

# A Mindful Workforce?

A diary study investigating effects of brief mindfulness meditations

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## **Abstract**

Emotional workers are expected to comply with emotional display rules in order to fulfil their duties even in transactions that yield negative affective reactions. Attempts to comply with these expectations over an extended period of time is usually considered to lead towards a negative well-being as well as to create conditions for emotional exhaustion. Therefore, it is of pivotal importance to identify and to provide an intervention that reduces potential negative side effects of emotional labor. Bearing this in mind, the present experimental field study tested the effects of a brief audio-guided mindfulness meditation practice (MMP) as a potential intervention. Eighty-eight emotional workers were randomized into a control or a mindfulness meditation group. All participants completed daily evening reports on their momentary well-being over the course of 10 days. The meditation group had lower negative affect and emotional exhaustion than the control group. Also in line with our hypothesis job satisfaction was higher in the meditation group. No effects were obtained with respect to positive affect and perspective taking. Effects of MMP were mediated via experiential avoidance, an avoidant coping style. The findings suggest that MMP can indeed ameliorate negative side-effects of working in the emotional labor sector by reducing experiential avoidance. Implications regarding the implementation of MMP are provided in the discussion.

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## Introduction

In 2012 a health report published by Deutsche Angestellten Krankenkasse (Borman et al., 2011) showed that the number of sick leave has reached the highest rate for the last 15 years. Similar, results are obtained by the BARMER Insurance Group. Here, the rate of sick leave has increased approximately by 4.05% compared to previous years. Sickness absence lasts on average about 12.8 days and incurs overall high economic costs (GEK, 2012). The most common reasons for interrupting work have been identified as musco-skeletal and psychological disorders. Work-related mental health impairments such as insomnia, negative mood and passivity, have been known for years, recently these impairments have been joined by a rising trend in burnout. Exact data on burnout, however are not available, for it is not registered as an official mental disorder in the Diagnostic and Statistical Manual of Mental Disorders (Kraft, 2006). Yet, according to the aforementioned health reports the highest number of absence cases is provided by the service sector (Borman et al., 2011). In contrast to the blue-collar worker, being employed in the service sectors demands a great deal of emotional and behavioural control in order to fulfil expectations and requirements set by the employer as well as by the customer, client or patient (Diestel & Schmidt, 2011) The attempt to comply with these demands may more often run counter an employee's psychological state, thereby creating psychological strain (Diestel & Schmidt, 2011). This being said, it is hardly surprising that the management of felt and expressed emotions in the service sector has been coined "emotional labor" and usually considered as an important foundation for work stress and negative well-being (Grandey, 2000; Hochschild, 1983; Zapf, 2002).

So far, intervention programs targeting work-related health impairments at different levels have been diverse, costly and time consuming (Sonnentag & Frese, 2003; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010). Mindfulness meditation may be a promising intervention. It is currently on the forefront of various therapeutic approaches. Unlike the majority of intervention techniques, mindfulness assists in cultivating an open, attentive and receptive mode of thinking which helps the practitioner to detach from preconceptions, thereby reacting more flexible and in concordance with personal needs (Roemer & Orsillo, 2009). Even though there is a plethora of empirical evidence for positive effects of mindfulness especially with regard to well-being and self-regulation (Brown & Ryan, 2003), its potential in the emotional labor sector has been largely left unattended. Because past research has mostly investigated the impact of mindfulness in the clinical sector or on students, it remains to be questioned in how far these effects can be generalized to other populations. Thus, the present study intends to close this gap by elucidating the effects of mindfulness meditation on emotional exhaustion and well-being among emotional workers.

Effects of a mindfulness intervention will be explored via conducting a quantitative diary study extending over ten working days.

Apart from questions concerning the extent to which the results can be generalized, present study bear some additional benefits for research on mindfulness in general and organizational psychology in particular. First, it is not long ago that research on mindfulness meditation has questioned whether brief mindfulness meditation yield the same effects as long and exhaustive mindfulness-based programs (Carmody & Baer, 2009; Zeidan et al., 2010). Clarifying whether brief mindfulness interventions are equally effective as long ones is of great interest not only for scientific purposes but also for the health and working sector. Exhaustive interventions are not only costly but also time consuming (Richardson & Rothstein, 2008; Zeidan et al., 2010). Therefore, employers are more willing to implement an intervention that promises the best possible results within the shortest period of time and at a competitive price. In a similar vein, employees are more receptive to wellness programs that are least time consuming, universally applicable and simple in nature (Richardson & Rothstein, 2008).

Furthermore, it is equally important to determine processes underlying beneficial effects of mindfulness. Understanding which processes are at hand is likely to benefit the design, refinement and implementation of mindfulness-based intervention programs across different contexts (Boulangier, Hayes, & Pistorello, 2010). Research however still dwells in the dark concerning this issue. Accordingly, another way in which the present study expands the current state of knowledge is by investigating mechanisms that are likely to mediate effects of mindfulness meditation on emotional exhaustion and well-being among emotional workers. One mediator that deserves attention is experiential avoidance, a construct that is assumed to be critical for breeding and fostering numerous psychopathologies (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). To date, research investigating experiential avoidance and mindfulness meditation within the same study design is still in its infancy and therefore demands further exploration of these constructs (Roemer & Orsillo, 2002). The same is valid for perspective taking, which likewise may function as a mediating factor. Perspective taking is the cognitive dimension of empathy and assumed to be an important requisite for a wide range of personal qualities as well as for interpersonal interactions (Block - Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007; Parker, Atkins, & Axtell, 2008). In the present study, particular attention is paid to a situational approach to perspective taking, since it proposes that existing circumstances are likely to impact a person's willingness to engage in perspective taking (Parker & Axtell, 2001).

On the basis of the aforementioned issues, the goals of the present study can be broken down into the following questions: First, in how far does brief mindfulness meditation extending over ten working days exert beneficial effects on the well-being of emotional

workers? Second, to what extent does practicing mindfulness meditation attenuate the use of avoidant coping strategies and thus benefit well-being. Third, in what way are effects of mindfulness meditation on well-being mediated by perspective taking?

In the following section, the concepts of emotional labor and mindfulness meditation are outlined and their link to well-being is explained. Next, experiential avoidance as well as perspective taking are delineated, before the focus is set on their links to mindfulness and well-being.

## **Theoretical background and Hypotheses**

### **Emotional Labor**

The first time that emotional labor was mentioned dates back to the publication of “The Managed Heart: The Commercialisation of Feeling” (Hochschild, 1983). Arlie Russell Hochschild referred to the interaction between an employee and a customer or a client as largely guided by impression management. By describing the exchange between two agents as impression management, she implicated that behavior and affect are largely dictated by display rules set forth by an employer or by pre-defined guidelines. The health service sector and educational occupations exemplify this type of interaction. Emotional workers are typically taught that particularly in critical situations they should avoid focusing on their inner feelings and instead try to dissociate themselves from any upcoming negative mental event (Hochschild, 1983; Theodosius, 2008). The logic behind these display rules is that satisfying service and hence high profit can be only achieved to the extent that the employee behaves in ways that fulfils the expectation of the customer across situation (Grandey, 2000). In some situations such as when the customer is friendly, following this display rules may be easy. In stressful situation, though, such as offering assistance to an angry customer, emotional control can become effortful and in the worst case detrimental to the health of the employee (Grandey, 2000). Detrimental effects arise because the process of dissociating oneself from internal feelings via maladaptive coping demands a substantial amount of emotional and physiological resources (Gross, 1998; Maslach, Schaufeli, & Leiter, 2001). Initially, these coping strategies appear to be effective in stressful circumstances and hence reinforce their use; however, the more often they are used the higher the likelihood becomes they will backfire and demand more resources (Grandey, 2000). Typically, facing a state of emotional dissonance (a state described by a disparity between felt and to be expressed emotions) eventually starts to affect the person’s well-being which is central to his relationship with the social environment, personal self and job (Grandey, 2000; Hochschild, 1983; Theodosius, 2008). Emotional disparity may lead then to a deterioration of a person’s well-being which, over time, may become the source of burnout (Maslach et al., 2001).

Burnout is described as a state and psychological process that has been defined by *emotional exhaustion*, *cynicism* and *feelings of inefficacy* (Maslach et al., 2001; Schaufeli & Buunk, 2003). Studies conducted in the context of emotional labor have more often addressed emotional exhaustion as the central dimension of burnout because it is considered to be most closely associated with stress and critical to numerous mental and physiological impairments (Maslach et al., 2001; Schaufeli & Buunk, 2003). A state of emotional exhaustion becomes noticeable through overreliance on avoidant coping strategies and negative perspectives when dealing with stress (Maslach et al., 2001; Schaufeli & Buunk, 2003). By doing so the individual can create a greater distance between the stressors and herself and hence gain a respite from these ones (Guy, Newman, & Mastracci, 2008; Maslach et al., 2001). Yet, this way of coping with stress is highly dysfunctional both at the intrapersonal level and at the interpersonal level (Martínez-Iñigo, Totterdell, Alcover, & Holman, 2007).

There is a plethora of preventions targeting burnout but the majority of these show diminished returns with extending time when implemented at the person-level (interventions that teach employees to cope effectively with job stress) (Awa, Plaumann, & Walter, 2010).

We propose that mindfulness may represent a promising prevention and intervention technique since it contrasts with general treatment methods in that it does not intend to change the content of thought but rather the mode of thinking (Chambers, Gullone, & Allen, 2009; Shapiro, Carlson, Astin, & Freedman, 2006; Siegel, 2010).

### **Mindfulness**

In the previous years new studies regarding mindfulness meditation have been steadily on the rise, nearly at the edge of growing exponentially (Cullen, 2011). The concept of mindfulness derives from the English translation of the Pali words *sati* and *sampajana*. As a whole both words refer to circumspection, awareness and discernment. Central to mindfulness is the idea of present state awareness (Siegel, 2010). According to the philosophy underlying mindfulness, those who are mindful or who practice mindfulness experience the present moment in a direct fashion. That is being mindful does not mean paying attention just more thoroughly but rather in a way that engages the mind and heart simultaneously and completely (Williams, Teasdale, Segal, & Kabat-Zinn, 2007). Buddhists refer to such a state as “bare attention” (Kang & Whittingham, 2010) because awareness of the individual is not subject to evaluation but rather completely detached from any intrusive thoughts devoted to the past or the future (Grossman & Van Dam, 2011). It is particularly this moment-to-moment awareness that is assumed to set forth numerous positive effects surrounding mindfulness interventions. Being aware of the present moment rather than switching between the past and the future provides more resources, because the very process of switching attention is effortful. These resources, in turn, can be effectively used

for tasks relevant to the present state (Jain et al., 2007). Additionally, as mindfulness emphasizes acceptance of unconditional events it assists in freeing the person from presuppositions and ruminative thinking, with the immediate consequence of approaching stressful situations in a more flexible and adaptive style (Glomb, Duffy, Bono, & Yang, 2011; Sears & Kraus, 2009).

To date, several mindfulness-based programs have been introduced and effectively employed as treatment methods varying in their application focus (Roemer & Orsillo, 2009). For instance positive effects of mindfulness have been documented for stress and anxiety reduction, counteracting self-control depletion (Britton, Shahar, Szepsenwol, & Jacobs, 2011; Friese, Messner, & Schaffner, 2012), preventing relapse of depression (Ma & Teasdale, 2004), enhancing memory performance, sustaining attention and positivity (van den Hurk, Gionmi, Gielen, Speckens, & Barendregt, 2009; Zeidan et al., 2010). Beneficial effects of mindfulness-based programmes have also been reported as a self-management technique for reducing physical aggression among young individuals with autism (Singh et al., 2011) as well as a therapy for alleviating eating disorders such as anorexia and binge eating (Heffner, Sperry, Eifert, & Detweiler, 2002; Leahey, Crowther, & Irwin, 2008). Furthermore, salutary effects of mindfulness are not restricted to the clinical population. For instance, studies with non-clinical samples demonstrated that mindfulness-based interventions led to increases in well-being and life satisfaction and to decreases in cognitive distortion or ruminative thinking (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Jain et al., 2007; Sears & Kraus, 2009; van den Hurk et al., 2011).

Being mindful is not only constrained to the state-level but has been also identified as an important trait contributing to a person's well-being. For example a recent study by Allen and Kiburz (2011) conducted with employed parents showed that individuals scoring high on trait mindfulness are more successful in managing their work and life and that this relationship is mediated by a better sleep quality and vitality. Managing work and life can also be due to an adaptive coping style, as individuals high in trait mindfulness are more likely to approach stressful or threatening situations in an adaptive fashion (Weinstein, Brown, & Ryan, 2009). Avoidance of falling prey to negative reactivity may also be due to a lowered tendency to label incoming thoughts or sensations as positive or negative which is characteristic for mindful people (Roemer & Orsillo, 2009).

Despite the great scientific interest in mindfulness, it remains empirically unclear whether mindfulness yields similar positive effects in a sample consisting of emotional workers. With regard to the accumulating evidence for beneficial effects of mindfulness we predict that emotional workers will similarly improve their well-being. Firstly, inducing a state of high attention and awareness to any incoming sensations has been linked to more adaptive emotional regulation (Arch & Craske, 2006). Secondly, mindfulness has been demonstrated

to be an effective therapeutic technique in the treatment of burnout (Shapiro & Carlson, 2009). In addition, Shapiro, Brown, and Biegel (2007) have shown that mindfulness-based stress reduction therapy is also an effective program for counselling students entering the professional field. After following a comprehensive 10-week MBSR, the counselling students reported a reduction in stress perception, negative affect and anxiety but an increase in well-being. Thirdly, even under conditions of high stress, brief mindfulness interventions yield beneficial effects (Frieze et al., 2012). Thus, we assume that practicing mindfulness may likely promote a more adaptive coping style even when dealing with critical patients, clients or other relevant parties. By doing so, the emotional worker should be able to reduce feelings of emotional exhaustion and meanwhile increase her personal well-being.

Given the fact that well-being has been defined as a broad concept encompassing various facets, we keep in with the seminal work of Lucas and Diener (2008) by measuring well-being by positive affect, negative affect and job satisfaction. We add emotional exhaustion as an additional factor associated with well-being since it is usually used an indicator for well-being in research on emotional labor (Pugh, Groth, & Hennig-Thurau, 2011). Both positive and negative affect were included as they are not mutually exclusive but co-occur in moderate levels of affect (Watson & Clark, 1994). Thus, warranting the necessity of measuring both dimensions in the present research. Furthermore, we concentrate particularly on momentary affective and attitudinal states as these are assumed to exert influence on a wide range organization-relevant behaviors (Weiss, 2002; Wright, Cropanzano, & Meyer, 2004).

### **Positive and negative affect**

Positive and negative affect have been commonly described as indicators of a person's social and psychological functioning, also known as psychological well-being (Wright, Cropanzano, & Bonett, 2007). Positive affect describes the extent to which a person reacts in a satisfying or cheerful way (Watson & Clark, 1994) and is thought to function as a "biased switch" initiating a cascade of reactions towards increased well-being (Fredrickson & Joiner, 2002). In contrast, the extent to which a person reacts in an agonizing or annoying way is referred to as negative affect (Watson & Clark, 1994). Negative affect often arises in response to situations associated with obstacles that prevent sufficient progress towards a goal (Carver, 2004). Alternatively it may also arise when external demands stand in opposite to an individual's values or beliefs, thereby creating a state of emotional dissonance (Pugh et al., 2011).

An extensive meta-analysis by Lyubomirsky, King, and Diener (2005) showed that high psychological well-being paves the way for a successful life as happy individuals are more likely to outperform their competitors during job interviews, receive more favourable job performance ratings once employed and engage more often in organizational citizenship

behavior rather than counterproductive work behavior. In addition, high psychological well-being is not restrained to the workplace, for happy people are more likely to be healthy and enjoy a supportive social environment. Meanwhile, especially in the emotional labor sector where individuals continuously face emotionally demanding situations psychological well-being starts to suffer (Grandey, 2000). Teaching employees to be mindful may slow down or counter these negative side-effects and instead promote positive well-being. As mindful people are characterized by an increased awareness and acceptance towards any type of experience (Brown & Ryan, 2003; Williams et al., 2007) they are not only more likely to perceive a multiplicity of features associated with a certain situation but also more willing to approach negative events in an adaptive way. This is further corroborated by the fact that mindfulness training reduces emotional reactivity to unpleasant stimuli but strengthens it with respect to positive affect (Erisman & Roemer, 2010; Ortner, Kilner, & Zelazo, 2007). Accordingly, by teaching emotional workers to be less reactive and more accepting towards distressing events, mindfulness may reduce the cultivation of negative affect and instead foster positive affect.

### **Job satisfaction**

In a similar vein, mindfulness may foster job satisfaction among emotional labor workers. Job satisfaction has been consistently used as an important indicator of an employee's well-being in emotional labor research (Pugh et al., 2011). Contrary to psychological well-being, job satisfaction is narrow in its scope as it is job-specific and hence gives insights into features of well-being external to a person's private life (Wright et al., 2007). Furthermore, job satisfaction is not to be equalized with affect. Instead, job satisfaction is an attitude which is defined as "a positive (or negative) evaluative judgment one makes about one's job or job situation" (Weiss, 2002, p. 175). Identifying factors that precede job satisfaction has direct relevance for the organizational setting as numerous studies have shown that employees who are satisfied with their job are less likely to turnover (Weiss, 2002), remain absent from work or engage in counterproductive work behaviors (Mount, Ilies, & Johnson, 2006). Also, being high in psychological well-being and satisfied with one's job bears positive effects on job performance (Wright et al., 2007). Job satisfaction itself is impacted by various factors such as personality and work characteristics (Saari & Judge, 2004). Likewise, working in an emotional labor sector leaves its marks on job satisfaction. That is, engaging in emotion regulation strategies is likely to create emotional dissonance, which then leads to dissatisfaction (Côté & Morgan, 2002; Grandey, 2000; Rubin, Staebler Tardino, Daus, & Munz, 2005). These effects become even more pronounced when the employee perceives himself less competent in engaging in emotional labor (Pugh et al., 2011). Alternatively, reliance on dysfunctional thinking can also cause the person to be dissatisfied with his job (Judge & Locke, 1993).

To the extent that mindfulness increases a person's awareness and attention (Brown & Ryan, 2003), it may assist in identifying features associated with a job the employee previously may not have known or ignored because of working on autopilot. Certainly, perceiving one's job from a different angle may likely impact a person's job satisfaction. What's more, in challenging and demanding situations people are likely to adopt a narrow focus on potential solutions thereby increasing the likelihood of avoidant behavior (Chambers et al., 2009; Williams et al., 2007). Yet, mindfulness increases the scope of information that may be relevant to a job-related problem through awareness and attention. Accordingly, reliance on avoidant or dysfunctional thinking may be overcome as the person realizes that he has more opportunities to choose out of how to manage an underlying problem. This in turn may foster job satisfaction.

Grounded in the aforementioned line of arguments, we assume the following hypothesis:

*Hypothesis 1.1:* Participants in the experimental group have higher positive affect and lower negative affect than participants in the control group.

*Hypothesis 1.2:* Participants in the experimental group have higher job satisfaction than participants in the control group.

*Hypothesis 1.3:* Participants in the experimental group will have lower feelings of emotional exhaustion than participants in the control group.

### **Experiential Avoidance**

Having elaborated on the relationship between mindfulness and well-being in the context of emotional labor, we next turn to the mediators. Starting with experiential avoidance, we then proceed to perspective taking.

As mentioned above, working in emotional occupations usually is considered to create a state of emotional dissonance, which is unpleasant and demanding (Grandey, 2000; Hochschild, 1983; Pugh et al., 2011). Accordingly, an emotional worker may likely deploy various strategies in order to cope with this experience. To the extent that the employee views this state as an inevitable by-product of working in this field (Larson & Yao, 2005; Pugh et al., 2011), she may mobilize her emotional, cognitive and behavioural capacities in order to cope with this state in an adaptive way. This type of dealing with a problem is referred to as *approach coping*. In contrast, employees who have difficulties with dealing with this state may engage in less adaptive strategies such as *avoidant coping* (Weinstein et al., 2009). Avoidant coping encompasses different types of strategies but for the sake of the present purpose, we focus on denial, mental and behavioural disengagement. Whereas denial refers to a person's tendency to disapprove the existence of a given feeling, behavioural and mental disengagement are associated with attempts to escape the stressor physically or psychologically (Carver, Scheier, & Weintraub, 1989). Given the fact that these strategies

were previously used in a similar study by Weinstein et al. (2009), we thought them to be most suitable for our purpose.

Common to all these strategies is experiential avoidance, which is the unwillingness to experience emotional, bodily or cognitive reactions in response to the stressor and the subsequent attempt to initiate actions that impede these experiences (Hayes et al., 1996; Kashdan, Barrios, Forsyth, & Steger, 2006). Experiential avoidance itself is a mechanism, which is assumed to be central in the production and maintenance of a wide range of psychopathologies (Hayes et al., 1996). Initial attempts to avoid experience of a certain state appear reasonable and helpful to the extent that they occur rarely (Boulanger et al., 2010). For instance, a nurse may engage in daydreaming while dealing with a difficult patient. By doing so, she may distract herself from the unpleasant feelings associated with her task and thereby comply with her display rules. Yet, as soon as experiential avoidance begins to dominate a person's coping style, it is likely to turn into a destructive and malicious phenomenon – especially when the aversive experience reappears and becomes more difficult to be avoided (Hayes et al., 1996). This is further corroborated by the fact, that avoidant coping starts to generalize across situations (Kashdan et al., 2006). Stated in another way, the nurse will continuously and consistently engage in experiential avoidance without making any discrimination concerning the presence of the stressor. Further, since this coping mechanism is effortful, it will gradually deprive the worker of his or her resources, thereby becoming a base for various psychopathologies and a negative well-being (Mitmansgruber, Beck, & Schüßler, 2008; Zvolensky, Feldner, Leen-Feldner, & Yartz, 2005). Studies on experiential avoidance demonstrate that even in absence of a clinical history, endorsing this very process can likewise amplify psychological distress, breed conditions for emotional exhaustion (Losa Iglesias, Vallejo, & Fuentes, 2010) and transform a meaningful life into a passive one (Kashdan et al., 2006).

At a conceptual level experiential avoidance resembles mindfulness, for both entail ways of dealing with emotions (Mitmansgruber et al., 2008). Yet, mindfulness represents the antipode to experiential avoidance for it promotes adaptive coping through present moment-to-moment awareness and acceptance (Hayes, Luoma, Bond, Masuda, & Lillis, 2006; Weinstein et al., 2009). To date, however it remains to be questioned how mindfulness and experiential avoidance influence each other (Mitmansgruber et al., 2008). Specifically, there is no existing study that offers insight regarding the mediating effects of experiential avoidance on the relationship between mindfulness and well-being when measured in a sample of emotional workers.

#### **Linking experiential avoidance, mindfulness and well-being**

Empirically, however there is evidence to suggest that the relationship between mindfulness and experiential avoidant coping is negative (Weinstein et al., 2009). In addition,

as the tendency to engage in experiential avoidance lowers, well-being may be protected against the otherwise negative effects of experiential avoidance (Carver & Connor-Smith, 2010). First, as mindfulness promotes emotional regulation via disengagement from habits, it paves the way towards psychological flexibility, which is the antidote to experiential avoidance (Boulangier et al., 2010; Brown & Ryan, 2003; Hayes et al., 2006; Shapiro et al., 2006). Becoming more flexible reduces reactivity and the propensity to resort to avoidant coping strategies (Hill & Updegraff, 2012). Second, mindful people have been shown to make decisions that are in concordance with their needs (Walsh & Shapiro, 2006). This is further corroborated by the fact that practicing mindfulness increases attention which reduces the risk of becoming distracted by emotional laden stimuli (Ortner et al., 2007). Especially in highly stressful situations this may turn out beneficial for experiential avoiders who may easily fall back to their response style and hence constrain their opportunities. Third, mindfulness has been linked to a heightened awareness (Brown & Ryan, 2003), which is also an integrative part of experiential avoidance therapies (Hayes et al., 2006). Increasing awareness brings simultaneously more clarity and transparency to situations that have been otherwise perceived as unpleasant and threatening (Brown & Ryan, 2003; Walsh & Shapiro, 2006). Fourth, Weinstein et al. (2009) showed that mindful people perceive less stress and engage less in avoidant coping which form a base for positive well-being. In contrast, those who are classified as being less mindful fall short in terms of well-being as their reliance on avoidant coping strategies exacerbates stress perception. Based on these arguments, we make the following predictions:

*Hypothesis 2.1:* Experiential avoidance is lower in the experimental group than in the control group.

*Hypothesis 2.2:* Experiential avoidance mediates the relationship of mindfulness meditation with (a) positive affect, (b) negative affect, (c) emotional exhaustion, and (d) job satisfaction.

### **Perspective Taking**

Recently, a study by Bechtoldt, Rohrman, De Pater, and Beersma (2011) showed that emotional workers who are proficient at recognizing emotions of their counterparts are better protected against negative side-effects of engaging in deep and surface acting. Both, deep acting and surface acting are emotion regulation strategies, which are usually deployed as means to comply with expected display rules (Grandey, 2000). We agree that recognizing emotions is crucial, yet we go even further in claiming that the very process of perspective taking may be more relevant than simple recognition. Unlike recognition, perspective taking involves the person's willingness to immerse herself mentally into the other person and to understand her thoughts and behaviors without having any preconceptions (Axtell, Parker,

Holman, & Totterdell, 2007; Parker et al., 2008). However, while imagining how it is to be that person, it is important to hold one's own view apart from one's counterpart for otherwise perspective taking may pose the risk of becoming emotionally exhausted (Glomb et al., 2011; Williams et al., 1989). Given that the perspective taker actively shifts his egocentric focus towards the counterpart's point of view, the whole process is effortful and hence demands a substantial amount of psychological resources (both cognitive and emotional resources) (Fennis, 2011). These resources, however, are likely to be depleted in challenging situations such as collaborating with difficult customers, thereby constraining the willingness to engage in perspective taking (Fennis, 2011). Insufficient perspective taking in turn may affect not only the relationship between the two agents but also the perspective taker's well-being and his sense of personal accomplishment (Parker et al., 2008; Thomas et al., 2007). Bearing this in mind, it is hardly surprising that research has claimed perspective taking to be particularly relevant for emotional occupations and that ways on how to facilitate it may benefit the employees in this sector (Parker et al., 2008; Parker & Axtell, 2001). Yet, to our knowledge there is no study that has linked effects of mindfulness training on perspective taking in emotional occupations.

#### **Linking Perspective Taking, Mindfulness and Well-being**

Despite this lack of information, we claim that mindfulness and perspective taking share a positive relationship and that perspective taking is likely to mediate the relationship between mindfulness and well-being.

First, as mindfulness entails a highly attentive state the practitioner may be more tuned to perceive and identify fine-grained emotional signs. By doing so, she can create a more holistic view of the other person's state (Walsh & Shapiro, 2006). This in turn is likely to overcome misunderstandings between two parties and instead promote interpersonal relationships (Block - Lerner et al., 2007). Further, as mindfulness teaches the practitioner to be more accepting and non-judgmental towards any type of arising emotions (Roemer & Orsillo, 2009), she may be more willing to approach challenging situations as well as to tolerate negative emotions of others (Siegel, 2010). Meanwhile, being more tolerable gives way to a constructive discourse or an interaction since the propensity to respond in a similar vein is attenuated (Glomb et al., 2011).

Second, Hill and Updegraff (2012) showed that mindful people are adept at differentiating and regulating their emotions. These qualities are essential for understanding one's personal emotional reactions as well as for that of others. Simply said, if a person understands her own emotional state, she also will be able to comprehend the client she is interacting with (Siegel, 2010). Understanding the state of the help seeker in turn facilitates provision of help that is in congruence with this person's welfare (Lamm, Batson, & Decety, 2007). Consistent with this contention research demonstrated that call-centre agents who

engage in perspective taking display improved customer-oriented helping behaviors which are in turn associated with a positive performance feedback (Axtell et al., 2007). This is also apparent in the clinical sector where patient-centred qualities are a function of a medical practitioner's perspective taking skills (Krasner et al., 2009). Thus, mindfulness may facilitate perspective taking not only via increasing the willingness to adopt another person's perspective but also through an improved emotional understanding of the other person's welfare. As adopting another person's view promotes understanding between two parties, this in turn may increase the fit between the services offered and the other party's needs (Axtell et al., 2007). To the extent that this help is appropriate, the other will provide positive feedback. Given the fact that positive feedback fosters feelings of efficacy (Bandura & Locke, 2003) and satisfaction which correspondingly translates into the service giver's well-being (Larson & Yao, 2005). By doing so, the perspective taker may not only gain benefits for her own personal and professional functioning but also for the relationship with her social environment (Birnie, Speca, & Carlson, 2010). Grounded in this line of arguments, we propose the following hypotheses:

*Hypothesis 3.1:* Perspective taking is higher in the experimental group than in the control group.

*Hypothesis 3.2:* Perspective taking mediates the relationship of mindfulness meditation with (a) positive affect, (b) negative affect, (c) emotional exhaustion, and (d) job satisfaction.

### **The Present Research**

In the light of the accumulated studies on effects of mindfulness, we intend to expand this field by conducting a diary study on the effects of mindfulness meditation in the emotional labor sector. In order to be sure that the expected relationships are indeed due to mindfulness meditation, we use two groups with one being exposed to the intervention and the other not. Furthermore, as prior studies have largely implemented exhaustive and comprehensive meditation techniques (see for review Carmody and Baer (2009)), which in some cases were guided by a professional mindfulness practitioner, we choose another approach. Keeping in mind economic and time-related criteria, we exposed our participants to brief mindfulness meditations varying in different foci of interest. This provides insight, whether 1) brief mindfulness meditation practice yields comparable positive effects as an exhaustive program and 2) mindfulness meditation effects are generalizable to a field that is defined as high stressful and emotionally demanding. Last but not least, by conducting a diary study we can capture psychological fluctuations that would otherwise get lost in cross-sectional studies and we are able to keep the likelihood of retrospective biases as low as possible (Ohly, Sonnentag, Niessen, & Zapf, 2010).

## Methods

### Design

The study design is a randomized repeated measures between-subject experimental intervention. Hypotheses were tested with a sample of employees categorized as 'emotional labor workers'. Data were obtained by means of a structured diary consisting of a number of standardized questions. The reason for a diary study was twofold: on the one hand we were able to pursue any changes in response to the intervention over time and on the other hand daily recordings would likely reduce any threats to validity by mitigating retrospective bias (Ohly et al., 2010). Prior to the diary survey study participants completed some demographic questions as well as trait measures of the outcome variables. During the actual diary study participants were instructed to rate their well-being including emotional exhaustion, experiential avoidance and perspective taking after completion of their work day. We did not limit the entries to specific working days, since we expected some participants to work also on weekends. The sample was divided into an experimental and a control condition. The experimental group was instructed to practice mindfulness meditation practice from the second study day onwards. The control group initially received all mindfulness materials only after the study period.

### Participants

Participants were recruited from two German areas (North Rhine Westphalia and Berlin) by either directly approaching relevant groups or by searching the Internet for appropriate groups and contacting them via e-mail or phone. Groups were considered as relevant when they fulfilled the following criteria: a) working in a sector classified as emotional labour, that is interacting with people face-to-face or via telecommunication (Hochschild, 1983; Theodosius, 2008), b) working at least 15h a week, c) ideally working on consecutive days. All participants received a flyer providing some information on mindfulness in general and the study in particular. As some institutions were willing to forward our flyer to their employees, additional participants got in contact with us after viewing the ad. Participants did not receive any monetary compensation. In total 203 diaries were distributed by randomly assigning participants to either the experimental group (N=102) or to the control group (N=101). Of these, 203 participants, 102 were excluded from the study because they did not return their diaries on time. The final sample comprised 101 participants with 51 participants in the experimental group and 50 in the control group (response rate = 49,75%). A total of 13 persons were excluded in the experimental group because they failed to comply with the meditation instruction of the Three-Minute Breathing Space. That is, they were meditating less than three minutes per day. Including these participants would have run the risk of introducing factors external to the experimental manipulation. The final sample comprised 88

participants, 37 of whom were in the experimental group and 51 of whom were in the control group.

The complete sample comprised more women ( $N = 57$ ) than men ( $N = 31$ ) with a mean age of 39.85 (64 for women and 21 for men). Participants came from a variety of organizations, occupations and institutions amounting to the following percentages: 14.8% the educational sector, 21.6% health and 23.9% medical sector, 18.2% public sector, 20% other. The majority (29%) of the participants had a university degree. The mean tenure was 10.22 years ( $SD = 9.61$ ). There was only a small group ( $N = 28$ ) of people who indicated having a leading position. Participants worked on average 37.25 ( $SD = 11.26$  years) hours per week. 60 participants had already experience with mindfulness or meditation with a small group of people still practicing yoga, tai chi or other meditation related exercises. The rest ( $N = 28$ ) of the group did not have any experience at all. Of those who had experience, 25 were still active and had practiced on average 5.12 years ( $SD = 2.98$ ).

## Procedure

After confirming their participation, participants in both the experimental and the control group received a closed envelop containing a diary booklet as well as an additional envelop for returning the booklet following the ten working days. In some cases such as when the participants lived too far away, study material was sent per post. Participants in the control group were told that they would have to wait for the meditation practice, as some participants would start earlier.

The first part of the diary covered demographic questions as well as questions concerning trait measures. Participants were asked to fill out this part prior to before starting the diary entries. All participants were told to start with the diary on a day on which they had to work. Special emphasis was asserted to fill out the diary entries directly after work so memory wouldn't be drawn on too much. No questions were administered on days when participants were free from work. We decided to leave these days out since they might involve activities that could otherwise disturb the study (Ohly et al., 2010). In order to ensure that diary entries were made after work, participants were asked to indicate the time when the diary entry was made. Completed and uncompleted diaries were sent back or directly returned to us.

## Study material in the experimental group

Participants in the experimental group received apart from the diary a CD with guided meditation, a timeline describing when to choose which meditation and a postcard containing a mindfulness quote. Furthermore, the experimental group received daily e-mails containing mindfulness-related quotes, which were sampled from the Internet as well as from various books (e.g. Hanh (1976); Kabat-Zinn (1990)). Both the postcard and the quotes had the

purpose of reminding the experimental group of their meditation exercises and diary entries. The diary in the experimental group included general information on mindfulness and some additional mindfulness-related quotes, which were derived from the existing mindfulness literature. In addition, the diary was supplemented with scripted information on the meditation exercises as well as some advice for how to cope with potential impediments (for example confronting unpleasant past experience) that may occur in the course of the study. In order to facilitate the application of mindfulness onto daily tasks, a “Mindfulness Plan” was integrated in the diary containing a number of routine activities that could be executed in a mindful way (Kabat-Zinn, 1990; Siegel, 2010; Williams et al., 2007). Participants in the experimental condition were instructed to fill in their diary entries prior to meditating. Concerning the meditation, they were encouraged to meditate at least two times a day, ideally in the morning and the evening.

### **Mindfulness Meditation Practice**

The intervention in the experimental group consisted of eight different mindfulness-based meditation exercises (see Appendix Figure 1). The meditation sessions began with the second day and continued until the final day of the experimental study. No meditation was scheduled for the first day, in order to obtain a baseline measure of the study variables. Participants were instructed to meditate on days when they were working. On those days on which participants were not supposed to work, they were encouraged to proceed with their last meditation practice.

From the evening of the second study day participants were introduced to the meditation practice called *Raisin or Nut Meditation* (Siegel, 2010; Williams et al.2007). This practice was chosen, because it is simple and assists in sensitizing a person’s awareness to a variety of feelings associated with routine actions as in this case eating a raisin or a nut. By doing so, the person starts to perceive familiar actions in a different way (Williams et al., 2007). Upon completion of the Raisin or Nut Meditation participants were asked to listen to an abbreviated version of the *Body Scan Meditation* (Shamash, 2011). This practice is commonly used as a preparation for more advanced mindfulness-based exercises (Siegel, 2010), as it guides the person’s attention to particular parts of the body. By doing so, the practitioner experiences an increased awareness of body-related sensations (Williams et al., 2007). From the third day onwards participants received every morning and prior to any other meditation practice the *Three-Minute Breathing Space* (Siegel, 2010). In contrast to the Body Scan Meditation, this practice uses breathing as means for cultivating mindfulness. Participants are encouraged to attend to their breathing and to use it as an “anchor” in case intrusive thoughts become too prevalent to be ignored. The Three-Minute Breathing Space was selected as the key meditation practice in the present study. This meditation practice was most suitable for the present purpose, as it is not time-consuming, easy to practice and yet encompasses core

aspects of mindfulness such as increased awareness, focused attention and expanded awareness (Williams et al., 2007). Given its simplicity it is easily applicable to spontaneously arising challenging tasks such as coping with difficult clients. Furthermore, the peculiarity of this practice is, that it aims at changing a person's attitude towards any type of arising situation. By doing so, a person may approach challenging situations as well as familiar ones in a more efficient and effective way (Siegel, 2010).

The morning of the fourth day was the only session that was supplemented by additional practice called *Mindful in Daily Life* (Harris, 2009; Siegel, 2010). Unlike the aforementioned meditation practice, this is an informal exercise, which aims at cultivating mindfulness through executing a particular routine task with full attention. Initially a single routine task is chosen but with improved mindfulness skills, more routine tasks can be added. By doing so, the transition from formal meditation practice to daily life is facilitated (Siegel, 2010). The *Mindful in Daily Life* was the only meditation practice that was introduced in the morning; any forthcoming mindfulness practice was scheduled for the evening session so that participants would have more time to invest in learning a new meditation practice. From the evening of the fourth day participants gradually got acquainted with four slightly different *Loving Kindness Meditation* (LKM) (Shapiro & Carlson, 2009). LKM aims at specifically cultivating unconditional positive feelings towards oneself and the social environment (Fredrickson et al., 2008). This is done by repeating sentences such as 'May I be happy, may I be peaceful, may I be free from suffering' (Siegel, 2010, p. 84). The first two LKM practices focused on developing compassion towards oneself. The following LKM practice taught participants to shift their compassion towards a friend. On the evening of the 8<sup>th</sup> day participants listened to an analogous meditation practice, yet they were asked to display kindness towards a person they did not associate any feelings with. On the evening of the 9<sup>th</sup> day participants received an LKM practice encouraging them to shift their compassion towards someone they held negative feelings for. The final session was concluded with a *Three-Minute Breathing Space* meditation practice and a *Body Scan*.

All meditation texts were adjusted and shortened so that the duration of the longest meditation was about eight minutes. The meditations texts were recorded with GarageBand. We opted for a male voice because it was assumed to be more pleasant than a female voice. In addition, the speaker had already experience with recording speeches and hence seemed to be a reasonable choice. The meditation practices were distributed either as mp3 or as audio-CDs.

## Measures

Data were collected after work with a paper-based diary. The diary itself was subdivided into two parts. The first part of the diary comprised a general questionnaire covering

demographic questions and baseline measures of positive and negative affectivity, trait mindfulness, emotional exhaustion, job satisfaction, experiential avoidance and perspective taking. The second part covered the diary entries. The diary entries comprised measures of positive and negative affect, state mindfulness, emotional exhaustion, job satisfaction, experiential avoidance and perspective taking.

The diary in the experimental group was supplemented with a control question asking the participants to indicate whether they had complied with the meditation schedule.

### **Diary: Part I**

*Trait Mindfulness.* For the purpose of our study we used the German version (Michalak, Heidenreich, Ströhle, & Nachtigall, 2008) of the Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003). The MAAS has been frequently used and covers both state and trait mindfulness. Given the fact that people vary in dispositional mindfulness, those individuals who are classified as mindful may respond to the intervention better than others. In order to control for this possibility, trait mindfulness was measured with 15-items in the general part of the diary. Participants were asked to rate the frequency with which they engage in mindful or mindless-related activities on a 5-point rating scale ranging from 1(almost never) to 5(almost always). All items are reverse coded. Scoring high on the Trait-MAAS implies a high level of mindfulness and hence a strong present moment awareness. Trait mindfulness items yielded  $\alpha = .847$ .

*Affectivity.* Participants completed a German version of the Positive and Negative Affect Schedule (PANAS; Krohne, Egloff, Kohlmann, & Tausch, 1996; Watson, Clark, & Tellegen, 1988). We used the same twelve items that were previously used by Sonnentag, Binnewies, and Mojza (2008); six items were positive (“active”, “interested”, “excited”, “strong”, “inspired”, and “alert”;  $\alpha = .821$ ) and six items were negative (“distressed”, “upset”, “irritable”, “nervous”, “jittery” and “afraid”;  $\alpha = .830$ ). Participants were asked to respond to the items with respect to their general state on a 5-point rating scale ranging from 1(not at all) to 5(very much).

*Emotional Exhaustion.* Emotional exhaustion was measured with the German version (MBI-D; Büssing & Perrar, 1992) of the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996). A sample item was “I feel emotionally drained”. Internal consistency was  $\alpha = .785$ . Participants rated nine items along a 5-point rating scale ranging from 1(completely disagree) to 5(completely agree).

*Job Satisfaction.* Five items (e.g. “I feel fairly satisfied with my present job.”, “Most days I am enthusiastic about my work.”) were adopted from the Job Satisfaction Scale (Brayfield & Rothe, 1951; Judge & Klinger, 2007). Items were rated on a 5-point rating scale ranging from

1 (completely disagree) to (completely agree). Items were translated into German. The items showed a high consistency ( $\alpha = .842$ ).

*Avoidant Coping.* Avoidant coping was measured with three subscales of the COPE inventory (Carver et al., 1989) that were previously used by Weinstein et al. (2009). The three subscales included denial, behavioural and mental disengagement. Each of them was measured with four items. Original items were translated into German and assigned to a 5-point rating scale ranging from 1 (not at all true) to 5 (a very large extent). Together these subscales were collapsed to an experiential avoidance composite with an internal consistency of  $\alpha = .807$ .

*Perspective taking.* Situation-specific perspective taking was measured with three items (e.g. "Think about how you would feel in their situation") that were derived from past research (Axtell et al., 2007). Participants were asked to indicate the extent to which they agreed with these items on a 5-point rating scale. The items were translated and adjusted to a global context, so that employees from diverse sectors would identify with the descriptions. The internal consistency of the items revealed  $\alpha = .880$ .

### **Diary: Part II**

Reliabilities for all diary measures excluding job satisfaction and the manipulation check were first individually calculated for each day of the final week and then averaged across the five days. Apart from avoidant coping, all items were assessed on a 5-point rating scale. Table 1 displays all reliabilities.

*State Mindfulness.* State mindfulness was measured with five items (e.g. "I find it difficult to stay focused on what's happening in the present." and "rush through activities without being really attentive to them.") from the MAAS. Items were reverse coded (Brown & Ryan, 2003).

*State Affect.* Positive affect and negative affect was measured with the same items as in the first part of the diary. Positive affect ("active", "interested", "excited", "strong", "inspired", and "alert") as well as negative affect ("distressed", "upset", "irritable", "nervous", "jittery" and "afraid") was each measured with six items. Participants were asked to indicate the extent that the underlying item described their current state.

*Job satisfaction.* Job satisfaction was measured with only a single item ("At his very moment, I am fairly satisfied with my job."), which was taken from Bono, Foldes, Vinson, and Muros (2007).

*Emotional exhaustion.* Emotional exhaustion was measured with three items ("I feel emotional drained"), which were also used in the first part of the diary. Participants were

asked to indicate the extent that the given item applied to them with respect to their present state.

*Avoidant Coping.* Daily avoidant coping was measured with five items that were also measured in the general questionnaire. Two items measured denial (“I pretend that it hasn’t really happened.”); two more measured behavioural disengagement (“I just give up trying to reach my goal”) and only one item (“I turn to work or other substitute activities to take my mind off things”.) measured mental disengagement. All items were rated along 5-point rating scale ranging from 1(I did not do this at all) to 5(I did this a lot).

*Perspective Taking.* Perspective taking was measured with three items asking participants indicate the extent that they felt was true for them. A sample item is “Think about how I would feel in their situation”.

*Manipulation Check.* Participants were asked to indicate the time when they made their diary entry. This allowed us to ensure that participants followed our instruction with respect to the time when entries were made.

*Meditation Manipulation Check.* Another manipulation check was implemented in order to be sure, that participants in the experimental condition complied with the meditation instruction. As such, they were asked to indicate whether they had practiced in the morning and the afternoon before. Furthermore, they were asked to indicate the duration of their meditation.

## **Analysis**

For the present purpose we analysed our data with several multilevel models using the SPSS mixed-model procedure. The underlying rationale was that data were provided both at the person-level (Level 2: condition, baseline outcomes such as trait emotional exhaustion and positive affectivity) as well as at the day-level (Level 1; positive and negative affect, emotional exhaustion, job satisfaction, state mindfulness, experiential avoidance and perspective taking), so that day level data was nested within person-level data. The advantage of multilevel models is that it allows capturing variance both at the within-subject and between-group level which would otherwise go undetected and thereby increase the risk for both Type I and Type II Errors (Bliese & Hanges, 2004; Clarke, 2008). Given the fact that variance of variables of Level 1 (day level) may indeed differ from variables at the person level, multilevel modelling provides a more realistic view on the relationship between the two levels. Another advantage of multilevel modelling is that it does not assume independence of observations, which is frequently violated in clustered data (Bliese & Hanges, 2004).

Prior to conducting multilevel analyses, data was restructured so that each person was represented by N-rows that correspond to N-measurement points (Bliese & Ployhart, 2002). The analyses were conducted with the final five measurement points, because in the course

of the first week participants were gradually introduced to various meditation types so that they could get acquainted with the intended practices. Hence, the first week was assumed to function as a training phase, whereas the second week was the official assessment part of the experiment. In order to be sure that multilevel was indeed a justified choice, we inspected within-person and between-person variation across the final five days. This step was necessary, since nested data do not necessarily entail a multilevel analysis (Peugh, 2010). For this purpose, a one-way analysis of variance (ANOVA) with random effects for each dependent variable was conducted. Based on the obtained random coefficients, intraclass correlations (ICC1) were computed for each dependent variable. ICC1 represents the proportion of variance of the dependent variable at the person-level, which can be explained by between-person differences across the five-measurement points (Peugh, 2010). Obtaining an ICC1 of zero would suggest that variation of means of the dependent variable across participants would be absent and that all variation would occur only across observations. Yet, if ICC1 does not equal zero, any increase in ICC1 is accompanied by increases in variance in the proportion of the dependent variable, hence suggesting violation of the independence assumption. The ICC1 in the present study was larger than zero for all dependent variables: 39% in positive affect, 57% in negative affect, 54% in emotional exhaustion and 43% in job satisfaction was between-person variance. Thus, conducting multilevel analyses were justified.

## Results

The results of this study are subdivided into three parts. First, intercorrelations between all study variables as well as means and standard deviations are presented. Next, the results of the manipulation check and the multilevel analyses are provided. Finally, analyses of the mediators, experiential avoidance and perspective taking are demonstrated and evaluated in the light of the present hypotheses.

### Means, standard deviations, correlations

Table 1 shows means, standard deviations and correlations among all study variables. Day-level measures of study variables were averaged across the final five days in order to correlate variables at the person-level with variables at the day-level (Sonnentag, 2003). Below the diagonal correlations at the day-level are depicted. Deriving conclusions based on raw correlation is prone to errors (Chen et al., 2002). This is due to the assumption of independence, which is violated when data are repeatedly measured with the same participants (Kenny & Judd, 1986). Yet, it is possible to form tentative conclusions. As can be seen in Table 1, all relationships between the trait and state measures were positively and significantly related. Therefore, it was warranted to control for dispositional factors when running the multilevel analyses. Furthermore, state mindfulness was also positively related to

positive affect ( $r = .220$ ;  $p < .01$ ) and daily job satisfaction ( $r = .325$ ;  $p < .01$ ). Further, as expected state mindfulness ( $r = -.398$ ;  $p < .01$ ) was negatively related to daily experiential avoidance. Daily experiential avoidance also was negatively related to positive affect ( $r = -.258$ ;  $p < .01$ ) and daily job satisfaction ( $r = -.241$ ;  $p < .01$ ), but positively related to negative affect ( $r = .402$ ;  $p < .01$ ) and emotional exhaustion ( $r = .460$ ;  $p < .01$ ). Accordingly, these results provide initial support for the mediating function assumed to underlie experiential avoidance.

Further inspection of the table showed that daily perspective taking was positively associated with positive affect ( $r = .237$ ;  $p < .01$ ) and job satisfaction ( $r = .237$ ;  $p < .01$ ). However, there was no significant correlation between state mindfulness and daily perspective taking. Likewise, condition was not related to daily perspective taking when averaged across the five days. Thus, based exclusively on the correlations, the tentative conclusion may be drawn that daily perspective taking does not mediate effects of mindfulness meditation on the respective well-being variables.

## Manipulation Check

Prior to testing the hypotheses, an analysis of the experimental manipulation was conducted. Multilevel analysis revealed that the relationship between state mindfulness and the experimental condition ( $\gamma = .257$ ,  $SE = .131$ ),  $t = 1.971$ ,  $p < .10$  was marginally significant when trait mindfulness was entered as a control variable (see Table 2). Bearing in mind, that we expected participants in the experimental group to be more mindful, it is warranted to use a one-tailed test (Kimmel, 1957). In this case, the relationship is significant. That is, state mindfulness was higher in the experimental than in the control group when trait mindfulness was controlled for. Correspondingly, since daily levels of mindfulness were higher in the experimental group, the present manipulation was effective in changing levels of state mindfulness.

## Hypothesis Testing

The effects of practicing mindfulness on positive affect, negative affect, emotional exhaustion and job satisfaction were tested with four separate multilevel models. Dependent variables were positive and negative affect as well as emotional exhaustion and job satisfaction. The independent variable was condition. In addition, each analysis included the respective trait outcome in order to control for pre-existing differences among participants. For example, when predicting emotional exhaustion, the model comprised condition as the predictor variable and trait emotional exhaustion as the control variable. Meanwhile, when predicting job satisfaction, both condition and trait job satisfaction were entered as additional variables into the model. Tables 2, 3 and 4 depict the relevant multilevel models.

Table 1. Intercorrelations between Study Variables

	Cronbachs $\alpha$	ICC1	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Person Level																				
1. Positive Affectivity	.821	-	3.440	.595	-	-.128	-.286**	-.066	.221*	-.202	.131	-.149	.262*	-.013	-.245*	.324**	.179	-.226*	.103	
2. Negative Affectivity	.830	-	2.121	.762	-	-	.473**	.005	-.599**	.206	.010	-.055	-.143	.447**	.365**	-.113	-.461**	.216	.106	
3. Trait Emotional Exhaustion	.785	-	2.022	.600	-	-	-	-.157	-.520**	.270*	-.041	.007	-.226*	.235*	.551**	.303**	-.371**	.272*	.046	
4. Trait Job Satisfaction	.842	-	2.775	.469	-	-	-	-	.002	.059	.139	.085	.252*	-.052	-.149	.511**	.078	-.095	.186	
5. Trait Mindfulness	.847	-	3.526	.618	-	-	-	-	-	-.481**	.029	.021	.215	-.395**	-.421**	.204	.643**	-.350**	-.065	
6. Trait Experiential Avoidance	.807	-	1.904	.541	-	-	-	-	-	-	.090	-.008	-.198	.303**	.292**	-.099	-.378**	.378**	.214	
7. Trait Perspective Taking	.880	-	3.538	.937	-	-	-	-	-	-	-	.151	.229*	.005	-.104	.220*	.017	-.156	.440**	
8. Condition	-	-	.42	.496	-	-	-	-	-	-	-	-	.038	-.394**	-.221*	-.242*	.194	-.259*	.128	
Day Level																				
9. Positive Affect	.921	.39	2.956	.608	-	-	-	-	-	-	-	-	-	-.169	-.405**	.373**	.212	-.327**	.338**	
10. Negative Affect	.893	.57	1.490	.577	-	-	-	-	-	-	-	-	-.218**	-	.573**	-.304**	-.576**	.501**	.130**	
11. Emotional Exhaustion	.800	.54	1.951	.742	-	-	-	-	-	-	-	-	-.483**	.564**	-	-.469**	-.613**	.630**	-.092	
12. Job Satisfaction	-	.43	3.451	.796	-	-	-	-	-	-	-	-	.322**	-.261**	-.409**	-	.439**	-.380**	.321**	
13. State Mindfulness	.890	-	3.892	.774	-	-	-	-	-	-	-	-	.220**	-.529**	-.513**	.325**	-	-.532**	.058	
14. Experiential Avoidance	.828	-	1.578	.583	-	-	-	-	-	-	-	-	-.258**	.402**	.460**	-.241**	-.398**	-	.080	
15. Perspective Taking	.937	-	3.131	.981	-	-	-	-	-	-	-	-	.237**	.067	-.077	.237**	-.022	-.031	-	

Note: Below the diagonal correlations at the day level are displayed (N = 391-399); above the diagonal correlations at the person level averaged across the five days are displayed (N = 83). For variables assessed at the day level, Cronbachs  $\alpha$  was calculated individually for every day and then the average of the chosen 5 reliabilities was taken. \*\* $p < .01$ , \* $p < .05$ .

Table 2. Multilevel Models Predicting Daily Mindfulness, Positive and Negative Affect from Group Membership

	Mindfulness			Positive Affect			Negative Affect		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Fixed Effects									
Intercept	.999	.373	2.678**	2.000	.391	5.117**	.995	.161	6.168**
Condition	.257	.131	1.971†	.079	.133	.593	-.452	.104	-4.344**
Baseline of Outcome	.794	.103	7.676**	.270	.108	2.494*	.327	.069	4.729**
Random Effects									
Person Variance	.289**	.053		.253**	.054		.168**	.034	
Residual Variance	.233**	.019		.428**	.034		.214**	.017	
-2*LL		708.842			904.444			641.597	

Note: Models are random intercept models, N = 88 at the person level. Condition: 0 = control group, 1 = experimental group. Outcome at Baseline refers to trait mindfulness, positive affectivity and negative affectivity. SE = Standard error, LL = log likelihood. \*\* $p < .01$ , \* $p < .05$ , † $p < .10$  (two-tailed).

Table 3. *Multilevel Models Predicting Emotional Exhaustion and Job Satisfaction from Group Membership*

	Emotional Exhaustion			Job Satisfaction		
	Estimate	SE	t	Estimate	SE	t
Random Effects						
Intercept	.630	.249	2.529*	1.020	.443	2.300*
Condition	-.321	.135	-2.381*	.331	.152	2.182*
Baseline of Outcome	.730	.118	6.164**	.833	.158	5.282**
Fixed Effects						
Person Variance	.276**	.056		.314**	.071	
Residual Variance	.400**	.031		.660**	.052	
-2*LL		886.780			1064.592	

Note. Models are random intercept models, N = 88 at the person level. Condition: 0 = control group, 1 = experimental group. Outcome at Baseline refers to emotional exhaustion and job satisfaction.

SE = Standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

Table 4. *Multilevel Models Experiential Avoidance and Perspective Taking from Group Membership*

	Experiential Avoidance			Perspective Taking		
	Estimate	SE	t	Estimate	SE	t
Fixed Effects						
Intercept	.885	.219	4.035**	1.481	.375	3.947**
Condition	-.264	.117	-2.257*	.102	.198	.516
Baseline of Outcome	.423	.108	3.902**	.452	.103	4.406**
Random Effects						
Person Variance	.211**	.042		.667**	.119	
Residual Variance	.269**	.022		.433**	.035	
-2*LL		723.745			963.030	

Note. Models are random intercept models, N = 88 at the person level. Condition: 0 = control group, 1 = experimental group. Outcome at Baseline refers to experiential avoidance and perspective taking.

SE = Standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

The first hypothesis claimed that positive affect is higher in the experimental group than in the control group. Multilevel analysis did not provide support for this hypothesis, since condition did not yield statistical significance. Unlike positive affect, condition turned out to be a significant predictor of negative affect ( $\gamma = -.452$ ,  $SE = .104$ ),  $t = -4.344$ ,  $p < .001$ . Thus, negative affect in the experimental condition was indeed lower than in the control condition. Similar results were obtained for emotional exhaustion and job satisfaction. Condition was a significant predictor of feelings of emotional exhaustion ( $\gamma = -.321$ ,  $SE = .135$ ),  $t = -2.381$ ,  $p < .05$  and job satisfaction ( $\gamma = .331$ ,  $SE = .152$ ),  $t = 5.282$ ,  $p < .01$ . In sum, the analyses provide support for nearly all hypotheses excluding the one with positive affect.

## Mediation

Tests of the mediation hypotheses followed the four criteria suggested by Baron and Kenny (1986) which must be established in order to test for mediation: first, the experimental condition must account for changes in the respective outcome variable (positive affect, negative affect, job satisfaction or emotional exhaustion); second, the experimental condition

Table 5. *Multilevel Models Predicting Positive and Negative Affect from Experiential Avoidance*

	Positive Affect			Negative Affect		
	Estimate	SE	t	Estimate	SE	t
<b>Fixed Effects</b>						
Intercept	3.395	.113	29.947**	1.138	.090	12.589**
Experiential Avoidance	-.279	.059	-4.698**	.226	.045	5.058**
<b>Random Effects</b>						
Person Variance	.244**	.052		.216**	.042	
Residual Variance	.418**	.034		.211**	.017	
-2*LL		877.013			641.000	

*Note.* Models are random intercept models, N = 88 at the person level. Condition: 0 = control group, 1 = experimental group. Outcome at Baseline refers to positive affectivity and negative affectivity.

SE = Standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

Table 6. *Multilevel Models Predicting Emotional Exhaustion and Job Satisfaction from Experiential Avoidance*

	Emotional Exhaustion			Job Satisfaction		
	Estimate	SE	t	Estimate	SE	t
<b>Fixed Effects</b>						
Intercept	1.343	.116	11.534**	3.772	.146	25.795**
Experiential Avoidance	.387	.060	6.492**	-.218	.075	-2.892**
<b>Random Effects</b>						
Person Variance	.305**	.063		.466**	.098	
Residual Variance	.395**	.032		.638**	.052	
-2*LL		872.730			1056.105	

*Note.* Models are random intercept models, N = 88 at the person level. Condition: 0 = control group, 1 = experimental group. Outcome at Baseline refers to emotional exhaustion and job satisfaction.

SE = Standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

must be associated with experiential avoidance (or perspective taking); third, experiential avoidance (or perspective taking) must account for changes in the outcome variable. Finally, full mediation is shown when the relationship between the outcome variable and the experimental condition is no longer significant while controlling for experiential avoidance (or perspective taking). In addition, indirect effects were tested with an online Sobel (1982) Test tool by Preacher and Leonardelli (2001). By doing so, it was possible to determine whether the mediator variables carry the influence of the experimental manipulation to the well-being variables. For this purpose, unstandardized regression coefficients and standard errors of the independent variable as well as regression coefficients and standard errors of the mediator while controlling for the independent variable were needed. Given the fact that the present study deals with two assumed mediators, we focus first on experiential avoidance before turning to perspective taking.

### Mediating effect of Experiential Avoidance

The first criterion was supported, for condition predicted significantly and negatively experiential avoidance ( $\gamma = -.264$ , SE = .117),  $t = -2.257$ ,  $p < .025$ . As can be seen in Table 2 and 3, the second criterion was also fulfilled for all well-being variables excluding positive affect and emotional exhaustion.

Table 7. *Daily Experiential Avoidance as a Mediator of the relationship between Group Membership and Daily Well-being Outcomes*

	Positive Affect			Negative Affect		
	Estimate	SE	t	Estimate	SE	t
<b>Fixed Effects</b>						
Intercept	3.426	.130	26.279**	1.321	.100	13.172**
Experiential Avoidance	-.283	.060	-4.723**	.217	.044	4.908**
Condition	-.063	.131	-.478	-.420	.106	-3.966**
<b>Random Effects</b>						
Person variance	.242**			.172**	.017	
Residual variance	.418**			.211**	.035	
-2*LL		876.785			626.641	
Sobel-Test z-value	2.054*	.040		-2.068*	.030	

Note. Models are random intercept models. N = 88 at person-level and N = 388-399 at the day-level.

Condition was coded 0 = control group, 1 = experimental group. SE = standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

Table 8. *Daily Experiential Avoidance as a Mediator of the relationship between Group Membership and Daily Well-being Outcomes*

	Emotional Exhaustion			Job Satisfaction		
	Estimate	SE	t	Estimate	SE	t
<b>Fixed Effects</b>						
Intercept	1.441	.134	10.737**	3.645	.168	21.713**
Experiential Avoidance	.377	.060	6.306**	-.205	.076	-2.713**
Condition	-.206	.141	-1.467	.269	.174	1.548
<b>Random Effects</b>						
Person variance	.299**	.032		.449**	.052	
Residual variance	.394**	.062		.637**	.095	
-2*LL		870.591			1053.740	
Sobel-Test z-value	-2.145*	.051		1.746*	.034	

Note. Models are random intercept models. N = 88 at person-level and N = 391 at the day-level.

Condition was coded 0 = control group, 1 = experimental group. SE = standard error, LL = log likelihood.

\*\* $p < .01$ , \* $p < .05$ .

Even though, condition was not a significant predictor of positive affect, the viability of the final two criteria of Baron and Kenny (1986) were still tested. This decision was motivated by research suggesting that even if the predictor does not yield significance with respect to the dependent variable, it is possible to speak of an *indirect only mediation* (Zhao, Lynch, & Chen, 2010). In this case the analysis yields only significance for the mediated effect. Therefore, Table 7 depicts the full model regressing positive affect on condition and experiential avoidance. Applicability of the third criterion was also supported as can be seen in Tables 5 and 6, indicating that experiential avoidance was associated with increases in both negative affect ( $\gamma = .226$ ,  $SE = .045$ ),  $t = 5.058$ ,  $p < .001$  and emotional exhaustion ( $\gamma = .387$ ,  $SE = .060$ ),  $t = 6.492$ ,  $p < .001$  but with drops in positive affect ( $\gamma = -.279$ ,  $SE = .059$ ),  $t = -4.698$ ,  $p < .001$  and job satisfaction ( $\gamma = -.218$ ,  $SE = .075$ ),  $t = -2.892$ ,  $p < .01$ . Tables 7 and 8 show that supportive evidence was likewise obtained for the fourth criterion. When both experiential avoidance and the experimental condition were entered, condition was no longer a significant predictor of emotional exhaustion and job satisfaction. Experiential avoidance however remained statistically significant. Additional testing with the Sobel Test confirmed that experiential avoidance was indeed a mediator of the relationship between condition and

emotional exhaustion (Sobel's  $z = -2.15, p < .05$ ) and job satisfaction (Sobel's  $z = 1.75, p < .05$ ). Similar, yet slightly deviating results were obtained for negative affect. Even in presence of experiential avoidance, condition ( $\gamma = -.420, SE = .106, t = -3.966, p < .001$ ) remained statistically significant suggesting the existence of a partial mediating effect of experiential avoidance. Further evidence for the partial mediation was obtained with the Sobel Test (negative affect: Sobel's  $z = -2.07, p < .05$ ). Finally, when positive affect was regressed on condition and experiential avoidance, the analysis yielded a negative and statistically non-significant regression coefficient for condition ( $\gamma = -.063, SE = .131, t = -.478, p > .05$ ) but a significant slope for experiential avoidance ( $\gamma = -.283, SE = .060, t = -4.723, p < .001$ ). That is, contrary to the expectation when both condition and experiential avoidance were entered into the model, practicing mindfulness was associated with drops in positive affect. The Sobel Test showed that the mediating influence of experiential avoidance on the relationship between condition and positive affect was significant (Sobel's  $z = 2.05, p < .05$ ). Thus, it is possible to speak here of an indirect only mediation.

### **Mediating effect of Perspective Taking**

The same approach as described above was followed for the assumed mediating function of perspective taking. However, since the experimental condition was not a significant predictor of perspective taking, no further tests were conducted with regard to perspective taking.

## **Discussion**

Health reports have shown that people employed in the so-called emotional labour sector face an increased risk of developing negative health-related side effects such as insomnia, depression, cardiovascular disease or burnout due to mentally demanding job expectations (Maslach et al., 2001). So far, various interventions have been designed targeting either the individual or the organization at large. However, most of these are expensive and are time-consuming (Sonnentag & Frese, 2003; Zeidan et al., 2010). With regard to the recent trends in mindfulness as an intervention and its beneficial effects, we tried to apply mindfulness meditation as an intervention technique in the emotional labour sector.

Grounded in past research, we proposed that well-being as measured by positive affect, negative affect and job satisfaction would be higher in an experimental group exposed to mindfulness meditation practices. Meanwhile, feelings of emotional exhaustion would be lower in the experimental group than in the control group. In addition, we hypothesized that effects of mindfulness practice on well-being variables would be mediated on the one hand

by experiential avoidance and on the other hand by perspective taking. The present data provides support for most of the stated hypotheses. Mindfulness meditation predicted negative affect, emotional exhaustion and job satisfaction in the final experimental week. Participants in the experimental group reported less often negative affect and feelings of emotional exhaustion. Meanwhile, their job satisfaction rates were higher than in the control group. Contrary to expectation, mindfulness meditation was not related to positive affect and perspective taking. Finally as predicted, effects of mindfulness on the well-being variables were largely mediated by experiential avoidance, which respectively exacerbated emotional exhaustion and negative affect but led to drops in job satisfaction and positive affect when mindfulness meditation was not controlled for. That is, people experience less negative affect and are less emotionally exhausted, not because they practice mindfulness meditation per se but because practicing mindfulness lowers a persons tendency to engage in experiential avoidance, which has direct consequences for feelings of emotional exhaustion and negative affect. In a similar vein, increases in job satisfaction are not exclusively engendered by mindfulness meditation practice, but rather because these practices lower avoidant coping and this in turn fosters job satisfaction.

Given the fact that mindfulness practice was unrelated to perspective taking, it was not possible to find supporting evidence for the mediating function of this empathy-underlying dimension. Yet, perspective taking was still positively related positive affect and job satisfaction. This is also in line with previous research suggesting that individuals who engage in perspective taking have an improved relationship with their environment as their understanding of others decreases the risk of experiencing tension (Williams, 2007). In addition, those who genuinely understand the state of others are more likely to be satisfied with their job (Rogers, Clow, & Kash, 1994). In retrospect, we assume that our perspective taking items may have led to the present null effect. Even though we tried to design context-insensitive items, it is still possible that for some fields they might have been less appropriate.

Interestingly, mindfulness practice was likewise not related to positive affect. When testing for levels of positive affect the experimental condition was far from statistical significance and acquired a negative slope when experiential avoidance was entered into the model. This result seems counterintuitive in light of existing studies that provide evidence for a positive relationship between mindfulness-based interventions and positive affect. Making such a conclusion would be wrong, for it is important to keep in mind that mindfulness does not necessarily exacerbates positive affect in a way that a person consistently experiences intense happiness (Brown & Ryan, 2003). Simply said, mindfulness promotes happiness but in a way that positive affect remains constant with small bouts. This is also in line with the definition provided by Diener (2000) who describes true happiness as a pleasant mood which

outweighs experiences of sadness or other related negative states. Supportive evidence was also found when state mindfulness and positive affect yielded a positive correlation. This result is also in agreement with previous experimental studies such as by Erisman and Roemer (2010) or Ortner et al. (2007). Moreover, another reason for this unexpected result may be positive affect itself. Closer inspection of the averaged positive affect revealed strong fluctuations over the course of the final week. Also, participants in the meditation group initially had higher scores in positive affect. These, however, dropped on the 7<sup>th</sup> day of the week before rising again. Therefore, additional factors external to the present study may have led to these unexpected results.

Furthermore, results concerning the relationship between mindfulness training and negative affect correspond also to Diener's (2000) above described definition. Mindfulness training was significantly contributing to lower levels of negative affect in the experimental group. This effect remained even when experiential avoidance was controlled for. Corresponding results were reported by Jha, Stanley, Kiyonaga, Wong, and Gelfand (2010), who showed that mindfulness training lowered levels of negative affect and that this effect was mediated by a person's working memory capacity. Working memory refers to a person's ability to focus attention consistently and continuously on an underlying task without paying attention to intruding stimuli (Jha et al., 2010). This may also be the case in the present study, as some participants reported that they tried to direct their attention to the task at hand when they encountered stressors. By doing so, they felt calmer and more satisfied with their performance.

Likewise, the experimental manipulation predicted feelings of job satisfaction. Overall, job satisfaction scores were consistently higher in the experimental group, implying that mindfulness meditation assisted in perceiving work in a different light. This is also in line with recent research suggesting that mindfulness promotes fostering personal resources that positively affect a person's attitudes towards life and his job (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008).

In accordance with previous studies on mindfulness in the clinical setting, mindfulness was a strong predictor of emotional exhaustion. Contrary to the control group, feelings of emotional exhaustion were lower in the experimental group. This shows that brief mindfulness practices are indeed effective in reducing emotional exhaustion, which might otherwise pave the way for burnout. Typically, emotional exhaustion arises when a person feels that his or her resources are being depleted by emotionally demanding events (Maslach et al., 2001). This in turn may cause the individual to deter oneself from expressing emotions towards the stressful stimulus or in some cases to completely break off any forthcoming encounters with the stressor (Maslach et al., 2001; Wright & Cropanzano, 1998). Practicing mindfulness may reduce the likelihood of avoidant strategies by teaching the person to be

more accepting towards the stressor. By doing so, resources may be protected or replenished rather than depleted with the immediate effect of fostering a person's well-being. Indeed, the present study provides direct support for this contention. As the reliance on experiential avoidance increases, positive affect and job satisfaction decreases whereas emotional exhaustion and negative affect is amplified. Yet, experiential avoidance itself is lowered when people engage in mindfulness practices. That is practicing mindfulness meditation offers a more effective coping technique, which correspondingly reduces the likelihood of an avoidant coping style. These results are also in agreement with a study by Stafford - Brown and Pakenham (2012) who showed that *Acceptance and commitment therapy*, an intervention that resembles mindfulness meditation and is specifically designed for experiential avoidance, was successful in reducing psychological distress and meanwhile increasing self-efficacy.

The present study makes an important contribution to research on mindfulness and emotional labor. So far, it is the first one explicitly investigating effects of brief mindfulness meditations on emotional labor workers. As such it has shown that mindfulness meditation bears salutary effects for these employees. What's more, we took into account recommendations by Shapiro and Carlson (2009) by demonstrating that mindfulness meditation practice exerts its beneficial effects on well-being via lowering experiential avoidance. Future research should use these results as a stepping-stone for forthcoming studies. For instance, analyses of the present data did not take into account personality types as potential moderators of the effects of mindfulness meditation on well-being. Yet, there is evidence to suggest that personality influences the way individuals deal with stressful situations (Carver & Connor-Smith, 2010). In a similar vein, the present study did not take into account gender-specific effects. However, there is reason to assume that gender in the same way as personality may moderate the effects of meditation on well-being, especially because men and women differ in terms of their positive affect (Lucas & Diener, 2008). Future studies may shed light on this question. Finally it may be also interesting, to find out whether the present results are job-specific. For example, Mitmansgruber et al. (2008) showed that paramedics' well-being benefited from engaging in experiential avoidant strategies whereas showing compassion represented a risk factor for it. These results contrast with the present ones. Therefore, further work is needed to clarify whether mindfulness-based effects are job-specific.

Recently, mindfulness research has questioned how much time one needs to invest in mindfulness meditation in order to obtain beneficial effects (Carmody & Baer, 2009). The present study brings light to this question by revealing that meditation practices as brief as 3 minutes per day yield mindfulness-related outcomes. However, given the time constraints it was not possible to conduct a follow-up study testing the maintenance of these effects.

Therefore, research on mindfulness may use this as an anchor for forthcoming studies. Also, even though mindfulness meditation practices in the present study consisted of different types of mindfulness meditation, meditation-specific effects were not subject to analysis. Certainly, each of the presently implemented practices may have emphasized one aspect but not another. For instance, Fredrickson et al. (2008) focused on LKM and showed that it promoted feelings of compassion and mindfulness. Wolever et al. (2012) in contrast tested the effects of a relaxation and a mindfulness-based program, thereby showing improvements in sleep quality and perceived rates. Thus, it is warranted to elaborate further on meditation-specific effects.

## **Limitations**

The findings should be considered in light of its limitations. First, similar to other studies it is important to question in how far the obtained results are generalizable to other populations. Research has frequently commented that people who decide to participate in studies may themselves represent a sample that differs from the general population (Halpern et al., 2003). The majority of our participants were indeed interested in mindfulness or had prior experience with mindfulness meditation or other meditation types. Hence, it will be interesting and important to investigate whether the present results are generalizable to groups completely alien to meditation. Furthermore, our sample was heterogeneous in its composition. This was apparent in the frequency of working days per week and in the number of hours worked per week. Future research should clarify whether similar effects apply to more homogeneous groups who are required to do the same work and hence are exposed to the same level of stress. This will further clarify the extent of generalizability. Moreover, given the large drop out rate results should be treated with scepticism as the power to detect a reasonable effect decreases with a small sample size (Maxwell, Kelley, & Rausch, 2008). Also, as the analysis of demographics has shown, the number of women in our study outweighed the number of men. Accordingly, it remains to be questioned whether the current results can be generalized to the wider population of men. Forthcoming studies, therefore should try to counterbalance the number of male and female participants.

Another limitation concerns the diary entries. Even though participants were asked to work at least 15h a week and ideally on consecutive days, some participants had larger time lags than others. In addition, working times varied between participants within both the control and the experimental group. Accordingly, making clear cut inferences from the present results are difficult. In line with this, the time of the diary entries varied extensively among participants. Thus, in how far diary entries were made immediately after work and not in retrospection also must be treated with caution. Future studies may therefore rely rather on experience sampling methods. By doing so, these shortcomings may be reduced. Diary

entries as they were conducted in this study bear an additional problem. Since participants were instructed to start the diary on a random working day, it is likely that the nature of the day itself may have introduced additional fluctuations. The honesty of the entries remains also questionable. Particularly at the beginning of the study participants repeatedly have asked if their results were kept anonymous. Accordingly, it is unclear whether our participants were convinced regarding their promised confidentiality. Therefore, the results may be also subject to social desirability effects.

Besides, given the fact that some participants were recruited out of existing teams, it is not unlikely that they exchanged information regarding the intervention. In addition, results may have been threatened by an incorrect use of the meditation. Some participants reported that they were annoyed by the meditation text and hence broke off earlier. Others disclosed that they felt comfortable with the intervention, yet being exposed to the meditation they soon experienced a state of cognitive dissonance (facing a mental conflict (Festinger, 1957)): on the one hand they were busy with necessities of their job and on the other hand they felt constantly reminded of the present-moment awareness. As a consequence they had to slow down their work, which simultaneously resulted in a less efficient job performance. Experiencing additional tension apart from the job-related factors drove the participants to look for a solution which in the end led to their drop-out. Apparently, the meditation seemed to have an effect, even though participants felt overwhelmed by trying to be mindful while executing their jobs. Accordingly, future research should integrate some advice regarding how to overcome such an impasse. One way would be informing people about possible obstacles. For instance, when experiencing a situation like the aforementioned one, they should proceed with their duties as they are accustomed to. However, they should initially try to be mindful at tasks that are simple such eating, walking or listening to somebody. That is leading participants gradually to the application of mindfulness would be a better approach.

Furthermore, Podsakoff, MacKenzie, Lee, and Podsakoff (2003) suggested that research in the organizational setting is prone to common method variance which inflates the conclusion making process. Just to name a few common errors leading up to common method variance are self-report biases, positive and negative affect as well as the use of particular items (Podsakoff et al., 2003). These are also limitations likely to be present in the present study. Given the fact that participants were exposed to a wide range of questions on their well-being, some answers may be biased. Even though we have tried to counterbalance the risk of potential effects stemming from specific questions, it is still possible that their effects were more prevalent than expected.

Still another shortcoming in our study is the fact that several items were not cross-validated following the translation into German. Hence, some items may have appeared equivocal. For instance, a participant told one of the authors that the items on perspective

taking were less appropriate for her working setting. While going through these items she was undetermined how to answer these, causing her to provide answers that were not in line with our aim. If this is valid for the rest of our sample, inferences about our results indeed may be distorted by common method variance. Accordingly, future studies should take these limitations into account.

## **Strengths**

Apart from limitations, the present study also bears some strong aspects. An important strength is its design. Since prior research has been largely conducted cross-sectionally conclusions with respect to the effects of a received manipulation were constrained. Bearing this in mind, the present study relied on a longitudinal design, which allowed keeping track of personal and situational fluctuations. Moreover, keeping diary entries temporally separated within the same day may have also lowered the risk of any systematic variation. Adding to this, the items were not organized according to the measured constructs and response formats were not held equal. Therefore, reliance on specific response styles or biases may have been reduced. Further, the participation in our study was free and the contact to the experimenter was held minimal. Hence, any biases due to experimenter expectancy or demand characteristics (Podsakoff et al., 2003) were kept low. Finally, a strong aspect of the study is the fact that the sample consisted of a large number of participants from the health and service sector who are normally difficult to recruit (Ohly et al., 2010). By doing so, the present study expands previous studies that have exclusively focused on clinical samples or on samples drawn from the university setting.

## **Implications**

The present study also has practical implications for the emotional labour sector. Given the positive results of mindfulness practice with regard to emotional exhaustion and job satisfaction, it is reasonable to suggest that the application of mindfulness practices should be extended to emotionally demanding occupations. Over the course of the study, feelings of emotional exhaustions as well as negative affect were amplified in the control group, indicating that emotional work had left its marks on the employee's well-being. Meanwhile, those who were actively engaged with practicing mindfulness felt less emotionally exhausted and more satisfied with their work. In addition, practicing mindfulness taught participants to approach demanding situations in a more adaptive way rather than using experiential avoidant strategies. Hence, people facing daily emotional stressors are likely to benefit from mindfulness meditation with the direct consequence of fostering their well-being. Yet, it is important to keep in mind that the implementation in the work setting may face several challenges. First, employers and employees themselves may react with scepticism to this application. With regard to the employers, some of them may think that they do not need to

introduce any stress management programs because they are costly and time-consuming. Others may even perceive mindfulness meditation as nothing more than just “pseudo-medicine”. Some of these aspects seem reasonable. Unlike general stress management programs, which are indeed time-consuming and costly (Zeidan et al., 2010), mindfulness practice is not expensive and already yields positive effects after investing three minutes of practice per day. In addition, its application is not restricted to a particular place or location. Rather, it can be practiced everywhere and at any time. Furthermore, it is important to keep in mind that mindfulness practice is not “pseudo-medicine”. As it was mentioned above, its application in the clinical sector has turned out to be effective (Keng, Smoski, & Robins, 2011) and in some cases even superior to competitive interventions (Jain et al., 2007). These aspects may be strong enough to convince employers of the benefits associated with introducing mindfulness as an intervention.

Second, employers who are willing to introduce this program should not forget that employees themselves may react with scepticism to mindfulness practice. From discourse with some of the participants, it became clear that even if stress management programs are introduced the willingness to participate is rather low. Evidently, there might be different reasons for this resistance such as the fear of acknowledging personal weaknesses or the general wish to distance oneself from the work setting. However, a striking aspect was the contention that stress management programs like mindfulness do not aim at improving an employee’s well-being. Rather they are believed to be commercially-driven, meaning that if the employee is happy, he will perform well and thus contributes to an employer’s assets. This claim cannot be completely discarded. However, this view is one-sided, since there are also employers who genuinely care for their employees. Therefore, any attempts of introducing exercises of mindfulness in the work setting should emphasize that the underlying intention is not exclusively employer-oriented but bears benefits for the employer and particularly the employee.

Finally, in order to facilitate participation employers themselves could function as role models (Bandura, 1977). That is by practicing mindfulness meditation themselves they could help their employees to overcome barriers of internal resistance and offer assistance in case of difficulties associated with practice. This is important, since managers or supervisors may deploy programs that they themselves do not know or do not practice. In this case, employees may indeed link the program with an inherently commercial purpose. Accordingly, employers who show theoretical and practical knowledge regarding the programs they introduce may increase the number of potential participants. Last but not least, knowing that someone else is actively involved in a program likewise affects one’s motivation to try out this program. Spreading information can be easily achieved by conversing with others or by relying on media. This was also apparent in the course of the study as some people got in

touch with us after hearing that their friends or family members were participating in our a mindfulness study. Thus, by showing personal initiative as well as by distributing information the willingness to participate may be substantially increased.

Overall, the present study contributes to past research by investigating effects of brief mindfulness practices on well-being variables and the mechanisms through which mindfulness exerts its beneficial effects among emotional labour workers. By providing evidence that beneficial effects are already obtainable with brief mindfulness sessions, the present study has opened the door for future research and its application in the working field.

## Appendix

Figure 1. *Meditation-exercises for each day of the experimental study.*

Day	Before Work	After Work
1st	-	-
2nd	-	Raisin Exercise & Body Scan
3rd	3-Minute Breathing Space	3-Minute Breathing Space
4th	3-Minute Breathing Space & Mindful in Daily Life	3-Minute Breathing Space & Loving Kindness -Me
5th	3-Minute Breathing Space	3-Minute Breathing Space & Loving Kindness -Me
6th	3-Minute Breathing Space	3-Minute Breathing Space & Loving Kindness -Neutral
7th	3-Minute Breathing Space	3-Minute Breathing Space & Loving Kindness -Friend
8th	3-Minute Breathing Space	3-Minute Breathing Space & Loving Kindness -Stranger
9th	3-Minute Breathing Space	3-Minute Breathing Space & Loving Kindness -Stranger
10th	3-Minute Breathing Space	3-Minute Breathing Space & Body Scan

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