to explore if the positive relationship continues over time.

LOTI

I find the Landau Organization and Team Climate Inventory (LOTI; Müller and Koblenz-Landau, 2007) particularly interesting as an organizational measure that addresses the majority of concepts associated with increased employee psychological well-being. As a reminder, LOTI measures team climate: cooperation and collaboration, leadership and organization, decision-making and creativity; organizational climate: appraisal and respect, atmosphere and satisfaction; and personal performance: pressure and stress, and productivity and concentration.

Organizational Goal Assessments

Depending on the organization goals, the assessments could examine organizational effectiveness, organizational equity, organizational quality, employer-rated performance, productivity, and customer satisfaction.

Shortened Version

All of those assessments would be a burden for both participants and researchers. A wiser alternative might be an assessment that emphasizes: organizational readiness, stress assessments, ESQ and objective attention, unconscious bias, response flexibility at work, performance, LOTI, program evaluation and interviews.

2.6.3 Open Questions

The following are larger questions that one person cannot tackle alone, but could be explored by a group working collaboratively.

Objective Measures?

There likely will never be a standardized well-being measure, but are there objective, physiological metrics that should be pursued in a workplace setting? Even though there are inconsistent results with biomarkers, I remain optimistic that with a longer study design that hair cortisol is worth examining. Hair samples are a common request for drug testing in workplaces. Thus, it would be worth pursuing, though I would also welcome other ideas for objective measures of stress and well-being. Since this field is moving towards virtual programs, are there ways of objectively assessing well-being remotely (e.g. from a smart-watch or smart-phone?)

What are Indicators of Community Well-being?

What are Indicators of Community Well-being? We know indicators of individual physical health (body mass index, blood pressure, hemoglobin A1C, physical activity, nutrition, etc.). We also have measures to assess individual psychological health (WHO-5, Health checklist; etc.). Currently, we do not have adequate measures of community and organizational well-being.

We know that stress and health are contagious, but we do not have a great mechanism to measure progress toward healthier communities and workplaces. There are indicators of unhealthy and healthy, but not how to go from slightly healthy to extremely healthy. I believe this is an imperative question to explore as we continue to investigate healthy minds and communities.

How do we Communicate Progress in Well-being?

A self-reported measurement for psychological well-being is a great first step in introducing people to the concept of paying attention and being more aware of their mental qualities. When the goal is to promote well-being at a population level, what are indicators of community well-being, and how should we communicate progress towards optimal health. For physical activity, an arbitrary number of 10,000 steps became a goal and feedback from a step counting device lets participants know when they reached their daily goal. Mental hygiene is a different, less concrete concept and thus more difficult to provide progress at scale. Prompts to take a minute to breathe deeply, practice gratitude or body scan could be administered initially, but in order to deepen the practice and increase well-being more would need to be done. Future collaborative studies should be designed with psychologists, bioethicists, public health and science communication researchers to examine how to communicate mental health progress.

CHAPTER 3. Best Practices in Cultivating Well-being

Introduction

Chapter three explores strategies for cultivating well-being by incorporating theories of communication, organizational readiness, and diversity inclusion in the implementation of an employee well-being program.

This chapter will begin by describing relevant health communication theories on behavior change for individuals and then discuss the complexities of organizational change. Workplace intervention research concentrates mostly on the efficacy of the intervention, but typically does not emphasize efforts in organizational readiness and readiness measurements. I will present two measurements of organizational readiness and a theory-based approach to implementing organizational change. My recommended theory for creating contemplative corporate cultures incorporates a social ecological model for health promotion, organizational readiness for change, and diversity inclusion efforts.

3.1 Health Communication Theories

Communication Plan

In this section I will introduce health communication theories that would be useful in designing messages for health promotion before, during and after well-being program implementation. In Chapter 2, six of the studies in the concept analysis examined beliefs on the feasibility, acceptance and other workplace implications of well-being in the absence of an intervention. None of studies in the concept analysis with an intervention discussed a theoretical framework of health communication and promotion into their workplace intervention. Thus, there is an opportunity to significantly enhance the outcomes of workplace well-being research by incorporating a theory-based approach to well-being communication.

Listening sessions, focus groups or interviews should be conducted in the planning stage of the well-being program. The intent would be to better understand the organization, discover the motives for wanting an employee well-being program and perhaps identify a customized way to assess measures like productivity, for example, by exploring the organizational norms. Next, a theoretical health communication framework

would be used to design and evaluate message engagement and acceptability. Health promotion messages would then be provided throughout the program. Finally, messages should be evaluated along with follow-up assessments to measure outcomes, as with any program or initiative there will always need to be a return on investment even if that is just time and energy spent.

Health Communication Theories

The Theory of Planned Behavior and the Transtheoretical Model (TTM) of Behavior Change examine the motivation level and intention to change behavior. The Theory of Planned Behavior states that behavior change is best predicted by intention to attempt the behavior and augmented by perceived behavioral control (Ajzen et al., 1991). TTM posits that stage matching improves effectiveness of behavior change interventions. According to this model, behavior change is enhanced with stage targeted empowering messages (Prochaska and Velicer, 1997). Health belief model (HBM) is a psychological model that also attempts to explain and predict health behaviors. HBM states that influential factors on behavioral intentions and actual behavior are perceived susceptibility and seriousness of illness (Janz and Becker, 1984). Finally, Extended Parallel Process Model discusses the use of fear in messages intended to change attitudes and behavior (Witte, 1992). Together these health communication theories could augment a communication plan for a workplace well-being program.

Theory of planned behavior

Increased awareness and acquisition of knowledge regarding contemplative practices is an important first step in a communication plan, but awareness alone has relatively no influence on actual behavior change (Ajzen et al., 1991). Messages aimed at increasing self-efficacy in the ability to practice contemplative exercises to manage stress and improve resilience would be best suited to overcome the intention to behavior gap (Sheeran, 2002). The intention-behavior gap refers to the phenomenon, as with many healthy habits, that people will decide to change their behavior, but not actually take action to change.

Transtheoretical Model of Health Promotion

Transtheoretical model (TTM) of behavior change see [3.1](#) assess an individual's readiness to act on a healthy behavior and provides strategies to guide the individual through stages of change. This theory provides a method for measuring individual change and has been useful when merged with other theories of communication. TTM includes six stages of change: precontemplation, contemplation, preparation, action, maintenance and sustained behavior change (Prochaska and Velicer, 1997). At precontemplation, the individual has no

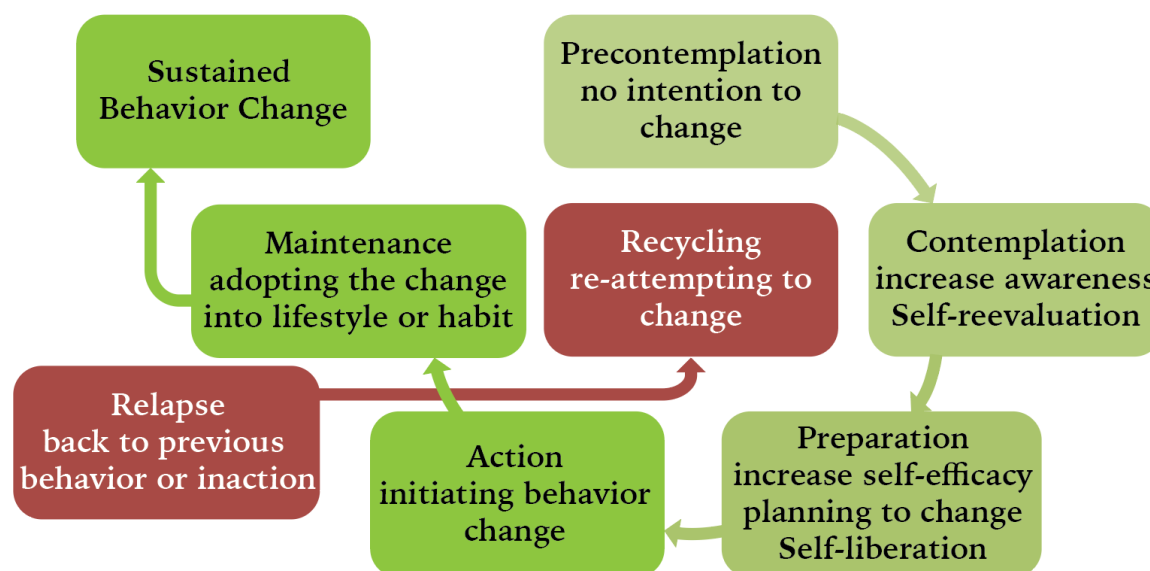


Figure 3.1 Transtheoretical Model of Health Promotion, Adapted from Prochaska & Velicer 1997

intention to change, is unaware or in denial of personal relevance of the health behavior. In contemplation stage, there is an increased awareness of the problem, but still an ambivalence about change. With increased self-efficacy into preparation stage, individuals are getting ready to change and choosing a plan that assimilates into their lifestyle. The action stage is when individuals are initiating a healthy behavior, not yet consistently. Once the healthy behavior is a habit or a lifestyle, the person has reached the maintenance stage, and moving into sustained behavior or adoption stage. Change is a process rather than an event and each stage includes incremental processes of change. Self-reevaluation is the process of assessing one's feelings regarding a behavior, which occurs in contemplation stage. Self-liberation, which is the belief in the ability to change, is the mediating process from preparation into action. Designing messages that target these processes could effectively promote behavior change (Fishbein and Cappella, 2006).

Health Belief Model

Health Belief Model states that factors that influence intentions and behavior are perceived susceptibility and seriousness of illness related to behavior adoption and/or inaction. HBM is based on the understanding that a person will take health-related action if that person 1) feels that a negative health condition can be avoided (perceived control), 2) has a positive expectation that by taking a recommended action, s/he will avoid a negative health condition (perceived benefits), and 3) believes that s/he can successfully perform a recommended health action (self-efficacy). In addition, the likelihood of action is equal to the perceived

benefits of action minus the perceived barriers to action (Janz and Becker, 1984). Thus, messages aimed at increasing salience, motivation and perceived control, while reducing barriers to action such as increasing efficacy are ways to implement mental health promotion.

Extended Parallel Process Model

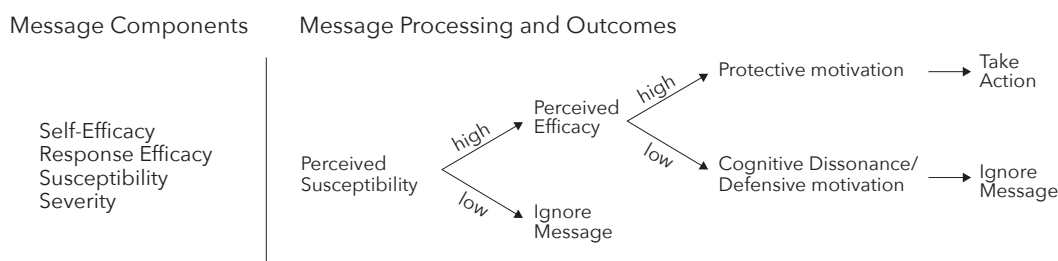


Figure 3.2 Extended Parallel Processing Model, Adapted from Witte, 1992

We know from the extended parallel process model that scare tactics are not effective when communicating risk. Fear messages more often promote inaction and thus are best used in cessation rather than initiation of an intended behavior. Cognitive dissonance occurs because either the messages are ignored or the perceived susceptibility is denied (Witte, 1992). Thus, a moderately fearful message is more effective than a frightening message in changing attitudes. It is important for audiences to feel susceptible to the threat or health risk, but not daunted by the message. For resilience practice promotion, it is important that the message provides the audience with a sense of perceived efficacy in controlling stressful situations.

Health Promotion Message Design

Salience or perception that the message applies to the individual has been shown to be an important aspect in effective message design (Fishbein and Cappella, 2006). Attention spans are short thus message delivery must be efficient and effective. Research shows that long lasting attitude change occurs with high motivation combined with a personally relevant topic (Rosenstock et al., 1988). Health communication research shows that messages should be clear, concise, culturally relevant and efficacy enhancing (Fishbein and Cappella, 2006).

Organizational Behavior Change

The social ecological model for health promotion provides a comprehensive view of potential barriers and opportunities for behavior change at the individual, organizational, community and policy levels (McLeroy

et al., 1988). Comprehensive approaches can take several forms including integrating worksite health promotion (Chu et al., 1997), targeting health behaviors with interventions operating at multiple levels of influence (Linnan et al., 2001), and addressing multiple determinants of workplace health (?). Organizational readiness for change and implementation discusses the collective beliefs regarding commitment to change and change efficacy. Research shows that when organizational readiness is high, organizational members will exhibit more pro-social, change-related behavior that support the change efforts (Herscovitch and Meyer, 2002). Finally, organizational development theory can be used in combination with these theories in order to provide strategies for communication and practice throughout the resilience and health promotion program (to be discussed in the Organizational Readiness section).

Social Ecological Model of Health Promotion



Figure 3.3 Social Ecological Model of Health Promotion, Adapted from Bronfenbrenner, 1979

Social Ecological Model (SEM) is a model that emphasizes the linkages and relationships among multiple determinants of health (Golden and Earp, 2012). At the core of the model is the intrapersonal or individual-level characteristics, nested within concentric circles or spheres of influence representing the interpersonal, organizational, community and policy level. Each layer of the model could provide a potential barrier for health promotion, and also could be an avenue for engagement that successfully initiates positive change. SEM can also be considered a system-thinking approach to understanding how individual behavior can be affected by, and affecting the social environment. All the facets of social influence can then be taken into consideration to develop and implement the most appropriate intervention. In the above figure 3.3, I adapted the social ecological model of health promotion to include factors influencing mental health and stress management behaviors. I incorporated language from three SEM models: CDC's Health Equity Toolkit using SEM to prevent obesity (Centers for Disease Control and Prevention, 2017), Fitzgerald and Spaccarotella (2009) which adapted SEM to include barriers to healthy lifestyles, and the ecological perspective on health promotion program model from McLeroy et al. (1988), which was originally adapted from Bronfenbrenner's 1979 social ecological model, in order to create a model for resilience promotion in an organizational setting. This model can be used to develop both communication research studies and message design.

Intrapersonal Factors, or Individual Characteristics

Most of the individual level factors are within the control of the individual, but also include developmental factors and demographics. The individual level barriers include negative attitudes and implicit beliefs about meditation, lack of self-confidence and knowledge of health benefits from contemplative practices. Programs geared toward increasing awareness, knowledge, skills, motivation and confidence would be best suited to overcome these barriers (Sallis et al., 2015).

Interpersonal Factors

Interpersonal level factors involve the primary social relationships of an individual (e.g., friends, family, colleagues) (McLeroy et al., 1988). The interpersonal level barriers to engage in contemplative practices in workplace setting extend to time constraints, social support and culture. If an individual has a lack of social support, in that no one in their peer group engages in contemplative practices, it would be a barrier for the individual to change her/his behavior. Programs that encourage group participation (lunch-hour sitting practices and inclusion of friends/family) would be most suitable to target this barrier. Culture is a barrier in

that facilitators of contemplative practices need to be culturally competent and trained in diversity inclusion and trauma sensitivity.

Organizational Factors

Organizational level factors include workplace environment and social institutions. In the case of workplace health promotion programs, insurance plans can be used as reward systems to encourage behavior change. At the organizational level, resource allocation and availability might be a barrier for employees to participate in meditation programs. Thus, programs that are both onsite and virtual would help in overcoming these barriers. In addition, the availability of quiet spaces and flexibility of work hours can provide space and time for employees to practice throughout their workday.

Community & Institution Factors

This level includes the relationships between organizations (university, nonprofits, non-academic partners such as state and county health departments), as well as institutional rules that are both formal and informal. Socioeconomic characteristics of the environment (e.g., neighborhoods: access to green space, noise, pollution) that can influence stress responses. Community partnerships and policy level interventions such as parks and development regulations could ameliorate this barrier. Media are also included in this level, even though they are a factor that can exist within many levels, because messaging and advertising can influence communities. For contemplative practices in workplaces, media could, for example, contribute to the ‘community identity’ messaging that resilience is part of the organizational culture.

Public Policy & Macro Level Factors

Public policy level factors include local, state and federal laws and regulations related to health promotion, health care and wellness policies. Health promotion programs and policies from local and state health departments could be a positive influencer to reducing barriers to behavior change.

Combining these theories to design messages that increase self-efficacy and are organizationally relevant are more likely to reduce barriers to change and in this case, adopt contemplative practices. The communication plan of the intervention should be assessed with the same rigorous methodology as the intervention itself.

3.2 Organizational Readiness

The following describes two measurements for organizational readiness to adopt behavior change and a theory-based approach for implementing organizational change. The first organizational readiness measurement, I will refer to as the organizational readiness tool, is a rapid assessment that can be used if there are time constraints or the research budget is low. This tool is useful in customizing messages and content delivery, but the outcomes could be fraught with misinterpretation. The second measurement, referred to as an organizational readiness assessment, has been previously introduced in Chapter 2 and would be well-suited for organizations that are interested and committed to successfully implementing a well-being program. Finally, successful implementation of organization change, whether it is a small project or a significant change, would benefit from using a theory-based approach to executing and evaluating organizational change.

Organizational Readiness

Organizational readiness refers to the preparedness of a company to undergo a significant change or take on a new project, in this example to cultivate an organizational culture of resilience. The below figure 3.4 is adapted from a community organization tool for effective communication with different audiences. The idea is that there are three different audiences from low to high readiness: critical, neutral and advocates and within each audience group there are active and passive individuals. If individuals are actively against employee well-being, for example, the goal would be to move them towards passively critical. The overall goal would be to incrementally move the community or organization towards higher readiness and ultimately to active advocates.

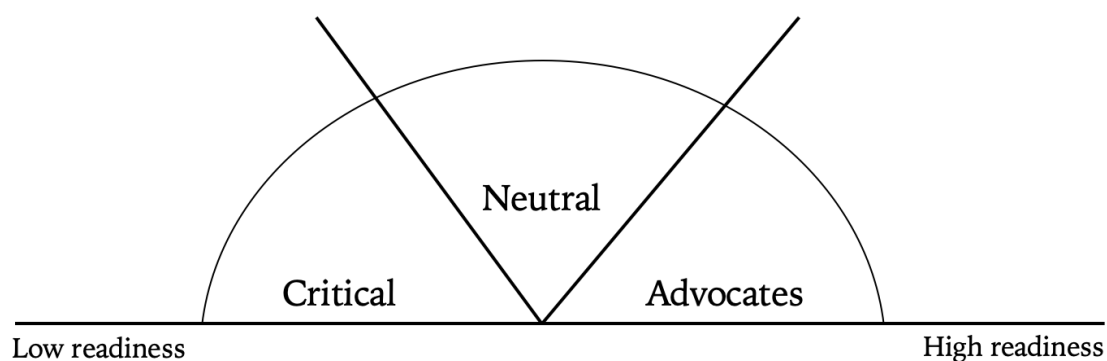


Figure 3.4 Organizational Readiness Tool: Initial Development

Green Businesses Example

When I first conceptualized this readiness tool, I thought of the organizational perspective of the ‘go green’ movement otherwise known as sustainability initiatives from businesses. Critics of the green business movement would either ignore initiatives relating to consumption, waste and supply chain or ‘greenwash’ their products. Greenwashing is a term used for businesses that provide misleading information about being environmentally friendly. The neutral audience would be organizations that will adopt change only if the initiative connects directly to a prompt return on investment. Or perhaps, neutral organizations would create a sustainability plan, but not allocate resources to execute the plan. Whereas advocates are organizations that embody sustainability as integral into their operations, communications and strategies. In this regard, passive advocates could be enticed by sustainability innovations that active advocates are implementing.

Mindful Businesses

Similar to greenwashing in the sustainability movement, in the mindful organization movement, companies that claim to be mindful, but are not actually supporting employee well-being (unrealistic workload, toxic culture, inflexible hours, no parental leave, etc.) are often referred to as ‘McMindful businesses.’ Neutral audiences in this category are organizations with an interest in employee health, but no active programs that discuss healthy mental habits, resources and practices. Advocates are contemplative organizations that incorporate well-being throughout, from its core function, mission, vision, strategic plans and ways of operating.

After observing several organizations using this tool, I began to consider how to effectively communicate and design messages for well-being promotion. Decades of population health and behavior change research shows that targeting different audiences with unique messages is effective in public health campaigns. This tool was initially useful in that with organizations in the neutral and critical categories, I would avoid using terms like meditation or mindfulness when I discussed my research interests. As described earlier in chapter 2, the term mindfulness has many conceptions, or rather misconceptions, associated with it that might be negatively received in corporate cultures. However, using terms like attention economy, time management, enhanced collaboration, creativity and innovation within a scientific framework of what physiological changes occur with well-being training is one of many ways to overcome the potentially negative reception of workplace mindfulness.

Organizational Readiness Tool

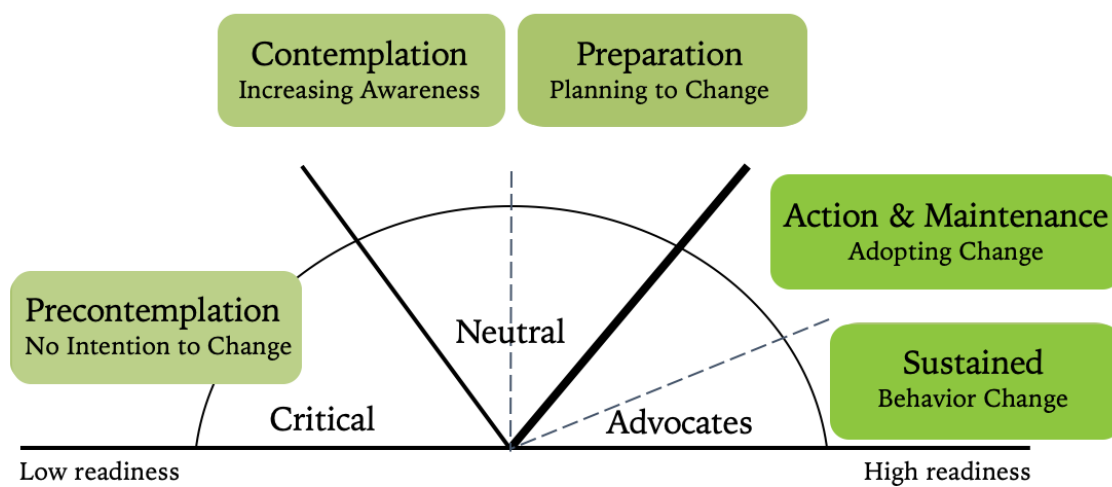


Figure 3.5 Organizational Readiness Tool with an adapted Transtheoretical Model for strategic communication using tailored messages for different audiences

Finally, to further develop this tool, I mapped the theory of transtheoretical model (TTM) of behavior change in order to quickly assess organizational readiness and when needed, design messages based on the level of readiness to change. See figure 3.5 to see the developed observational organizational readiness tool with the stages of behavior change.

4-item Observational Measurement

I then developed four questions to estimate readiness for organizations see figure 3.6. The first question, Q1.) “Is the organization interested in employee health and well-being?” If no, the organization is in low readiness to change and in the precontemplation stage. If yes, then the second question is, Q2.) “Does the organization have a plan to implement a

Questions for Organizational Readiness Tool

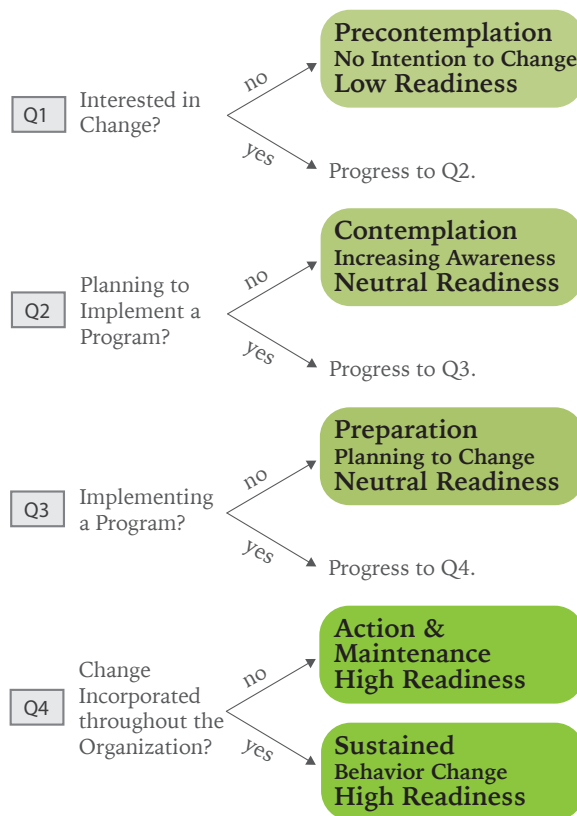


Figure 3.6

well-being program (e.g., resources, plans, champions, budget)?” If no, the organization is in contemplation stage with passively neutral readiness. If yes, then the third question is, Q3.) “Is the organization implementing an organizational well-being program?” If no, then the organization is in preparation stage, with actively neutral readiness. If yes, the fourth question is, Q4.) “Is well-being incorporated throughout the organization?” If no, the organization is in the maintenance stage, and passive advocates. If yes, the organization is in the sustained behavior change stage, and active advocates. Once organizations are estimated with the readiness tool, targeted messages can be designed and tested for acceptability and organizational adoption.

Low Readiness

An organization with low readiness in the critical audience would be organizations with no current intention to embrace employee well-being. They are either unaware of the potential benefits, or do not see an organizational relevance to discussing mental health in their workplace. Any efforts for this audience should be with a small goal of providing more information about organizational relevance, specifically successful programs in similar companies such as their competitors.

Neutral Readiness

With increased awareness and readiness to change, organizations in the passively neutral, contemplation stage, as the name suggests are contemplating the change, but are not yet providing mental health and well-being resources for employees. Once an organization begins planning for a change, they increase their readiness to actively neutral and enter the preparation stage. In the figure XXX, there is a bold line between active neutral audiences in the preparation stage and passive advocates in the action and maintenance stage. This bold line, as you may recall from the discussion of TTM in the previous section is the intention-behavior gap. On the preparation side, there is a plan to change, but action has not yet occurred. Messages aimed to increase efficacy could promote behavior change as an important mediating process from preparation into action is the belief in the ability to change (Fishbein and Cappella, 2006)

High Readiness

With increased organizational efficacy and readiness, organizations move into the action and maintenance stage as they initiate and adopt employee well-being in their organization. Even organizations that embrace employee well-being will still need to put effort into maintaining healthy habits in order to ensure that the adopted behaviors are continued, as well as showing a return on their financial and time investment.

Messages to this audience should celebrate even the small successes, and inspire continued practice from active advocate organizations in the sustained behavior stage.

Communicating Progress

An open question, discussed in Chapter 2, is how to communicate progress in well-being. There are ways to assess, for example if employees are exhibiting unhealthy behaviors versus if employees are practicing healthy habits of mind. Again, the question I find incredibly fascinating is how can we communicate progress toward optimal well-being. A collaboration of expertise across communication, population health and well-being researchers is needed to best explore solutions to this question.

Lessons Learned from Green Businesses

Sustainable business movements had success with neutral audiences when connecting initiatives to return on investment measures. Future studies should explore what language and message strategies can mindful movements learn from and use to implement change. In addition, B Corporations, for example, are organizations that are committed to consider both the societal and environmental impacts in their business decisions. Though B Corporation certification ensures that there is a significant consideration for employee and community well-being, for companies that are interested in employee well-being and not yet ready to implement environmental protection, should there be a well-being corporation certification? Or perhaps instead of reinventing the wheel, should organizations that are advocates for well-being also consider becoming B corporations?

Another question to further develop employee well-being research has to do with organizational rationale. It would be interesting to understand motives for organizations, for example is a more productive workforce a motive? Is the consideration for values on investment enticing? Would health risk assessments of employees be evidence to want to change the organizational goals? This organizational tool is a great start to begin to design well-being promotion content and initial correspondence, but companies are more complex and difficult to reduce to a single stage. Thus, workplace well-being programs could have a higher successful implementation rate with a more thorough organizational readiness assessment.

Organizational Readiness Assessment

The following assessment is yet to be developed and validated. I propose that this assessment should be developed with a collaboration of organizational change researchers, sustainable business experts, leadership development specialist, successful business leaders, and well-being scientists.

There is no one-size-fits-all corporate culture, thus there should not be claims for a one-size-fits-all well-being training program. To ensure organizational fit, the business case and content of the curriculum should be aligned with the business objectives, strategy and culture. Thus, at the very least an organizational readiness assessment should include items to better understand the organizational objectives, strategic plans and corporate culture. The assessment should also include: team climate, sustainability plan, leadership commitment, openness to change, collective buy-in, organizational authenticity and goals.

Strategic Plans consist of a vision statement, a mission statement, goals and objectives, and an action plan. Implementing employee well-being is part of an action plan. The problem with most mindfulness programs is that the training is seen as a tactic or a tool, and not incorporated throughout the business. It should be elevated to the strategic plan for organizations to remain competitive.

Implementing this assessment before the launch of the well-being program would ensure that there is a mutual understanding of purpose of the program and ample time is allotted to prepare for the organizational change. One way to establish collective buy-in would be to involve multiple departments in planning, promotion, training and resource allocation decisions.

This assessment would be able to provide insight into the organization, specifically for any customizations to the program. For example, the first initiative should be to connect well-being to the organizational values. It would also provide a better understanding of attitudes of employees and leadership towards employee well-being. Finally, this assessment could clarify the feasibility for virtual assessment tools throughout the program.

Organizational Readiness for Change

If a higher education institution, for example, was embarking on organizational change the following is one theory-based approach to successful enactment. I recommend efforts in organizational readiness be applied to a well-being and health promotion program. Health promotion researchers have historically focused less attention on readiness of the organization than they have on the efficacy of the intervention. Workplace health promotion research has identified factors that facilitate or impede effective implementation such as readiness, leadership support, and employee involvement (Glasgow et al., 1993).

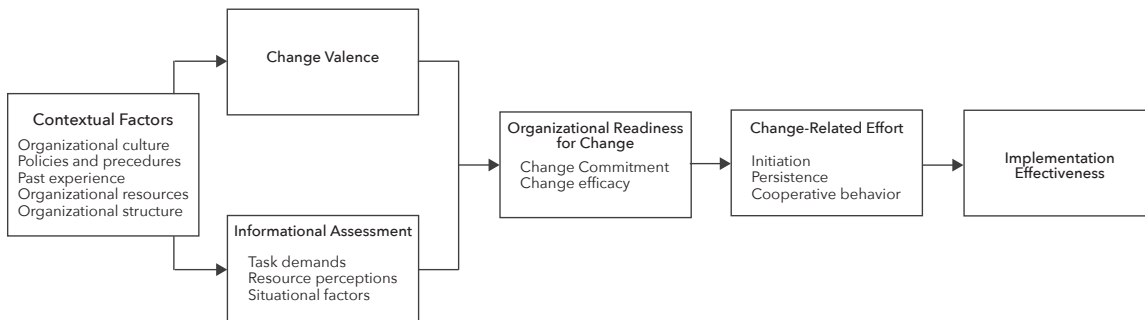


Figure 3.7 Organizational Readiness for Change, Adapted from Weiner, 2009

Organizational readiness for change refers to organizational members' shared resolve to implement a change (change commitment) and shared belief in their collective capability to do so (change efficacy), see figure 3.7. Organizational readiness for change varies as a function of how much organizational members value the change and how favorably they appraise three key determinants of implementation capability: task demands, perceived resource availability, and situational factors. When organizational readiness for change is high, organizational members are more likely to initiate change, exert greater effort, exhibit greater persistence, and display more cooperative behavior. The result is more effective implementation (Weiner, 2009). Organizational readiness efforts should be considered at multiple levels within the social ecological model (individual, team, and organization or in a university setting, the individual, department, and institution) (Klein and Kozlowski, 2000).

Organizational Development Theory

Kurt Lewin's three stage model of organizational change for effective management and support at each stage is a useful model to assess, evaluate and communicate successful execution of change. This model of organizational development is a three stage model and also called 'unfreeze, change, refreeze' and is based on the analogy of melting a block of ice, and refreezing it into a new shape (Schein, 1996). Understanding the change process can help with typical barriers like resistance to change as well as maintenance of the change. Note, I previously referred to using organizational readiness and the transtheoretical model (TTM) for messages designed to initiate a well-being program, the following discusses using readiness and TTM to design messages throughout the well-being program and organizational change.

The first stage in the model is to unfreeze. This is the stage in the model where it is imperative to communicate why the change is necessary. Everyone affected by the change must hear a compelling message demonstrating why the existing status quo will not heed desirable outcomes (brain drain, budget cuts, working in silos, etc.) The unfreeze stage is comparable to the contemplation stage in the transtheoretical model (TTM), in which they are both considered the planning and preparation stages. The organizational change model, involves reexamining the core values, attitudes and behaviors; and breaking away from the way ‘things are normally done’ in order to create a controlled crisis. Once the status quo has been affected, there is a collective motivation to rebuild and maintain meaningful change. Without the controlled crisis organizations often relapse back into status quo (Schein, 1996). In order to overcome typical barriers to organizational change, the unfreezing stage involves ensuring senior management support, framing the change as organization-wide importance, and addressing employee concerns.

The next stage is the actual change process. Employees need to understand that they are creating a new culture. Organizational messages should continue to reinforce how the change will provide individual and organizational benefits. In addition, messages that reinforce the fact that change is a process not an instantaneous event, will allow employees time to adjust to the changes. Finally, engaging employees in decision-making, empowering employees as peer mentors, and communicating often are strategies in this stage that ensure collective support and engagement.

The last stage in Lewin’s model is refreeze, when the organization returns to a sense of stability. This is similar to the maintenance stage in the TTM, as this is when the organization adopts the change as part of the organizational culture. In this stage employees require sustained resource allocation needed to continue their behavior change. Evaluation of the implemented changes in this stage ensures adherence to the change and should include collaborative discussions on how to sustain changes. Finally, best practices in organizational changes state the necessity of celebrating successes and the efforts of everyone involved in making the change a success (Armenakis et al., 1993). Recognizing the efforts involved in the change can also provide closure from the initial crisis.

Organizational messaging

Research on mindful and contemplative workplaces shows that organizational messaging should infuse a sense of meaning and values that emphasizes “human worth and connection” (Dutton et al., 2002). Research on organizational citizenship behavior also found that using words such as: dignity, inclusion, collaboration,

partnership, support, stewardship and justice encourages individual and collective identity with the change (Sun et al., 2007). In addition, communication research on framing messages, states that shifting responsibility of stress management for example, from an individual burden to highlighting organizational level ramifications can promote policy and institutional level action (Shain and Kramer, 2004). Messages including the idea of greater good and supporting a social movement that values mental health practices as much as physical health can also augment collective buy-in (Duerr, 2004). Finally, messages that connect back to the organizational values and mission resonate with employees, in that every employee understands how to contribute to the success of the organization (Killingsworth, 2012).

3.3 Diversity Inclusion

In this section I present how well-being programs should incorporate diversity and inclusion. I will highlight the need for more diverse populations in workplace well-being research. Finally, I will describe several potential barriers to engage in contemplative practices, as well as strategies to overcome the identified barriers using the social ecological model (SEM) for health promotion.

Organizational Readiness

Employee well-being content should be culturally-aware, trauma-aware and accessible to all readiness levels. An essential organizational readiness activity should be a collaborative approach with the company's internal diversity and inclusion team to screen the well-being program content and ensure it is organizationally relevant. To be clear, I am referring to the many types of diversity such as cultural, racial, religious-beliefs, political-beliefs, socio-economic status, age, gender, sexual orientation, and physical ability.

Intervention Readiness

Just as organizational readiness is essential for successful implementation, intervention readiness is essential for successful investigation. Interventions have two main readiness activities, customizable content and culturally-aware assessments. The content should be flexible in offering customizations while maintaining treatment fidelity. Customizations should not be so drastic that the intervention is not consistent across organizations, instead the core content should remain the same while certain practices could be exchangeable. Thus, the dose, core curriculum and assessments should remain constant to ensure integrity and consistency of the program.

Magee (2016) provides several contemplative practices intended to “increase the sense of inclusivity and identity-safety in any given learning community” (p.6). Some of the practices include: bearing witness, just like me, finding common ground, values clarification, and weaving our stories together. These are in addition to typical contemplative practices like: body scan, self-compassion, loving-kindness, and open awareness. Curriculum development could include highlighting which practices can be interchangeable and provide several curriculum plans based on different organizational goals.

The second intervention readiness activity would only need to be conducted once, rather than adapted to every new organization. It is not only important that the content of the program is culturally-aware, but also the assessments. Consideration to ensure culturally relevant, construct validity of the assessments should be taken in order to measure the efficacy of well-being programs with diverse organizations.

Research Gaps

Although the evidence on mindfulness meditation is increasing, it is not representative of the U.S. population. One meta-analysis of mindfulness studies for stress management in healthy people, found a significant generalizability limitation in that the majority of participants were Caucasian, female, undergraduate students (Chiesa and Serretti, 2009). From both health promotion research and organizational psychology literature there is not a wealth of analysis regarding mindfulness programs and diverse communities. There is a research gap in the relevance to and acceptability of contemplation practices with different types of diverse populations (Fuchs et al., 2013).

The use of mindfulness practices in workplaces is an emerging field, yet the growing body of evidence regarding potential outcomes of mindful workplaces are also not generalizable to all types of workplaces and workers. While the list of industries that are adopting mindful practices is expanding (healthcare, financial services, advertising, education, information technology, consulting, consumer goods, law, pharmaceuticals, manufacturing) it has not yet reached many traditionally blue-collar workplace settings such as farms, transportation, construction, and maintenance (Kachan et al., 2017).

Barriers to healthy behavior

Given the nature of contemplative practices one could rationalize that unlike other health promotion practices, meditation does not have inherent barriers that would exacerbate health inequities (like access to recreational facilities and purchasing expensive produce). Unfortunately, however, contemplative practices are most effective when initially exposed to by a skilled, culturally competent facilitator (Shapiro et al.,

2011). Thus, personal factors, interpersonal factors, and trust remain barriers to implementing behavior change in diverse populations.

There are some barriers to typical healthy behaviors (diet and exercise) that are transferable to adopting a contemplative practice. For example, lack of knowledge or disbelief about benefits of being physically active is a barrier and a similar lack of knowledge about benefits of emotional well-being could likely be a barrier. Other potentially transferable barriers from physical health to psychological well-being would be perceptions, attitudes, motivation, beliefs, skills, age, health status and self-confidence. Additionally, there are barriers to healthy behaviors that cross cultures, nationalities and sex such as the intention-behavior gap, perceived lack of time, and lack of commitment.

In addition to individual level barriers, there are interpersonal level barriers within minority populations. Within an individual's peer group (friends, family, coworkers), if no one practices mindfulness or discusses their contemplative practice it presents itself as a challenge to influence behavior change on the individual. Similarly, if the individual does not identify with someone in the mindful community, the likelihood for the individual to seek out meditation practice is low (Valente and Pumpuang, 2007).

Who is monitoring the monitors?

Barriers to health promotion in diverse communities also include the importance of support from leaders in their community (Resnicow and Braithwaite, 2001), cultural competence of the program (Outlaw et al., 2000), and cultural values that might impede involvement in the program (Wilson and Stith, 1993). In several cultures, there is a stigma around mental health, a preference for self-reliance, and distrust of health professionals. Some African Americans, for example, have a general mistrust of health agencies and health professionals as a result of the infamous Tuskegee study from the 1940s (Thomas and Quinn, 1991).

The list of barriers accumulates when including health promotion at work, as there are beliefs and complexities around privacy, work schedule/time management and unclear supervisor expectations. Just as there is a long history of trust issues with health professionals, there are trust issues with organizations that promote lifestyle habits dating back to World War II. The Ford Motor company conducted an organizational "*Safety, health and better living*" program that was essentially a mandated assimilation. Ethnic workers could only eat "American food", speak "American" and were forced to move out of ethnic neighborhoods and into "middle-class community" neighborhoods (Loizides, 2007). While this is a rather extreme example, certainly there are customs that are transferred throughout an organization that could be viewed as exclusive

or discriminatory and we as researchers must be aware of the potential to exacerbate these differences with a non-inclusive well-being promotion program.

Strategies to overcoming barriers

Diversity and inclusion professionals should be included in discussions of organizational well-being program implementation. In addition to collaborating with a company's internal diversity inclusion team, I recommend a bioethicist and research compliance officer should be involved in the well-being program planning in order to ensure research integrity and demonstrate cultural awareness. Future workplace well-being interventions should also discuss how diversity inclusion was addressed as a way of creating a standard operating procedure.

Organization-Facilitator Fit

There are multiple communication and behavioral theories that provide strategies for promoting behavior change, especially the five theories described in the previous section (health communication theories). These theories have been extensively researched in public health and in the social-psychological context to predict and influence behavior. There is however, a need for models that emphasize the interactions between individuals and health programs facilitators (Sobczak and West, 2013). Specifically working with diverse audiences, attention should be given to messenger credibility and culturally relevant message style. (Icard et al., 2003). Future studies might additionally consider evaluating of how well-matched the facilitator is for the organization.

The goal of this movement is not to provide yet another time commitment that reinforces unhealthy self-beliefs. Instead, the goal is to provide another approach to healthy lifestyle habits that do not cost money to participate, or a great deal of time. Well-being training programs geared towards increasing awareness of contemplative practice benefits and self-efficacy could reduce these barriers. In addition, increasing access to well-being programs and addressing existing beliefs about contemplation practices among underrepresented employees could help eliminate barriers to participating in these programs.

3.4 Best Practices Discussion

Employee well-being interventions should comprise of a theory-based communication plan, organizational readiness plan, and culturally relevant content. Additional best practices include: skilled facilitation, sus-

tained resource allocation, visible leadership participation, and measurement tools that are convenient for multi-level assessment.

Of all the workplace well-being interventions in the previous chapter's concept analysis, there was no discussion of a theory-based health communication plan. Incorporating a theoretical framework for health promotion to well-being communication presents an opportunity to significantly enhance the outcomes of workplace well-being research. The communication plan should include targeted messages designed to promote behavior change throughout the stages of planned behavior, reward participation, and communicate results of participation (for example reduced health care costs, increased attention, collaboration, and creativity). The communication plan of the intervention should be assessed with the same high standard methodology as the intervention.

Organizational readiness for change refers to organizational collective change commitment and change efficacy. As part of the organizational readiness plan, well-being values should be connected to organizational values, so that every employee understands their role in the success of the program. In order to create a collective endeavor, multiple departments within the organization should be included in the planning decisions. A successful organizational readiness plan should include ample time preparing the organization for change as well as a comprehensive organizational readiness assessment including interviews conducted with multiple departments and seniority levels. One goal of the readiness assessment is to better understand the motives for the organization. For example, is health care cost the main concern, is a more productive workforce the motive, is there a belief that the success of the business and the health of the employees is mutually reinforcing? To ensure organizational fit, the business rationale and content of the curriculum should be aligned with the business objectives, strategy and culture. The assessment should include measures of: corporate culture, team climate, sustainability plan, leadership commitment, openness to change, collective buy-in, organizational authenticity and goals. Thus, workplace well-being programs would have a higher successful implementation rate with a more thorough organizational readiness assessment that then incorporates the organizational goals and motives into the communication plan, outcome measurements and content of the program.

Organizations need to be prepared to adopt change, and the program should also be able to adapt to the organizational needs and goals. Intervention readiness is just as essential for successful investigation as organizational readiness is for successful implementation. In collaboration with the diversity inclusion team within the organization, the content should be examined to confirm it is culturally aware, organizationally

relevant and trauma sensitive. The content should be customizable, while maintaining the core curriculum, treatment fidelity and using culturally aware assessments.

Finally, in order to reduce barriers to participate and ensure inclusivity, well-being training programs should present evidence of potential individual and business outcomes, facilitate discussions and listening sessions, customize culturally relevant content, and employ diversity inclusion trained facilitators. This work cannot be done by one team alone, it should be a collaboration or at least in consultation with bioethicists, compliance researchers, communication researchers, population health scientists, well-being scientists, organizational change researchers, sustainable business experts, business leaders, personnel managers, leadership development researchers, and diversity inclusion researchers.

CHAPTER 4. Why Embrace Employee Well-being?

In this chapter, I will describe workplace well-being examples from organizations in different levels of readiness for a cultivating a resilient corporate culture. This chapter explores potential business rationale for workplace well-being.

Context

When I first envisioned how I could contribute to the field of workplace well-being, I met with Richie Davidson and he asked me to investigate why businesses would embrace employee well-being? At the time, there was little research on the business case or rationale for mindful workplaces, or scholarly attempts at quantifying return on investment for employee well-being programs. Based on our conversation, I started reading Daniel Goleman's book, *Emotional Intelligence*. From there, I wondered what evidence would persuade employers to truly understand the value of mental health training for their employees.

I had the incredible opportunity to be involved in the development and implementation of a pilot program, "28-days to Cultivating Well-being" (CWB) developed in a partnership with the Center for Healthy Minds and the University of Wisconsin–Madison School of Business. CWB curriculum is based on Richie Davidson and Begley's book, *The Emotional Life of Your Brain* and covers the six dimensions of emotional styles: attention, resilience, outlook, self-awareness, social intuition, and sensitivity to context and is a balance of didactic teaching and contemplative practices. I was able to attend a planning meeting regarding assessments and delivery as well as observe when the program was implemented with the senior leadership team of UW Health, Hospital and Clinics (UW Health) in January of 2015.

UW Health was less than six months away from opening a brand-new facility, UW Health at The American Center, which is a wellness and rehabilitation hospital designed around holistic health care. With meditation spaces and healing gardens interwoven with operating rooms and emergency departments, the goal was for the hospital to feel more like a wellness facility than a hospital. Understanding that in order for that goal to be met, he would need more than just a beautifully designed facility, Ron Sliwinski, President and CEO wanted his team to participate in CWB in order to manage their stress during the opening of the new

hospital. During our follow-up interview he shared with me that people often think of self-care practices like contemplative practices as indulgent, but “mindfulness is not indulgent, it feels *extra* but it is essential”.

Later in the year, and on the same campus, American Family Insurance (AmFam) was also embarking on an organizational change. For decades, AmFam had been providing employee wellness opportunities such as nutritious cafeteria options, on-site fitness classes, biometric screening, assistance programs for reducing obesity and smoking cessation programs. In 2015, they were elevating their wellness program to a more holistic well-being program that would focus on emotional health, sleep quality, water intake, community engagement, healthy relationships, flexible working hours, paternity leave, financial well-being, professional goal setting, productivity, and stress management.

I had been concerned about the authenticity as a researcher discussing employee well-being, with no real-world experience in a typical workplace setting. To me, it was incredibly important to have genuine workplace experience from a business perspective, even though I knew it would extend my time to degree. I was seeking opportunities in non-academic workplaces when a position opened in AmFam to assist in the development and launch of their employee well-being program. I was able to not only coordinate their well-being program and launch, but also develop an employee well-being communication plan, and discuss well-being organizational readiness with their leadership development team, and along with an internal team of well-being champions, I was able to create a meeting etiquette toolkit that will be discussed in the final section of this chapter. Both the Institutional Review Board (IRB) and AmFam Human Resources Director gave me permission to conduct onsite research with surveys, interviews and observations. We had an agreement in which I would provide recommendations to the leadership team at the culmination of my research activities. It was an invaluable experience to be able conduct engaged research in a workplace community.

This exploratory study is designed to better understand attitudes and beliefs regarding employee emotional health, develop a business rationale for employee well-being, and inform health promotion and well-being interventions.

4.1 Introduction

This chapter will explore and compare two large, local companies during a significant organizational change in order to explore organizational motivations to embrace employee well-being and recommendations for well-being programs.

UW Health, Hospitals and Clinics (UW Health)

UW Health is a 4-billion-dollar net revenue health system comprised of over 21,000 employees in seven hospitals and 77 clinics throughout Wisconsin and Illinois (UWHealth, 2019). Less than a year away from the opening of a brand-new hospital, the senior leadership team at UW Health in charge of the new hospital participated in a neuroscience-based training program, “28 days to Cultivating Well-being” (CWB). CWB is a 4-week course which consisted of a pre-and post-assessment, four 90-minute sessions and a follow-up interview 3 months after the course.

Overview of Cultivating Well-being

The Cultivating Well-being training program was based on a theoretical framework drawn from neuroscientific studies on emotion. The six dimensions of emotional styles are attention, self-awareness, outlook, resilience, social intuition, and sensitivity to context (Davidson and Begley, 2013). Attention refers to the ability to focus. Self-awareness is the ability to listen to your body and understand your emotions. Outlook refers to the ability to sustain a positive emotion. Resilience is the ability to bounce back from adversity or a negative emotion. Social Intuition is the accurate detection of nonverbal cues of others’ emotional states. Sensitivity to context is the awareness of the immediate social environment.

The first of four sessions for CWB introduced the participants to the concepts of the six emotional styles and neuroplasticity, discussed emotional intelligence, and developed skills for and practiced paying attention. The second session discussed the neuroscience of self-awareness as well as introduced self-awareness practices. The third session examined resilience and outlook, with an exploration of the cost of stress, and practices for self-management. The fourth and final session was in the theme of improving relationships. This session discussed social intuition, sensitivity to context, and empathy, while developed skills in social awareness and relationship management.

Organizational Readiness Tool

Using the organizational readiness tool discussed in Chapter 3, UW Health had actively neutral readiness, in the planning stage as they had a plan to implement a well-being program, but had not decided on resource allocation nor implemented an all-employee well-being program. There were many advocates for mental health and well-being throughout the organization, but as an organization, they were in the planning stage of readiness.

American Family Insurance (AmFam)

AmFam is an over 10-billion-dollar net revenue insurance company that employs over 12,000 people, in 25 corporate locations in 17 states throughout the nation (American Family Insurance, 2019). Understanding the need to have a competitive benefits package to hire talented employees, AmFam partnered with Virgin Pulse to elevate their employee wellness to an employee well-being program. According to their website, Virgin Pulse creates corporate wellness programs “designed to support and encourage a holistic approach to employee wellbeing by creating an organizational culture of health.” (Virgin Pulse, 2020). The Virgin Pulse program provides resources and engagement around 5 dimensions of well-being: spiritual, emotional, physical, social and mental. AmFam employees received a step counter and access to the Virgin Pulse online platform (app and web-based). Participants in this study completed a well-being survey and an in-depth interview 3 months after the launch of the program.

Organizational Readiness Tool

With the organizational readiness tool, I assessed that AmFam had passively neutral readiness, in the contemplation stage as they had interest and increased awareness in a well-being program, but as an organization did not focus on mental health practices, resource allocation or leadership visibility and participation in contemplative practices. Like UW Health, they had several advocates within the organization, but not a collective goal for a contemplative corporate culture.

AmFam used a product called SharePoint for their internal communications. Similar to Facebook, employees could create groups, share resources and comment on each other’s work-related sentiments. There were groups for both personal and organizational interests such as: sustainability, diversity and inclusion, walking, gardening, etc. There had been a wellness group, with wellness champions from different corporate locations and departments. I invited them all to the new well-being group where I would post weekly well-being resources and tracked engagement with views, comments and likes. I developed a communication plan based on the organizational readiness tool and health communication messaging to provide resources for increasing self-efficacy and relevance to contemplative practices and well-being habits. I will share my observations from engaging with this community in the discussion section of this chapter.

Interviews

Interviews provide opportunity to establish a rapport that could allow participants to feel comfortable disclosing personal beliefs and experiences as well as establish shared meaning of terms. In addition to establishing shared meaning, researchers can clarify participant questions and ask probing questions to ensure proper interpretation. An additional benefit of interviews is that a dialogue can add to the critical

consciousness of everyone involved by uniting “the voices of the researcher whose knowledge is based on scientific analysis with the voices of those whose knowledge is based on personal experience” (Krumeich et al., 2001, p 128).

Study Objective

There are, however, limitations to using interviews as a research methodology, such as participant bias, in that the participant often wants to be helpful at the risk of not being completely truthful. Participants also tend to disclose unintentional errors, by admitting to a behavior but actually unconsciously behaving in a different way. (Tracy and Mirivel, 2009). All research methodology has strengths and limitations. Certainly, there are gold-standard approaches to working with human subjects, such as a randomized controlled sampling. However, in this study the objective was to explore salient beliefs, attitudes and perceptions of emotional health and gain deeper insight into health beliefs in workplaces in order to inform health promotion interventions.

This exploratory study compares two local organizations in their approach to employee well-being. An organizational readiness tool was used to develop a strategic communication plan for business leaders and well-being advocates. As health programs and interventions move from being delivered in-person to online, exploratory studies similar to this could provide unique insight on improvements in engagement and cultivation of a contemplative corporate culture.

4.2 Methods

UW Health Participants

There were 7 participants in the “28 days to Cultivating Well-being” (CWB) training program from the UW Health senior leadership team. The only participants included in this study were thus, the seven UW Health senior leadership members that participated in the CWB program. They each took a pre-and post-training survey, attended the 4-week CWB curriculum, and were interviewed 3 months after the training program.

Emotional Styles Questionnaire

UW Health participants were assessed pre-and post-training using a 60-item self-report measure of emotional styles that has recently been paired down and validated as a 24-item Emotional Styles Questionnaire (ESQ; Kesebir et al., 2019) to capture the six dimensions of emotional well-being. For simplification, I will provide similar example items that can be found in both the former version, and the validated ESQ. Table 4.1 provides examples that would be reverse coded as they are the indicators of low levels of the dimension.

Six Dimensions of Emotional Styles	Example Questions
Attention	If I get distracted by something, it takes me a long time to refocus.
Self-Awareness	I am not good at identifying my own feelings.
Resilience	I find it hard to regain my calm after experiencing something negative.
Outlook	When something good happens to me, the positive mood does not last long.
Social Intuition	I am not particularly good at reading people's emotions.
Sensitivity to Context	I have sometimes been told that I behaved in a socially inappropriate way.

Table 4.1 Six Dimensions of Emotional Styles Example Questions

Interview Structure

The interviews with the UW Health employees were structured in order to assess the commitment to and identification of their contemplative practices; personal and organizational motives for embracing employee well-being; and to explore self-reported outcomes and behavior changes.

Well-being Goals & Definitions

In last session of the cultivating well-being program each participant was asked their individual goals and identified potential obstacles to those goals. I began the interview with a grand tour question which established an overall warm mood and followed up with specific target questions with memory triggers regarding their goals. The introduction of the interview concluded with questions regarding participant's definition of terms such as: well-being, success, and mindfulness to ensure that there is shared understanding between researcher and participant. Success is individually defined and while a shared goal might be to "develop a mindful habit" for effective organizational change, it is important to have a shared understanding of success and how to measure success.

Contemplative Practices

The introduction of the interview was followed with an assessment of the level of commitment (e.g., amount of time per day/week spent meditating or in contemplative practice.) Next, we discussed types of mindful habits and forms of meditation (e.g. guided, self-guided; sitting, walking; once daily or throughout the day; particular practices such as mindful breathing, loving-kindness meditation, etc. and the setting of the practice.) There are multiple avenues of engagement to incorporating contemplative practices into daily lives, thus we want to examine different approaches and forms.

Personal & Organizational Motives

In addition to the fact that there are many forms of contemplative practices, there are also many different motives for why organizations and the people within the organizations embrace well-being. It is useful to

glean different perspectives in order to motivate and create new avenues for engaging in these practices. An example interview question for a personal motivation would be, “As a leader why is cultivating well-being important to you?” To better understand organizational motives I asked, “Why do you believe UW Health should embrace a culture of employee well-being?”

Self-reported Outcomes

During the interview, especially when asking questions regarding self-reported outcomes (e.g., “How has your decision-making been affected?”). I looked for measures of effective communication, interpersonal relations, stress management, productivity and behavior change. I used probing questions to get participants to gain deeper insight (e.g., “What does getting better at work mean?”)

Next Steps

Interviews concluded by discussing plans to continue their contemplative habits.

Observational Data

During the interview, I took observational notes, specifically noting body language and how something was said as well emotional cues regarding what was not explicitly said. For example, in two separate interviews with the UW Health senior leadership team the participants revealed sensitive information regarding leadership decision-making that they wished to remain outside of any external reporting. I should note that in both cases I paraphrased their quote(s) leaving out sensitive information and sent them the excerpt in order to ensure that the paraphrasing in my transcription notes was both accurate and acceptable. In my observational notes, I wrote that there was a high level of trust and comfort, participants often sat comfortably in their chairs and would frequently lean in to engage with me. In another interview, a participant used hand gestures and facial expressions to convey an emphasis that their words alone did not do justice, thus I recorded their passion in my observational notes. Finally, I would note when a participant was reserved, curt or providing shoulder shrugs to accompany responses. It was often a judgement call to either dig deeper into the reason for that signal, but if I sensed resentment or had yet to establish a rapport, I would typically move onto a different question.

AmFam Participants

Eligible participants were anyone employed by American Family Insurance including all leadership levels, departments, and corporate locations. Employees were invited to participate in a well-being research study through the company-wide benefits informational email, and also through messages in the internal communication board, Sharepoint. Twenty-One AmFam employees from four levels of management (senior leadership,

director, manager and employee), across five departments (leadership development, human resources, legal, facilities, and the call center), and four corporate locations (Madison, WI; Phoenix, AZ; Denver, CO and Eden Prairie, MN) participated in this study. AmFam participants took a well-being and health behavior survey and were interviewed 3 months after the company launched a new employee well-being program.

Well-being Survey

AmFam employees were being asked to complete a health and engagement survey from their workplace health vendor, Virgin Pulse. I worked with the AmFam benefits department and Virgin Pulse to include two additional questions on outlook and attention to the existing survey. The updated-survey comprised of six factors: health behaviors, attention, outlook, perceived stress and well-being, satisfaction with the company and organizational culture, the Table 4.2 provides examples for each factor.

Six factors of Well-being	Constructs and examples
Healthy behaviors	Exercise; sleep; missed work days
Perceived stress & well-being	Energy level; ability to take on new challenges; work-life balance; stress at work
Attention	"I am often distracted at work"
Outlook	Reframe negative situations as challenges rather than as threats
Satisfaction with the company	recommend a friend to company; dedication to work, friends at work
Organizational culture	"My company cares about my well-being", "I'm proud of the culture at my company"

Table 4.2 Six Factors on the Well-being Survey

Interview Structure

AmFam interviews explored shared understanding and meaning of terms; personal and organizational motives for embracing employee well-being; and because American Family launched a company-wide employee well-being program rather than a 4-week intensive contemplative practice curriculum like UW health, I asked AmFam employees more broadly about stress management and emotional health. American Family Insurance has regional offices spread throughout the nation and in order to maintain equitable resource allocation they would not have wanted to give their national headquarters employees an opportunity, such as a 4-week course that could not have been, at the time, able to be provided to their regional employees.

Shared Meaning

Interviews initiated with an exploration of shared meaning about well-being. I posited that most AmFam employees would not include a mental health component to their well-being definition, thus I followed up with asking about mindful and stress management habits. Using this language, I was able to cue their

responses to include their mental health when thinking about well-being. In this case, I was not concerned with leading their responses. As stated earlier, I had previously assessed that this organization was at a neutral level of readiness to embrace contemplative practices. An objective of the interview was thus a learning opportunity to increase awareness once rapport was established.

Organizational Motives

Similar to the UW Health interviews, organizational motives for embracing well-being were discussed. I was looking for unique responses rather than those that came from the company communications, as that would indicate internalization of motives. I used probing questions asking them to explain why for example would their organization want emotionally resilient employees.

Outlook & Attention

The AmFam participants were given the survey a week before the interview in order prime their thinking about well-being at work habits and beliefs. The outlook questions (reframing negative situations) and attention questions (easily distracted) were included in order to assess their perceived control over stressful situations. A major limitation to surveys is that a lack of shared meaning can misguide responses. I asked participants to discuss their response to those questions in order to assess how they interpreted the question and provided insight.

Behavior Changes

In one month after the launch, 80% of the employees were enrolled and engaging with the Virgin Pulse well-being program. Originally, I did not plan to ask questions about behavior changes, both personal and with colleagues. However, after the unheard-of engagement, I decided to inquire regarding self-reported outcomes and team behavior changes.

Stress Management

I had previously assessed that the AmFam employee well-being program lacked a strong focus on mental health and emotional well-being. In order to better inform my recommendations to the leadership team, I asked questions to assess the level of interest in programs to develop skills in attention and stress management. Additionally, I asked questions regarding the importance of emotionally healthy employees.

Observational Data Collection

I collected observational data throughout my time at AmFam, mainly focusing on how well-being was discussed in company-wide communications, the internal SharePoint communication site, in conversations and meetings, and finally during the interviews.

4.3 Analysis

4.3.1 UW Health Analysis

UW Health ESQ

The UW Health senior leadership team had low mean score levels of attention, and high levels of outlook and social intuition in the pre-assessment using ESQ. All mean scores for the 6 dimensions of emotional styles increased. The mean score of attention increased the most, though with 7 participants I did not run any statistical analysis for extremely small sample sizes. Future studies with more participants should look at significant effects of well-being training using ESQ.

Coded Interviews

Organizationally, UW Health had active neutral readiness, the senior leadership team however, had high readiness for embracing mindful practices. Objectives for the interviews were to explore organizational motives for employee well-being as well as potential outcomes of mindful leadership. I was listening for cues of commitment level, effective interpersonal communication, habit formation, motives, behavior change and outcomes of mindful leadership.

I will again refer to the term ‘code’ as defined as “a word or short phrase that assigns a summative, salient, essence-capturing, evocative attribute for a portion of language-based or visual data.” (Saldaña, 2016, p.4). Drawing from The Coding Manual for Qualitative Researchers, I used a systematic approach to coding interviews that was cyclical and heuristic. In addition, in order to identify important patterns that arose from the data, I utilized a coding system incorporating grounded theory principles (Glaser and Strauss, 2017). The first cycle through the transcription notes I highlighted examples of behavior change and self-reported outcomes of mindfulness. The successive cycles I deconstructed the examples and identified terms: commitment level (how often participants practiced meditation); forms of contemplative practice (type of practice and where); cues of habit formation; motives for mindful leadership (personal and organizational); and outcomes of contemplative workplaces. Code families evolved as codes began to cluster thematically. Outcomes of mindfulness were then broken into behavior change, stress management, effective communication, interpersonal relationships, increased awareness, decision-making, and changes in outlook, perspective and priorities. Similar practices were used in a qualitative study on mindful organizations (Duerr, 2004).

UW Health Interview Codes with Example Quotes

Commitment level

“My goal was to do it 6 days a week for 30 minutes. I’m probably averaging 5 so It’s working. I’m trying not to fall asleep 10 minutes in.”

Forms

“I do a guided meditation, mostly body scan. And for my sitting meditation it’s basically just an app. I have a basic, floor dinger. It gives me a warning at 10 minutes and then at 20 minutes.”

Occupational Habit Formation

“I try to carve out 5 minutes of every meeting to be reflective and not just decisive.”

Outcomes of Mindful Leadership

Behavior Changes

“We will start out meetings with reflections and say what we are grateful for today, you don’t have to say it out loud but think about three things. It helps to kind of pause before we even start the meeting.”

Stress Management

“My work life is more stressful than [my time in] Iraq, so I practice mindfulness throughout my day so I can be a human.”

Effective Communication

“We have a lot of very kind of hot topics and I think [reflection time before the meeting starts] is a way to put us all on the same page.”

Interpersonal Relationships/Team Climate

“I think there is more comfort with the team.

Increased Awareness

“I’m noticing and more aware of my reactions when they do happen.”

Decision-making

“I had to make a really tough decision and I let myself just be with the decision, it was a conscious choice to be thoughtful, be mindful.”

Changes in Outlook, Perspective and/or Priorities

“I think what I have realized is that managing your time is the most important thing to being mindful”

UW Health Interview Analysis

Commitment Level

The commitment levels ranged from 5 minutes per day to 3 hours throughout the day and the 7 participants were practicing at least 4 times a week, several were consistently practicing every day. For example, one person’s goal was 20-30 minutes every day, but was reporting actual practice 4 days/week.

Forms of Practice

5 participants reported using apps with guided practice (e.g., Calm, Headspace) and non-guided practice (e.g., simple timer or bell). Specific contemplative practices reported were: measured breathing, open awareness, silver lining, body scan, gratitude, compassion-meditation, RAIN, just stop, and journaling.

Cues of habit formation

Participants discussed practicing at the same time each day, in order to cultivate their habit of practice. One participant created a habit of practicing before a meeting, “I try to collect my thoughts and give myself a couple minutes of silent practice if I have a meeting that is coming up and that seems to help”. Another participant who had attended MBSR, but “fell off the wagon” changed their perspective regarding mental health habits from CWB training by realizing “that this is a lot like physical exercise. I just realized that it’s a lifelong thing and not just doing this for 3 months and then it will all be better”.

Personal Motives for Mindful Leadership

One participant shared increased awareness and decreased frequency of stressful moments, “I’m calmer, I can now feel I’m tightening up when it gets stressful and reactive, and I just don’t feel like I have as many of those moments”. Another personal motive was about being a good citizen, “I’m a better human being at work if I’m a happier human being at home, I’m high on a commitment to being a mindful individual”. Another participant described their positive approach to mindful leadership, “I think that [mindfulness] is the most important attribute and skill set that you can apply, especially as a leader. If you go out and find the good, celebrate the good, affirm the good, the other stuff will take care of itself, it really will”. A participant shared that the CWB had an emotionally helping aspect, “it seriously helped me so much through the death of my dear friend. I’m a person, not just a worker. So, the person was helped through a very difficult couple months.” Finally, a personal motive for mindful time management,

“I think managing your time is the most important thing to being mindful. To look forward and look backward at your time and say if these are the things you’ve said are important have you really spent your time doing the important things and in doing the important things have you given enough time for things to evolve or have you bullied your way through some things just to show that you can make a bunch of decisions. I guess that’s how I plan to continue to be mindful going forward.”

Organizational Motives for Mindfulness

One participant explained how the organizational decision to embrace CWB created a sense of compassion, “I was just very impressed that the leadership would be willing to take that kind of a leap and people who were entrenched in a different way of thinking didn’t win the day. That made me feel very positively about the whole thing”. One leader described the initial interest as, “How do I monetize it? How can I make this make us a higher performing organization? How can this as a technique lead to better, quicker, more effective problem resolution, better relationships amongst the team, a higher level of trust, than we’ve had?”. That same participant then shared, “I think mindfulness is more than a work proposition. If it’s not extended into totally how you live your life, you lose some of it, and this is how I want to live my life, and work with my team, and how I want our organization to be”. Another participant shared an organizational motive regarding stress management and retention, “I will know that I’ve done a good job with keeping myself calm if they were able to remain calm and they stay here, then that will translate out to the wider department.”

Outcomes of Contemplative Workplace

Behavior Change at Work

Several of the participants discussed how the CWB training effected their perspective on meetings, “I’m more thoughtful, less in a hurry. I try to take more time to get more input and more perspective before moving to the next issue.” Specifically, one participant discussed a change in mindset, “Richie [Davidson] said that he reviews his schedule and really thinks about what he can do, what’s the most important thing that he can provide to each meeting. Or just thinking about those individuals, what the role is and what your contribution will be. That’s a ritual that I really stuck to and it’s a kind of mental model.”

Three participants shared how they are incorporating contemplative practices into their meetings and working on a standard for leaders to all adopt a similar change, “we are trying to get everyone to start each meeting with a reflection.”

Two participants discussed using contemplative tools to remain calm and focused at work, “I do a body scan at work anytime I feel my shoulders get tense, and it really helps me calm down and I’m able to focus on what is important”; “I’m more focused at meetings, more willing to listen to other people without jumping to conclusions.”

One participant found contemplative practices to be beneficial to problem solving, “it’s helping me think through problems better from a leadership perspective.”

Another participant shared a story with me about taking the DISC personality test and had always been a “D” (Dominant), but that they took it again after the CWB training and found,

“I actually was in the I [Inspiring] this time, which I think part of it is that I’m trying to think about the people involved in the decision more before making the decision. I think maybe this mindfulness has moved me more into more of that people side. I think that is how it has moved into my work-life. That’s just a guess, but I attribute it to the way I’m starting to think now.”

Stress Management

One participant became a champion of contemplative practices and tried to help a colleagues manage their stress, “I’ve been talking to several [HR directors] about taking this course. Talking to them about taking a deep breath before they go into meetings, and anticipating. You know what the other side is going to bring in a conversation, so slowing it down to be more efficient.”

Two participants shared the how remaining calm allows them to focus on what is important, “We only have so much energy. Where are you going to put it? You can be running around doing all this stuff, but that hectic energy is contagious and unhelpful. It’s helpful for other people to see that if you can keep your calm and not get all messed up then you can help people.” Another shared a story about a meeting when they were able to remain clam, “There were very heightened emotions on both sides and afterward people asked me how I was able to stay so calm. I was sitting there and it was almost comical because I just kept thinking ‘wow such big emotions on both sides’ and so I said, “We are going to open on August 17th and we are going to come together and figure out how to work this out.”

Effective Communication

There was a team of three participants who were the directors of the new hospital project and one of them shared that, “the three of us have daily huddles just to quickly check in about who is caring the largest weight and how can we help each other, it keeps us all on the same page.” Many of the participants used the

term “on the same page” and how they are able to work much more effectively when the team has effective communication.

Another aspect of their working environment that changed as a result of the CWB training was their meeting culture and communication style, “we have developed a culture in which we pause and reflect, even in meetings. It slows the pace, but we are able to make better decisions and communicate with each other more authentically. I find that it has allowed us to have a vocabulary as a team.”

Interpersonal Relationships

An incredible outcome from the CWB training was a shift from a critical team climate to a culture of learners, “I think there is more comfort with the team. We have more independence that people feel and not feel that they are being second guessed in their decisions. I think there is more willingness to restart issues. For example, everything isn’t looked at as a win or a loss, but that didn’t work so let’s try it again. That’s not a failure, that’s a learning moment. So, I think we are evolving more into a learning environment and less of a critical environment.”

Mindful leadership

One of the participants was interviewed the week after a highly-publicized shooting in Madison, WI and described their view on the importance of mindful leadership in those critical moments, “For me success is not about checking the box. It is not task oriented. It’s having what I consider career defining moments of what happened. I hope I never have to go through it again, but the event and how people responded, you know what we did was incredible. Also, how people were so selfless was very inspiring. That is the work that we do. From the security guard to the surgeon, just everyone working together. So, for me success is being a leader in those moments and that’s where the miracles happen. That’s where the true care happens. It’s not about getting these dates or writing this letter or whatever. It’s about can you function as a leader in those moments that you need to shine and I think Friday night was a time when people needed to shine. And they did and how do we continue to do that on a regular basis.”

Another interviewee discovered a process that could be changed by examining it from a mindful leadership perspective, “we just had a discussion with the head of HR and I said one of the problems is the performance review process always becomes a critical process. You try to find something that someone did wrong instead of focusing on how they can be better and what they do. How do we change that mindset from the negative to the positive? It’s by putting the positive in front of you. We as leaders can make those changes.”

Increased Awareness

Many participants shared an increased awareness for their stressful reactions and how they also noticed a decrease in the frequency of those reactions, but this participant shared an increased awareness for ways to be more considerate of the people on the team, “I’ve hired our director and [they are] fantastic, but I decided this morning that I’m not going to schedule 8am meetings with [them] because [they have] 2 little kids and is late because drop off is important and why do I put people through this stress? We can do it differently. I was thinking now [they are] stressed out. [Are they] mentally here? No, because [they are] worried about being late. Wow, did [they] drive faster? I was thinking, why do we do this? We can design this differently.”

Decision-making

One participant shared a hiring scenario in which their decision-making was altered as a result of the CWB training, “I had to think about what’s in the best interest for this new organization in order to succeed. I had to make a really tough decision and I let myself just be with the decision, it was a conscious choice to be thoughtful, be mindful.”

Another participant shared how their perspective and ability to prioritize has shifted, “I think the whole experience has given me more of a perspective on the importance of certain things. What’s important and what’s not and what do I really need to deal with. It has made prioritizing easier for me”

A remarkable story was shared with me about mindful strategic planning, “Why are we donating an order of magnitude more to [cultural arts] than to [community health] when we are a health care system? What I have done with my team is to say I want to accumulate [our major donations] and look at those together in a single context and then juxtapose them against what our strategic imperative is so that we can make some balancing decisions. I don’t know if its forward thinking, I think it’s the kind of thinking that you sometimes run through and you don’t think about because it’s always been done this way and you’re not being mindful about your decisions.”

Perspective and Outlook Changes

One participant shared their perspective change on the impending new hospital opening, “We really no longer can afford to spend energy in certain ways. So, we have to be mindful of the fact that there’s only so many hours in the day and only so much time and so much energy. We as leaders have to be using all of our energy exactly how we can. It’s not about money, it’s now about time. I think as leaders we have to use every sliver of time to its most potential. And at the end of the day, go home and take care of ourselves.”

One participant whose spouse had passed away the previous year disclosed to me that they sought help at church and tried different therapies and nothing helped the sleepless nights nor their negative outlook, but that CWB was transformative. “I feel like I’m getting to the point where my outlook on a personal side is getting better so I’m hoping that will lead to more positive habits. I’m looking for things to try to help me be more positive and live in the moment.”

Measures of Success

Many participants shared that success would be felt throughout the hospital, “success will be the feeling, when you come into the American Center and it’s not going to feel like a hospital”.

One participant discussed the idea of success that incorporates stress management and self-care for their team, “success is that we as a leadership team are able to balance the stress of opening a new hospital with the mindfulness of taking care of ourselves”.

One participant shared that success will be a personal commitment to continue to practice, “If I can honestly look back and say that I did that 5 days a week and now it’s routine, that will be a success and no more falling off the wagon”.

Another participant shared the goal of incorporating well-being into their organizational culture, “success will be introducing a culture where mindfulness is just part of the culture”.

4.3.2 American Family Insurance Analysis

AmFam Well-being Survey

All the participants agreed that they had good energy levels, felt ready to take on new challenges at work, and had a good balance between work and personal life. Only 5 out of the 21 participants said that they are often stressed about work. Thirteen participants exercise at least 5 days a week, and fourteen shared that they sleep 7-9 hours every night. For the question, “Over the last 30 days did you attempt to reframe negative events and situations as challenges that you can conquer rather than as threats that are out of your control,” all of the participants responded either most or all of the time. Only two participants shared that they were distracted most of the time at work, while the majority reported only some of the time. Even with this rather healthy group, 5 participants missed one day of work in the past 30 days because they felt either physically or emotionally unwell. All of the participants would recommend this company as a great place to work, are proud of the culture and agree that their company cares about their well-being.

AmFam Interview Codes with Example Quotes

Perspectives on Emotional Health

“You can have the best products, but if you don’t have people with the right mindset you are not going to go anywhere. So, it’s incredibly important to have emotionally healthy employees”

Perspective and Outlook Changes

“When a mistake is made, I’m disappointed in myself. But then I think a lot of great changes have come from my mistakes. I feel empowered to make mistakes because I’m not micromanaged.”

Organizational Motives

“I think AmFam realizes the very strong tie between healthy employees and Medicare costs and I think [embracing employee well-being] was a big part of that decision. I do think AmFam understands if you have healthy employees, healthier employees can do a better job of supporting our customers. It’s a win-win”

AmFam Interview Analysis

Well-being Definitions

Several individual definitions of well-being did in fact, include an aspect of mental health, “Well-being means mental and physical health. If you are happy and engaged in what you do you feel healthier and more engaged; “Being healthy in mind body and spirit. Being healthy in all 3: be well, move well, think well”. Fourteen of the 21 interviewees did not include an aspect of emotional health in their definition of well-being.

Another definition included a healthy balance in life, “It’s a healthy balance of different aspects of life – work, friendships, family and time to yourself for physical activity, spirituality and whatever is important – but a healthy balance is what well-being means to me”.

One participant shared how their definition of well-being had changed as a result of the well-being program,

“Before this project started I would have said it was physical health. But as I learned more about what the focus is here at Amfam – its much more than that and I like that. I like that its physical, its financial – frankly I think that’s a huge add. I think at first those words are all

about physical, but there is also an emotional component to it too. I really like how your team is going at it. And my mindset has different contexts than it would have say a year ago”

Organizational Motives for Workplace Well-being

As mentioned in the example quotes, many of the participants discussed the connection between healthy employees and lowered health care costs. Additionally, several participants also described the connection between health and positivity, engagement and productivity,

“AmFam embraced well-being for three reasons: We work in an environment that is very stationary for a lot of people. It’s an easy in this environment to not make healthy decisions. Making healthy decisions throughout day enhances ability to perform and increases engagement. Second, exercise makes people happy. People who are healthy and happy are more focused and engaged and productive. Finally, it lowers health care premiums”

Perspective changes

Several of the participants shared the healthy perspective change to focus on what they can control, “We talk a lot about focusing on what can you control. Otherwise people will get burned out.”; “There are some things that are fully out of my control. I’m not going to waste my limited energy on stuff I that is out of my control. Am I always great about that? No. Are there days when I want to yell at the world? Yes. But I prefer to, and I feel better about myself when I focus on the positive and on the things that I can control.”

Importance of Emotionally Healthy Employees

One participant described the need for emotionally healthy employees by pointing out the highly transmissible nature of stress, “we rely on our team so if someone is stressed that is contagious and creates a barrier to getting things done.”

Another participant shared the desirability of working with emotionally healthy employees, “you can see the folks that handle things well that have good attitudes and take care of themselves and have a good work life balance. They are the people you want on your team.”

Finally, one participant discussed the need for a healthy mindset for a successful business, “Culture is backbone of your company. You can have the best products, but if you don’t have people with the right mindset you are not going to go anywhere. So, it’s incredibly important to have emotionally healthy employees”

Behavior Changes

When asked about any changes to their team since the launch of the well-being program and one participant shared the awareness of a healthy change, “I can’t quantify it. It feels different in a healthy way.”

One participant described the inclusion component to the well-being program, “I was worried some people would be left out if they were not walkers or have a disability. But we can still get points and everyone has access. We can do daily cards, track healthy behaviors and learn new things about well-being.”

Another participant eluded to the amount of organizational readiness that was involved to make the program a success, “HR did an awesome job in communication, build up, and making people want to be a part of it. It was a very successful launch and product is good. Lot of friendly competition – my whole row said, “hurry up and sign on.” So, a ton of things all worked out, but it’s not luck it’s a lot of people working on these things and really thinking them through.”

Cultivating Well-being Training

All of the participants said they would be interested in training that would incorporate increasing attention capacity, focus and stress management. “If I could to pay attention then yes. Far too many programs that we’re supposed to watch for training are so boring and I lose interest. Needs to be engaging but yes I’m interested.”

Measures of success

One measure of success could be demonstrated in reduced health care costs, “with the well-being program, there will be healthier people then premium health insurance hopefully would drop. So that the money could be spent somewhere else, hopefully on more wellness opportunities”

One participant shared how the health of the employees and the success of the organization could be mutually reinforcing, “Success for well-being includes how people feel from their health standpoint, health and mind. The idea that there is a work environment that allows them to be experiencing well-being. So, there is a culture that supports well-being and encourages well-being. With all those different pieces helping drive the success of the organization. It’s a holistic solution and holistic approach.”

4.4 Discussion

This exploratory study aims to better understand beliefs, attitudes and perceptions of employee emotional health for two main reasons: 1) to provide recommendations for improvements to workplace well-being

promotion programs and 2) to examine motives and outcomes in order to develop a business rationale for workplace well-being.

Workplace Well-being Beliefs

Based on the interviews from both UW Health and AmFam employees, emotional well-being for employees is perceived as essential, desirable, and important to the success of the organization. Additionally, training programs, especially virtual-based, that cultivate well-being for all employees are in high demand.

UW Health

UW Health created a culture of well-being at the American Center by developing habits of checking in with their team, practicing a pause and reflect meeting culture, and incorporating 1-5 minutes of silence at the start of every meeting. In terms of strengths in organizational readiness, the hospital has integrated contemplation into the design with a meditation room next to an operating room, thus increasing salience as well as access to quiet spaces. Another high organizational readiness aspect is their leadership visibility and participation in contemplative practices, three directors participate at least once a week in the daily group meditations open to all employees at the hospital. One area for UW Health to improve is in resource allocation, contemplative practice resources and a pause and reflect meeting culture is not observed throughout the hospitals and clinics. Many of the participants recommended CWB have an app or online-based delivery in order to provide well-being resources and training to all of their employees.

American Family Insurance

AmFam has a reputation of employing people for their career, aside from departments with inherently high turnover such as the customer call center, there is very low turnover within the company. All AmFam employees are encouraged to engage with their communities by volunteering for 8 paid hours every year. AmFam is also known for its stewardship in sustainability initiatives such as: onsite composting, electrical vehicle charging stations, green roofs and a goal of a zero-waste future. Its corporate responsibility framework includes community engagement, diversity inclusion, and environmentalism. Thus, it was not a paradigm shift to incorporate a well-being program, however its well-being program did not have a strong focus on emotional well-being and contemplative practices. Another area for improvement would be in their leadership visibility and participation in contemplative practices. Many of the participants discussed the desire for attention training and stress management resources.

Recommendations

Well-being Program App

All the UW Health participants were interested in making a well-being training a requirement for all employees and for onboarding new employees. Many were interested in even more curriculum and resources. Specifically requested was the development of a well-being app with guided meditations, in depth curriculum and assessments to be able to provide to all of their employees. Several of the participants said they were bored with their app as it lacked variety of voices and practices, and had little to no curriculum and context to the practices. The recommendation for an interesting and engaging well-being app was heard, the Center for Healthy Minds developed a free app called the Healthy Minds Program.

Interviews

I highly recommend incorporating qualitative and quantitative data in order to evaluate well-being promotion programs. For example, one participant responded in the well-being survey that they are distracted all the time at work, but when asked to explain they shed light on the fact that they manage 200 people and being in constant communication with them means that they are interrupted frequently and that hectic component is what they love about their job. “It keeps me from getting bored, while still getting the work done.”

Looking at the survey data alone, I could have inferred that they were overwhelmed and at risk for burnout. However, after hearing them elaborate about their response, distractions or not only enjoyable, they seem to thrive in that hectic aspect of their job. When we are exploring new lines of inquiry, it is important to use a mixed-methods approach in order to ensure validity in the outcomes.

Communication Plan

In addition to interviews, a theory-based communication plan should be developed and implemented in combination with a well-being program. This will increase organizational readiness in terms of awareness and preparation for an organizational change. On the AmFam internal communication program, Sharepoint I frequently conducted polls to assess interest in certain aspects of emotional well-being resources with topics such as: attention and focus training, emotional intelligence, and stress management. There were numerous requests for stress management, increased attention practices and evidence-based well-being resources. The resources with the most engagement included, short (under ten minute) contemplative practices. A comprehensive communication plan that includes health promotion messages for the fliers on the elevators, the company-wide emails and toolkits for the champions of the program to inspire their teams would augment the success of a company-wide well-being program.

Meeting Etiquette Toolkit

Many organizations have a meeting culture that is anything but mindful. During my time at AmFam I noticed several departments had a healthy meeting culture, and plenty that had an unhealthy meeting culture. For example, some employees created several 2-3 hour blocks in their day for actually getting work done as opposed to other employees that had continuous meetings in their schedule with no breaks and no time to complete their tasks. Like an unhealthy habit, too many meetings can lead to exhaustion and burnout. After learning about the meeting culture of pause and reflect at UW Health at the American Center, I wondered how to improve the meeting culture for AmFam employees. Working with the Talent Management team, we developed a meeting etiquette toolkit with the intention to create conditions that encourage employee well-being. The first question asks, “Is this a meeting or an email?”. Many things can be decided over an email rather than a meeting, saving time for employees. The next question deals with the default of meetings being an hour. Perhaps we could change the default to 30 minutes and allow the remainder of the hour for getting work done. If, however, the agenda for the meeting does require an hour, end after 55 minutes in order to allow coworkers to mentally prepare for their next meeting. Finally, encourage all employees to block off time throughout the week for working and not meeting. Some organizations, for example have a no-meeting on Friday policy to ensure that there is one day a week with focused attention on tasks. As part of a culture of well-being, attention should address the meeting culture to ensure that employees are able to collaborate and also execute.

Organizational Motives

Organizational motives can be grouped into individual, occupational and organizational potential outcomes of workplace well-being. These motives are not exhaustive, the following are motives and self-reported outcomes that were shared by the interviewees in this study.

Individual

There are several potential outcomes of workplace well-being that are favorable to both individuals and employers, for example, increased capacity to manage stress and time provides both individual health benefits and increased capacity to contribute to the organizational goals. Beyond the improved health effects from reduced stress, employees noticed that when they are more in control of their stress, they are able to remain calm, focus on what is important and focus on what they can control. That ability to remain calm and focused, thus increases time management as it is easier to prioritize when you are able to focus on what is important. Additionally, this increase in capacity to pay attention has the potential to increase performance via a mechanism of better, quicker and more effective problem solving. Employees with a

contemplative practice were also able to reframe difficulties as challenges rather than threats, able to discover multiple solutions and perspectives to a problem, and seen as adaptable and flexible rather than rigid and inflexible. Finally, employees discussed their ability to respond to stressful situations with a level head, not unrealistically positive nor strongly negative.

Occupational

Effective communication and improved team climate were the mostly commonly reported occupational potential outcomes. Authentic communication and a mindful meeting culture, was reported to lead to better collective decision-making. To elaborate on team climate, interviewees mentioned better relationships, higher levels of trust, ability to provide feedback without strong emotional reactions and most notable, pivoting to a learning versus critical environment.

Organizational

In addition to the individual health and performance benefits, and the team climate improvements, organizations with a contemplative work culture are seen as desirable places to work, attracting the best talent and more importantly, retaining talented employees. There is evidence that well-being training leads to decreased burnout and turnover, what I had not heard before was the increased desirability to work for a company that demonstrates compassion for their employees by changing the corporate culture.

Aha! Moments

It is worth revisiting unforeseen positive outcomes as a result of workplace well-being. For example, UW Health participants developed changes in established processes, one that shifted the employee review from a critical to a strengths and capacity conversation, and another that strategically aligned business goals with corporate donations. An AmFam participant remarked about the inclusion of all physical abilities from a well-being program that created challenges that were not solely focused on physical health, but financial (e.g., points for learning more about financial resources), emotional, mental, and social.

Success Measures

To better inform a business rationale, it is important not only to look for outcomes of workplace well-being, but also measures of success. In this study participants mentioned decreased health care costs, customer satisfaction, organizational effectiveness, equity and quality. I would be interested in a study that looks at the success of an organization as it explores whether or not both the health metrics and success of the business are mutually reinforcing.

Business Rationale

Traditional business cases explain the project, history, approach, cost analysis and benefits. Current research on workplace well-being has lacked a focus on the organizational outcomes needed to develop a business case. The goal of this chapter is to present a rationale for workplace well-being research that also examines these measures. I will paint a broad picture, as I recommend the business rationale for each company be customized to the organizational goals and measures of success. A cost analysis would include the cost of the program, time for employees to engage in the program, and time and resources for organizational readiness.

Most organizations are looking for evidence-based programs and solutions to their organizational challenges.

Performance-based evidence

There is evidence that well-being training can improve attention, focus and energy. Attention training via meditation can increase control over our limited attentional resources (Slagter et al., 2007). Mindfulness meditation participants increased focus by staying on task longer and improved their memory after 8-weeks of meditation training (Levy et al., 2012). Professionals trained in contemplative practices reported less emotional exhaustion (Hülshager et al., 2013).

After a seven-week, mindful leadership training with 123 directors and managers, 93% reported mindfulness training increased their ability to create space for innovation (Institute for Mindful Leadership, 2011)

Health Improvements

In addition to improvements in performance and energy, well-being training has also been shown to impact one's health. Eight weeks of mindfulness training strengthened immune functioning (Davidson et al., 2003), and may be effective in reducing illness burden from cold and flu symptoms (Barrett et al., 2012).

Professionals found significant improvements in perceived stress and sleep quality after a 12-week (14 hour) stress management program (Wolever et al., 2012). Another study found that mindfulness can cultivate healthier eating habits, which could reduce levels of obesity (Jordan et al., 2014). Finally, even small doses of mindfulness can reduce sensitivity to chronic pain (Zeidan et al., 2010). Taken together, these outcomes reduce absenteeism, increase productivity and enhance corporate competitiveness, by supporting healthier decision-making processes, investing in employee stress-management and providing resources both tangible and theoretical to allow employees the ownership of their well-being journey.

Endorsements

Some companies are intrigued by endorsements from leaders of organizations. As the CEO of UW Health stated, contemplative practices are often seen as an indulgence, but “it’s not an indulgence, it’s essential”.

High performing companies are embracing mental health training, SAP, Aetna, General Mills, Salesforce, Johnson Johnson, Google. The CEO of Aetna is known for saying that they, “saw a \$3,000 reduction in their healthcare costs through the next year. We saw 69 more minutes of productivity per employee a month” (Gelles, 2016).

Whether the motive is improving performance and productivity, enhancing organizational relationships and climate, reducing health care costs and stress, decreasing burnout and turnover, or all of the above in order to remain competitive, organizations should strongly consider incorporating employee well-being as part of their strategic plan. Many companies have implemented a mindfulness training, but employee well-being should not be solely in human resources or a one-time training, it should be elevated to the strategic plan and incorporated throughout the organization in order to remain competitive.

In Conclusion

This chapter intends to provide insight for successful implementation of workplace well-being programs. From employee health beliefs, motives, and perceptions, I developed recommendations for strategies to cultivate a resilient organizational culture and a business rationale for well-being. I emphasize the importance for well-being researchers to collaborate with organizations to develop a communication plan, increase organizational readiness, and explore measures of success in cultivating employee well-being programs.

CHAPTER 5. Future Studies & Recommendations

Chapter five provides directions for future research, highlighting the importance of theory-based investigations, increased methodological rigor, expansion of the scope of work-related outcomes studied, and the continued study of best practices for creating contemplative workplace communities. A proposed study for a well-being and sustainability program in a higher education setting is introduced.

5.1 Introduction

Drawing from previous chapters, there is a need for the continued study of best practices using theory and evidence-based investigations and the highest methodological standards with workplace well-being research. In order to cultivate a resilient culture, it must be a collaborative effort, from the strategic communication plans, organizational readiness activities, diversity inclusion efforts, development of assessments to the program implementation. Measures should be expanded from self-reports of individual level outcomes, to the exploration of objective measures as well as occupational and organizational potential impacts.

This chapter will incorporate the inclusion of ecological sustainability efforts with workplace well-being towards the ultimate goal of a creating a resilient higher education community of practice.

Program Objective

There are many workplace well-being studies, from many different schools of thought. This proposed study is intended to be implemented with a collaborative team from widely diverse fields of science. One tenet of this proposed study is to collectively develop assessments for indicators of community well-being and sustainability.

The proposed study is for an employee well-being and sustainability program in a higher education setting. Coinciding with the program implementation will be collaborative efforts in organizational readiness, health promotion communication and diversity inclusion.

The following is a high-level strategy, details to be finalized with collaborative teams, depending on budget and collective buy-in.

5.2 Well-being & Sustainability in a Higher Education Setting

Why a Higher Education Setting?

Previous research on mental health promotion in higher education settings focused on the students rather than the employees (Cieslak et al., 2016; Shapiro et al., 2011). The following proposed study presents a novel approach to explore not only the effects of well-being on higher education employees, but also the potential distal impacts on students' mental health.

A 2010 review on research of stressors on academics found that in comparison to other professionals, academics experience high levels of stress, low levels of job satisfaction and very low levels of psychological health (Kinman, 2001). In the past ten years, the stressors from the competitive environment and potential impacts have only increased, providing an opportunity for universities to make an organizational change that focuses on reducing stress while potentially increasing performance. As evidence accumulates that well-being, specifically awareness and attention practices decreases stress, depression and anxiety while increases performance and collaboration, universities have a potential solution to change from a competitive culture of stress, to a collaborative community of well-being.

Graduate Students

Graduate Students are both students and employees of a university and thus should be included in a higher education employee study. High percentages of graduate students report that they are stressed (Hindman et al., 2015). A study conducted at Tufts found that 70% of students report stress impacts their academic performance (Tufts Mental Health Task Force, 2014). Another study found nearly half of their PhD students met criteria to classify them as depressed (UC-Berkeley Graduate Assembly, 2014). With high levels of imposter syndrome Sakulku, suicide ideation (Amanda et al., 2014), isolation, competition, and working long hours, 55% report not knowing how to change or find a work-life balance (Woolston, 2017), thus, graduate students are in need of an academic culture change.

Finally, graduate students are also known for not getting enough sleep. A study found that certain contemplative practices can induce a relaxation response, thus even if students are not getting enough sleep, they can experience the deep rest the body needs for processes like energy metabolism and immune function with proper training (Bhasin et al., 2013).

Administrative & Academic Staff

From the 2018 budget cuts, to the 2020 pandemic-related furloughs, this group of employees has been hit the hardest with a lack of job security, thus stress management is essential.

Research Staff & Post Docs

Anecdotal evidence from the exploratory study in Chapter 4 found that employees viewed their company as more compassionate, and cared about them as people when they made the decision to embrace employee well-being. Thus, researchers who are feeling isolated, lonely, and/or depressed might significantly benefit from a culture shift from critical to supportive learning environment.

Faculty

With publishing demands, fundraising burdens, teaching and research time commitments, faculty experience high levels of stress as well. There is a clear need for stress management, and a more collaborative higher education community.

Given the climate over the past 5 years involving budget cuts, loss of tenure positions, political unrest, brain drain, racial and gender discrimination, efforts to manage stress are not only worth it, but imperative for attracting future faculty and students, and maintaining integrity of research and educational excellence.

Collaborative Science

There is accumulating evidence that contemplative practice and training in workplaces can increase the capacity of collaboration (Reitz et al., 2016). Thus, there is potential, that a campus well-being program could contribute to the production of better, more collaborative science. The NSF, for example, as part of their 10 Big Ideas are seeking interdisciplinary teams from widely diverse fields of science to solve the major issues we are facing. What better way to prepare for the challenges of the future, than to build a resilient campus community?

Well-being & Sustainability

We are in an anthropocene era, it is proven that humans effect the environment. Ecosystems, environmental sustainability, and human health are interdependent (MEA, 2005). As evidenced by COVID-19, an environmentally-linked global pandemic, we need to make changes to not only our global communication efforts, but also with how we interact with our environment. We have seen the devastating effects on both human and planetary health, but also how incremental changes have sustainable results. It is not too late to design a better future and amplify the positive momentum in environmental protection. Together we can create a healthier population and planet.

The pro-social motives for well-being naturally lead to pro-environmental thinking and the desire for a healthy balance in ourselves and with the environment. It comes as no surprise that the word resilience is used in both psychological health and in ecological sustainability contexts. In fact, theories and principles of pro-social behavior has informed research on pro-environmental behavior (Nolan and Schultz, 2015). Thus, synergies from both schools of thought, with the aim of greater good, could collaborate to foster the cultural transformation needed to address our collective challenges.

5.2.1 Healthy Minds, Community, & Planet

Well-being & Sustainability at UW–Madison

This program proposal will be a collaborative effort to create a culture change and community of practice. The main objective is to be the epicenter for well-being and sustainability research *and practice*. University of Wisconsin–Madison is already a hub for well-being research and for environmental research, but not yet known for cultivating a resilient culture and community of practice.

This program will utilize organizational change and readiness research for a connected and systematic implementation. Organizational readiness, communication plan and diversity inclusion efforts will be implemented and evaluated. From the communication plan to the follow-up interviews, measures and activities will be theory and evidence-based, and conducted with methodological rigor. Multilevel outcomes will be studied at the individual, occupational and organizational levels. Assessments will be developed with an interdisciplinary team to capture community level indicators of well-being and sustainability. We will connect and expand current on-campus well-being and sustainability initiatives and cultivate best practices in creating healthy minds, community and planet.

Depending on budget and collective buy-in, the project could be as small as a pilot project in one department to as scalable as the global community. Embodying the Wisconsin Idea¹, this program will originate on campus, with the ultimate goal of spreading throughout the state of Wisconsin and worldwide. Measures to reflect the potential global effects should be considered.

Small & Scalable

At the smallest scale of this project, would be within a single department or division on UW-Madison campus. If for example the Division of Information Technology (DoIT), was willing to participate in a pilot

¹The Wisconsin Idea is attributed to the former UW President Charles Van Hise from his 1905 address when he stated, “I shall never be content until the beneficent influence of the University reaches every family of the state.” This idea is now the guiding philosophy of university outreach efforts and expands from the state to the globe.

project, the Online Course Production team and the Faculty Engagement team are of similar size, workload, pay scale and are both deemed essential during the COVID-19 pandemic. Both teams would be assessed at three time periods, before the training, after the training and a one-year post-training follow-up interview and assessment. The assessments would include measures of well-being, sustainability, organizational culture, and potentially a biomarker for chronic stress. One team would be the wait-list control group, while the training group would have access to well-being training through the Healthy Minds Program and sustainability training through the Cool Choices game-based program.

Healthy Minds Program

The Center for Health Minds developed a program that delivers both content and contemplative practice in four pillars of well-being. Using a neuroscientific framework, the app delivers curriculum in podcast-style lessons designed to train the mind in awareness, connection, insight and purpose. Mindfulness practices are akin to awareness and attention practices in the Healthy Minds Program. Awareness practices strengthen attention, self-awareness and focus. Just like in physical activity, it is important to balance different exercises for optimal health. Well-being is thus more than just awareness practices, but also includes connection, insight and purpose. Connection practices strengthen appreciation, kindness and compassion. The majority of evidence in this field is focused on awareness and connection practices like mindfulness meditation, compassion, gratitude, and loving-kindness. That said, there is enough evidence to disseminate and further investigate of all these well-being practices (Dahl and Davidson, 2019). Insight practices help to develop a deeper understanding of one's emotions and reactions, thus decreases stress and emotional reactivity. Purpose practices begin to strengthen values and integrate them into everyday life (Center for Healthy Minds). This program is intended to be a year-long curriculum, but the foundational practices could be completed in 30-days of between 5-30 minutes of daily practice or learning sessions. The 30-day foundational practice of the Healthy Minds Program will be considered the well-being training for this pilot study. If there is support for a campus-wide project, the Healthy Minds Workplace Well-being program should be implemented.

Potential Measures of Well-being

The Healthy Minds Program has a built-in assessment for well-being in the four measures of attention, connection, insight and purpose. This assessment should be administered throughout the program to capture progress through well-being. In order to explore novel concepts, such as community indicators of well-being, tracking progress through well-being, and communicating progress, in-app voice responses to reflection

prompts could be collected. These recordings could capture the subjective and collective experiences of the participants.

Biomarker for Chronic Stress

Although there have been studies exploring changes in brain and immune function (Davidson et al., 2003; Creswell et al., 2016) the majority of workplace well-being assessments rely on self-reported measures. The use of hair cortisol as an objective biomarker for chronic stress has been validated (Russell et al., 2012; Stalder et al., 2012). Using a biomarker for stress management could additionally augment the existing evidence for return on investment for workplace well-being programs.

Many well-being studies discuss the need for a longer follow up in order to assess both the individual sustained benefits as well as to capture any organizational benefits (Jamieson and Tuckey, 2017). In this pilot study hair cortisol samples could be assessed at 3 time periods, pre, post and 12-months after the well-being and sustainability training. Aggregate data of hair cortisol samples could be used as a potential indicator of community well-being. In addition, the biomarker for stress could be used to test the hypothesis that like stress, healthy habits are contagious and well-being interventions could reduce community stress levels. Because short bursts of stress are healthy, while a constant high level of stress is detrimental, hair cortisol samples should be accompanied with assessments of perceived measures of stress (Burnett and Pettijohn, 2015). For example, high stress viewed as manageable is less of a health risk than moderate stress perceived as out of control. Intervention recommendations for future studies could be based on combined assessments of biometric and self-reported measures.

Participation & Engagement

In addition to Healthy Minds Program being a more holistic approach to contemplative practices, the program is a much more flexible time commitment and can always be accessible through the app, compared to MBSR where researchers have reported high attrition rates that participants attribute in part to the extensive time commitment (Chang et al., 2004; Shapiro et al., 2005). The assumption is then that participation and engagement rates are likely to be improved as compared to MBSR. Several studies have found that there is a dose-response effect between the time spent in contemplative practice and improved outcomes (Fredrickson et al., 2017). Measures of engagement, participation and adherence should also be assessed in this pilot study in order to further explore dose-response effects and potential outcomes.

Cool Choices Program

Cool choices is a gamification of sustainable activities that creates habits of pro-environmental behaviors such as reducing energy and water use. According to their website, “Cool Choices program participants earn points for the sustainable actions they take at work and at home, inspiring new actions and ideas that reinforce the organization’s sustainability goals” (Cool Choices). A study on effectiveness of the Cool Choices program, found that participants significantly reduced household energy consumption, and that effects lasted six months beyond the game, which according to the authors, is longer than most other interventions (Ro et al., 2017). Based on the idea that behavior change is difficult, the framework of the game includes aspects of fun, pleasant choices that people are proud of; friendly competition; and easy to accomplish goals. The platform is transparent so that participants can see the actions of their colleagues, and encourage their team to take action. Cool Choices discusses the aggregate results, rather than individual impacts in order to motivate collective participation. Participants can earn points for daily actions over 6 weeks. The 6-week Cool Choices game will be considered the sustainability training for this pilot study. The program itself can be ongoing if more training is desired in a campus-wide initiative.

Potential Measures of Sustainability

Previous studies have used self-reported measures of pro-environmental behavior with of scales of pro-environmental attitudes, household energy consumption and frequency of sustainable behaviors (Kormos and Gifford, 2014). Pro-environmental behavior scales should also be triangulated with objective measures of conservation. Collaborative efforts could further develop assessments that include organizational goals for ecological sustainability. This pilot study could garner future support for a campus-wide initiative.

Collective Buy-in

If there is collective buy-in for a large-scale well-being and sustainability project for all UW-Madison employees (graduate students, post docs, administrative, academic and research staff, faculty and leadership) the program would need to initiate with a steering committee to design a communication plan, data management, organizational readiness assessments and efforts, in addition to the program implementation.

Steering Committee

A steering committee for well-being and sustainability will include collaborators from bioethics (Medical History Bioethics), communication (Life Sciences Communication, School of Journalism and Mass Communication), data Science (Computer Sciences, Electrical & Computational Engineering, School of Computer, Data and Information Sciences), diversity and inclusion (Division of Diversity, Equity and Educational Achievement; Office of Equity, Diversity, and Inclusion; Graduate School; Office of Human Resources) or-

ganizational change (School of Business), sustainability (Nelson, Office of Sustainability), and well-being (Center for Healthy Minds; Psychology; School of Medicine Public Health; Population Health Sciences; School of Human Ecology; Thrive, University Health Services; UWell). This needs to be a collaborative effort, from many departments and schools of thought in order to make a sustainable impact on our minds, community and planet.

Goals & Opportunities

The goal of this health promotion and sustainability initiative is to create a resilient campus culture. Creating a culture of resilience practice will involve targeted communication plans, readiness efforts, resource allocation, staggered implementation events, curriculum, research participation, and evaluation.

Communication Plan

Concerted effort would be needed in communicating the business rationale for well-being and sustainability in higher education workplaces and the potential positive impacts to increase organizational readiness.

This study should use a mixed methods approach and include research on employee beliefs and perceptions before the pre-intervention assessments. Communication research should be implemented to assess attitudes, best approaches in messaging, and progress throughout the well-being and sustainability program. From an intervention effectiveness perspective, it is important to consider how the study is communicated for purposes of collective buy-in, engagement, as well as reliable responses to assessments (Fischhoff and Scheufele, 2014). Using the theories of communication previously described such as using messages targeted at self-efficacy and based on readiness level, a communication plan should include targeted messages for both leadership that would need to support the initiative on a personal level and a budgetary level, and for employees embracing the actual behavior change. In addition, a communication plan to make successes visible should include connecting with Wisconsin Public Television, Wisconsin Public Radio, campus-wide emails from Working at UW-Madison as well as more broadly submitting a proposal to NPR's Science Fridays to feature the campus-wide initiative and accompanying participant research.

Readiness Efforts

I strongly recommend an organizational readiness plan that includes assessment and efforts to increase readiness before the program delivery. The organizational readiness assessment would consist of: readiness for change, culture, team climate, sustainability plan, leadership commitment, openness to change, organizational authenticity and goals. This assessment would be intended to provide insight into the organization, specifically for any customizations to the program. It would also provide a better understanding of support,

cultural acceptance, and attitudes of employees and leadership towards employee well-being and sustainability.

The organizational readiness assessment could identify the goals of the program, and then those concepts of interest could be used in the program assessments. For example, if cross-disciplinary papers published is a measure of collaboration, that could be utilized as a measure of collaborative performance in this program assessment. Assessments should be developed in collaboration with department heads and leadership in order to ensure that the assessments explore the desired changes.

Ample time should be provided in order to increase organizational readiness with concerted efforts in planning and promoting organizational change.

Micro Interventions

In addition to creating a community of well-being and sustainability practice, this program could develop precision medicine tools for deep phenotyping and utilizing collaborations with data scientists and health communication researchers to develop and study micro interventions. For example, connection practices could be prompted before a difficult meeting, and if meeting was across campus, prompts regarding the nearest b-cycle station rather than driving could be delivered.

Opportunities

We are entering a culture of health that no longer is limited to proper nutrition and exercise, but includes mental exercise, sleep, community engagement and strong relationships. In order to be resilient in the face of current higher education challenges, UW–Madison should invest in their employees' well-being.

Sustainability is not a new concept in Wisconsin. Environmental stewards from the past have roots or connections to Wisconsin including, John Muir, Aldo Leopold, and Gaylord Nelson. We now need more than a thought-leader to make a difference, we need collective communities and institutions collaborating and rethinking our land, water and energy use, consumption, supply chain and waste.

Another important opportunity for UW–Madison is that the community itself is primed for research participation. Participating in a social movement, enhancing research, and contributing to the greater good are values that are already embedded in this community. We can use these values to establish our collective identity working toward building a resilient community.

Measures

What outcome measures and methodologies most effectively capture the multidimensional effects of well-being and sustainability in a higher education setting? The measures should reflect the main goals of the program, specifically for a healthier, more collaborative, productive and innovative workforce, campus community and planet.

New or adapted training programs should focus on rigorously evaluating the content and participant engagement with fidelity assessments, manipulation checks, attrition, acceptability and feasibility in a higher education setting. As this proposed study would combine trainings not previously united, this level of assessment should be implemented.

Multilevel assessments should be implemented in order capture return on investment metrics, employee retention, employee satisfaction, performance, and organizational change. Return on investment could be assessed with health care costs, productivity, and energy reduction.

There should be a balance of individual, occupational and organizational measures assessed. In addition, there should be a balance of self-reported and objective measures.

I recommend prioritizing the shortest, and still effective indicators in order to not burden the participants with extensive assessments. Additionally, a diversity of types of assessments could be explored such as experience sampling, brain scans, and voice recordings. One potential virtual assessment style to be further explored could have randomly or targeted one-item prompts, with an option to answer more questions, every time a participant opened the training app. This rapid assessment style could gather more nuanced data throughout the program.

Individual measures should include qualitative interviews, objective measures of stress and attention, and self-reported assessments of: perceived stress (Perceived Stress Scale), sleep quality (Philadelphia Sleep Quality Index), well-being (attention, awareness, connection, insight and purpose), emotional well-being (ESQ), implicit bias, burnout, and pro-environmental attitudes and behaviors.

Attention is typically regarded as a cognitive ability and closely related to performance. Attention can be triangulated with a self-reported measure via the well-being assessment and a sustained attention task, such as CANTAB that objectively measures cognitive function.

Previous studies have explored implicit bias and well-being training (Kang et al., 2014), it would be useful to continue this line of inquiry and assess whether implicit beliefs and attitudes change with increased emotional well-being from this program. Thus, implicit bias should be individually assessed throughout the program.

Occupational measures should include: performance indicators, collaboration, decision-making assessments, response flexibility, authentic functioning, and team climate. SALSA (Salutogenetic Subjective Work Analysis) could capture occupational measures of job characteristics, job demands, and occupational stress. It would be useful to triangulate self-reported assessments with behavioral reports from colleagues regarding observations of emotional reactivity, compassion for colleagues and response flexibility.

Organizational measures should include: organizational readiness, resource allocation, cultural climate and performance with the Landau Organizational and Climate Index (LOTI), collaborative science measures (grant money, interdisciplinary papers published), and community indicators of well-being and sustainability. LOTI measures team climate, cooperation, collaboration, decision-making, creativity, respect, atmosphere, satisfaction. Another organizational measure could be Organizational Citizenship Behaviors (OCB). An assessment of organizational capacity and measures of ecological and psychological resilience should be further developed. Distal measures of organizational change could explore undergraduate students' mental health and environmental attitudes and behaviors.

The program evaluation should additionally be evaluated with adherence, engagement, participation measures to ensure integrity of the program.

Most studies on workplace interventions evaluate individual level difference rather than organizational change (Moore and Beadle, 2006). The community indicator, or aggregate cortisol level could be used as one assessment of the efficacy of the intervention. Participation and sustained resource allocation could assess the adherence to organizational change. Collaborative efforts, again, would be needed to address how to measure indicators of organizational change.

For UW–Madison as an organization, the program should be scalable, customizable with the potential to develop deep phenotyping (interventions tailored to specific employees), cost-effective, relevant to the organizational strategic plan, and convenient to the academic schedule. Employees would likely be more engaged with programs that are convenient, easily accessible, and socially supported.

5.3 Discussion

This dissertation recommends designing evidence-based investigations implementing high standard methodology, broadening of the scope of work-related outcomes studied, and contributing to the continued exploration of best practices for creating resilient workplace communities.

Over the past decade workplace well-being and sustainability has gone from an optional benefit to a vital organizational competency. Well-being and sustainability training can reduce stress and the concomitant costs; increase attention and cognitive functioning; improve interpersonal relationships and collaboration; and promote health of the community and planet. There is a clear need to continue to investigate employee well-being and sustainability and the potential community level outcomes.

The focus of the well-being aspect of program should be on cultivating employee well-being by reducing stress, increasing resilience, and improving cognitive performance. In order to add to the business case for a resilient campus, measures to ascertain innovation, creativity, productivity, reputation, and retention should also be implemented. The sustainability facet of the program should focus on collective impacts from incremental changes to both the cost savings and the environmental health indicators.

Although I understand the importance of return on investment claims, I would caution against an organizational change that solely focuses on higher profits rather than a higher purpose. I would like to emphasize that if organizational change programs are introduced without the support and commitment of leadership and employees, it will more than likely have no lasting significant changes on individuals or the organization. A multi-level readiness assessment and plan should be implemented in order to address systemic concerns and encourage collective buy-in.

There are currently a great deal of unexplored outcomes in this area of research. Providing evidence, for example, that well-being training can improve well-being, reduce stress, and increase cognitive capacity is just the initial step. Future studies should expand the outcomes to explore organizational and community-level effects. In addition, student mental health and ecological attitudes and behaviors could be assessed as a distal indicator of successful implementation of a well-being and sustainability program.

Now more than ever as we are entering a new normal of social distancing, we need quality virtual interventions and community-level indicators of resilience. An online program would be the most practical, cost-effective approach to ensure all employees are able to engage with the program. There is evidence that online well-being trainings are effective and feasible in producing the intended results (Aikens et al., 2014). Similarly, the

online-based sustainability program found lasting effects of pro-environmental behaviors (Ro et al., 2017). That said, future studies should assess acceptability and feasibility of online programs in a higher education setting.

Even with a shoestring budget, this pilot study, if conducted with methodological rigor using multilevel assessments could encourage future support for a campus-wide initiative. To augment return on investment claims for a campus-wide project, objective, validated research methods are necessary.

In order to produce a cultural shift from a critical to a collaborative, resilient community, it must be a concerted effort, from widely diverse fields of science. Thought leaders from bioethics, communication, data science, social justice, organizational change management, environmental protection and well-being should be invited to think across boundaries and design a healthier campus community and planet. In addition to interdisciplinarity, multiple levels of seniority should be included in the planning of this organizational change. Cultivating a resilient culture and community of practice will be essential for attracting future faculty and students, and maintaining integrity of research and educational excellence.

The potential outcomes from this program could be both concrete and intangible. Even small shifts toward a more aware, less stressed, more resilient, and less emotionally reactive campus community could have immeasurable effects on talent recruitment, retention and innovative research. Correspondingly, small-scale changes toward clean energy use and waste reduction could have lasting effects on our air quality and ecosystem.

This holistic, resilient program is intended to connect and amplify current well-being and sustainability initiatives from the campus to the international community in order to cultivate healthy minds, community and planet. Simply the reduction of stress and increase in capacity of collaboration could have profound outcomes in a research institution. Several universities that have embraced contemplative practices have focused on improving student outcomes with contemplative pedagogy, but even this approach has found more engaged students with a deeper connection to course material and their learning process. If the focus is on the research community with an emphasis on collaboration to conduct improved study designs and cultivate faculty learning communities, the outcomes could impact funding, publications and innovative research. From a social-cognitive perspective, the motives for psychological well-being and environmental protection are intrinsically connected, thus a collaboration among thought leaders in these fields could be a natural synergy, fostering the opportunity to provide diverse perspectives and create novel solutions (Sawitri

et al., 2015). The incorporation of a connected effort in a well-being and sustainability endeavor could cultivate a cultural transformation needed to respond to future challenges.

BIBLIOGRAPHY

- Aherne, D., Farrant, K., Hickey, L., Hickey, E., McGrath, L., and McGrath, D. (2016). Mindfulness based stress reduction for medical students: optimising student satisfaction and engagement. *BMC Medical Education*, 16(1):209.
- Aikens, K. A., Astin, J., Pelletier, K. R., Levanovich, K., Baase, C. M., Park, Y. Y., and Bodnar, C. M. (2014). Mindfulness Goes to Work: Impact of an Online Workplace Intervention. *Journal of Occupational and Environmental Medicine*, 56(7):721–731.
- Ajzen, I. et al. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2):179–211.
- Allen, T. D., Eby, L. T., Conley, K. M., Williamson, R. L., Mancini, V. S., and Mitchell, M. E. (2015). What do we really know about the effects of mindfulness-based training in the workplace? *Industrial and Organizational Psychology*, 8(4):652–661.
- Amanda, G., Garcia, W., Lauren, M., and Nadine, J. (2014). Mental health status and suicide behavior among graduate students. *Academic Psychiatry*, 38:554–560.
- American Family Insurance (2019). about amfam. <https://www.amfam/about,>.
- Armenakis, A. A., Harris, S. G., and Mossholder, K. W. (1993). Creating readiness for organizational change. *Human relations*, 46(6):681–703.
- Asuero, A. M., Queraltó, J. M., Pujol-Ribera, E., Berenguera, A., Rodriguez-Blanco, T., and Epstein, R. M. (2014). Effectiveness of a mindfulness education program in primary health care professionals: a pragmatic controlled trial. *Journal of continuing education in the health professions*, 34(1):4–12.
- Baer, R. A. (2003). Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review. *Clinical Psychology: Science and Practice*, 10(2):125–143.
- Baer, R. A., Smith, G. T., and Allen, K. B. (2004). Assessment of mindfulness by self-report: The kentucky inventory of mindfulness skills. *Assessment*, 11(3):191–206.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., and Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13(1):27–45.
- Baer, R. A., Smith, G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S., Walsh, E., Duggan, D., and Williams, J. M. G. (2008). Construct validity of the five facet mindfulness questionnaire in meditating and nonmeditating samples. *Assessment*, 15(3):329–342.
- Barrett, B., Hayney, M. S., Muller, D., Rakel, D., Ward, A., Obasi, C. N., Brown, R., Zhang, Z., Zgierska, A., Gern, J., et al. (2012). Meditation or exercise for preventing acute respiratory infection: a randomized controlled trial. *The Annals of Family Medicine*, 10(4):337–346.

- Barrett, M. S., Novak, J. M., Venette, S. J., and Shumate, M. (2006). Validating the high reliability organization perception scale. *Communication Research Reports*, 23(2):111–118.
- Bartlett, L., Lovell, P., Otahal, P., and Sanderson, K. (2017). Acceptability, Feasibility, and Efficacy of a Workplace Mindfulness Program for Public Sector Employees: a Pilot Randomized Controlled Trial with Informant Reports. *Mindfulness*, 8(3):639–654.
- Berthon, P. R. and Pitt, L. F. (2019). Types of mindfulness in an age of digital distraction. *Business Horizons*, 62(2):131–137.
- Bhasin, M. K., Dusek, J. A., Chang, B.-H., Joseph, M. G., Denninger, J. W., Fricchione, G. L., Benson, H., and Libermann, T. A. (2013). Relaxation response induces temporal transcriptome changes in energy metabolism, insulin secretion and inflammatory pathways. *PloS one*, 8(5).
- Bhui, K. S., Dinos, S., Stansfeld, S. A., and White, P. D. (2012). A Synthesis of the Evidence for Managing Stress at Work: A Review of the Reviews Reporting on Anxiety, Depression, and Absenteeism. *Journal of Environmental and Public Health*, 2012:1–21.
- Birdie, A. K. (2015). Mindfulness and its role in workplace. page 5.
- Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic medicine*, 64(1):71–83.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., and Devins, G. (2006). Mindfulness: A Proposed Operational Definition. *Clinical Psychology: Science and Practice*, 11(3):230–241.
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D., et al. (2004). Mindfulness: A proposed operational definition. *Clinical psychology: Science and practice*, 11(3):230–241.
- Blix, A. G., Cruise, R. J., Mitchell, B. M., and Blix, G. G. (1994). Occupational stress among university teachers. *Educational Research*, 36(2):157–169.
- Bornemann, B., Herbert, B. M., Mehling, W. E., and Singer, T. (2015). Differential changes in self-reported aspects of interoceptive awareness through 3 months of contemplative training. *Frontiers in Psychology*, 5.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard university press.
- Brown, K. W. and Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4):822–848.
- Brown, K. W., Ryan, R. M., and Creswell, J. D. (2007a). Addressing Fundamental Questions About Mindfulness. *Psychological Inquiry*, 18(4):272–281.
- Brown, K. W., Ryan, R. M., and Creswell, J. D. (2007b). Mindfulness: Theoretical Foundations and Evidence for its Salutary Effects. *Psychological Inquiry*, 18(4):211–237.

- Burnett, M. and Pettijohn, C. (2015). Investigating the efficacy of mind-body therapies and emotional intelligence on worker stress in an organizational setting: An experimental approach. *Journal of Organizational Culture, Communications and Conflict*, 19(1):146.
- Byrne, D. and Espnes, G. A. (2008). Occupational stress and cardiovascular disease. *Stress and Health*, 24(3):231–238.
- Cartwright, S. and Cooper, C. L. (2014). Towards Organizational Health: Stress, Positive Organizational Behavior, and Employee Well-Being. In *Bridging Occupational, Organizational and Public Health*, pages 29–42. Springer Netherlands, Dordrecht.
- Center for Healthy Minds. Healthy Minds Program. <https://tryhealthyminds.org/>.
- Centers for Disease Control and Prevention (2017). Health Equity Resource Toolkit for State Practitioners Addressing Obesity Disparities. National Center for Chronic Disease and Health Promotion Division of Nutrition, Physical Activity, and Obesity. <https://www.cdc.gov/nccdphp/dnpao/state-local-programs/health-equity/index.html>.
- Chang, V. Y., Palesh, O., Caldwell, R., Glasgow, N., Abramson, M., Luskin, F., Gill, M., Burke, A., and Koopman, C. (2004). The effects of a mindfulness-based stress reduction program on stress, mindfulness self-efficacy, and positive states of mind. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 20(3):141–147.
- Charoensukmongkol, P. (2016). The role of mindfulness on employee psychological reactions to mergers and acquisitions. *Journal of Organizational Change Management*, 29(5):816–831.
- Chesak, S. S., Bhagra, A., Schroeder, D. R., Foy, D. A., Cutshall, S. M., and Sood, A. (2015). Enhancing Resilience Among New Nurses: Feasibility and Efficacy of a Pilot Intervention. *Ochsner Journal*, 15(1):38.
- Chiesa, A., Calati, R., and Serretti, A. (2011). Does mindfulness training improve cognitive abilities? A systematic review of neuropsychological findings. *Clinical Psychology Review*, 31(3):449–464.
- Chiesa, A. and Serretti, A. (2009). Mindfulness-based stress reduction for stress management in healthy people: a review and meta-analysis. *The journal of alternative and complementary medicine*, 15(5):593–600.
- Chu, C., Driscoll, T., and Dwyer, S. (1997). The health-promoting workplace: an integrative perspective. *Australian and New Zealand journal of public health*, 21(4):377–385.
- Cieslak, K. J., Hardy, L. E., Kyles, N. S., Miller, E. L., Mullins, B. L., Root, K. M., and Smith, C. M. (2016). An environmental scan of mindfulness-based interventions on university and college campuses: A research note. *J. Soc. & Soc. Welfare*, 43:109.
- Cohen, S., Kamarck, T., and Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and social behavior*, pages 385–396.
- Cohen-Katz, J., Wiley, S. D., Capuano, T., Baker, D. M., and Shapiro, S. (2004). The effects of mindfulness-based stress reduction on nurse stress and burnout: a quantitative and qualitative study. *Holistic nursing practice*, 18(6):302–308.

- Cohen-Katz, J., Wiley, S. D., Capuano, T., Baker, D. M., and Shapiro, S. (2005). The Effects of Mindfulness-based Stress Reduction on Nurse Stress and Burnout, Part II: A Quantitative and Qualitative Study. *Holistic Nursing Practice*, 19(1):26–35.
- Condon, P. (2019). Meditation in context: factors that facilitate prosocial behavior. *Current Opinion in Psychology*, 28:15–19.
- Cool Choices. Cool Choices Corporate Sustainability Engagement Program. <https://coolchoices.com/>.
- Coronado-Montoya, S., Levis, A. W., Kwakkenbos, L., Steele, R. J., Turner, E. H., and Thombs, B. D. (2016). Reporting of positive results in randomized controlled trials of mindfulness-based mental health interventions. *PloS one*, 11(4).
- Creswell, J. D., Taren, A. A., Lindsay, E. K., Greco, C. M., Gianaros, P. J., Fairgrieve, A., Marsland, A. L., Brown, K. W., Way, B. M., Rosen, R. K., and Ferris, J. L. (2016). Alterations in Resting-State Functional Connectivity Link Mindfulness Meditation With Reduced Interleukin-6: A Randomized Controlled Trial. *Biological Psychiatry*, 80(1):53–61.
- Csikszentmihalyi, M. (1990). Flow. the psychology of optimal experience. new york (harperperennial) 1990.
- Dahl, C. J. and Davidson, R. J. (2019). Mindfulness and the contemplative life: pathways to connection, insight, and purpose. *Current opinion in psychology*, 28:60–64.
- Dambrun, M. (2016). When the dissolution of perceived body boundaries elicits happiness: The effect of selflessness induced by a body scan meditation. *Consciousness and Cognition*, 46:89–98.
- Dane, E. (2011). Paying Attention to Mindfulness and Its Effects on Task Performance in the Workplace. *Journal of Management*, 37(4):997–1018.
- Dane, E. and Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations*, 67(1):105–128.
- Davidson, R. J. and Begley, S. (2013). *The emotional life of your brain: how its unique patterns affect the way you think, feel, and live - and how you can change them*. OCLC: 940171916.
- Davidson, R. J., Brefczynski-Lewis, J. A., Lutz, A., Schaefer, H. S., and Levinson, D. B. (2007). Neural correlates of attentional expertise in long-term meditation practitioners. *Proceedings of the national Academy of Sciences*, 104(27):11483–11488.
- Davidson, R. J., Kabat-Zinn, J., Schumacher, J., Rosenkranz, M., Muller, D., Santorelli, S. F., Urbanowski, F., Harrington, A., Bonus, K., and Sheridan, J. F. (2003). Alterations in Brain and Immune Function Produced by Mindfulness Meditation:. *Psychosomatic Medicine*, 65(4):564–570.
- Davidson, R. J. and Kaszniak, A. W. (2015). Conceptual and methodological issues in research on mindfulness and meditation. *American Psychologist*, 70(7):581–592.
- Davidson, R. J. and McEwen, B. S. (2012). Social influences on neuroplasticity: stress and interventions to promote well-being. *Nature neuroscience*, 15(5):689–695.

- de Bruin, E. I., Formsma, A. R., Frijstein, G., and Bögels, S. M. (2017). Mindful2Work: Effects of Combined Physical Exercise, Yoga, and Mindfulness Meditations for Stress Relieve in Employees. A Proof of Concept Study. *Mindfulness*, 8(1):204–217.
- Duchemin, A.-M., Steinberg, B. A., Marks, D. R., Vanover, K., and Klatt, M. (2015). A Small Randomized Pilot Study of a Workplace Mindfulness-Based Intervention for Surgical Intensive Care Unit Personnel: Effects on Salivary -Amylase Levels. *Journal of Occupational and Environmental Medicine*, 57(4):393–399.
- Duerr, M. (2004). The contemplative organization. *Journal of Organizational Change Management*, 17(1):43–61.
- Dutton, J. E., Frost, P. J., Worline, M. C., Lilius, J. M., and Kanov, J. M. (2002). Leading in times of trauma. *Harvard business review*, 80(1):54–61.
- Eatough, E. M. (2015). How Does Employee Mindfulness Reduce Psychological Distress? *Industrial and Organizational Psychology*, 8(4):643–647.
- Edward, K.-l. (2005). The phenomenon of resilience in crisis care mental health clinicians. *International Journal of Mental Health Nursing*, 14(2):142–148.
- Emmerling, R. J. and Boyatzis, R. E. (2012). Emotional and social intelligence competencies: cross cultural implications. *Cross Cultural Management: An International Journal*, 19(1):4–18.
- Fischhoff, B. and Scheufele, D. A. (2014). The science of science communication ii. *Proceedings of the National Academy of Sciences*, 111(Supplement 4):13583–13584.
- Fishbein, M. and Cappella, J. N. (2006). The role of theory in developing effective health communications. *Journal of communication*, 56:S1–S17.
- Fitzgerald, N. and Spaccarotella, K. (2009). Barriers to a healthy lifestyle: from individuals to public policy—an ecological perspective. *Journal of extension*, 47(1):1–8.
- Fredrickson, B. L., Boulton, A. J., Firestone, A. M., Van Cappellen, P., Algae, S. B., Brantley, M. M., Kim, S. L., Brantley, J., and Salzberg, S. (2017). Positive emotion correlates of meditation practice: A comparison of mindfulness meditation and loving-kindness meditation. *Mindfulness*, 8(6):1623–1633.
- Fuchs, C., Lee, J. K., Roemer, L., and Orsillo, S. M. (2013). Using mindfulness-and acceptance-based treatments with clients from nondominant cultural and/or marginalized backgrounds: Clinical considerations, meta-analysis findings, and introduction to the special series: Clinical considerations in using acceptance-and mindfulness-based treatments with diverse populations.
- Gauthier, T., Meyer, R. M., Greife, D., and Gold, J. I. (2015). An on-the-job mindfulness-based intervention for pediatric icu nurses: a pilot. *Journal of pediatric nursing*, 30(2):402–409.
- Gelles, D. (2016). *Mindful work: : How meditation is changing business from the inside out /.* ; An Eamon Dolan Book, Houghton Mifflin Harcourt,, Boston. OCLC: 1082556525.
- Geuze, E., Westenberg, H. G., Heinecke, A., de Kloet, C. S., Goebel, R., and Vermetten, E. (2008). Thinner prefrontal cortex in veterans with posttraumatic stress disorder. *Neuroimage*, 41(3):675–681.

- Gilmartin, H., Goyal, A., Hamati, M. C., Mann, J., Saint, S., and Chopra, V. (2017). Brief Mindfulness Practices for Healthcare Providers – A Systematic Literature Review. *The American Journal of Medicine*, 130(10):1219.e1–1219.e17.
- Glaser, B. G. and Strauss, A. L. (2017). *Discovery of grounded theory: Strategies for qualitative research*. Routledge.
- Glasgow, R. E., McCaul, K. D., and Fisher, K. J. (1993). Participation in worksite health promotion: a critique of the literature and recommendations for future practice. *Health Education Quarterly*, 20(3):391–408.
- Glomb, T. M., Duffy, M. K., Bono, J. E., and Yang, T. (2011). Mindfulness at Work. In Joshi, A., Liao, H., and Martocchio, J. J., editors, *Research in Personnel and Human Resources Management*, volume 30, pages 115–157. Emerald Group Publishing Limited.
- Goldberg, S. B., Tucker, R. P., Greene, P. A., Simpson, T. L., Kearney, D. J., and Davidson, R. J. (2017). Is mindfulness research methodology improving over time? a systematic review. *PloS one*, 12(10).
- Golden, S. D. and Earp, J. A. L. (2012). Social ecological approaches to individuals and their contexts: twenty years of health education & behavior health promotion interventions. *Health Education & Behavior*, 39(3):364–372.
- Goleman, D. (2005). *Emotional intelligence*. Bantam Books, New York, 10th anniversary trade pbk. ed edition.
- Good, D. J., Lyddy, C. J., Glomb, T. M., Bono, J. E., Brown, K. W., Duffy, M. K., Baer, R. A., Brewer, J. A., and Lazar, S. W. (2016). Contemplating Mindfulness at Work: An Integrative Review. *Journal of Management*, 42(1):114–142.
- Gordon, A. M., Impett, E. A., Kogan, A., Oveis, C., and Keltner, D. (2012). To have and to hold: Gratitude promotes relationship maintenance in intimate bonds. *Journal of Personality and Social Psychology*, 103(2):257–274.
- Greenwald, A. G., McGhee, D. E., and Schwartz, J. L. (1998). Measuring individual differences in implicit cognition: the implicit association test. *Journal of personality and social psychology*, 74(6):1464.
- Greeson, J. M. (2009). Mindfulness Research Update: 2008. *Complementary health practice review*, 14(1):10–18.
- Gross, C. R., Kreitzer, M. J., Reilly-Spong, M., Wall, M., Winbush, N. Y., Patterson, R., Mahowald, M., and Cramer-Bornemann, M. (2011). Mindfulness-Based Stress Reduction Versus Pharmacotherapy for Chronic Primary Insomnia: A Randomized Controlled Clinical Trial. *EXPLORE*, 7(2):76–87.
- Grossman, P. (2008). On measuring mindfulness in psychosomatic and psychological research. *Journal of Psychosomatic Research*, 64(4):405–408.
- Grossman, P., Niemann, L., Schmidt, S., and Walach, H. (2004). Mindfulness-based stress reduction and health benefits. *Journal of Psychosomatic Research*, 57(1):35–43.

- Gunasekara, A. and Zheng, C. S.-m. (2019). Examining the effect of different facets of mindfulness on work engagement. *Employee Relations*, 41(1):193–208.
- Gärtner, C. (2013). Enhancing Readiness for Change by Enhancing Mindfulness. *Journal of Change Management*, 13(1):52–68.
- Harnois, G., Gabriel, P., International Labour Organisation, Nations for Mental Health, World Health Organization, and Department of Mental Health (2000). *Mental health and work: impact, issues and good practices*. World Health Organization, Dept. of Mental Health, Geneva. OCLC: 1016443972.
- Harrison, T. M., Weintraub, S., Mesulam, M.-M., and Rogalski, E. (2012). Superior memory and higher cortical volumes in unusually successful cognitive aging. *Journal of the International Neuropsychological Society*, 18(6):1081–1085.
- Hart, R., Ivztan, I., and Hart, D. (2013). Mind the Gap in Mindfulness Research: A Comparative Account of the Leading Schools of Thought. *Review of General Psychology*, 17(4):453–466.
- Haun, V. C., Nübold, A., and Bauer, A. G. (2018). Being mindful at work and at home: Buffering effects in the stressor-detachment model. *Journal of Occupational and Organizational Psychology*, 91(2):385–410.
- Herscovitch, L. and Meyer, J. P. (2002). Commitment to organizational change: Extension of a three-component model. *Journal of applied psychology*, 87(3):474.
- Hindman, R. K., Glass, C. R., Arnkoff, D. B., and Maron, D. D. (2015). A comparison of formal and informal mindfulness programs for stress reduction in university students. *Mindfulness*, 6(4):873–884.
- Holm, M. (2015). Cultivating alternate mindsets to enhance organisational Well-being and creativity. 3(2):20.
- Hunter, J. and McCormick, D. W. (2008). Mindfulness in the workplace: An exploratory study. In *SE Newell (Facilitator), Weickian Ideas. Symposium conducted at the annual meeting of the Academy of Management, Anaheim, CA*.
- Hyland, P. K., Lee, R. A., and Mills, M. J. (2015). Mindfulness at Work: A New Approach to Improving Individual and Organizational Performance. *Industrial and Organizational Psychology*, 8(4):576–602.
- Hülshager, U. R., Alberts, H. J. E. M., Feinholdt, A., and Lang, J. W. B. (2013). Benefits of mindfulness at work: The role of mindfulness in emotion regulation, emotional exhaustion, and job satisfaction. *Journal of Applied Psychology*, 98(2):310–325.
- Hülshager, U. R., Feinholdt, A., and Nübold, A. (2015). A low-dose mindfulness intervention and recovery from work: Effects on psychological detachment, sleep quality, and sleep duration. *Journal of Occupational and Organizational Psychology*, 88(3):464–489.
- Icard, L. D., Bourjolly, J. N., and Siddiqui, N. (2003). Designing social marketing strategies to increase african americans’ access to health promotion programs. *Health & Social Work*, 28(3):214–223.
- Institute for Mindful Leadership (2011). Mindful leadership and wellness research. <https://instituteformindfulleadership.org/research/>,.

- Jain, V. K., McLaughlin, D. G., Lall, R., and Johnson, W. B. (1996). Effects of Locus of Control, Occupational Stress, and Psychological Distress on Job Satisfaction among Nurses. *Psychological Reports*, 78(3_suppl):1256–1258.
- Jamieson, S. D. and Tuckey, M. R. (2017). Mindfulness interventions in the workplace: A critique of the current state of the literature. *Journal of Occupational Health Psychology*, 22(2):180–193.
- Janssen, M., Heerkens, Y., Kuijer, W., van der Heijden, B., and Engels, J. (2018). Effects of Mindfulness-Based Stress Reduction on employees' mental health: A systematic review. *PLOS ONE*, 13(1):e0191332.
- Janz, N. K. and Becker, M. H. (1984). The health belief model: A decade later. *Health education quarterly*, 11(1):1–47.
- Jarman, L., Venn, A., Martin, A., Otahal, P., and Ogle, F. (2014). Trends, costs and correlates of stress-related workers' compensation claims in a public sector workforce. page 9.
- Jazaieri, H., Jinpa, G. T., McGonigal, K., Rosenberg, E. L., Finkelstein, J., Simon-Thomas, E., Cullen, M., Doty, J. R., Gross, J. J., and Goldin, P. R. (2013). Enhancing Compassion: A Randomized Controlled Trial of a Compassion Cultivation Training Program. *Journal of Happiness Studies*, 14(4):1113–1126.
- Jha, A. P., Stanley, E. A., Kiyonaga, A., Wong, L., and Gelfand, L. (2010). Examining the protective effects of mindfulness training on working memory capacity and affective experience. *Emotion*, 10(1):54–64.
- Jordan, C. H., Wang, W., Donatoni, L., and Meier, B. P. (2014). Mindful eating: Trait and state mindfulness predict healthier eating behavior. *Personality and Individual differences*, 68:107–111.
- Jung, Y.-H., Kang, D.-H., Jang, J. H., Park, H. Y., Byun, M. S., Kwon, S. J., Jang, G.-E., Lee, U. S., An, S. C., and Kwon, J. S. (2010). The effects of mind-body training on stress reduction, positive affect, and plasma catecholamines. *Neuroscience Letters*, 479(2):138–142.
- Kabat-Zinn, J. (1982a). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry*, 4(1):33–47.
- Kabat-Zinn, J. (1982b). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General hospital psychiatry*, 4(1):33–47.
- Kabat-Zinn, J. (1994). Wherever you go, there you are: Mindfulness meditation in everyday life. *Hyperion*, pages 78–80.
- Kabat-Zinn, J. (2016). *Coming to our senses: healing ourselves and the world through mindfulness*. OCLC: 1029303096.
- Kabat-Zinn, J. (2003). Mindfulness-Based Interventions in Context: Past, Present, and Future. *Clinical Psychology: Science and Practice*, 10(2):144–156.

- Kachan, D., Olano, H., Tannenbaum, S. L., Annane, D. W., Mehta, A., Arheart, K. L., Fleming, L. E., Yang, X., McClure, L. A., and Lee, D. J. (2017). Peer reviewed: Prevalence of mindfulness practices in the us workforce: National health interview survey. *Preventing chronic disease*, 14.
- Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N., and Stone, A. A. (2004). A survey method for characterizing daily life experience: The day reconstruction method. *Science*, 306(5702):1776–1780.
- Kang, Y., Gray, J. R., and Dovidio, J. F. (2014). The nondiscriminating heart: Lovingkindness meditation training decreases implicit intergroup bias. *Journal of Experimental Psychology: General*, 143(3):1306–1313.
- Kelloway, E. K., Gottlieb, B. H., and Barham, L. (1999). The source, nature, and direction of work and family conflict: A longitudinal investigation. *Journal of occupational health psychology*, 4(4):337.
- Kemeny, M. E. and Schedlowski, M. (2007). Understanding the interaction between psychosocial stress and immune-related diseases: A stepwise progression. *Brain, Behavior, and Immunity*, 21(8):1009–1018.
- Kemper, K. J. (2017). Brief online mindfulness training: immediate impact. *Journal of evidence-based complementary & alternative medicine*, 22(1):75–80.
- Keng, S.-L., Smoski, M. J., and Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31(6):1041–1056.
- Kersemakers, W., Rupprecht, S., Wittmann, M., Tamdjidi, C., Falke, P., Donders, R., Speckens, A., and Kohls, N. (2018). A Workplace Mindfulness Intervention May Be Associated With Improved Psychological Well-Being and Productivity. A Preliminary Field Study in a Company Setting. *Frontiers in Psychology*, 9:195.
- Kesebir, P., Gasiorowska, A., Goldman, R., Hirshberg, M. J., and Davidson, R. J. (2019). Emotional style questionnaire: A multidimensional measure of healthy emotionality. *Psychological assessment*.
- Kiken, L. G. and Shook, N. J. (2011). Looking Up: Mindfulness Increases Positive Judgments and Reduces Negativity Bias. *Social Psychological and Personality Science*, 2(4):425–431.
- Killingsworth, S. (2012). Modeling the message: Communicating compliance through organizational values and culture. *Geo. J. Legal Ethics*, 25:961.
- Kinman, G. (2001). Pressure points: A review of research on stressors and strains in uk academics. *Educational psychology*, 21(4):473–492.
- Klatt, M. D., Buckworth, J., and Malarkey, W. B. (2009). Effects of Low-Dose Mindfulness-Based Stress Reduction (MBSR-ld) on Working Adults. *Health Education & Behavior*, 36(3):601–614.
- Klatt, M. D., Sieck, C., Gascon, G., Malarkey, W., and Huerta, T. (2016). A healthcare utilization cost comparison between employees receiving a worksite mindfulness or a diet/exercise lifestyle intervention to matched controls 5 years post intervention. *Complementary Therapies in Medicine*, 27:139–144.
- Klein, K. J. and Kozlowski, S. W. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational research methods*, 3(3):211–236.

- Kong, D. T. and Jolly, P. M. (2019). Lay Beliefs About Attention to and Awareness of the Present: Implicit Mindfulness Theory (IMT) and Its Workplace Implications. *Journal of Business and Psychology*, 34(5):685–707.
- Kormos, C. and Gifford, R. (2014). The validity of self-report measures of proenvironmental behavior: A meta-analytic review. *Journal of Environmental Psychology*, 40:359–371.
- Krumeich, A., Weijts, W., Reddy, P., and Meijer-Weitz, A. (2001). The benefits of anthropological approaches for health promotion research and practice. *Health Education Research*, 16(2):121–130.
- Lange, S. and Rowold, J. (2019). Mindful leadership: Evaluation of a mindfulness-based leader intervention. *Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO)*, 50(3):319–335.
- Langer, E. J. (2004). Langer mindfulness scale user guide and technical manual. *Covenington, IL: IDS*.
- Langer, E. J. and Moldoveanu, M. (2000). Mindfulness research and the future. *Journal of social issues*, 56(1):129–139.
- Langer, E. J. and Ngunoumen, C. (2019). Well-Being: Mindfulness versus Positive Evaluation. In Snyder, C., Lopez, S. J., Edwards, L. M., and Marques, S. C., editors, *The Oxford Handbook of Positive Psychology, 3rd Edition*. Oxford University Press.
- Lau, M. A., Colley, L., Willett, B. R., and Lynd, L. D. (2012). Employee’s Preferences for Access to Mindfulness-Based Cognitive Therapy to Reduce the Risk of Depressive Relapse—A Discrete Choice Experiment. *Mindfulness*, 3(4):318–326.
- Lazenby, R. (2007). *Mindgames: Phil Jackson’s long strange journey*. U of Nebraska Press.
- Lerner, D., Rogers, W., and Chang, H. (2002). Wlq index: a summary score based on wlq scale scores for converting scale scores to estimated work productivity loss. *Draft: February*, 28.
- Leroy, H., Anseel, F., Dimitrova, N. G., and Sels, L. (2013). Mindfulness, authentic functioning, and work engagement: A growth modeling approach. *Journal of Vocational Behavior*, 82(3):238–247.
- Levy, D. M., Wobbrock, J. O., Kaszniak, A. W., and Ostergren, M. (2012). The effects of mindfulness meditation training on multitasking in a high-stress information environment. page 8.
- Li, X., Chen, X.-P., Chen, L., Jin, J., Huang, J., and Jiang, Y. (2018). How Do Mindfulness Practices Improve Employee Emotion Regulation and Job Performance? *Academy of Management Proceedings*, 2018(1):11656.
- Linnan, L. A., Sorensen, G., Colditz, G., Klar, N., and Emmons, K. M. (2001). Using theory to understand the multiple determinants of low participation in worksite health promotion programs. *Health education & behavior*, 28(5):591–607.
- Lloyd, C., King, R., and Chenoweth, L. (2002). Social work, stress and burnout: A review. *Journal of Mental Health*, 11(3):255–265.

- Loizides, G. P. (2007). "making men" at ford: Ethnicity, race, and americanization during the progressive period. *Michigan Sociological Review*, pages 109–148.
- Luberto, C. M., Wasson, R. S., Kraemer, K. M., Sears, R. W., Hueber, C., and Cotton, S. (2017). Feasibility, Acceptability, and Preliminary Effectiveness of a 4-Week Mindfulness-Based Cognitive Therapy Protocol for Hospital Employees. *Mindfulness*, 8(6):1522–1531.
- Luders, E., Cherbuin, N., and Kurth, F. (2015). Forever young (er): potential age-defying effects of long-term meditation on gray matter atrophy. *Frontiers in Psychology*, 5:1551.
- Lutz, Slagter, H. A., Dunne, J. D., and Davidson, R. J. (2008a). Attention regulation and monitoring in meditation. *Trends in Cognitive Sciences*, 12(4):163–169.
- Lutz, A., Brefczynski-Lewis, J., Johnstone, T., and Davidson, R. J. (2008b). Regulation of the Neural Circuitry of Emotion by Compassion Meditation: Effects of Meditative Expertise. *PLoS ONE*, 3(3):e1897.
- Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., and Davidson, R. J. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proceedings of the national Academy of Sciences*, 101(46):16369–16373.
- Lutz, A., McFarlin, D. R., Perlman, D. M., Salomons, T. V., and Davidson, R. J. (2013). Altered anterior insula activation during anticipation and experience of painful stimuli in expert meditators. *NeuroImage*, 64:538–546.
- Lutz, A., Slagter, H. A., Rawlings, N. B., Francis, A. D., Greischar, L. L., and Davidson, R. J. (2009). Mental training enhances attentional stability: neural and behavioral evidence. *Journal of Neuroscience*, 29(42):13418–13427.
- Lyubomirsky, S. and Layous, K. (2013). How Do Simple Positive Activities Increase Well-Being? *Current Directions in Psychological Science*, 22(1):57–62.
- Mackenzie, C. S., Poulin, P. A., and Seidman-Carlson, R. (2006). A brief mindfulness-based stress reduction intervention for nurses and nurse aides. *Applied nursing research*, 19(2):105–109.
- Magee, R. V. (2016). The way of colorinsight: Understanding race and law effectively through mindfulness-based colorinsight practices. *Geo. J.L. & Mod. Critical Race Persp.*, 8:251.
- Manotas, M., Segura, C., Eraso, M., Oggins, J., and McGovern, K. (2014). Association of brief mindfulness training with reductions in perceived stress and distress in Colombian health care professionals. *International Journal of Stress Management*, 21(2):207–225.
- Marlatt, G. A. and Kristeller, J. L. (1999). Mindfulness and meditation.
- Maslach, C., Jackson, S. E., Leiter, M. P., Schaufeli, W. B., and Schwab, R. L. (1986). *Maslach burnout inventory*, volume 21. Consulting psychologists press Palo Alto, CA.
- Maslach, C., Schaufeli, W. B., and Leiter, M. P. (2001). Job Burnout. *Annual Review of Psychology*, 52(1):397–422.

- McLeroy, K. R., Bibeau, D., Steckler, A., and Glanz, K. (1988). An ecological perspective on health promotion programs. *Health education quarterly*, 15(4):351–377.
- MEA, M. E. A. (2005). Ecosystems and human well-being: current state and trends. *Millennium Ecosystem Assessment, Global Assessment Reports*.
- Mellor, N. J., Ingram, L., Van Huizen, M., Arnold, J., and Harding, A.-H. (2016). Mindfulness training and employee well-being. *International Journal of Workplace Health Management*, 9(2):126–145.
- Michie, S. (2009). Pride and Gratitude: How Positive Emotions Influence the Prosocial Behaviors of Organizational Leaders. *Journal of Leadership & Organizational Studies*, 15(4):393–403.
- Moore, A. and Malinowski, P. (2009). Meditation, mindfulness and cognitive flexibility. *Consciousness and Cognition*, 18(1):176–186.
- Moore, G. and Beadle, R. (2006). In search of organizational virtue in business: Agents, goods, practices, institutions and environments. *Organization studies*, 27(3):369–389.
- Moorman, R. H. and Blakely, G. L. (1995). Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. *Journal of organizational behavior*, 16(2):127–142.
- Morone, N. E., Greco, C. M., and Weiner, D. K. (2008). Mindfulness meditation for the treatment of chronic low back pain in older adults: A randomized controlled pilot study:. *Pain*, 134(3):310–319.
- Mu, E. and Butler, B. S. (2009). The assessment of organizational mindfulness processes for the effective assimilation of it innovations. *Journal of Decision Systems*, 18(1):27–51.
- Müller, G. F. and Koblenz-Landau, C. L. U. (2007). *Landauer Organisations-und Teamklima-Inventar (LOTI): Dokumentation eines modularen Befragungsinstruments*. Universität Koblenz-Landau.
- Ndubisi, N. O. (2012). Mindfulness, reliability, pre-emptive conflict handling, customer orientation and outcomes in Malaysia’s healthcare sector. *Journal of Business Research*, 65(4):537–546.
- Nolan, J. M. and Schultz, P. (2015). Prosocial behavior and environmental action.
- Ostafin, B. D. and Kassman, K. T. (2012). Stepping out of history: Mindfulness improves insight problem solving. *Consciousness and Cognition*, 21(2):1031–1036.
- Outlaw, F. H., Bourjolly, J. N., and Barg, F. K. (2000). A study on recruitment of black americans into clinical trials through a cultural competence lens. *Cancer Nursing*, 23(6):444–451.
- Pinck, A. S. and Sonnentag, S. (2018). Leader Mindfulness and Employee Well-Being: The Mediating Role of Transformational Leadership. *Mindfulness*, 9(3):884–896.
- Pipe, T. B., Bortz, J. J., Dueck, A., Pendergast, D., Buchda, V., and Summers, J. (2009). Nurse Leader Mindfulness Meditation Program for Stress Management: A Randomized Controlled Trial. *JONA: The Journal of Nursing Administration*, 39(3):130–137.

- Podsakoff, P., MacKenzie, S., and Moorman, R. (1990). Transformational leader behaviors and their effects on organizational behaviors. *The leadership Quarterly*, 1:107–142.
- Potter, P., Deshields, T., Divanbeigi, J., Berger, J., Cipriano, D., Norris, L., and Olsen, S. (2010). Compassion Fatigue and Burnout: Prevalence Among Oncology Nurses. *Clinical Journal of Oncology Nursing*, 14(5):E56–E62.
- Poulin, P. A., MacKenzie, C. S., Soloway, G., and Karayolas, E. (2008). Mindfulness training as an evidenced-based approach to reducing stress and promoting well-being among human services professionals. *International Journal of Health Promotion and Education*, 46(2):72–80.
- Prochaska, J. O. and Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American journal of health promotion*, 12(1):38–48.
- Qu, Y. E., Dasborough, M. T., and Todorova, G. (2015). Which mindfulness measures to choose to use? *Industrial and Organizational Psychology*, 8(4):710–723.
- Rahe, R. H., Taylor, C. B., Tolles, R. L., Newhall, L. M., Veach, T. L., and Bryson, S. (2002). A Novel Stress and Coping Workplace Program Reduces Illness and Healthcare Utilization. *Psychosomatic Medicine*, 64(2):278–286.
- Ratanasiripong, P., Park, J. F., Ratanasiripong, N., and Kathalae, D. (2015). Stress and anxiety management in nursing students: biofeedback and mindfulness meditation. *Journal of Nursing Education*, 54(9):520–524.
- Ravalier, J. M., Wegrzynek, P., and Lawton, S. (2016). Systematic review: complementary therapies and employee well-being. *Occupational Medicine*, 66(6):428–436.
- Reb, J., Narayanan, J., and Ho, Z. W. (2015). Mindfulness at Work: Antecedents and Consequences of Employee Awareness and Absent-mindedness. *Mindfulness*, 6(1):111–122.
- Reid, E. and Ramarajan, L. (2016). Managing the High-Intensity Workplace. *Harvard Business Review*, (June 2016).
- Reitz, M., Chaskalson, M., Olivier, S., and Waller, L. (2016). *The mindful leader: Developing the capacity for resilience and collaboration in complex times through mindfulness practice*. Ashridge Executive Education HULT.
- Resnicow, K. and Braithwaite, R. (2001). Cultural sensitivity in public health. In Braithwaite, R. and Taylor, S., editors, *Health Issues in the African American community*, pages 516–542. Jossey-Bass, San Francisco.
- Reuter, S., Gupta, S. C., Chaturvedi, M. M., and Aggarwal, B. B. (2010). Oxidative stress, inflammation, and cancer: How are they linked? *Free Radical Biology and Medicine*, 49(11):1603–1616.
- Richardson, K. M. and Rothstein, H. R. (2008). Effects of occupational stress management intervention programs: A meta-analysis. *Journal of Occupational Health Psychology*, 13(1):69–93.

- Rimann, M. and Udris, I. (1997). Subjektive arbeitsanalyse: der fragebogen salsa. *Unternehmen arbeitspsychologisch bewerten. Ein Mehr-Ebenen-Ansatz unter besonderer Berücksichtigung von Mensch, Technik und Organisation*, 1:281–298.
- Ro, M., Brauer, M., Kuntz, K., Shukla, R., and Bensch, I. (2017). Making cool choices for sustainability: Testing the effectiveness of a game-based approach to promoting pro-environmental behaviors. *Journal of Environmental Psychology*, 53:20–30.
- Robertson, I. T., Cooper, C. L., Sarkar, M., and Curran, T. (2015). Resilience training in the workplace from 2003 to 2014: A systematic review. *Journal of Occupational and Organizational Psychology*, 88(3):533–562.
- Rodgers, B. L. (2000). *Concept development in nursing: foundations, techniques, and applications*. Saunders, Philadelphia. OCLC: 461375534.
- Roeser, R. W., Schonert-Reichl, K. A., Jha, A., Cullen, M., Wallace, L., Wilensky, R., Oberle, E., Thomson, K., Taylor, C., and Harrison, J. (2013). Mindfulness training and reductions in teacher stress and burnout: Results from two randomized, waitlist-control field trials. *Journal of Educational Psychology*, 105(3):787.
- Rosenstock, I. M., Strecher, V. J., and Becker, M. H. (1988). Social learning theory and the health belief model. *Health education quarterly*, 15(2):175–183.
- Russell, E., Koren, G., Rieder, M., and Van Uum, S. (2012). Hair cortisol as a biological marker of chronic stress: current status, future directions and unanswered questions. *Psychoneuroendocrinology*, 37(5):589–601.
- Sahakian, B. J. and Owen, A. (1992). Computerized assessment in neuropsychiatry using cantab: discussion paper. *Journal of the Royal Society of Medicine*, 85(7):399.
- Sakulku, J. (2011). The impostor phenomenon. *The Journal of Behavioral Science*, 6(1):75–97.
- Saldaña, J. (2016). *The coding manual for qualitative researchers*. SAGE, Los Angeles ; London, 3e [third edition] edition. OCLC: ocn930445694.
- Sallis, J. F., Owen, N., and Fisher, E. (2015). Ecological models of health behavior. *Health behavior: Theory, research, and practice*, 5(43-64).
- Sawitri, D. R., Hadiyanto, H., and Hadi, S. P. (2015). Pro-environmental behavior from a social cognitive theory perspective. *Procedia Environmental Sciences*, 23:27–33.
- Schein, E. H. (1996). Kurt lewin’s change theory in the field and in the classroom: Notes toward a model of managed learning. *Systems practice*, 9(1):27–47.
- Schuh, S. C., Zheng, M. X., Xin, K. R., and Fernandez, J. A. (2019). The Interpersonal Benefits of Leader Mindfulness: A Serial Mediation Model Linking Leader Mindfulness, Leader Procedural Justice Enactment, and Employee Exhaustion and Performance. *Journal of Business Ethics*, 156(4):1007–1025.
- Schultz, P. P., Ryan, R. M., Niemiec, C. P., Legate, N., and Williams, G. C. (2015). Mindfulness, Work Climate, and Psychological Need Satisfaction in Employee Well-being. *Mindfulness*, 6(5):971–985.

- Shain, M. and Kramer, D. (2004). Health promotion in the workplace: framing the concept; reviewing the evidence. *Occupational and environmental medicine*, 61(7):643–648.
- Shapiro, S. L., Astin, J. A., Bishop, S. R., and Cordova, M. (2005). Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial. *International Journal of Stress Management*, 12(2):164–176.
- Shapiro, S. L., Brown, K. W., and Astin, J. (2011). Toward the integration of meditation into higher education: A review of research evidence. *Teachers College Record*, 113(3):493–528.
- Shapiro, S. L. and Carlson, L. E. (2009). *The art and science of mindfulness: Integrating mindfulness into psychology and the helping professions*. American Psychological Association, Washington.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., and Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3):373–386.
- Shapiro, S. L., Oman, D., Thoresen, C. E., Plante, T. G., and Flinders, T. (2008). Cultivating mindfulness: effects on well-being. *Journal of Clinical Psychology*, 64(7):840–862.
- Sharkey, S. W., Lesser, J. R., Zenovich, A. G., Maron, M. S., Lindberg, J., Longe, T. F., and Maron, B. J. (2005). Acute and Reversible Cardiomyopathy Provoked by Stress in Women From the United States. *Circulation*, 111(4):472–479.
- Sheeran, P. (2002). Intention—behavior relations: a conceptual and empirical review. *European review of social psychology*, 12(1):1–36.
- Sheldon, K. M. and Lyubomirsky, S. (2006). How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *The Journal of Positive Psychology*, 1(2):73–82.
- Shonin, E., Van Gordon, W., Dunn, T. J., Singh, N. N., and Griffiths, M. D. (2014). Meditation Awareness Training (MAT) for Work-related Wellbeing and Job Performance: A Randomised Controlled Trial. *International Journal of Mental Health and Addiction*, 12(6):806–823.
- Slagter, H. A., Lutz, A., Greischar, L. L., Francis, A. D., Nieuwenhuis, S., Davis, J. M., and Davidson, R. J. (2007). Mental training affects distribution of limited brain resources. *PLoS biology*, 5(6).
- Slutsky, J., Chin, B., Raye, J., and Creswell, J. D. (2019). Mindfulness training improves employee well-being: A randomized controlled trial. *Journal of Occupational Health Psychology*, 24(1):139–149.
- Sobczak, L. R. and West, L. M. (2013). Clinical considerations in using mindfulness-and acceptance-based approaches with diverse populations: Addressing challenges in service delivery in diverse community settings. *Cognitive and Behavioral Practice*, 20(1):13–22.
- Sood, A., Sharma, V., Schroeder, D. R., and Gorman, B. (2014). Stress management and resiliency training (smart) program among department of radiology faculty: a pilot randomized clinical trial. *Explore*, 10(6):358–363.
- Stalder, T., Steudte, S., Miller, R., Skoluda, N., Dettenborn, L., and Kirschbaum, C. (2012). Intraindividual stability of hair cortisol concentrations. *Psychoneuroendocrinology*, 37(5):602–610.

- Sun, L.-Y., Aryee, S., and Law, K. S. (2007). High-performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Academy of management Journal*, 50(3):558–577.
- Sutcliffe, K. M., Vogus, T. J., and Dane, E. (2016). Mindfulness in Organizations: A Cross-Level Review. *Annual Review of Organizational Psychology and Organizational Behavior*, 3(1):55–81.
- Tan, C.-M. (2012). *Search inside yourself: The unexpected path to achieving success, happiness (and world peace)*. HarperOne, New York.
- Taylor, C., Harrison, J., Haimovitz, K., Oberle, E., Thomson, K., Schonert-Reichl, K., and Roeser, R. W. (2016). Examining Ways That a Mindfulness-Based Intervention Reduces Stress in Public School Teachers: a Mixed-Methods Study. *Mindfulness*, 7(1):115–129.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., and Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68(4):615–623.
- Thomas, S. B. and Quinn, S. C. (1991). The tuskegee syphilis study, 1932 to 1972: implications for hiv education and aids risk education programs in the black community. *American journal of public health*, 81(11):1498–1505.
- Toftthagen, R. and Fagerstrøm, L. M. (2010). Rodgers’ evolutionary concept analysis - a valid method for developing knowledge in nursing science: Presentation of Rodgers’ evolutionary concept analysis. *Scandinavian Journal of Caring Sciences*, 24:21–31.
- Tracy, K. and Mirivel, J. C. (2009). Discourse analysis: The practice and practical value of taping, transcribing, and analyzing talk. In *Routledge handbook of applied communication research*, pages 193–218. Routledge.
- Tuckey, M. R., Sonnentag, S., and Bryan, J. (2018). Are state mindfulness and state work engagement related during the workday? *Work & Stress*, 32(1):33–48.
- Tufts Mental Health Task Force (2014). Report of the Mental Health Task Force. <https://president.tufts.edu/mental-health-task-force/>,.
- UC-Berkeley Graduate Assembly (2014). Graduate Student Happiness & Well-Being Report. <http://ga.berkeley.edu/wellbeingreport/>,.
- UWHealth (2019). UW Health Facts and Figures. https://www.uwhealth.org/files/uwhealth/docs/about/uw_health_facts_and_figures.pdf,.
- Valente, T. W. and Pumpuang, P. (2007). Identifying opinion leaders to promote behavior change. *Health education & behavior*, 34(6):881–896.
- Valentine, S., Godkin, L., and Varca, P. E. (2010). Role conflict, mindfulness, and organizational ethics in an education-based healthcare institution. *Journal of Business Ethics*, 94(3):455–469.

- Virgili, M. (2015). Mindfulness-Based Interventions Reduce Psychological Distress in Working Adults: a Meta-Analysis of Intervention Studies. *Mindfulness*, 6(2):326–337.
- Virgin Pulse (2020). Corporate wellness programs. <https://www.virginpulse/corporate-wellness-programs/>,.
- Vogus, T. J. and Sutcliffe, K. M. (2007). The Safety Organizing Scale: Development and Validation of a Behavioral Measure of Safety Culture in Hospital Nursing Units. *Medical Care*, 45(1):46–54.
- Vogus, T. J. and Welbourne, T. M. (2003). Structuring for high reliability: HR practices and mindful processes in reliability-seeking organizations. *Journal of Organizational Behavior*, 24(7):877–903.
- Vøllestad, J., Sivertsen, B., and Nielsen, G. H. (2011). Mindfulness-based stress reduction for patients with anxiety disorders: Evaluation in a randomized controlled trial. *Behaviour Research and Therapy*, 49(4):281–288.
- Weick, K., Sutcliffe, K. M., and Obstfeld, D. (1999). Organizing for high reliability: processes of collective mindfulness, research in organizational behaviour.
- Weick, K. E. and Sutcliffe, K. M. (2001). *Managing the unexpected*, volume 9. San Francisco: Jossey-Bass.
- Weiner, B. J. (2009). A theory of organizational readiness for change. *Implementation science*, 4(1):67.
- Weng, H. Y., Fox, A. S., Shackman, A. J., Stodola, D. E., Caldwell, J. Z. K., Olson, M. C., Rogers, G. M., and Davidson, R. J. (2013). Compassion Training Alters Altruism and Neural Responses to Suffering. *Psychological Science*, 24(7):1171–1180.
- Weng, H. Y., Lapate, R. C., Stodola, D. E., Rogers, G. M., and Davidson, R. J. (2018). Visual Attention to Suffering After Compassion Training Is Associated With Decreased Amygdala Responses. *Frontiers in Psychology*, 9:771.
- White, L. (2014). Mindfulness in nursing: an evolutionary concept analysis. *Journal of Advanced Nursing*, 70(2):282–294.
- Wilson, D. S., Talsma, A., and Martyn, K. (2011). Mindful Staffing: A Qualitative Description of Charge Nurses’ Decision-Making Behaviors. *Western Journal of Nursing Research*, 33(6):805–824.
- Wilson, L. L. and Stith, S. M. (1993). The voices of african-american mft students: Suggestions for improving recruitment and retention. *Journal of Marital and Family Therapy*, 19(1):17–30.
- Witte, K. (1992). Putting the fear back into fear appeals: The extended parallel process model. *Communications Monographs*, 59(4):329–349.
- Wolever, R. Q., Bobinet, K. J., McCabe, K., Mackenzie, E. R., Fekete, E., Kusnick, C. A., and Baime, M. (2012). Effective and viable mind-body stress reduction in the workplace: A randomized controlled trial. *Journal of Occupational Health Psychology*, 17(2):246–258.
- Woolston, C. (2017). Graduate survey: a love-hurt relationship. *Nature*, 550(7677):549–552.

Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., and Goolkasian, P. (2010). Mindfulness meditation improves cognition: Evidence of brief mental training. *Consciousness and Cognition*, 19(2):597–605.

APPENDIX A. Additional Chapter 2 Concept Analysis Material

The following table lists the 80 Compiled Reviewed Papers, 6 articles are also included in the 37 Concept Analysis articles, thus only 74 additional articles. Study designs are either randomized controlled trial (RCT), controlled trial, quasi-random, quasi-experiments (quasi-exp), trials with no control (trials, no control), pre/posttest, double-blind experiments (double-blind exp) or program evaluation (program eval).

Table A.1 Compiled Reviewed Papers

	Author (Year)	Study Design	Setting	Intervention
1	Abbott et al (2009)	RCT	Office based	Resilience Training
2	Aikens et al (2014)	RCT	Chemical Company	MBSR-based
3	Alexopoulos et al (2014)	RCT	Various	Relaxation
4	Amutio et al (2015)	RCT	Health care	MBSR-based
5	Ancona et al (2014)	RCT and interviews	School teachers	Yoga and Discussion
6	Ando et al (2011)	Controlled trial	Health care	MBSR-based
7	Arnetz et al (2009)	RCT	Police officers	Resilience Training
8	Bazarko et al (2013)	Pre/posttest	Health care	MBSR-based
9	Beshai et al (2015)	non-RCT	School teachers	MBSR&MBCT-based
10	Blasche et al (2013)	Pre/posttest	Various	Relaxation
11	Brady et al (2012)	Pre/posttest	Health care	MBSR-based
12	Brennan & McGrady (2015)	Program Evaluation	Health care	Mindfulness training
13	Brooker et al (2012)	Pre/posttest	Social workers	MBSR-based
14	Burton et al (2010)	Trials, no control	Office based	Resilience Training
15	Carr et al (2013)	Trials, no control	US Armed Forces	Resilience Training
16	Chesak et al (2015)	RCT	Health care	Mindfulness training
17	Christopher et al (2016)	RCT	Police officers	MBSR-based
18	Cohen-Katz et al (2005)	RCT	Health care	MBSR
19	Davidson et al (2003)	RCT	Biotech corporation	MBSR
20	Duchemin et al (2015)	RCT	Health care	MBSR-based
21	Durham et al (2016)	Program Eval	Health care	Mindfulness training
22	Elder et al (2014)	RCT	School teachers	Meditation
23	Flook et al (2013)	RCT	School teachers	MBSR-based
24	Fortney et al (2013)	Pre/posttest	Health care	MBSR-based
25	Foureur et al (2013)	Pre/posttest	Health care	MBSR-based
26	Frank et al (2013)	Quasi-exp	School teachers	MBSR
27	Fredrickson et al (2008)	RCT	IT company	LK meditation
28	Galantino et al (2005)	Pre/posttest	Health care	Mindfulness training
29	Gauthier et al (2016)	Pre/posttest	Health care	Mindful meditation
30	Geary and Rosenthal (2010)	Quasi-random	Health care	MBSR
31	Gold et al (2010)	Pre/posttest	School teachers	MBSR
32	Grant et al (2009)	RCT	Office based	Resilience Training
33	Hallman et al (2014)	Pre/posttest	Health care	MBSR-based
34	Horner et al (2014)	Quasi-random	Health care	MBSR-based
35	Huang et al (2015)	RCT	Manufacturing	MBSR
36	Hu_lsheger et al (2013)	RCT	Various	MBCT & MBSR
37	Hu_lsheger et al (2015)	Quasi-random	Various	MBCT & MBSR
38	Jennings et al (2013)	RCT	School teachers	MBSR-based
39	Jha et al (2010)	Quasi-exp	U.S. Army	MBSR-based
40	Jha et al (2015)	Quasi-exp	U.S. Marines	MBSR-based
41	Kemper (2017)	Pre/posttest	Health care	MBSR-based
42	Kemper & Khirallah (2015)	Pre/posttest	Health care	MBSR-based

	Author (Year)	Study Design	Setting	Intervention
43	Klatt et al (2009)	RCT	University staff	MBSR-based
44	Klatt et al (2015)	RCT	Health care	MBSR-based
45	Krasner et al (2009)	Pre/posttest	Health care	Mindfulness practice
46	Leroy et al (2013)	Controlled trial	Various	MBSR
47	Liossis et al (2009)	controlled trial	Government based	Resilience Training
48	Mackenzie et al (2006)	RCT	Health care	MBSR-based
49	Manotas et al (2014)	RCT	Health care	MBSR-based
50	Martin-Asueto et al (2014)	Quasi-exp	Health care	MBSR
51	McConachie et al (2014)	RCT	Social workers	ACT-based
52	McCraty & Atkinson (2012)	RCT	Police officers	Resilience Training
53	McGarrigle et al (2011)	Pre/posttest	Human service	Contemplative practice
54	Michel et al (2014)	RCT	Various	MBCT & MBSR
55	Millear et al (2008)	Controlled trial	Office based	Resilience Training
56	Ossebaard (2000)	Double-blind exp	Health care	Relaxation
57	Paholpak et al (2012)	RCT	Medical School	Breathing meditation
58	Pidgeon et al (2014)	RCT	Social workers	Resilience Training
59	Pipe et al (2009)	RCT	Health care	MBSR-based
60	Pipe et al (2012)	Trials, no control	Health care	Resilience Training
61	Poulin et al (2008)	Quasi-exp	Health care	MBSR-based
62	Ramsey et al (2015)	Quasi-exp	School teachers	MBSR-based
63	Ratanasiripong et al (2015)	RCT	Nursing school	Vipassana meditation
64	Roeser et al (2013)	RCT	School teachers	Mindfulness training
65	Shapiro et al (2005)	RCT	Health care	MBSR
66	Sherlock-Storey et al (2013)	Trials, no control	Office based	Resilience Training
67	Shonin et al (2014)	RCT	Office based	Meditation
68	Sood et al (2011)	RCT	Health care	Mindfulness training
69	Sood et al (2014)	RCT	Health care	Mindfulness training
70	Stanley et al (2011)	Controlled trial	U.S. Marines	MBSR-based
71	Taylor et al (2015)	RCT	School teachers	Mindfulness training
72	Taylor et al (2016)	RCT	School teachers	MBSR-based
73	van Berkel et al (2014)	RCT	Researchers	Mindfulness training
74	Vega et al (2014)	Controlled trial	Health care	MBSR
75	Waite & Richardson (2003)	RCT	Government based	Resilience Training
76	Walach et al (2007)	Quasi-random	Service center	MBSR
77	Walach et al (2014)	Controlled trial	Service center	MBSR
78	Warnecke et al (2011)	RCT	Various	Mindfulness practice
79	West et al (2014)	RCT	Health care	Mindfulness practice
80	Wolever et al (2012)	RCT	Insurance company	MBSR-based

Table A.2: Compiled Measures Assessed in the Concept Analysis

Individual Health & Well-being Measures:	Occupational Measures:
<u>Affect</u>	<u>Attention</u>
State-trait Anger Expression (STAXI; Spielberger, 1999)	Attention & Working Memory (Schrok & Engle, 2005)
Positive & Negative Affect (PANAS; Magyar-Moe, 2009)	Visual Analog Scale-Fatigue (VAS-Fatigue; Wolfe, 2004)
Profile of Moods (POMS; McNair et al., 1971)	Cambridge Test (CANTAB; Sahakian et al., 1988)
Satisfaction with Life (SWLS; Diener et al., 1985)	Attentional Control Scale (ACS; Derryberry & Reed, 2002)
Orientation to Life (OLQ; Antonovsky, 1987)	<u>Burnout</u>
Quality of Life (QLS; Heinrichs et al., 1984)	Maslach Burnout Inventory (MBI; Maslach, 1997)
<u>Depression & Anxiety</u>	Burnout Measure (BM; Pines et al, 1981)
State-trait anxiety (STAI; Spielberger, 1983)	Emotional Exhaustion (Maslach & Jackson, 1981)
Sport Anxiety Scale (SAS; Smith et al., 1990)	Recovery Experience (Sonnentag & Fritz, 2007)
Beck Anxiety Inventory (BAI; Beck et al, 1988)	Turnover Intention (Kelloway et al. 1999)
Beck Depression Inventory (BDI; Beck et al., 1961)	<u>Engagement</u>
Epidemiological Depression (CES-D; Radloff, 1997)	Utrecht Engagement (UWES; Schaufeli & Bakker, 2004)
Beck Suicide Ideation (BSI; Beck & Steer, 1991)	Work-Life Conflict (WLCS; Waumsley et al., 2010)
Generalized Anxiety Disorder (GADS; Pfizer, 1999)	Shirom-Melamed Vigor (SMVM; Shirom, 2003)
Kessler 10 (Kessler et al. 2005)	Social Functioning (SFQ; Tyrer et al., 2005)
<u>Disposition</u>	Authentic Functioning (Leroy et al., 2015)
State Hope Scale (SHS; Snyder et al., 1996)	Work Engagement (Schaufeli et al., 2002)
Tendency to Forgive (TFF; Brown, 2003)	Deviance (Bennet & Robinson, 2000)
Situation-specific forgiveness (Brown & Phillips, 2005)	<u>Job Satisfaction</u>
State Hope Scale (SHS; Snyder et al., 1996)	Job Content (JCQ; Karasek et al 1998)
<u>Emotional Regulation</u>	Job Satisfaction Scale (JS; Macdonald & McIntyre, 1997)
Resilience Scale (CDRS; Connor & Davidson, 2003)	Job Dissatisfaction (SBUS-B; Weyer et al., 1980)
Affective self-regulatory (ASRES; Bandura et al. 2003)	Task Routineness (Withey et al., 1998)
Brief Resilience Scale (BRS; Smith et al., 2008)	Psychological Need Satisfaction (Deci et al., 2001)
Emotional Regulation (ERQ; Gross & John 2003)	Professional Quality of Life (ProQoL; Figley 1995)
Self-efficacy of emotional regulation (Roesser, 2012)	<u>Occupational Stress</u>
<u>Health & Well-being</u>	Occupational Stress (Lambert et al., 2001)
Health Checklist (CHQ; Landgarf, 1996)	Subjective Work Analysis (SALSA; Rimann & Udris, 1997)
General Health (GHQ; Goldberg 1972)	Emotional Labor Scale (Hülshager & Schewe, 2011)
Chinese Health (CHQ; Cheng & Williams, 1986)	<u>Performance</u>
Sleep Quality (PSQI; Buysse et al., 1989)	Task Performance (Motowidlo & Scotter, 1994)
WHO-Five (WHO-5; WHO, 1998)	Raven's Progressive Matrices (RPM; Raven, 1936)
Freiburg Complaint List (FBL-R; Freiburg, 1975)	Wechsler Memory Scale (Wechsler, 1945)
Brief symptom inventory (BSI; Derogatis, 1993)	Continuous Performance Task (CPT; Rosvold et al., 1956)
Mental Well-being (WEMWBS; Stewart-Brown, 2005)	Stroop Task (Stroop, 1935)
Brain functioning- Electroencephalogram (EEG)	<u>Productivity</u>
Brain functioning- Electrooculogram (EOG)	Work Limitations (WLQ; Lerner et al., 1998)
Immune functioning- blood draws	Stanford Presenteeism Scale (Sanderson et al. 2007)
<u>Mindfulness</u>	<u>Occupational Mindfulness</u>
5 Facets of Mindfulness (FFMQ; Baer et al., 2006)	Observational MAAS (OMAAS; Bartlett et al. 2017)
Mindful Attention Awareness (MAAS; Brown & Ryan, 2003)	Observable Mindful Behaviors (OMB; Bartlett et al. 2017)
Cognitive & Affective (CAMS; Feldman et al. 2007)	
Freiburg Mindfulness (FMI; Walach et al. 2006)	Organizational Measures
Kentucky Mindfulness (KIMS; Baer et al., 2004)	<u>Climate</u>
Implicit Mindfulness Theory (IMT; Kong & Jolly, 2018)	Org Citizenship Behaviors (Moorman & Blakely, 1995)
Langer's Mindlessness (LMS; Langer, 2004)	Landau Organizational & Climate (LOTI; Müller, 2007)
<u>Self-Concept</u>	Organizational Constraints (Spector & Jex, 1998)
Self-Compassion Scale (SCS-5; Neff, 2003)	<u>Culture</u>
Health Locus of Control (HLC; Wallston et al. 1976)	Occupational compassion (Brophy & Rohrkemper, 1988)
	Efficacy for forgiving others at work (Taylor et al., 2015)

Stress

Perceived Stress Scale (PSS-14; Cohen et al. 1983)
 Perceived Stress Questionnaire (PSQ; Fliege et al., 2005)
 Nursing Stress (NSS-1; Gray-Toft & Anderson, 1981)
 Depression, Anxiety, & Stress (DASS; Lovibond, 1995)
 Irritation Scale (Mohr et al., 2006)
 Symptom Checklist (SCL-90; Derogatis, 1992)
 Biomarker (Cortisol Saliva)

Leadership

Transformational Leadership Inventory (Podsakoff 1990)

Org & Supervisor Support (Eisenberger et al., 2002)

Organizational Mindfulness

Org Mindfulness (OM; Valentine et al., 2010)

Org Mindfulness Processes (OMP; Mu & Butler, 2009)

High-Reliability Org Perceptions (HROP; Venette, 2003)

Safety Organizing Scale (SOS; Vogus & Sutcliffe, 2007)