AN EVALUATION AND VALIDATION OF THE DISCOVER WELLNESS WORKSITE HEALTH PROMOTION PROGRAM ACROSS THREE LOCATIONS

Elizabeth Keida, Jessica Harris, and Barry A. Friedman

Elizabeth Keida is Assistant Professor in the Department of Health Promotion and Wellness at State University of New York at Oswego.

Jessica Harris is Assistant Professor in the Department of Health Promotion and Wellness at State University of New York at Oswego.

Barry A. Friedman is Professor in the Organizational Behavior and Human Resource Management School of Business at State University of New York at Oswego.

Corresponding should be sent to Elizabeth Keida, Health Promotion and Wellness, 202 Wilber Hall, State University of New York at Oswego, Oswego, New York 13126 (elizabeth.keida@oswego.edu).

DOI: https://dx.doi.org/10.15239/j.brcacadjb.2023.13.01.ja06
Abstract

Aligned with their mission and strategies, many organizations strive to make positive societal contributions, including employee behavior change strategies that promote wellness and stress management skills. Such programs are paramount among employees that experience extraordinary challenges due to COVID-19 and communities severely impacted by high rates of heart disease, stroke, and obesity. We therefore describe "Discover Wellness", a health promotion intervention to improve health behaviors in teachers and staff employees at three New York locations. The intervention, a collaborative effort between two academia and one community field location, aimed to promote healthy behaviors. A mixed methods approach was used to evaluate the program. Employees that participated in Discover Wellness reported significant increases for all four areas of interest: managing stress, improved nutrition, more physical activity, and better sleep. Lessons learned and future research are addressed.

Keywords: Health Promotion, Social Responsibility, Worksite Wellness, Management, Community Impact *

Introduction

Aligned with academic accreditation standards and their mission and strategies, universities strive to make positive societal contributions. Academic knowledge alone does not meet the demanding requirements placed on university graduates by an increasingly competitive marketplace and a global environment which requires knowledge applications that address global issues. On a macro scale, the United Nations 17 Sustainable Development Goals (United Nations, 2022) illustrate global issues that require an international effort to reduce poverty, improve health and education, eliminate inequality, and foster economic growth. The private sectors, academia, and government each play critical roles in addressing these challenges, and collaboration among these three sectors will be needed.
Towards that end, we describe ‘Discover Wellness’ (DW), a health promotion intervention, to improve health behaviors in New York State employees. The intervention, a collaborative effort between a university’s Health Promotion and Wellness Department and School of Business, and the community, aimed to promote healthy behaviors and decrease rates of chronic disease. Targeting specific behavior change strategies and stress management skills among employees experiencing extraordinary challenges due to COVID-19 and in a community that is severely impacted by high rates of heart disease, stroke, and obesity is essential to improving the quality of life (NYS Department of Health, 2022; Oswego County Health Department, 2021). In 2016 the NYSDOH reported that the leading cause of death of Oswego County residents were chronic diseases (Oswego County Health Department, 2021). More specifically, in Oswego the adult obesity rate is 32.6% which is higher than New York State (25.5%) and the nation (29.9%) (Oswego County Health Department, 2021). Stroke (33.3%) and hypertension (32.8%) rates also surpass the state rates of 25.4% and 28.9% respectively. The age-adjusted mortality rate for diabetes is 23.4 per 100,000, which is higher than the 16.9 state rate (Oswego County Health Department, 2021). The age-adjusted diabetes mortality rate (23.4 per 100,000) is higher than the state rate (16.9).

DW is described with respect to why the university wants to achieve impact, how it plans to achieve impact, and for whom. Lessons learned and impact measurement are addressed. In a DW pilot program, conducted with university employees, participant self-efficacy and self-reported health behaviors increased following the program (Keida, Harris & Friedman, 2021). Only eleven employees participated in this pilot which was conducted at one university. We aimed to further evaluate the program by increasing the number of participants across three organizations.
Societal Impact

Building on the United Nations SDGs, universities have adopted community collaborations that foster economic growth, improved health, better education, equity, and sustainability as part of their mission and goals. Universities also adopt such societal impact collaborations in response to accreditation standards. These, and other university efforts, may be grouped under a generic classification: societal impact.

In 2020, the Association to Advance Collegiate Schools of Business (AACSB) revised their accreditation standards to include Standard 9, “Engagement and Societal Impact” (AACSB, 2022), whereby business schools must demonstrate how their initiatives measurably impact the communities in which they reside. This standard seeks to connect educational institutions and communities to solve problems based on knowledge sharing and research. The same aforementioned New York business school aligned their mission to serve as a local, regional, and global community resource. At the same university, the Health Promotion and Wellness department states in their mission to “acquire and practice the transferable skills at the individual, group, and community level in health promotion” (About Health Promotion and Wellness, 2020).

Accreditation now requires missions and strategies that drive positive societal contributions. For example, an upstate New York university adopted specific societal impacts, key indicators, and goals. Of particular note is their impact statement “Communities we touch experience increased prosperity, social equity, sustainability, self-sufficiency, and greater educational attainment. Such collaborations intend to benefit local, national, or international communities while also providing students with excellent educational opportunities that supplement classroom learning” (SUNY Oswego, 2022).
Business and Health Collaboration

In addition to societal impact, the COVID-19 pandemic increased the acknowledgment of well-being and retaining a healthy and productive workforce. Business leaders are rapidly considering adopting health programming to show their support for employees (Goetzel et al., 2014). Businesses also play an important role in improving community health, maximizing the value of invested healthcare dollars, and lower costs or better outcomes are translated into more production and a successful enterprise (Kindig et al., 2013). Business leaders and health leaders are often siloed and do not intersect. However, there is a recognized need for collaboration between the two because an employer can do everything right to influence healthy behaviors and increase productivity at the worksite; however, their employees still live in an unhealthy community, causing the employer investment to be seriously compromised (Webber & Mercure, 2010). No single sector is responsible for health improvements, but multi sectoral partnerships are essential in improving health outcomes. Specifically, business sectors and health leaders play a vital role in creating and sustaining relationships with community partnerships, and implement strategies to improve community health. Both sectors complement one another and create meaningful action like the DW program. The DW program integrated a multisectoral partnership with members from the School of Business and the Department of Health Promotion and Wellness to co-create programming for local employees aimed at decreasing rates of chronic diseases and promoting healthy behaviors. The shared values between these disciplines create a value for society by addressing health needs and challenges, which creates an economic advantage for businesses and communities (Kindig et al., 2013).

Health Promotion

According to the National Commission for Health Education Credentialing, worksite health promotion is an integral component of Health
Promotion in a variety of settings that include schools, communities, health care facilities, businesses, universities, and government agencies (NCHEC, nd). Worksite health promotion is a strategy to reach the greatest number of individuals in an effective and efficient modality. We spend the majority of our waking hours at work, so it is ideal to incorporate a worksite health promotion program during these hours to enhance overall well-being. Research shows that worksite wellness programs are effective for targeting populations at risk for chronic diseases and have been shown to have positive health benefits (Proper & Van Oostrom, 2019).

**Health Promotion and Societal Impact**

Worksite health promotion programs have positive societal impact, and programs with a coaching component are effective in self-management of chronic disease and improved workplace perceptions (Nazarov, 2019). Improving overall wellness such as managing stress, good nutrition, getting regular physical activity, and improved sleep not only impacts at the individual level, but also has a societal influence such as significantly improving individuals' work productivity, absenteeism, and employer's healthcare costs (Aldana, 2005). Health programming interventions geared toward workplace stress management have shown clinically significant reductions in employee blood pressure, hypertension, and overall emotional health (McCraty, Atkinson, & Tomasino, 2004). Literature has also reported that diets high in vegetables and fruit can improve workplace performance, and obesity is a powerful predictor of loss of productivity within the workforce (Fitzgerald et al., 2016). Other worksite health programs have identified that performing physical exercise with co-workers can help prevent muscle deterioration and improve work ability among employees (Jakobsen et al., 2015). Sleep has also significantly impacted employees' performance, where sleepiness in the workplace has been associated with accidents, and worksite health interventions can help reduce workplace injuries and improve overall
sleep (Otte et al., 2017; Garbarino et al., 2020). Positive wellness program impact has been demonstrated in the educational sector. Programs that include stress management, increased physical movement, better nutrition, and improved sleep interventions improve wellness for teachers (Bernhard, 2021; Khanyile, 2021; Ansley, Houchins & Varjas, 2020; Emery & Vandenberg, 2010; Stapp, Prior, & Harmon, 2019; Ellis, 2013; Smith et al., 2010). Finally, a statewide six-month school administrator wellness program improved physical activity and sleep pattern (Townsley et al., 2021). Overall, worksite health promotion programs with interventions geared towards stress, nutrition, physical activity, and sleep may produce a healthier and more productive workforce.

**Hypotheses**

We hypothesize that DW will positively impact participants' self-reported health behaviors.

H1: Participants will report increased behaviors that manage stress after participating in DW.

H2: Participants will report making better nutrition decisions after participating in DW.

H3: Participants will engage in more regular physical activity after participating in DW.

H4: Participants will report improved sleep after participating in DW.

**Methodology**

**Sample**

Twenty-six employees (N = 26) across three New York locations participated in the DW program from February 2022 - April 2022. The three locations were a middle school (10), and two college campuses (N = 7 and 9). The participants were predominantly female (N = 23). The sample modal participant age was 46-55 years (N = 10, 38.5%), and was equally
distributed among the 26-35, 36-45, and 56-65 age categories \((N=5, 19.2\%)\). There was no relationship between age and location \((\chi^2 = 11.55, \ p = .17)\).

**Procedures**

*Discover Wellness (DW)* is a worksite wellness program with a mission to create a robust, diverse, holistic employee wellness culture. This culture is fostered through experiences that equip employees with awareness, knowledge, and skills that advocate healthy practices to promote chronic disease prevention and improve quality of life. During this seven-week *DW* program, participants meet virtually twice a week to work on improving specific health behaviors (stress management, nutrition, physical activity, and sleep) through a *teach-do-reflect* model. During the first session of the week, participants engage in a mini-lecture (*teach*) followed by a hands-on activity (*do*). During *teaching*, the participants are taught small behavior changes they can make in their lives that can have a positive impact on their wellness. A list of session topics and objectives can be viewed in Appendix A. Participants are also encouraged to engage in a structured activity each week to model and facilitate self-efficacy in the behavior change process (*do*). At the end of the week, participants meet as a group, with a certified wellness coach, to discuss their behavior-change progress, barriers, successes, etc. (*reflect*). During the coaching sessions, the participants are encouraged to practice positive psychology. A review of the literature indicated the importance of regular positive interventions (Gander et al., 2013) and positive psychology strategies to improve wellness (Seligman & Csikszentmihalyi, 2000). Positive psychology is focused on optimizing the human experience through the examination of outcomes such as happiness, life satisfaction, and human flourishing (Seligman & Csikszentmihalyi, 2000). The five domains known as PERMA are: positive emotion, engagement, relationships, meaning, and accomplishments presents a suitable framework to investigate participants’ perspectives of their well-being after their participation in *DW* (Seligman, 2011).
Instruments
A Google Forms pre-and post-survey was administered to collect demo-
graphic information and measure participants’ ability to manage stress,
assess nutrition of foods, measure frequency and confidence in performing
activity without injury, and assess sleep. The pre-survey was adminis-
tered to registered participants 1 week prior to the start of the program,
and the post-survey was administered 1 week after the final session.
To ensure anonymity and obtain unbiased results, the demographic
section was limited to a confidential unique identifier supplied by each
participant, age, and gender.

Self-efficacy and health behaviors were measured before and after
the implementation of the program using Likert scales. There were five
questions related to stress, eight questions related to nutrition, four
questions about sleep, and seven questions related to physical activity,
specifically resistance training and functional movement. A typical
question was “I know about strategies/tools that I can use to help improve
my sleep.” Participants had the choice to respond with “never, almost
never, sometimes, fairly often, or very often.” This section of the survey
enabled the researchers to investigate each area of health and measured
the participants’ behavior change. The stress section measured the ability
of participants to identify and manage stress. The physical activity
section included the confidence level and ability to engage in physical
activity. The sleep section measured whether participants obtained the
recommended amount of sleep each night (7-8 hours) and knowledge
and awareness of strategies to improve sleep. The nutrition section
measured the participants’ knowledge of adhering to the Federal Drug
Administration guidelines for sodium, cholesterol, and sugar intake.

The last three sections of the survey were only administered in the post-
survey and consisted of open-ended questions that allowed participants
to reflect on their own health behaviors, experience in DW, and group
coaching sessions. This mixed methods study was approved by the
Institutional Review Board (IRB) at the university site.
Data Analysis
Pre and post stress, nutrition, physical activity, and sleep scale reliabilities were assessed using Cronbach Alpha and associated criteria (Bonett & Wright, 2015; Becker, 2000; Nunnally & Bernstein, 1994). The pre and post measures for each scale were then averaged and tested for statistical significance differences using repeated measures T-tests (two tailed).

Results
Table 1 contains means, standard deviations and repeated measures T-test results for the stress, nutrition, physical activity, and sleep scale pre and post measures. All scales achieved an acceptable level of internal consistency (reliability). Individual pre and post items within each scale were then averaged to form the stress, nutrition, physical activity, and sleep scales.

Posttest measures were significantly higher than pretest measures for all four areas of interest: stress, nutrition, physical activity, and sleep.

Thematic Analysis of Open-Ended Questions
Upon completion of the program participants identified common tools learned from the DW program that they have been putting into practice for their own healthy behavior change. A Thematic Analysis was conducted to identify, analyze, and interpret open-ended questions by the following categories: (1) perspectives of learned behavior change strategies and tools from the DW program, (2) feedback on additional tools needed for success, and (3) perspectives on wellness coaching sessions (Table 2). Themes were then connected to the PERMA domains of positive psychology which served as a framework often used to help enhance personal well-being (Kern et al., 2015). The study aimed to provide insight on participant perceptions regarding the program implementation.
Learned Behavior Change Strategies and Tools
Category 1 common themes were (a) journaling, (b) meditation, (c) portion control, (d) use of resistance bands, and (e) earlier bedtime routine. These themes were with the program's targets of stress, physical activity, nutrition, and sleep. Participants detailed their experiences with the learned tools. For example, one participant stated how they implemented stress reduction tools, “I have begun to journal more frequently, and the training furthered my thinking that this was something important and I should be incorporating it into my daily routine.” Another participant recalled their implementation of nutrition tools, “portioning almonds throughout the day and lessening sugar intake.” Participants also detailed their experiences with physical activity tools and strategies taught in the Discover Wellness Program, “Use of resistance bands regularly accompanied by other exercises.” Another participant had similar sentiments stating, “I do between 30 and 90 minutes of cardio daily. I do weight training 6 days a week. I also do stretching daily and yoga 1 day a week.” Participants also detailed their tools regarding meditation and its helpful impact on stress reduction, “I am working on breathing when feeling stressed.” Lastly, participants identified sleep strategies that they have implemented, “I have been working on getting enough sleep and also focusing on my quality of sleep” similarly another participant stated, “I have been going to bed earlier every night and reading before bed.” Others have mentioned, “I have been trying to limit my phone use at night for better quality sleep.” Overall, participants discussed their satisfaction with the programming and use of tools, with one program participant stating, “This program reinforced and inspired me to pay attention to important wellness aspects of my life with balance.”

Feedback on Additional Tools Needed for Success
Themes identified in category 2 regarding the additional tools that could be implemented to further success were: (a) time, and (b) take home curriculum resources. Participants explained that either finding more time personally or more time during certain modules like “stress” to
allow for more meditation would be beneficial. One participant detailed their interest in wanting further curriculum resources, “The PowerPoint presentations would be helpful to reference and remind myself of the stretches etc. that were previously taught.”

**Perspectives on wellness coaching**

Emergent themes identified in category 3 participants' perspectives on wellness coaching sessions were: (a) application of learning, (b) inviting, (c) reflective listener, and (d) community. Participants identified wellness coaching sessions as a way to apply learning from sessions. One participant stated, “I loved these sessions the most! Applying all that we learned and being able to watch and listen to others going through the program helped me so much.” Other participants identified the wellness coaching sessions and the coach as an inviting space where they felt comfortable, “Coach was very inviting and welcoming.” Similarly, the coach was identified as “a good, reflective listener” for the participants. Lastly, the emergent theme of community was identified through participants' discussion of their interactions with their peers. For example, one participant stated, “They were helpful--it was nice to have feedback and hear what others were doing.” Similarly, another participant stated, “It was a relaxing experience and I enjoyed having the opportunity to work with others.”

**Implications and Conclusions**

It is imperative to have workplace wellness programs that reinforce employee and employer reciprocal values. Significant improvements in employees' ability to manage stress, assess food nutrition, measure frequency and confidence in performing activity without injury, and assess sleep quality were identified following the implementation of the DW program in three worksites. More specifically, participants stated their satisfaction with the behaviors they learned in the DW wellness coaching sessions.
Implications
With mental health concerns on the rise, it would be in businesses’ best interest to implement programs that cultivate positivity around wellness and camaraderie. Organizations can proactively establish wellness programs based on a needs assessment that establishes baseline measures of employee stress, nutrition, physical activity, sleep, and other wellness parameters. The cost benefit of wellness programs should be assessed, including increased productivity, improved retention, and health insurance cost reduction. Such cost benefit analyses can include decrease in medical claims, obesity, diabetes, and heart disease (Light et al, 2015).

Study Limitations and Future Research
Study limitations include small sample size, experimental design, and limited generalizability. A larger sample, which incorporates worksites in a variety of organizational settings, would improve the data and increase generalizability. The quasi-experimental design was employed to address common difficulties associated with field research; however, a control group would help eliminate competing hypotheses (Campbell & Stanley, 1963).

Future research should continue to address a multidimensional approach to wellness, while narrowing in the specific PERMA variables to create further consistency in each wellness coaching session. In doing so, further research can help in identifying the long-term and cumulative effects of the PERMA domains on worksite health promotion programming. Furthermore, the framework could potentially guide future educational efforts, coaching protocols, and other innovative tools for worksite health programming.

Conclusion
Employee wellness will increase in importance as workplaces change, competitiveness increases, and stressors become more prevalent. In the United States, employers are, by law, responsible for providing a workplace that promotes employee health and wellness. Multiple
laws exist that require organizations to provide a safe and healthy workplace such as the Americans with Disabilities Act (Mauldin & Jenkins, 2019). There is no shortage of guidelines for employers to follow as provided by federal agencies, including the Occupational Safety and Health Administration (OSHA, 2022). However, employee wellness is a shared responsibility whereby employers provide programs and employees actively engage in what is available. Employers and employees mutually benefit from workplace wellness programs such as Discover Wellness in terms of improved health, enhanced engagement, higher retention, and greater organizational productivity and competitiveness.

References

AACSB (Association for the Advancement of Schools of Business). Business Accreditation. https://www.aacsb.edu/educators/accreditation/business-accreditation


Health Promotion Program


National Commission for Health Education Credentialing. (2002). *About NCHEC.*


**Web Appendix**

A web appendix for this paper is available at https://dx.doi.org/10.15239/j.brcacadjb.2023.13.01.wa06