

The Impact of Mindfulness Training on Employee Adaptive Performance through Awareness Enhancement

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Abstract

The study aimed at assessing the effect of mindfulness training (through yoga and meditation practices) on employee adaptive performance. The data was collected from 384 employed or self-employed individuals who were actively practicing yoga and/or meditation, with no specific geographical restrictions, using questionnaire based on Mindful Attention Awareness Scale (MAAS) and Adaptive Performance Scale. The data was analyzed through Mplus 8.3 software and found that higher training duration and greater frequency of mindfulness training enhance adaptive performance via greater adaptability, creativity, handling work stress, reactivity, and training effort. Furthermore, mindful awareness is an important construct that facilitates the association between mindfulness training (frequency and duration) and adaptive performance.

Keywords: Mindfulness, Mindfulness Training, Adaptive Performance

Introduction

In the field of business, mindfulness is getting popularity among the leaders as one of the tools used to enhance human capabilities. Some of the most important companies driven innovations have designed programs to train individuals to unleash their potential through mindfulness-based techniques, and the trend is increasing (Miller, n.d.).

Most of the academic research examining the impact of mindfulness practices has been conducted in hospitals, clinical environments but not offices. To bridge this gap, this research was conducted to explore the effects of different mindfulness-focused yoga and meditation practices in real-world workplace environments.

There were evidence supporting that by practicing mindfulness in one's daily life,



individuals can experience improvements in different areas such as emotional, cognitive, behavioral and interpersonal (Brown, Ryan, & Creswell, 2007). Some companies are already developing strategies for facing competitors through mindfulness techniques (Denning, 2018), with the aim of providing better job standards and investing on the development of their workforce under the idea that employees must be the most important asset to be developed in order to achieve productivity. This study helped shade the lights on the benefits of mindfulness trainings on work performance.

Significance of the study

Theoretical contributions of this study are two-folded. First, past research has shown the positive impacts of mindfulness on emotional, behavioral, cognitive and interpersonal benefits (Brown et al., 2007). This research has expanded the outcomes to work performance, specifically, adaptive performance, and we found supports of the positive impact of duration and frequency of mindfulness training on dimensions of adaptive performance such as adaptability, creativity, handling stress, reactivity, and self-training. Second, this research has tested and found the level of mindfulness as the significant mechanism explaining the relationship between mindfulness training and adaptive performance dimensions.

Regarding the managerial contribution, this study offered an alternative for the adoption of mindfulness trainings such as yoga and meditation to enhance performance among employees. It acknowledges the importance of investing

in human capital, and it is intended to explain how mindfulness could play an important role in company's strategy, through the implementation of a specific training.

Research objectives

The first objective of this research was to demonstrate the relationship between mindfulness training, through yoga and meditation practices, and the level of mindfulness. Specifically, it was aimed to assess the impacts of the duration and frequency of the training on the levels of mindfulness of the practitioners. It is expected that the more the practice is performed; the levels of mindfulness will be higher compared to those with less training.

The second objective was to explore whether mindfulness is a mediator of the relationship between the frequency/duration that the individuals invests in the training for cultivating mindfulness, and their five dimensions of adaptive performance proposed by Charbonnier-Voirin and Roussel (2012); Creativity, Reactivity in the face of emergencies or unexpected circumstances, Interpersonal adaptability, Training effort, and Handling work stress/Managing stress.

Given the need to enhance employee capacities to perform towards the company's business strategy, and with the evidence of the positive impact of mindfulness on employee performance enhancement, the questions to be answered are:

Research question 1: Does the duration and/or frequency invested in mindfulness training (i.e., yoga and meditation) relate to the level of mindfulness?



Research question 2: Does mindfulness mediate the relationship between the duration and frequency of mindfulness training (i.e., yoga and meditation) and adaptive performance dimensions?

Literature review and hypothesis development

In order to conduct this study, two mindfulness approaches were considered as basis for the research, the first from Jon Kabat-Zinn (2003) who defines mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment”. And the second from Brown and Ryan (2003) which describe mindfulness as “open or receptive awareness and attention which may be reflected in a more regular or sustained consciousness of ongoing events and experiences”.

Mindfulness

Jon Kabat-Zinn (1979) was one of the first authors to include modern science research in certain wellness practices related to spirituality such as fasting, meditation and body scanning to figure out how these activities are beneficial. Kabat-Zinn defines mindfulness as “the awareness that emerges through paying attention on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment” (Kabat-Zinn, 2003). Mindfulness definition is based in the principles of awareness of present happenings (Bodhi, 2011), alertness and state of mind of the “here and now” (Lama & Berzin, 1997), a process of cultivating

attention (Epstein, 1995) to current experiences oriented to awake curiosity, opens and acceptance (Bishop, et al., 2004).

Mindfulness enhances focus, attention, and the ability to work under stress (Lazar, et al., 2005; MacLean, et al., 2010). By 1998 the accounted numbers of programs related to mindfulness were 240 (Salmon, Santorelli, & Kabat-Zinn, 1998). Studies analyzing disruptive organizations (Schaufenbuel, 2015) have confirmed that implementing mindfulness in the workplace benefited employee’s overall wellbeing in both, personal and professional level. The consequences of succeeding at work through mindfulness, nurtures employee confidence which allows them to perform with a positive mindset caused by the emotional resources. (Hobfoll, 2001).

Certain theories related to behavioral regulation highlight the relevance of the attention to current events and awareness as a crucial factor to manage the behavior (Baumeister et al., 1994; Csikszentmihalyi, 1990; Deci & Ryan, 1980). Self-awareness is related with the ability to know one’s emotions while they are producing. Individuals dominating this skill, usually have a better performance since most of decisions are guided by intuition and emotions (Goleman, 1998). Brown and Ryan (2003), based their mindfulness model on the development of consciousness, which they explain it encompasses awareness and attention. Awareness is described as “the background “radar” of consciousness, continually monitoring the inner and outer environment” (Brown & Ryan, 2003).



Mindfulness training

In the clinical field, the ultimate objective of mindfulness training is to develop awareness, emotional distress and the decreasing of vulnerable mindset in order to produce sustained improvements to emotional wealth (Teasdale, 1999). Authors have found that a way to achieve these skills is by practicing meditation (Kabat-Zinn, 1990, 1994, 1998; Segal et al., 2002), body scanning activities such as those practiced in yoga (Gordon, 2013) and behavioral therapies (Linehan, 1993; Hayes, et al., 1999). Yoga and meditation have been tested as fundamental practices that allow people to perform under mindfulness principles and objectives which focus on keep the attention to the present. Also, there was evidence that during the meditation practice exist a mutual relationship between neural and conscious activity (Varela et. al., 2001; Meier et. al., 2012). This study focused on both, meditation and yoga practices as the two activities performed for cultivating mindfulness.

Meditation consists of focusing on the breath for a certain period of time, using the breath as a tool to train the mind to prompt the individual in a mode of consciousness, by simply acknowledge the sensations while breathing without judging or trying to understand the process. (Lutz, et. al., 2008).

In a compilation of yoga texts from older traditions called, Patanjali, yoga is described as technique to avoid mental fluctuations of the mind to reach central reality and true self in order to conducting a life towards moderation and harmony (Iyengar, 1966; Becker, 2000). A big range of studies (West, et al. 2004; Michalsen, et al. 2005; Damodaran, et al.

2002) have demonstrated that practicing yoga regularly is related to improved response to stress by decreasing the levels of cortisol and blood glucose which has effect on the decrease of heart rate and blood pressure. This also enhances the capacity that allows to adapt to new situations, reason with logic and abstraction, and that is not so determined by what is learned in school.

Therefore, we propose the following hypotheses.

Hypothesis 1: Frequency of mindfulness Training, through yoga and/or meditation, has a positive relationship with mindfulness levels.

Hypothesis 2: Duration of mindfulness training, through yoga and/or meditation, has a positive relationship with mindfulness levels.

Adaptive performance

Employee performance is a set of actions and behaviors determined and demanded in accordance of an organization's objectives (Campbell, 1999; Motowidlo, 2003). Some of these behaviors can be related to ability of perform under stressful situations, scenes of urgency, embrace changes and new trends (Hesketh & Neal, 1999)

Charbonnier-Voirin & Roussel (2012) defined adaptive performance as “the ability of an individual to change his or her behavior to meet the demands of a new environment”. The concept was proposed by Hesketh and Neal (1999) and one year later, a conceptual model (Pulakos et al., 2000) of five adaptive performance dimensions, namely, creativity, reactivity, interpersonal adaptability, training effort, and handling



work stress, was developed. Individuals succeeding in adaptive performance at workplace perform efficiently in unexpected work situations, allowing them to take wiser decisions (Ashford, 1986; Weiss, 1984).

Creativity assesses employee's skill to come up with creative solutions to unexpected problems. Taking into consideration that some authors (Valgeirsdottir & Onarheim, 2016) suggested that creativity is a trainable competence that involves awareness, it is expected that this dimension will show correlation with individuals developing mindfulness. Reactivity in the face of emergencies or unexpected circumstances evaluates the individual's ability to prioritize task under stress situations, as well as the adaptability to unexpected and unknown situations at work. As Hall & Moss (1998) described, self-awareness is essential for developing adaptability, bringing a meaningful process consistent with own values and goals. Therefore, an individual who is trained to have higher level of mindfulness is expected to have higher reactivity in the face of emergencies.

Interpersonal adaptability determines employee's competence to adapt to other's behaviors and styles, as well as the ability to adjust own style in order achieve effective relationships. There was evidence that mindfulness affects positively the relationship management at work in terms of conflict management and teamwork collaboration from enhanced

emotional intelligence (Schutte & Malouff, 2011). Training effort shows the disposition of the employee to take initiative to develop activities aimed to improve personal development. Mindfulness was related with the enhancement of self-awareness or the perspective of the (Levesque and Brown, 2007), leading to the individuals to develop positive perceptions of themselves and acknowledging the importance of developing a healthier and meaningful lifestyle. (Crescentini and Capurso, 2015). Handling work stress evaluates the employee's ability to react to stressful situations and the way that the individual manage owns and team's composure under stress. There were vast evidence that trainings can enhance the ability to manage stress (Lazar, Kerr, Wasserman et al., 2005; MacLean, Ferrer, Aichele, et al., 2010).

Based on previous literature and evidence, we propose that:

Hypothesis 3: Frequency of mindfulness training, through yoga and/or meditation, has a positive relationship with adaptive performance dimensions.

Hypothesis 4: Duration of mindfulness training, through yoga and/or meditation, has a positive relationship with adaptive performance dimensions.

Hypothesis 5: Mindfulness mediates the relationship between mindfulness trainings and adaptive performance dimensions.

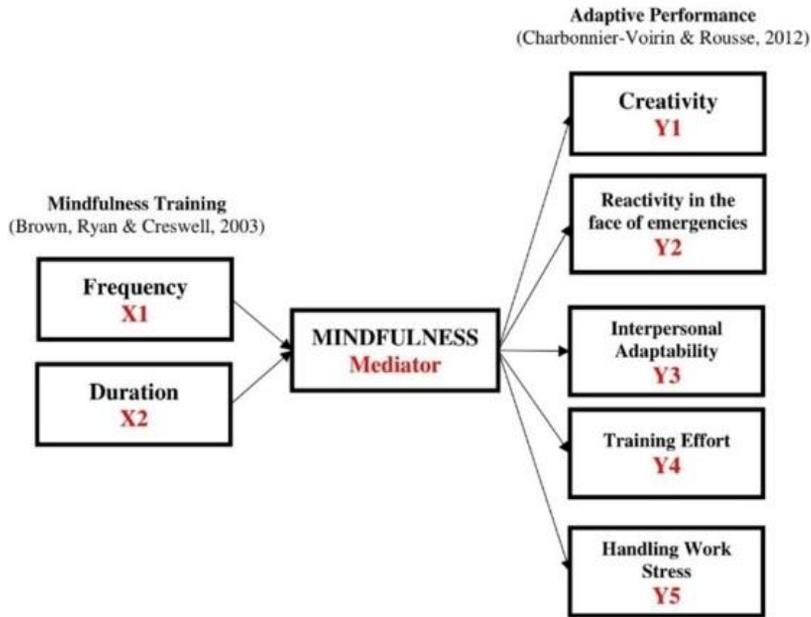


Figure 1 Research Framework

Methodology

Sample and data collection

The study used an English self-reported questionnaire collected from Thailand and Mexico. Bangkok and Mexico City have been selected because of the feasibility of the study, as well as the similarities that both cities share such as the concentration of big corporations, the multicultural environment at work and also both are cities from developing countries and have similar economic development. The survey was distributed online through yoga Facebook groups, online communities and offline to practitioners recruited from local meditation centers, individuals registered in mindfulness retreats, practitioners of yoga programs offered in their companies, in yoga studios in Bangkok and Mexico.

The sample for this study included individuals actively employed or self-employed currently practicing or taking lessons of yoga and/or meditation, either in a yoga studio or at home. The sample size was decided to 384 by using the Cochran equation. The demographics for this sample, included a higher number of female respondents (76%) than male (24%). Most of the participant’s age lies between 31 to 40 years old which accounted 36% of the sample, with a varied proportion in terms of decision making in which 46% of the sample have a significant decision-making power and 39% have the final decision power in at their companies. Most of them hold a bachelor’s degree (71%) and were either managers (28%) or self-employed (29%).



Variables and measures

Mindfulness trainings were measured with two variables, frequency and duration of mindfulness training through a scale adapted from previous research (Reitz & Chaskalson, 2016), in where “regular practice” consist of minimum 1 time per week and 10 minutes per session. Respondents were asked to rate how frequent they practiced yoga or mediation in the past by answering the five-point Likert scale from 1 (not at all) to 5 (times a week/minutes).

Mindfulness was measured using a Mindfulness self-assessment (MAAS, Brown & Ryan, 2003) which consist of 15-item seven-point Likert scale from 1 (Every time) to 7 (Never), that rates participant’s daily mindful-attention experiences through 15 Items such as “I rush through activities without being really attentive to them.”

Adaptive performance was measured using a 19-item scale that asses five dimensions of Adaptive Performance in organizations (Charbonnier-Voirin & Rousse, 2012). Participant’s used a seven-point Likert scale to rate their perspective on items such as “I quickly decide on the actions to take to resolve problems” from 1 (Strongly Disagree) to 7 (Strongly Agree).

Results

We conducted six-factor confirmatory factor analysis (CFA) using Mplus 8.3 software to assess if mindfulness and five dimensions of adaptive performance are distinct. We evaluated model fit using the chi-square index (χ^2), the Tucker-Lewis index (TLI), the standardized root-mean-square residual (SRMR), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). All indices have shown acceptable fit ($\chi^2/df = 0.20$; TLI = 0.95; CFI = 0.95; RMSEA = 0.05; SRMR = .03) suggested by Hu and Bentley (1999).

Table 1 shows the means, standard deviations, correlations, and estimated reliabilities of the variables. To test our hypotheses for both main effects and mediation effects, we followed Preacher & Hayes (2008), Preacher, Zyphur, & Zhang (2010), and Preacher, Zhang, & Zyphur, (2011) using Mplus 8.3 software. The model corresponds to a 1-1-1 mediation model where predictor, mediator, and outcome variables are assessed at Level 1 (Bauer, Preacher, & Gil, 2006). Age, gender and education were controlled when assessing mindfulness and adaptive performance dimensions. Table 2 shows the results of the estimated direct effects on the mediator and adaptive performance dimensions and indirect effects of hypothesized paths with a bootstrapping of 10,000 replications to produce confidence intervals.



Table 1 Descriptive Statistics and correlations.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1.Age	3.31	1.52											
2.Gender	1.73	.19	-.04										
3.Education	3.18	0.40	.24	-.06									
4.Frequency	3.84	1.02	-.06	.01	-.05								
5.Duration	3.67	1.17	-.04	.01	-.02	.50**							
6.Mindfulness	5.17	.94	.00	.01	-.01	.67**	.66**	(.95)					
7.Creativity	5.11	.98	.02	.04	-.01	.64**	.63**	.82**	(.82)				
8.Reactivity	4.87	1.01	.04	.05	-.15*	.63**	.62**	.82**	.80**	(.86)			
9.Adaptability	4.97	.89	-.01	.04	-.01	.62**	.59**	.77**	.72**	.84**	(.85)		
10.Training effort	5.00	.73	-.08	.01	-.01	.63**	.58**	.75**	.71**	.80**	.86**	(.82)	
11.Handling work stress	4.89	1.01	-.01	.03	-.04	.64**	.61**	.78**	.76**	.79**	.82**	.88**	(.89)

Note. N = 384; * p < 0.05 ** p < .01; Values in parentheses on the diagonal are the reliability coefficients (Cronbach’s alpha) for each scale. M = Mean, SD = Standard Deviation.

Providing support for Hypothesis 1 and Hypothesis 2, the results from Table 2 revealed that frequency ($\beta = .45, p < .01$) and duration ($\beta = .44, p < .01$) of mindfulness trainings were positively related to mindfulness. Furthermore, frequency of mindfulness trainings was also positively related to adaptive performance dimensions on creativity ($\beta = .14, p < .01$), reactivity ($\beta = .12, p < .01$), adaptability ($\beta = .18, p < .01$), training effort ($\beta = .19, p < .01$), and handling work stress ($\beta = .19, p < .01$) supporting Hypothesis 3. Similarly, duration of mindfulness trainings was positively related to creativity ($\beta = .13, p < .01$), reactivity ($\beta = .11, p < .01$), adaptability ($\beta = .12, p < .01$), training effort ($\beta = .19, p < .01$), and handling work stress ($\beta = .13, p < .01$) supporting Hypothesis 4.

As for the mediating analyses, the results in Table 2 revealed that mindfulness mediated the relationship between frequency of mindfulness trainings and all dimensions of adaptive performance (creativity estimate = 0.28, 95% CI [.20, .34], reactivity estimate = 0.29, 95% CI [.21, .35], adaptability estimate = 0.23, 95% CI [.16, .28], training effort estimate = 0.20, 95% CI [.13, .25], handling work stress estimate = 0.25, 95% CI [.18, .31]). Similarly, mindfulness mediated the relationship between duration of mindfulness trainings and all dimensions of adaptive performance (creativity estimate = 0.25, 95% CI [.19, .31], reactivity estimate = 0.27, 95% CI [.20, .32], adaptability estimate = 0.21, 95% CI [.15, .26], training effort estimate = 0.18, 95% CI [.12, .23], handling work stress estimate = 0.23, 95% CI [.16, .28]). These results provided support for Hypothesis 5.

**Table 2** Direct and Indirect Effects from Mediating Analysis

Path	Est.	95% CI
Direct Effects		
Frequency → Mindfulness	.45***	[.33, .53]
Duration → Mindfulness	.44***	[.30, .48]
Mindfulness → Creativity	.63***	[.52, .73]
Mindfulness → Adaptability	.55***	[.43, .66]
Mindfulness → Reactivity	.65***	[.53, .75]
Mindfulness → Training effort	.51***	[.37, .63]
Mindfulness → Handling work stress	.57***	[.44, .68]
Frequency → Creativity	.14***	[.04, .25]
Frequency → Adaptability	.19***	[.07, .30]
Frequency → Reactivity	.12**	[.03, .21]
Frequency → Training effort	.22***	[.11, .33]
Frequency → Handling work stress	.19***	[.07, .30]
Duration → Creativity	.14***	[.04, .25]
Duration → Adaptability	.13**	[.02, .25]
Duration → Reactivity	.12**	[.02, .22]
Duration → Training effort	.13**	[.01, .26]
Duration → Handling work stress	.14**	[.03, .26]
Indirect Effects		
Frequency → Mindfulness → Creativity	.28***	[.20, .34]
Frequency → Mindfulness → Adaptability	.23***	[.16, .28]
Frequency → Mindfulness → Reactivity	.29***	[.21, .35]
Frequency → Mindfulness → Training effort	.20***	[.13, .25]
Frequency → Mindfulness → Handling work stress	.25***	[.18, .31]
Duration → Mindfulness → Creativity	.25***	
Duration → Mindfulness → Adaptability	.27***	[.19, .31]
Duration → Mindfulness → Reactivity	.21***	[.15, .26]
Duration → Mindfulness → Training effort	.18***	[.20, .32]
Duration → Mindfulness → Handling work stress	.23***	[.12, .23]
R^2 for Mindfulness	.60***	
R^2 for Creativity	.70***	
R^2 for Adaptability	.70***	
R^2 for Reactivity	.63***	
R^2 for Training effort	.61***	
R^2 for Handling work stress	.65***	

Note. $N = 384$. Estimate = standardized regression coefficient; CI = confident intervals. R^2 represents total

variance explained at each dependent variable.

* $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed).



Conclusion & Recommendations

This research was designed to provide empirical examination of mindfulness training and its role in the development of certain skills that are relevant to individual performance at work.

Previous studies (Brown & Ryan, 2003; Kabat-Zinn, 2003; Sedlmeier et al., 2012), have confirmed the multiple benefits of mindfulness for well-being, such as reduction of stress, and have been suggested that it is a discipline that can be cultivated through activities such as Yoga and Meditation. Consistent with those past research, this study found that the times per week and the length of the mindfulness practice relate to higher level of mindfulness as measured by the MAAS scale. Specifically, the more employees practice yoga or mediation, the better the presence of their attention to and awareness of what is occurring in the present moment.

Consistent with past studies which argued that employee awareness and absent-mindedness might be related to work performance (Glomb, Duffy, Bono, & Yang, 2011 ; Sawyer et al., 2022; Shao & Skarlicki, 2009), this research has found that the higher level of mindfulness is associated with the higher levels of adaptive work performance in all five dimensions (i.e., creativity, reactivity in the face of emergencies, personal adaptability, training effort, and handling work stress). We also found mindfulness as a mediator between mindfulness training and these adaptive performance dimensions. Specifically, the more the mindfulness training employees practice, the better their level of awareness, which

in turn, the higher the level of their adaptive work performance.

This research contributes to literatures and management in a few ways. For theoretical contributions, we contributes to the literatures of mindfulness training and mindfulness (Brown & Ryan, 2003; Kabat-Zinn, 2003), to provide an empirical evidence that practicing mindfulness training such as yoga and meditation could help improve the level of a person's mindfulness level. Furthermore, we contribute to the growing literature on workplace mindfulness by exploring the psychological mechanism through which mindfulness training may be related to higher work performance. Noting that our research is also the first to expand and link the positive consequences of mindfulness on adaptive work performance. In terms of practical contribution, the findings provide evidence of the importance of investing in the development of more personalized mindfulness training programs designed based on company's goals, as an effective alternative to invest in human capital. The study of mindfulness may contribute to open the window how a specific training for a specific performance purpose can be designed based on mindfulness training.

The result of this study showed there are significant relationships between each set of variables. Moreover, coefficients suggest that the magnitude of relationships is large and the strongest with two dimensions of adaptive performance: creativity, and reactivity. It is suggested that these two dimensions can be considered for further research or applied in a focus group, with controlled variables and under specific profile, including demography, specific role at



work, industries, job position, etc. This will help to provide a more accurate vision of how to improve creativity through mindfulness training, and different variables that could be relevant to the development of the training such as the training environment and conditions.

More research is required to define whether this significant mediated relationships we found in this study could be effective to all job positions and profiles. Researchers (Lyddy, et. al., 2021) have found that mindfulness does not affect to everyone at a job performance level. They suggest that professions with a role that requires to “perform unauthentic “, including salespeople, customer services relate jobs, where workers need to perform a specific attitude regardless their actual emotional

state, can have a different outcome. The study did not study to see whether the mindfulness scores and adaptive performance scores changes significantly over the time based on certain conditions, however previous research has been found that duration and frequency of the training was shown been impactful after short practices (Creswell et al., 2014). Therefore, longitudinal studies with a daily survey and boundary conditions are suggested for future research. Lastly, only yoga and meditation practices have been considered as part of the Mindfulness Training in this study. However, there are other body scanning activities (Gordon, 2013) and behavioral therapies (Linehan, 1993; Hayes, Strosahl, & Wilson, 1999), that have also been developed as mindfulness training that could be included for further research.

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