

The Relationship between Mindfulness and the Work Performance of Employees Working in the Manufacturing Sector

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Abstract

Extensive studies examining the benefits of mindfulness in clinical, professional, and personal settings have been reported in literature over the past decade. However, there is a lack of data relating to the correlation between an individual's level of mindfulness and aspects of their work performance in an industrial manufacturing environment. The purpose of this study was to analyze the relationship between mindfulness and work performance amongst 423 full-time employees (192 males, 231 females), working in the production departments of 4 affiliated companies in Northern Thailand. The level of mindfulness was assessed through the Philadelphia Mindfulness Scale, Thai version. Work performance was measured through annual evaluations of each individual, pertaining to work quality, work quantity, and timeliness. The results showed a significant positive correlation between mindfulness and performance evaluation ($r=0.581$; $p<0.01$), with a positive correlation for each measured factor (quality, quantity and timeliness, in descending order of significance).

Keywords: Manufacturing, Mindfulness, Productivity, Work performance

Introduction

Methods of improving aspects of workers' performances are vital to the industrial community in today's competitive, fast-moving business world. There has been much discussion of the idea of psychological well-being in cultivating performance refinement-including the benefits of mindfulness (Mahmood, Hopthrow, & Randsley de Moura, 2016; Shiba, Nishimoto, Sugimoto, & Ishikawa, 2015). Thailand is a predominantly Buddhist nation, in which the importance of mindfulness is widely recognized, and where, at the same time, technology and multitasking have become deeply integrated into the everyday lives of most individuals. Does an increased level of mindfulness positively correlate to improved performance in the workplace? Which aspects of a worker's performance can benefit from an increased level of mindfulness? A possible correlation could lead to improved methods of selecting and developing employees, strengthening the company's overall performance.

Literature Review

Definition and benefits of mindfulness: Mindfulness has its origins in an Eastern Buddhist tradition that is over 2500 years old. The concept of mindfulness can be described as a state of passive attentiveness and awareness of present conscious experiences (Bishop, Lau, Shapiro, Carlson, Anderson, Carmody, Segal, Abbey, Speca, Velting, & Devins, 2004; Brown & Ryan, 2003). There are many possible ways to understand mindfulness, from a single component, combining awareness of and receptive attention to one's surroundings, to a multifaceted state (Brown & Ryan, 2003). It is commonly defined as the psychological experience which arises from "paying attention in a particular way: on purpose, in the present moment and nonjudgmentally" (Kabat-Zinn, 1994). In recent decades, many studies have looked into the role of mindfulness in diverse situations, from clinical psychology to the workplace (Shonin, Gordon & Griffiths, 2013; Hülsheger, Alberts, Feinholdt, & Lang, 2012).

It has become increasingly common in recent years for many companies, including Google, Target and General Mills, to offer mindfulness programs in their workplaces. These programs aim to decrease employees' stress levels and feelings of burnout, improve their focus, clarity, listening and decision-making skills, and increase their overall happiness and wellbeing (Bazarko, Cate, Azocar, & Kreitzer, 2013; Allexandre, Bernstein, Walker, Hunter, Roizen, & Morledge, 2016; Hülsheger, Alberts, Feinholdt, & Lang, 2012). Several disciplines and practices, such as yoga exercises, can cultivate mindfulness, though most literature focuses on improving mindfulness through meditation (Farb, Anderson, Mayberg, Bean, McKeon, & Segal, 2010; Walsh & Shapiro, 2006)

Mindfulness practices promote sense withdrawal, emotional intelligence, equanimity, motivation, moral maturity, focus and clear thought and cognition-in particular with respect to processing speed, susceptibility to distraction and cognitive flexibility (Moore & Malinowski, 2009; Walsh & Shapiro, 2006). The convergence of meditation disciplines and Western psychology is underway, and if handled skillfully may aid in the exploration, understanding, healing and enhancement of the human mind (Walsh & Shapiro, 2006).

Studies have found that mindfulness-based therapy was often effective in reducing social anxiety, depression, rumination and pain. In a clinical setting, the Mindfulness-Based Stress Reduction (MBSR) program has been found to have a beneficial effect on organic illnesses such as chronic insomnia and general anxiety disorder. It has a direct effect on reducing anxiety symptoms, and may also improve stress reactivity and the ability to cope with stress- inducing situations (Gross, Kreitzer, Reilly-Spong, Wall, Winbush, Patterson, Mahowald & Cramer-Bornemann, 2011; Hoge, Bui, Marques, Metcalf, Morris, Robinaugh, Worthington, Pollack & Simon, 2013). Increased self-esteem and improved mood symptoms in depressed patients have also been reported (Goldin & Gross, 2010; Hofmann, Sawyer, Witt, & Oh, 2010).

It has been suggested that mindfulness not only enables an individual to become less reactive, but also more psychologically flexible. Studies have found that, due to the increased capacity to cope with stress and communicate calmly and effectively, mindfulness can improve relationship satisfaction (Barnes, Brown, Krusemark, Campbell & Rogge, 2007; Wachs & Cordova, 2007). Mindfulness reduces the negative impact of stressful conflicts (Barnes et al. 2007) and improves an individual's ability to express him-or herself in social situations.

Mindfulness at work: Stress-inducing demands, time pressure, competitiveness and multitasking, all of which are vital in the rapidly-evolving digital era, are becoming increasingly normalized in the modern business world. Combined, these factors have led to ever-increasing levels of stress for employees. Burn-out and a lack of engagement are growing concerns, which can have a negative influence on individual welfare and industrial productivity. Studies have found improvements in general health, resilience, vigor and

engagement amongst employees after introducing mindfulness into the workplace environment. A reduction in stress, emotional exhaustion and work burnout have been documented, thereby enhancing overall employee wellbeing (Bazarko et al., 2013; Alexandre et al., 2016; Aikens, Astin, Pelletier, Levanovich, Baase, Park, & Bodnar, 2014; Hulsheger et al., 2012; Huang, Li, Huang, & Tang, 2015).

This study analyses the correlation between mindfulness and performance in employees working in manufacturing, considering factors including quality, quantity, and timeliness of work. If a significant positive correlation exists, this suggests that introducing mindfulness programs into the workplace may lead to decreased absenteeism and staff turnover, improved employee-client relationships and improved job satisfaction among workers, positively impacting the overall health of the company.

Research Methodology

Research Design and Sampling Procedure: A correlational research design was used in this study, to examine the correlation between mindfulness and employee performance in 4 affiliated small and medium-sized enterprises (SMEs) in Northern Thailand. All participants were selected through a simple random sampling process from the production department of each company. Of the 510 participants to whom questionnaires were initially distributed, a total of 423 respondents completed the survey correctly and within the stipulated time.

The data regarding individual mindfulness was collected within one month (August, 2017) using a questionnaire adapted from the Philadelphia Mindfulness Scale, Thai Version (PHMS_TH) (Chatchawan Silpakit, 2011). The Awareness Subscale of the PHLMS_TH was used to assess the key mindfulness component of present-moment awareness amongst participants. Participants rated 10 items on a 5-point Likert scale (1=never; 5=very often). Background information about the participants, including gender, age and educational background, along with the age of the company for which they worked and the duration of their working day, was also collected in a separate section of the survey.

Information regarding each employee's most recently evaluated performance score was collected, with permission from the managing director of each affiliated company. The overall performance score out of 15 was comprised of 3 components: quality of work (accuracy, thoroughness, reliability, responsiveness to requests for service, follow-through/follow-up, decision making), quantity of work (priority setting, amount of work completed, work completed on schedule), and timeliness (time management and ability to meet deadlines), each marked from 1 to 5 (1=unacceptable; 5=outstanding).

Work quality refers to the accuracy of completed work with minimum avoidable errors and problems. This includes whether the employee's work meets requirements and expectations, and the amount of work which needs to be redone. Quantity of work refers to the completion of work at the level and rate of the set requirements made by the managerial team. Timeliness refers to whether the work was completed in a timely manner, using efficient and effective methods. This considers the use of available working time, the ability to perform in accordance with set schedules, and individual attendance records throughout the year. Factors evaluated under work performance are illustrated in Figure 1.

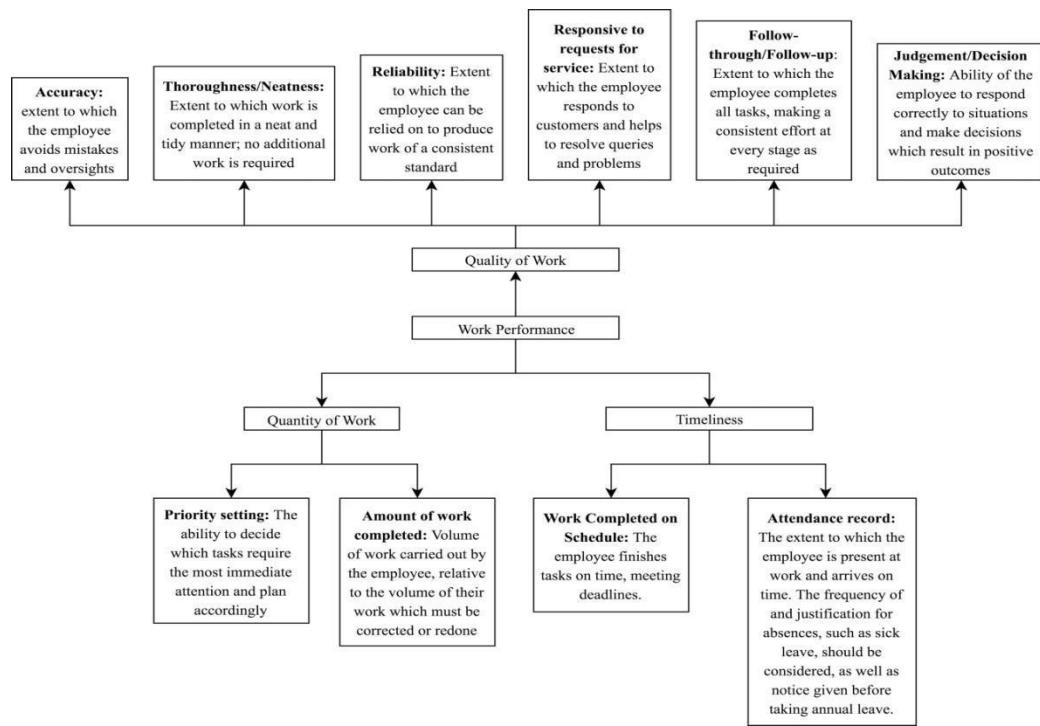


Figure 1 Represents factors considered when evaluating employee's work performance¹

Reliability of Study Methods: Before further analysis, a reliability test was conducted using Cronbach's Alpha. Table 1 shows the Cronbach's Alpha coefficients. The reliability of this study's scales ranged from 0.70 to 0.87. All of the variables obtained a satisfactory level of reliability.

Table 1 Cronbach's Alpha for the variables

No.	Variables	N	Items	Alpha
1.	Mindfulness	423	10	0.87
2.	Overall job performance	423	10	0.84
3.	Work quality	423	6	0.70
4.	Work quantity	423	2	0.71
5.	Work timeliness	423	2	0.78

Data Analysis: Data collected from 423 employees was analyzed using Statistical Package for Social Sciences software (SPSS, version 24.0) (SPSS Inc., Chicago, IL, USA). Results were given as mean, standard deviation (SD) and range (minimum-maximum). Descriptive statistics was used to analyze the demographics of participants, and Pearson correlation was used to analyze the relationship between mindfulness and work performance. The Pearson correlation coefficient was interpreted as follows: <0.30: negligible correlation; 0.31-0.50: low correlation; 0.51-0.70: moderate correlation; 0.71-0.90: high correlation, and >0.90: very high correlation (Mukaka, 2012).

¹ Designed by the Human Resources Department of each company included in the research study, and translated and reproduced with permission from the managing directors.

Research Results

Demographic Profile of Respondents: Four hundred and twenty-three full-time employees from 4 SMEs in Lampang, Thailand were included in the study. The total study population included 192 males and 231 females in 4 consecutive age groups: 18-24 (n=74), 25-34 (n=164), 35-44 (n=158), 45-54 (n=27). Information regarding the gender, age, level of education, company age and daily working hours was collected and presented in Table 2.

Table 2 Demographic profile of participants

Demographics	Frequency	Percentage (%)
Gender		
Male	192	45.4
Female	231	54.6
Total	423	100.0
Age		
18-24	74	17.5
25-34	164	38.8
35-44	158	37.4
45-54	27	6.4
Total	423	100.0
Level of Education		
Primary education	5	1.2
Lower secondary	27	6.4
Upper secondary	85	20.1
Bachelor's Degree	267	63.1
Master's Degree	39	9.2
Total	423	100.0
Firm age		
Less than 1 year	68	16.1
1-2 years	21	5.0
3-5 years	86	20.3
6-9 years	62	14.7
10 years and above	186	44.0
Total	423	100.0
Daily working hours		
Less than 8 hours	284	67.1
8-12 hours	139	32.9
Total	423	100.0

Relationship between Mindfulness and Employee Performance: The main objective of this study was to identify whether mindfulness has an impact on employees' work performance. Using Pearson correlation tests, the relationships between variables were analyzed. Analysis of the results indicates a significant positive correlation between mindfulness and overall work performance ($r=0.581$; $p<0.01$).

The correlation between mindfulness and individual components of evaluated work performance was further analyzed. Positive correlations with mindfulness were observed for the three components of overall work performance; work quality ($r=0.542$; $p<0.01$), quantity ($r=0.557$; $p<0.01$) and timeliness ($r=0.410$; $p<0.01$) (Table 3).

Table 3 Correlation of work performance to level of mindfulness

		Overall Performance	Work quality	Work quantity	Timeliness
Mindfulness	Pearson Correlation	0.581	0.542	0.557	0.410
	Sig.	<0.01	<0.01	<0.01	<0.01
	N	423	423	423	423

Discussion and Conclusion

Contribution to Theory: Understanding the varying levels of psychological attributes such as mindfulness amongst employees provides useful insights into their workplace outcomes and contributions. Our analysis helps to capture the dynamic nature of mindfulness in relation to different aspects of work performance. The results highlight the critical role of mindfulness in the workplace. Several key points arising from these results merit further discussion.

The management and organization of human resources is essential to the continued success of many industries. Success depends on the capacity and quality of the corporation's workforce. The efficiency of workers is fundamental to the development and welfare of a company as a whole.

The relationship between mindfulness and employee performance in 4 affiliated SMEs in Northern Thailand was examined in this study. The findings revealed that all three indicators of work performance-work quality, work quantity and timeliness-are significantly impacted by employee mindfulness.

The evaluation of work performance is one measurement of the efficiency and capacity of employees. In this study, work performance is assessed using the standard evaluation method used by the 4 affiliated SMEs. The work evaluation procedure is comprised of 2 components involving performance and competency; this study focuses on the performance element. Quality of work is determined by accuracy, thoroughness of completed work and reliability of the employee, through their responsiveness to requests for service, the extent of follow-through and follow-up on work and their judgement and decision-making. Quantity of work is determined by the employee's ability to prioritize and the amount of work completed. Timeliness is determined by on-schedule completion and the employee's attendance record. The objective of the study is to determine whether mindfulness has an effect on work performance and, specifically, its 3 measured components.

This study found that mindfulness has a significant positive correlation with work performance, as the concept mindfulness involves paying attention to the present moment, and, consequently, encourages focus on the task at hand. This is why the performance of more mindful employees tends to be evaluated more positively.

Managerial Implications: In today's highly competitive economic world, industries must compete for survival by finding ways to increase the efficiency of their workforce as much as possible. Industries must not make employees work too hard, as this can result in stress, reduced attention and higher staff turnover, which negatively impacts the company.

Introducing mindfulness into the workplace through mindfulness-based practices can increase the mindfulness of employees. This can result in increased efficiency, without negatively

affecting happiness and wellbeing. In addition, during the application process for new employees, evaluation of the mindfulness of incoming employees can be valuable. As this study demonstrates, more mindful employees are likely to be more efficient and productive.

Limitations and Directions for Future Research

This present study involves a study population, the employees of 4 SMEs, to study the correlation between mindfulness and work performance. The results show that mindfulness has a significant correlation with improved work performance. To further investigate these conclusions, further studies on the performance of employees in different workplaces (offices, the service industry, etc.) are required. A further study regarding the relationship between mindfulness and labor productivity which can be quantitatively measured, to investigate the relationship between mindfulness and productivity, would also be beneficial. Furthermore, since this is a study limited to Northern Thailand, there should be further studies in different countries, to investigate the impact of varying cultural norms on the effects of mindfulness in the workplace. In addition, a study into whether mindfulness affects other measures of efficiency other than performance, such as teamwork and leadership, are also necessary. As this research has the potential to be remarkably beneficial, we recommend that further research should be carried out in this area.

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