



Research Article

Impact of Daily Workplace Mindfulness Training

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Abstract

Objective: The study assessed the impact of a daily month-long workplace mindfulness training program on worker work-life balance and physical and mental health outcomes among staff of a local housing authority.

Methods: The study used a single-group pre-post design to test the effect of a workplace mindfulness training program, consisting of daily (Monday-Friday) 1-hour sessions for 1 month, on self-reported worker health and well-being outcomes measured at baseline, post-intervention, and 2 months after the training. We conducted a series of RM-ANOVAs to test the effect of the training on participants' self-reported physical health, anxiety, depression, work stress and work-life balance.

Results: Nineteen local housing authority staff members participated in the study. The training led to a significant and sustained improvement in participants' self-reported mindfulness ($F(2, 18) = 9.21, p = 0.002$) and a significant decrease in self-reported anxiety ($F(2, 18) = 7.92, p = 0.003$). The effects of the training on participants' self-reported work-life balance, work stress, depression and physical health were not significant.

Conclusions: This study found that mindfulness training successfully improved and sustained self-reported mindfulness and significantly decreased anxiety. The findings contribute to the growing body of literature on the impact of mindfulness training within the workplace, indicating that the training can be delivered at the workplace and improve worker well-being.

Keywords: Occupational Stress; Worker Well-being; Workplace Mindfulness

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Introduction

Occupational stress represents a serious hazard to health and well-being it has been linked with smoking, obesity, and alcoholism, as well as chronic diseases, including stroke, cardiovascular disease and autoimmune disorders [1-3]. A study conducted by the National Institute for Occupational Safety and Health reported that 40% of workers experience work-related stress [4]. More recently, one in five workers (20%) reported they had experienced a great deal of stress in their workplace [5]. Given the importance of reducing workplace stress, an increasing number of workplace programs have incorporated mindfulness as a means to reduce stress and improve worker health [6].

Mindfulness programs in the general and patient populations have targeted individuals with a diverse array of mental and physical conditions for instance, those experiencing chronic pain and depression [7,8]. There is substantial evidence for therapeutic effects of mindfulness programs enhancing health and well-being [9]. In programs conducted in work settings, studies have shown reduced levels of emotional exhaustion (burnout), psychological distress, depression, anxiety and occupational stress [6]. Mindfulness programs have also been shown to positively impact workplace outcomes including job performance, teamwork and leadership [10,11]. A large number of studies have been conducted among health care providers, with fewer studies among workers in other high stress settings, such as housing authority staff [12]. A limitation of some of the programs has been the use of programs offered away from the worksite, resulting in workers reporting barriers related to time constraints and inability to resolve conflicts between the training and their work schedule [13]. Eby et al., report that few employee-based programs incorporate at work practice [12]. Further, few studies have been reported that involve daily sessions conducted at work over a one month period.

Study purpose

The purpose of this study was to evaluate the effects of a daily month-long workplace mindfulness-training program among workers of a local housing authority. The study aimed to determine if the mindfulness training decreased participants' self-reported anxiety, depression and work stress and improved self-reported physical health and work-life balance.

This study adds to the growing body of literature on workplace mindfulness programs and describes the impact of a previously untested mindfulness training program.

Methods

Study design and procedures

The study used a single group pre-post design. Unlike the often-used Mindfulness Based Stress Reduction (MBSR) program which is an eight-week program, this program consisted of 21 daily (Monday-Friday) 1-hour sessions for 1 month between mid-August and mid-September, 2014 [6,7]. The program included instruction on

the foundational knowledge and skills needed to develop a mindfulness meditation practice. The daily sessions blended didactic teaching, discussions in large and small groups and meditation practice. Course material and discussions focused on topics such as attitudes of mindfulness, stress, emotions and obstacles to meditation practice. Meditation practice often included some form of movement (e.g., walking meditation, body scan) in addition to a sitting practice focusing on the breath. Participation was voluntary and was open to all employees at the housing authority organization. An experienced facilitator from outside the organization led all of the sessions. The facilitator has over 40 years of experience with the practice and teaching of mindfulness/awareness meditation. He leads mindfulness programs and gives talks and workshops to businesses, public agencies, groups, churches and organizations supporting people with addictions. He also has extensive corporate experience including serving as Director of the Workforce Program for Ventura County, California which led him to consult with numerous West Coast cities and counties. More recently he was Executive Director of Shambhala Mountain Center, a 600-acre center in Colorado providing programs for personal health, deepened awareness and transformation.

Data collection

Participants completed questionnaires, on a voluntary basis, as part of an evaluation of the mindfulness program. Participants were asked to complete questionnaires before they began the mindfulness training (baseline; August 2014), once they completed the training (post-test; September 2014), and two months after the training (2-month follow-up; November 2014). Participants completed questionnaires through a secure online survey site. No identifiers were collected in the evaluation questionnaires to maintain participant confidentiality. The study was reviewed and approved by Colorado State University Institutional Review Board.

Measures

Demographic variables including age (categorical), sex, job characteristics such as role in organization, tenure at organization, and previous meditation experience were assessed at each period, and this information was used to link responses over the different assessment periods. Physical health, anxiety, depression, work stress, work-life balance and mindfulness were assessed at all time points. We imputed a mean composite for one instance of item-level missing data.

Outcome measures: As a manipulation check, we measured mindfulness using the CAMS-R, which measures trait mindfulness among a general adult population using ten items on a 5-point Likert frequency scale ranging from “Never” to “Always” [14]. CAMS-R demonstrated acceptable internal consistency ($\alpha=0.76$) and evidence of convergent validity in relation to other measures of mindfulness and discriminant validity in relation to well-being, adaptive emotional regulation, distress and depression in three samples of university students [14].

We used a single item measure for physical health that asks participants to rate their overall health on a 5-point scale from excellent, scored as 1, to poor, scored as 5. We used a single item measure for work stress from the NIOSH Quality of Work life Module in the General Social Survey (NIOSH, 2010) that asked participants, “In the past two weeks, how often have you found your work stressful”? On a 5-point Likert frequency scale ranging from “Never=1” to “Al

ways=5”. We used a single item measure for work-life balance that asked participants to rate their agreement on a 7-point Likert scale from strongly disagree, scored as 1, to strongly agree, scored as 7, with the statement, “In the last two weeks, I have had an adequate balance between my work life and my personal/family life”.

Finally, anxiety and depression were measured with two items each from, that asked participants to rate their feelings of anxiety (have you been a nervous person?; have you been peaceful and calm?) and depression (how often have you felt downhearted and blue?; how often have you been happy?) during the previous two weeks on a 5-point Likert frequency scale ranging from “Never=1” to “Always=5” [15]. The validity of the mental health questions using the SF-36 and reported the questions used were highly correlated with SF-36 scores ($r=0.64$) [15].

Statistical analysis

Data analysis occurred in two steps. First, demographic characteristics of participants and their responses were summarized using means and standard deviations or medians and ranges for continuous variables and proportions for categorical variables. Mean scores were calculated for the study variables for each participant at each of the time points. Second, we conducted a series of Repeated Measures Analysis of Variance (RM-ANOVA) to assess the change in participants’ self-reported physical health, mental health (including anxiety and depression), work stress and work-life balance between baseline, post-intervention, and at the 2-month follow-up. To account for the use of multiple comparisons, we used an adjusted p-value of 0.0125 to determine statistical significance.

Contextual factors

The workplace mindfulness program took place at a local housing authority that initiated the program with the goal of promoting worker well-being and reducing job stress among employees. Participants included 19 of the 57 employees working at the organization at the time of the training. The organization is a Section 8 housing agency in northern Colorado that provides affordable housing and supportive services.

Results

Twenty housing authority staff members volunteered to participate in the training and complete the program evaluation questionnaires. Attendance in the training sessions ranged from 10 to 18 with a median of 13 participants per session. The response rate for the evaluation surveys was 95% for the baseline survey, 80% for the post-survey, and 60% for the 2-month follow-up survey.

Of the 19 participants who completed the baseline survey, a majority were female (14, 74%) and the mean tenure at the organization was 7.72 years (min = 0.4 years; max = 27 years). More than half of the participants had no prior experience with meditation before the training (11, 58%; see Table 1 for the characteristics of participants at baseline).

Table 2 depicts baseline, post-training and 2-month follow-up mean scores and 95% confidence intervals for the means for each of the outcome variables. Mauchly’s test of sphericity was less than 0.05, indicating that the assumption of sphericity was met for each of the comparisons. Among the 12 employees who completed questionnaires

at all time points, RM-ANOVA revealed a significant effect for mindfulness ($F(1, 20) = 7.24, p = .014$) with participants reporting an increase in mindfulness scores from baseline to post-training time points. This analysis, done as a manipulation check, indicates that the training resulted in changes in mindfulness scores in the expected direction. There was a significant and sustained effect for anxiety ($F(1, 20) = 7.79, p = 0.011$) with the participants experiencing a decrease in anxiety from baseline to the post- and 2-month follow-up time points. These results support the stability of effects of the training on anxiety two months following the program.

Variable	Value at baseline
Gender	
Male	5 (26.3%)
Female	14 (73.7%)
Age (in years)	
18-50	11 (57.6%)
50+	8 (42.1%)
Job titles	
Finance/accounting	2 (10.5%)
Housing development	3 (15.8%)
Federal programs	4 (21.1%)
Resident services/maintenance	5 (26.3%)
Administrative/clerical/other	5 (26.3%)
Years of employment at Ft Collins Housing Authority (in years)	
Range	0.4-27
Mean	7.72
Meditation practice in the past year	
None	11 (57.8%)
Less than once per week	2 (10.5%)
One to two times per week	3 (15.8%)
Three or more times per week	3 (15.8%)

Table 1: Baseline characteristics of participants, local housing authority (n=19).

While the mean in participants’ self-reported physical health, depression, work stress and work-life balance were all in the expected direction (an increase for physical health and work-life balance and a decrease in depression and work stress), the RM-ANOVA tests were not significant for these outcomes.

Variable	Baseline mean (SD) N=19	Post training mean (SD) N=17	2-month follow-up mean (SD) N=12
Anxiety	3.03 (1.02)	2.23 (0.56)	2.21 (0.54)
Depression	2.60 (0.66)	2.03 (0.37)	2.21 (0.54)
Work stress	3.58 (1.07)	3.06 (0.75)	3.00 (0.60)
Health	3.58 (0.61)	3.53 (0.51)	3.75 (0.62)
Work Life Balance	4.10 (1.88)	5.76 (1.09)	5.92 (0.67)
Mindfulness	3.15 (0.54)	3.66 (0.40)	No data

Table 2: Results baseline, post training and 2-month follow-up.

Discussion

This study used a single group pre-post design to assess the impact of daily, month-long workplace mindfulness on housing authority

worker physical and mental health as well as work-life balance. The findings suggest that daily, month-long workplace mindfulness training may lead to a significant and sustained reduction in participant anxiety. Unlike a number of studies that have been conducted among employees, the post training assessment was conducted immediately after training and two months later, providing new information regarding sustainability of the training effect [12].

Little is known about the appropriate timing and delivery for mindfulness programs, and while a number of studies have been based on the Mindfulness Based Stress Reduction (MBSR) program, most of those conducted among employees have been adapted versions of the program [6,12]. This training program introduces a different model which may yield beneficial results and reduce adherence and self described barriers encountered in using the MBSR program among employees with difficult work schedules, as often found among high stress work environments [13,16].

In contrast to studies using MBSR as the basis of the employee training, we did not find significant reductions in depression or work stress using the month long training [6]. Whether these differences in findings are related to the training program, differences in the working populations or the sample size cannot be assessed. The most likely explanation for the differences between outcomes in this study is the sample size because the direction of the effects was a decrease in depression and work stress. The finding of improvements in work-life balance and self reported physical health has not been widely assessed in other studies of mindfulness training among employees [6,12].

The study provides additional support for the value of mindfulness training in a new employee population and provides some new areas of focus for research in this area. In particular, this study provides support for exploring the role of mindfulness in work-life balance in addition to anxiety, stress, depression and physical health, as well as exploring the development and evaluation of mindfulness training programs that are incorporated into workplaces and offered during work hours.

Strengths and Limitations

This study has several limitations. It included a single small sample of housing authority workers from one organization, and its conclusions should be viewed within this limited context. Like many studies on workplace mindfulness, the current study did not employ a control group, which increases the likelihood of single group bias. Another limitation of the present study relates to the measurement of its outcome variables. Due to its scope, the study relied on self-reported measures, drawn from existing, well-established scales.

Conclusion

This study found that a month long mindfulness training program delivered in the workplace increased self-reported mindfulness and reduced anxiety in a sustained manner. The findings contribute to the growing body of literature on the impact of mindfulness training within the workplace, indicating that the previously untested training can affect previously examined worker well-being outcomes.

Compliance with Ethical Standards

The authors report no conflicts of interest in regard to the work. The project was reviewed and approved by the Institutional Review

Board of Colorado State University. Participation was voluntary. No individual identifying information was collected and participants could withdraw from the training program at any time.

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