

Effects of mindfulness on occupational stress and job satisfaction of hospitality and service workers

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ABSTRACT: Hospitality and service workers commonly work under psychological and physical pressure with long working hours, resulting in high levels of occupational stress that affect their overall well-being and job satisfaction. This study investigates the effects of a mindfulness intervention on occupational stress and job satisfaction of hospitality and service workers. A total of 14 professionals participated in the study. They integrated a 15 to 30-minute audio mindfulness session into their daily work routine for fifteen days. A quasi-experimental pretest-intervention-posttest design was used. To measure the effects over the intervention period, a paired samples t-test was conducted. When data were not normally distributed, the Wilcoxon rank-sum test was performed to assess changes. After the intervention, participants showed significantly higher values in general mindfulness and job satisfaction and significantly lower scores in occupational stress. The present study shows that even low-cost, self-directed mindfulness training has a beneficial impact with significant work- and health-related relevance. Based on these findings, managers in the hospitality industry are recommended to invest in mindfulness training and integrate it into their human resources strategy.

KEYWORDS: mindfulness, occupational stress, job satisfaction, human resource management {Use terms NOT in the title}

Introduction

In Western countries, the desire for a healthy lifestyle is influenced by social and cultural factors. Meditation, yoga and healthy eating are trends that have gained prominence and, in a post-COVID hybrid work environment, further necessitates the need for renewed balance. According to the International Food Information Council (2020), 54% of US consumers surveyed in the Food and Health Survey are paying more attention to the healthfulness of their food and beverage choices in 2020 than in 2010. In addition, Clarke et al. (2018), who surveyed US adults aged 18 years and older, found an increase in the use of complementary health approaches from 2012 to 2017. Yoga use increased from 9.5% to 14.3%, while meditation use more than tripled from 4.1% in 2012 to 14.2% in 2017. The new lifestyle in demand is characterised by the desire for quality of life and self-realisation to achieve balance and satisfaction. This shift toward a more post-material set of values is also carrying over into the business world, where increasing emphasis is being placed on health promotion and a better work-life balance.

The performance culture of today is characterised by speed and an efficient flow of information, which puts employees under increased pressure to perform (Xu et al., 2021). Several researchers have identified occupational stress as a critical issue in many organisations, as there is a growing body of literature showing that workplace stress can contribute to work-related illnesses that affect both physical and psychological well-being

(Bohle & Quinlan, 2000). Lazarus and Folkman (1984, p. 19) state that "psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being". Occupational stress can also be observed in the particularly fast-paced and highly competitive hospitality industry, where employees are exposed to a very high level of emotional demands. Many hospitality workers are at risk of compromising their mental and physical well-being due to poor working conditions, such as shift work and long working hours (Lo & Lamm, 2005). According to Hurley (2015), the burnout rate of hospitality workers is among the highest of all industries. This also has implications for job satisfaction, which is defined as the emotional state that results from evaluating one's work and work experiences (Locke, 1976).

In recent years, organisations in Western societies have also increasingly used spiritual practices to train employees and managers (Bell & Taylor, 2003; Purser & Loy, 2013). In particular, the concept of mindfulness has gained increasing attention in academic literature, and its implementation in the corporate world is gaining popularity. Mindfulness originated in Buddhist meditation practice and is a particular way of directing attention by observing the present moment and taking in all experiential content consciously, nonjudgmentally and with acceptance and kindness (Heidenreich & Michalak, 2003; Kabat-Zinn, 2003). It is believed that participation in mindfulness-based practices leads to a reduction in discomfort, increased productivity and

minimised stress (Heidenreich & Michalak, 2003). While large companies such as Google already offer mindfulness-based programmes for their employees, many businesses, managers and human resource professionals, including those in the hospitality industry, may not be aware of this (Reb & Atkins, 2015).

Employees in the hospitality industry are exposed to a high level of emotional demands and stressful situations, as one of the most important requirements is to be empathetic, positive and friendly at all times when dealing with customers to achieve adequate customer satisfaction (Grandey, 2003; Hochschild, 1983; Sardiwalla, 2003). Dealing with angry or impatient customers and a hectic pace of work is common among hospitality and service workers (Pizam, 2004). This requires employees to maintain a high level of self-control and can lead to emotional exhaustion, job dissatisfaction and even burnout (Pizam, 2004). With the ever-increasing demands to work faster and more efficiently, many employees become overwhelmed, causing them to look for another employer that promises better working conditions.

Human resources are the most valuable asset in the hospitality industry, as the talents, skills and knowledge of employees are the only sustainable source for any organisation (Nel et al., 2014). While many employers outwardly claim to genuinely care about the well-being of their employees, the reality can be quite different. A key indicator of employee dissatisfaction in the hospitality industry is that employee retention rates are among the lowest of any industry, which in turn leads to poor customer satisfaction and lower profitability due to high annual additional costs (Pranoto, 2011). Low job satisfaction is cited as a contributor to these high staff turnover rates, which are primarily caused by occupational stress and work overload (Lo & Lamm, 2005; O'Neill & Davis, 2011). Companies should therefore acknowledge the pressures on hospitality employees and provide behavioural interventions to address and alleviate these issues.

Purpose and relevance of the study

There is little to limited existing research related to the use and implementation of mindfulness for hospitality and service employees. Therefore, the rationale of this study is to investigate whether the utilisation of mindfulness can help employees better manage occupational stress and simultaneously increase their job satisfaction.

The findings of this study are particularly relevant to managers and human resource professionals to consider whether mindfulness-based training should be invested in and thus integrated into employee development and well-being to reduce high staff turnover rates. Furthermore, if the intervention proves successful, each employee can benefit by routinely integrating mindfulness training into their daily work routine and thus using it specifically as a prevention and coping strategy against occupational stress and for greater job satisfaction. In addition, the results of this research may also be relevant to education and training institutions, as they may offer mindfulness-based interventions as preventive measures for students who are the future employees in the industry.

Literature review

The literature review summarises the theory about mindfulness, including the definition of key concepts. In addition, research is reviewed that addresses the association between mindfulness,

occupational stress and job satisfaction. Studies are included that applied a similar intervention approach as implemented in the current study, thus allowing for a valuable comparison between the results. Given the setting of the study and the fact that there are very few studies on similar interventions in the hospitality industry, the selection of literature was based on comparable service industries, operating in a Western European context.

Mindfulness

Kabat-Zinn (1994) defines mindfulness as a specific kind of attention given purposefully in the present moment with a non-judgmental gaze. This non-judgmental attitude allows one to perceive and observe present circumstances and events as they are, without distorting them emotionally or intellectually through any form of evaluation (Buchheld & Walach, 2004). It further requires a conscious focus on the present experience in which the individual is not entangled in worries and reflections about the past or the future (Brown et al., 2007). Thus, it is a process of gaining insight into the nature of the mind and adopting a decentred perspective on one's thoughts and feelings (Bishop et al., 2004). The basis for mindful behaviour is an open and accessible mindset that allows the individual to become aware of their own inner experience, including emotions, thoughts and behavioural intentions, as well as engaging with external events (Brown et al., 2007). The practice of mindfulness is associated with increased resilience, as well as greater vitality and a reduction in perceived stress (Aikens et al., 2014). According to Zeidan et al. (2010), it is further thought to help improve performance by increasing cognitive flexibility and alertness and protecting against distractions and performance errors.

Mindfulness and occupational stress

The best-known documented benefits of mindfulness activities are psychological, and perhaps the most cited psychological benefit is stress reduction. According to Allen et al. (2015), there is sufficient evidence that mindfulness-based training can be effective in reducing employee stress and strain. This finding is consistent across the literature reviewed, regardless of the type of work, the existing stress level of the employee, or the mindfulness programme offered (Martín-Asuero & García-Banda, 2010; Roeser et al., 2013; Bostock et al., 2018). Mindfulness training such as the Mindfulness-Based Stress Reduction (MBSR) programme systematically reduces both psychological and physical stress symptoms (Chiesa & Serretti, 2009) and thus increases overall well-being (McCraty, 2003; Chu, 2010). According to Hyland et al. (2015), companies can increase employee engagement and retention by implementing mindfulness programmes, especially in jobs that involve high levels of stress. Weinstein et al. (2009) argue that the perception of stress is not only the result of an event itself, but more importantly the individual evaluation of the event as negative and exceeding their coping capacity. According to Hülshager et al. (2013), mindful individuals encounter the present moment in a receptive, non-judgmental way and thus perceive stressful events more objectively and refrain from attaching any particular meaning or evaluation to them. Thus, the individual is prevented from being influenced by negative thought patterns that can lead to an overdramatic evaluation of the situation. Mindfulness facilitates the adaptive evaluation of stressful events, resulting in the employee having fewer negative and more positive affective

reactions, which in turn leads to a positive attitude toward the work situation (Hülshager et al., 2013).

This finding is also corroborated by Shapiro et al. (2006), who argue that mindful individuals are better able to self-regulate and adapt effectively to stressful situations in the workplace. This is further evidenced by Wolever et al. (2012), who conducted a study on mind-body stress reduction in the workplace. During the study, 239 volunteers were randomly assigned to a therapeutic yoga programme for stress reduction at work, one of two mindfulness-based programmes, or a control-only group. It was found that participants of the mindfulness-based interventions showed significantly greater improvements in stress management, sleep quality and heart-rate variability ratio in direct comparison with the control group. Furthermore, Nadler et al. (2020) conducted a randomised, waitlist-controlled trial to examine the efficacy of an eight-week online mindfulness training programme in a sample of adults employed full-time at a company in the United States. In this study, the intervention group showed a statistically significant increase in resilience and positive mood and a significant decrease in stress and negative mood compared to the control group.

Mindfulness and job satisfaction

Given the non-judgmental component of mindfulness, researchers have identified that mindful individuals experience higher levels of job satisfaction (Hülshager et al., 2013). This is because a mindful attitude promotes higher levels of self-directed behaviour, which in turn positively impacts employee satisfaction (Glomb et al., 2012). Furthermore, Shapiro et al. (2006) explain that it helps to focus attention and awareness entirely on the present experience, with automated routines becoming less frequent, thus helping individuals to stay more in touch with their basic values and needs. This is beneficial as job satisfaction and value fulfilment are closely related (Judge et al., 2005). Reb et al. (2017) also argue that employees' mindfulness competence is positively correlated with task performance, with this relationship mediated in part by the lower emotional exhaustion experienced by more mindful employees. Hülshager et al. (2013) implemented a two-stage research design by first surveying 219 employees recruited from various organisations and measuring components such as job satisfaction and emotional exhaustion. The study further included a two-week mindfulness self-training programme with participants. It was found that particularly for employees engaged in emotionally demanding jobs, the utilisation of mindfulness is beneficial, as it can help reduce emotional exhaustion, prevent burnout and increase overall job satisfaction (Hülshager et al., 2013). The results indicate that mindfulness can contribute significantly to better cope with the challenges in stressful and emotionally demanding occupations. Job satisfaction, in turn, is a strong indicator of staff turnover (Chen et al., 2011). According to Dane and Brummel (2013), mindful individuals are less likely to show turnover intentions because they are able to first cope with and then effectively manage stressful workplace demands. Chaskalson (2011) describes that the integration of mindfulness in the workplace leads to lower absenteeism and reduced employee turnover intentions. This is confirmed by Andrews et al. (2014) who argue that mindfulness is negatively associated with employee turnover. According to Hyland et al. (2015), companies can increase employee engagement and

retention by implementing mindfulness programmes, especially in occupations that involve elevated levels of stress. As shown in Figure 1, the independent variable in the current study is mindfulness, while the dependent variables are occupational stress and job satisfaction.

Problem statement and research questions

The problem statement is formulated as follows: What is the effect of a mindfulness self-training intervention on occupational stress and job satisfaction of hospitality and service workers?

More specific research questions are:

1. Does completing a three-week mindfulness self-training intervention increase the perceived level of mindfulness values among hospitality and service employees?;
2. Does a three-week mindfulness self-training intervention reduce the perceived occupational stress among hospitality and service employees?; and
3. Does attending a three-week mindfulness self-training intervention increase job satisfaction among hospitality and service employees?

Method

Research design

The current study was conducted according to a quasi-experimental pretest-intervention-posttest design. The same variables were collected before and after the intervention to test its effectiveness. Next to testing the impact of the mindfulness training, some descriptive data were collected and some correlational analyses on relevant variables were also performed.

Instrumentation

Quantitative data was collected from the sample using a questionnaire that contained three main sections, namely the introduction, demographic information such as age, gender and weekly working hours, and a series of items related to mindfulness, job satisfaction and occupational stress. The independent variable *mindfulness* was measured using nine modified items from two of the most popular psychometric measures, the Mindfulness Attention and Awareness Scale (MAAS; Brown & Ryan, 2003) and the Freiburg Mindfulness Inventory (FMI; Buchheld et al., 2001). An example item is "When my attention is briefly diverted, I can easily refocus afterward". Job satisfaction was assessed using a seven-item scale in which items are partially modified from the Overall Job Satisfaction Scale (OJS) (Brayfield & Rothe, 1951). A sample item is "My job fulfils me". For measuring *occupational stress*, eight items were adopted and revised from the Occupational Stress Indicator (OSI) (Cooper et al., 1988). A sample item is "I often feel tense or stressed during the workday". All items

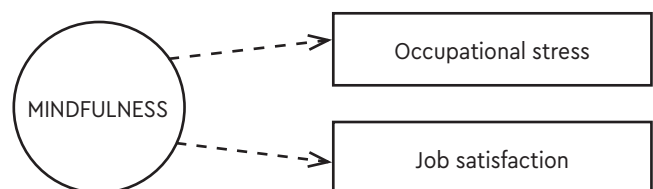


FIGURE 1. Conceptual framework representing the influence of mindfulness on occupational stress and job satisfaction

were answered using a five-point Likert scale, with 1 = never true; 2 = rarely true; 3 = sometimes true; 4 = often true; and 5 = always true.

The survey was pilot tested on a number of volunteers, which led to some minor changes in the formulation of a few items. For example, the items related to the variable of mindfulness were adapted from a general to a more work-related context based on the feedback received. The reliability and validity values for all scales were satisfactory and similar to the values reported in earlier studies.

Sampling

The target group and population of this study are in theory all employees in the service industry, broadly defined, including hospitality, tourism, leisure and retail business. Hospitality and service employees from different companies and departments in Germany and the Netherlands were included in the sample. To ensure comparability and reliability, the literature investigation predominantly included research studies that were also conducted in Western countries, such as Germany and the Netherlands.

To participate in the study, participants were required to be in paid employment for at least 30 hours per week and be willing and motivated to do the mindfulness training. The final sample consisted of nine female and five male individuals, including hotel employees from different departments, hospitality students currently working in the hospitality industry and service staff.

Data collection procedure

For this study, potential participants were recruited personally by the researchers. Recruitment methods included phone calls, email invitations, by word of mouth and direct personal contact. Upon initial contact, information about the study was provided by the researchers and participation was subsequently requested. To participate in the study, employees had to be willing to practise 15 to 30-minute mindfulness meditations daily for 15 working days and agree to complete a 15 to 20-minute online survey twice. Participation in the study was on a voluntary basis with no financial compensation.

After initial contact and giving consent to participate in the study, participants received detailed instructions of the mindfulness training with access to audio meditations. Participants received two different questionnaires at two separate times, which they could submit via Google Forms or complete in hard copy. Thus, the pretest was administered at the beginning of the three-week intervention and the posttest immediately after the treatment period. All data were stored in a database and then statistically analysed.

The intervention

The mindfulness intervention used for the sample was based on a pure self-training approach, without any group intervention. Each participant needed to be in possession of a working electronic device with *Spotify* installed to access the designated audio files on mindfulness. The planned intervention period was three weeks with a total of 15 working days. The mindfulness programme contained 15 mindfulness meditations of 15 to 30 minutes each. Due to its brevity, each meditation was easy to integrate into the participants' daily work routines. The audio files were available and accessible to the subjects at all times. Participants were free to conduct

mindfulness sessions before starting work, during a break, or after work. In the posttest, participants were asked to indicate at what moment they had completed the mindfulness sessions. To check the regularity of implementation, participants were also asked how many sessions they had skipped. This served to filter out participants who did not regularly participate in the training and thus ensure the validity of the study. All audio sessions were offered through the *Mindful Movement Podcast* programme by Sara and Les Raymond, who are experienced trainers in the field of mindfulness meditation. Over the three-week period, participants were guided by the trainers through mindfulness meditations designed to cultivate an accepting, non-judgmental attitude toward what one is experiencing at that very moment. During the first week, participants received beginner's level meditations which focused on becoming more aware of their surroundings and the sensations happening in their bodies. Participants were also guided to focus their attention on specific anchor points, such as their breathing, to gain a calmness they could always return to when experiencing stressful moments. In the following two weeks, participants were introduced to various meditation topics, revolving around acceptance, letting go, decentering and loving-kindness. The goal was to remain mindful of inner and outer experiences in order to respond more consciously and to reduce stress.

Data analysis

Data analysis was performed using the statistical software package IBM/SPSS25. First of all, appropriate descriptive statistics was calculated for all variables in the survey. As this study was conducted according to a pretest-intervention-posttest design, we assessed whether the relevant variables had changed between two time points. A paired samples *t*-test was applied to detect and reveal changes over time. Each subject was measured twice, resulting in pairs of observations. When the data were not normally distributed, the Wilcoxon rank-sum test was performed to determine changes over time. To test the relationships between the designated variables, correlation and regression analyses were conducted.

Ethical considerations

According to Zegwaard (2015), in addition to the importance of selecting an appropriate research methodology, ethical considerations are critical to take into account when conducting this kind of research. Since this is a study of human subjects, it was imperative to obtain informed consent from all participants. Research participants were fully informed from the outset on what was required of them and how the research data would be collected and processed (Denzin et al., 2006). The collected data was safely stored, only used for research purposes and not disclosed to third parties. Informed consent also ensured that all subjects participated in this study of their own free will. Participants were further fully informed about the procedure of the intervention and possible risks and benefits. Furthermore, subjects were asked for their consent for possible publication of the study results. Informed consent was considered as a contract between the researchers and the participant, ensuring absolute anonymity, discretion and confidentiality to subjects throughout the research project.

Results

Descriptive statistics

Initially, 21 subjects participated in the study, of whom 13 were female and eight were male. Four subjects did not return the post-intervention survey and were excluded from the study. Another subject had to discontinue the study after the first week due to illness. A sixth subject dropped out after two weeks due to time constraints and a seventh participant was excluded from the study as she indicated in the post-questionnaire that she had skipped the mindfulness intervention four times. In total, seven participants were therefore not included in the study further. Finally, as indicated in Table 1, 14 subjects participated in the study, nine of whom were female and five males, ranging in age from 21 to 45 years old ($M = 28.36$, $SD = 6.51$).

On average, subjects worked 38 hours per week ($M = 38.29$; $SD = 3.58$). Two of the participants reported that they performed the mindfulness intervention before work, ten participants indicated that they completed the mindfulness intervention during their break from work (as recommended by the researchers before the study) and two participants completed the mindfulness intervention after their daily work. Of the fourteen participants, three participants (21.4%) had prior experience with mindfulness, while the other eleven participants (78.6%) indicated that they had no experience.

An independent samples *t*-test indicated that there were no significant differences in mindfulness scores between participants with previous mindfulness experience ($M = 2.67$, $SD = 0.19$) and those without ($M = 2.67$, $SD = 0.47$) in this sample

($t(12) = 0.00$, $p = 1.00$ [two-tailed]). An independent samples *t*-test revealed that there were also no significant differences in occupational stress scores between participants with previous experience of mindfulness ($M = 4.08$, $SD = 1.05$) and those without ($M = 3.88$, $SD = 0.55$) in this sample ($t(12) = -0.486$, $p = 0.636$ [two-tailed]).

As shown in Table 2, before the intervention, respondents most strongly agreed with the statement "I often rush through my work activities without really being aware of what I am doing". The lowest score before the intervention was given to the statement "I pay attention to sensations, such as the wind in my hair or sun on my face". The item "I am patient with myself and with others" was the highest rated after completion of the mindfulness intervention.

In regard to occupational stress, respondents most strongly agreed with the statement "I have trouble relaxing at work" before the mindfulness intervention. After participating in the mindfulness intervention, the highest score was measured on the statement "When I have stressful thoughts, I usually 'take a step back' and am aware of the thoughts without being consumed by it" as indicated in Table 3.

As indicated in Table 4, the highest pre-intervention rating regarding job satisfaction was given to the statement "I feel valued and affirmed at work", while after the mindfulness intervention, respondents most strongly agreed with the statement "I have the tools and resources to do my job well".

Testing for change between pre-and post-intervention scores

To determine the effects of the mindfulness intervention on occupational stress and job satisfaction, paired-samples *t*-tests were conducted with pre- and post-intervention outcomes as variables as shown in Table 5.

Mindfulness

Table 5 shows that mindfulness significantly increased from $M = 2.67$ to $M = 3.58$ between the measurement before and the one after the intervention ($t(13) = -11.93$; $p < 0.001$; $d = -2.267$).

Occupational stress

As indicated in Table 3, occupational stress significantly decreased from pre-intervention to post-intervention ($t(13) = 11.38$; $p < 0.001$; $d = 2.058$).

Job satisfaction

Job satisfaction significantly increased from pre-intervention to post-intervention ($t(13) = -5.32$; $p < 0.001$; $d = -1.044$).

TABLE 1: Characteristics of the sample

	Frequency	Per cent
Sex		
Female	9	64.0%
Male	5	36.0%
Working hours		
30	2	14.3%
38	2	14.3%
40	10	71.4%
Mindfulness training		
Before work	2	14.3%
During work	10	71.4%
After work	2	14.3%
Prior experience		
Yes	3	21.4%
No	11	78.6%

TABLE 2: Descriptive statistics for mindfulness

Item	Pre-intervention		Post-intervention	
	Mean	Standard deviation	Mean	Standard deviation
I pay attention to sensations, such as the wind in my hair or sun on my face.	1.86	0.66	3.07	0.73
I find it difficult to sustain focus.	3.29	0.99	2.43	0.76
When I have distressing thoughts, I just notice them and let them go.	2.21	0.80	3.57	0.51
When my attention is briefly diverted, I can easily refocus afterward.	2.64	0.84	3.29	0.73
While I am working, I often find myself daydreaming.	2.21	0.89	1.93	0.99
I often rush through my work activities without really being aware of what I am doing.	3.36	1.22	2.64	0.63
When I talk to my colleagues, I am aware of the emotions I am experiencing.	2.71	0.83	3.79	1.12
I feel connected to my experience here-and-now.	2.57	0.51	3.50	0.52
I am patient with myself and with others.	2.86	1.17	4.00	0.88

Conclusion

The affirmative results of this study imply that it has been an effective intervention to reduce occupational stress and increase job satisfaction in hospitality and service employees. The findings of this study confirm previously published scientific causal and correlational studies on the effectiveness of mindfulness in an organisational setting.

Discussion

Interpretation of the findings

Both organisational scholars and hospitality professionals have paid too little attention to individual-level mindfulness and its consequences for employees in the highly dynamic work environment of the hospitality industry. To rectify this omission, this study tested the effects of 15 days of mindfulness training integrated into the daily work routines of subjects who worked in different hospitality and service companies.

Results suggest that the intervention was successful and significant changes occurred in all variables analysed. Hospitality and service employees who participated in this study demonstrated increased mindfulness, decreased occupational stress and increased job satisfaction. As all hypothesised

relationships were confirmed, this encourages further research on the potential impact of mindfulness on work and health-related benefits among hospitality and service workers.

Mindfulness

The majority of participants showed an increase in their ability to stay focused after the intervention, and they reported being able to let go of stressful thoughts. This is consistent with Karlin's (2018) findings that employees had higher levels of energy and increased levels of concentration after a mindfulness intervention. Furthermore, this result is also in line with the findings of Buchheld and Walach (2004), who describe that mindfulness is characterised by a non-judgmental attitude towards perceived thoughts without being emotionally or intellectually distorted by them, making it easier to let go of negative thought patterns. The post-intervention evaluation statistics of this study further showed an increase in improved refocusing when general distractions occurred, supporting the claim that mindfulness increases cognitive flexibility and thus protects against distractions (Zeidan et al., 2010). Furthermore, participants exhibited a higher form of general self-regulation by being more intensely aware of themselves and their surroundings, for instance becoming more aware of their emotions when interacting with colleagues and feeling less rushed through work activities. This

TABLE 3: Descriptive statistics for occupational stress

Item	Pre-intervention		Post-intervention	
	Mean	Standard deviation	Mean	Standard deviation
I often feel tense or stressed during the workday.	3.86	0.86	2.93	0.48
I often feel pressure from deadlines.	3.93	0.83	3.00	0.56
I have trouble relaxing at work.	4.14	0.86	2.64	0.49
I feel mentally exhausted due to the high workload.	3.86	0.86	2.57	0.65
I experience moments of inner calm and serenity, even when things get hectic and stressful at work.	2.00	0.68	3.71	0.73
When I have stressful thoughts, I usually "take a step back" and am aware of the thoughts without being consumed by them.	1.93	0.62	4.14	0.66
I can calm down quickly after experiencing stressful thoughts and impulses.	2.14	0.86	3.43	0.85
My mind is at ease while working.	2.36	1.01	3.14	0.66

TABLE 4: Descriptive statistics for job satisfaction

Item	Pre-intervention		Post-intervention	
	Mean	Standard deviation	Mean	Standard deviation
I feel positive and excited about my work most days.	3.50	0.65	4.07	0.62
My job fulfils me.	2.71	0.91	3.36	0.49
I look forward to going to work on Monday morning.	3.00	0.56	3.57	0.51
I have the tools and resources to do my job well.	3.57	0.65	4.29	0.61
I feel valued and affirmed at work.	3.71	0.83	4.14	0.66
I never think about quitting my job.	3.07	0.92	3.57	0.65
I have energy at the end of each workday to engage in personal interests.	2.93	0.99	3.71	0.47

TABLE 5: Pre- and post-intervention scores for mindfulness, occupational stress and job satisfaction

Variable	Mean	Standard deviation	t-value	p-value	Effect size
Mindfulness pre-intervention	2.67	0.42			
Mindfulness post-intervention	3.58	0.24	-11.93	<0.001	-2.267
Occupational stress pre-intervention	3.92	0.64			
Occupational stress post-intervention	2.59	0.33	11.38	<0.001	2.058
Job satisfaction pre-intervention	3.21	0.61			
Job satisfaction post-intervention	3.82	0.35	-5.32	<0.001	-1.044

finding is supported by Shapiro et al. (2006), who identified that mindful individuals are capable of higher self-regulation.

Occupational stress

From previous literature, the most reported psychological benefit of mindfulness was stress reduction. And indeed, occupational stress showed the highest downward effect from pre- to post-intervention. A reduction in the experience of stress during employees' daily activities was noted, supporting the finding that mindfulness-based practices are effective in reducing employee stress and strain (Martín-Asuero & García-Banda, 2010; Roeser et al., 2013; Allen et al., 2015; Bostock et al., 2018). In addition, higher self-regulation was observed post intervention, as employees indicated calming down more quickly when confronted with stressful thoughts and impulses. The study participants also indicated that they perceived the pressure of deadlines and the general workload to be lower. This supports the claim of Hülsheger et al. (2013) that the application of mindfulness can prevent and reduce emotional exhaustion, especially among workers in emotionally demanding jobs. In line with the hypothesis of Shapiro et al. (2006), this finding also suggests that individuals who exhibit higher levels of mindfulness can adapt more effectively to stressful situations at work and thus experience less pressure.

In addition to an increase in self-awareness and self-regulation, results also showed that participants displayed higher resilience than before the intervention, for instance by experiencing more frequent periods of inner calm, even in hectic and stressful situations. This is in line with the findings of the waitlist-controlled study by Nadler et al. (2020) in which participants in an eight-week mindfulness intervention noted a statistically significant increase in resilience compared to the control group.

Job satisfaction

The mindfulness intervention increased job satisfaction among hospitality and service employees. Employees reported feeling more positive and enthusiastic in their day-to-day work, confirming Hülsheger et al.'s (2013) finding that mindful individuals experience higher job satisfaction. Furthermore, an increase was found in the perception of having the necessary resources to perform well at work, indicating a higher level of satisfaction with their work environment, even if nothing objectively changed externally. This could also indicate that the employees' resources changed as a result of the mindfulness intervention, and they transferred this to their external circumstances. Shapiro et al. (2006) previously described that increased job satisfaction is achieved because the practice of mindfulness leads to automated routines becoming less frequent and individuals getting back in touch with their basic values and needs. Another important finding of the study is that employees reported thinking less about changing jobs after the intervention. Thus, it appears that increased job satisfaction is a strong indicator of intentions to change (Chaskalson, 2011; Chen et al., 2011). Mindfulness has therefore been shown to be negatively associated with turnover intentions, as reported by Andrews et al. (2014).

Limitations

Given some limitations in the study design presented, which are important to consider for an overall evaluation, the results should be interpreted with caution. These limitations to a

sufficient interpretation of the results arise from the weaknesses of the study.

Self-report data collection method

It should be noted that the results are subject to methodological limitations. The one potentially problematic aspect is the chosen method of data collection, which in turn may have affected the reliability of the study. The only data collected in this research study was based on self-assessment. Although self-assessment is primarily used to measure acquisition cognition, it can lead to systematic judgment bias in response behaviour.

Homogeneity of sample

Another consideration that invites cautious interpretation is the characteristics of the sample. It is critical to note that this study is based on an extremely small sample. Furthermore, especially about the generalisability of the results, it should be emphasised that women are overrepresented in the study, and possible self-selection influences cannot be excluded. The sample has a young average age of 28 years, which indicates a high proportion of young professionals and students. Respondents in the age groups above 35 years old are almost not represented at all. This could be due to the format of the survey. Participation in the survey required internet access and a certain level of technical knowledge to get access to the mindfulness programme, which may ultimately have been an obstacle to reaching an older target group.

No control group

Due to the small sample size, no control group was included in the project. As this was an experimental research design, this is a limitation of the study as the inclusion of a control group, as a basis for comparison, would have enabled a demonstration of a more credible cause and effect relationship.

Non-randomised sample

Another limitation to the internal validity of this study is that the subjects were self-selected by the researchers. Therefore, it should be noted that without a control group, there is a possibility that the individual motivation of each subject may have an impact on the results.

Participant bias

At the beginning of the study, all participants were informed in detail about the procedure and background of the study. Participants may have anticipated that a positive cause-and-effect relationship on the dependent variables was sought through the mindfulness intervention. This assumption may have manipulated their results in the post-assessment.

No longitudinal study design

As this was a short-term intervention of 15 working days and only two data collection points, potential long-term effects were not assessed. However, the results indicate that positive changes can be achieved even within a short time.

Non-validated questionnaire

A self-constructed questionnaire by the researchers was used to measure effectiveness, and all items examined were based on previously published and reviewed questionnaires on mindfulness, occupational stress and job satisfaction, and were replicated almost identically. However, the questionnaire as

used in the present study has never been used in this form in scientific research and is therefore not validated. No reference values exist.

Recommendations for further research

The study included a relatively small sample and data collection was based only on self-reported survey data. In future studies, we recommend extending the research design in the following ways: include a larger and more heterogeneous sample; apply a randomised control group design to enable more valid conclusions about experimental effects; consider using a longitudinal design to compare short-term and long-term effects of the intervention; use a more diverse set of outcome measurements, including physiological indicators; and implement a combination of qualitative and quantitative research methods to collect a comprehensive data set that will enrich the overall analysis. As a qualitative research method, interviews should be applied to better assess the experiences and behaviour of the subjects over time, in addition to quantitative research such as a self-assessment questionnaire. In addition, more background information on participants would enable a more differentiated analysis of the impact of the mindfulness intervention for people with different personality profiles or in distinct positions.

Implications for business practice

This project has shown that a mindfulness intervention, in a relatively short time, with little effort and flexibly integrated into the daily work routine, can benefit hospitality and service workers. Hospitality companies should therefore consider incorporating the concept of mindfulness into their human resources policies, in attempting to minimise stress, increase job satisfaction and consequently decrease employee turnover.

As hospitality managers have a pivotal role in managing and promoting the mental and physical health of their workforce, they are strongly recommended to implement mindfulness programmes as part of their employee development strategy. It is suggested that an individualised one- to two-month, sponsored mindfulness training session for all employees be introduced, regardless of which department or position they work in. Each manager should be responsible for promoting the mindfulness programme in their department. Such top-down initiatives foster employees' interpersonal skills to open up and be more attentive so that overwork and the accompanying stress and job dissatisfaction have fewer chances of occurring in the first place. Depending on the financial resources of the company, the mindfulness intervention can either be implemented at low cost, for instance via certain online streaming platforms such as *Spotify*, or more cost-intensive measures can be initiated, such as in cooperation with mindfulness trainers who can conduct the training on site with the employees. Further, it would be reasonable to offer employees an online tool on the respective communication channels or intranet of the company that contains all relevant information on the topic of mindfulness and how to carry out certain exercises. Employees can thus proactively inform themselves and have access to specific mindfulness exercises.

It is further recommended to implement measures by asking employees to complete a self-assessment questionnaire on mindfulness, occupational stress and job satisfaction, in addition to regular feedback or appraisal meetings with their respective managers. Regular changes in the above factors could thus be monitored. In conjunction with regular feedback meetings, the

manager could identify negative developments early on and take appropriate actions.

Hospitality workers are recommended to use mindfulness as a toolbox to enhance their well-being and find ways to become more satisfied in their daily work. Incorporating a 15 to 30-minute mindfulness training session into the daily work routine in a noise-free environment should be done consistently and daily on their own initiative.

Mindfulness training should be part of hospitality management education programmes. This would provide early orientation for students and young professionals and draw general attention to the importance of the topic. Through the awareness created, young professionals would have access to this resource to combat stress and dissatisfaction at an early stage in their careers.

Conclusion

The results of this study indicate that mindfulness activities are effective in reducing occupational stress and increasing job satisfaction of hospitality and service employees. The findings of this study confirm previously published scientific studies on the effectiveness of mindfulness in an organisational setting. Occupational stress in the workplace harms the health and well-being of many employees, their productivity, and their overall job satisfaction. Therefore, a mindfulness programme can be an effective intervention to equip employees with the tools and knowledge to strengthen their psychological well-being while reducing employee turnover in the workplace.

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