

Journal of Happiness Studies

Mindfulness can make you Happy-and-Productive: A Mindfulness Controlled Trial and its effects on Happiness, Work Engagement and Performance --Manuscript Draft--

Manuscript Number:	JOHS-D-16-00261R3	
Full Title:	Mindfulness can make you Happy-and-Productive: A Mindfulness Controlled Trial and its effects on Happiness, Work Engagement and Performance	
Article Type:	Original Research	
Keywords:	mindfulness; Work engagement; happiness; Performance	
Corresponding Author:	Cristian Coo Calcagni, MS Universitat Jaume I Castellón de la Plana, Castellón SPAIN	
Corresponding Author Secondary Information:		
Corresponding Author's Institution:	Universitat Jaume I	
Corresponding Author's Secondary Institution:		
First Author:	Cristian Coo Calcagni, MS	
First Author Secondary Information:		
Order of Authors:	Cristian Coo Calcagni, MS	
	Marisa Salanova, PhD	
Order of Authors Secondary Information:		
Funding Information:	Generalitat Valenciana (GRISOLÍA/2014/021)	Mr Cristian Coo Calcagni
	Generalitat Valenciana (PROMETEO/2013/025)	Mrs Marisa Salanova
Abstract:	<p>A controlled trial of a Mindfulness Based Intervention (MBI) was conducted on a big Spanish public hospital. The intervention program was offered to the staff as an initiative to promote psychosocial health of workers. Nineteen employees participated of the program, which consisted in three 150-minute sessions and other fifteen employees acted as a control group in a waiting-list format. Pre-Post evaluations of Mindfulness, Work Engagement, Happiness and Performance where taken and the data analysis suggests that the intervention program was successful in boosting the existing levels of all the evaluated variables. The practical implications of these findings suggest that shorter versions of traditional MBI programs could be an effective Healthy Organizational Practice to boost happiness and performance among healthcare professionals.</p>	

Letter to the Editor

Ref.: Ms. No. JOHSD1600261R2

"Mindfulness can make you Happy-and-Productive:
A Mindfulness Controlled Trial and its effects on Happiness, Work
Engagement and Performance"

Journal of Happiness Studies

Dear Editor,

Thank you for your comments to improve the current version of the manuscript. It has been without a doubt an illustrating process of learning.

First, the two initial subsections have been narrowed down from the original 6 pages length to 4 pages.

Second, both the in-text and final section references have been thoroughly revised according to the APA 6th Edition publishing standards.

Third, the specific phrases you have pointed out in the discussion have been rephrased to clearly mean the decreasing of the negatively-valenced qualities (Pag 17, Line 4 "*diminished the levels of work-related stress and psychological distress*"; (Pag 17, Line 15, "*diminished scores of anxiety*")

Once again, thank you for your time and effort to improve the quality of this manuscript.

Considering all the final corrections made. We sincerely hope the manuscript meets the publishing standards.

Kind Regards,

The Authors

RUNNING HEAD: Mindfulness can make you happy-and-productive

Mindfulness can make you Happy-and-Productive: A Mindfulness Controlled Trial and
its effects on Happiness, Work Engagement and Performance

Cristián Coo and Marisa Salanova

WANT Research Team, Universitat Jaume I, Spain

Correspondence concerning this paper should be addressed to: Cristian Coo. Department of
Social Psychology. Universitat Jaume I. Avenida Sos Baynat, s/n. 12071. Castellón de la Plana
(Spain). Phone: +34 964 729580. Fax: +34 964 729262. E-mail: coo@uji.es

Acknowledgments

This research was supported by two grants from the Generalitat Valenciana, GRISOLIA
(2014/021) and PROMETEO (2013/025)

Abstract

A controlled trial of a Mindfulness Based Intervention (MBI) was conducted on a big Spanish public hospital. The intervention program was offered to the staff as an initiative to promote psychosocial health of workers. Nineteen employees participated of the program, which consisted in three 150-minute sessions and other fifteen employees acted as a control group in a waiting-list format. Pre-Post evaluations of Mindfulness, Work Engagement, Happiness and Performance where taken and the data analysis suggests that the intervention program was successful in boosting the existing levels of all the evaluated variables. The practical implications of these findings suggest that shorter versions of traditional MBI programs could be an effective Healthy Organizational Practice to boost happiness and performance among healthcare professionals.

Keywords: Mindfulness, Work Engagement, Happiness, Performance

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Introduction

In the past 40 years, Mindfulness – defined as a form of awareness that stems from attending to the present moment in a non-judgmental and accepting manner (Bishop et al., 2004) - has become a strong field of knowledge development in diverse settings, such as public and occupational health, education, and organizational development.

In fact, there is a growing consensus about mindfulness meditation as an effective treatment for a wide range of somatic illnesses and psychological disorders (Arias, Steinberg, Banga, & Trestman, 2006; Chiesa & Serretti, 2011; Hofmann, Sawyer, Witt, & Oh, 2010; Shonin, Van Gordon, & Griffiths, 2013). However, little attention has been paid to Mindfulness Based Interventions (MBIs) possibilities as tools to promote healthy and positive outcomes, rather than just to reduce negative outcomes, even though the research indicates that mindfulness is positively related to constructs such as vitality, life satisfaction, and interpersonal relationship quality (Brown, Ryan, & Creswell, 2007; Glomb, Duffy, Bono, & Yang, 2011). Indeed, most scientific models of mindfulness offer a primarily extinguishing account of the way mindfulness functions, focusing on the extinction of maladaptive habits and disengagement from negative states of mind, rather than on the cultivation of adaptive behavior and positive states of mind (Garland, Farb, Goldin, & Fredrickson, 2015a). Thus, there is a significant gap in the scientific literature about the potential positive effects of Mindfulness.

Specifically, research has shown that mindfulness is positively related to work engagement, defined as “a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli & Salanova, 2011), through the employee’s authentic functioning and positive affect (Leroy, Anseel, Dimitrova, & Sels, 2013). These

findings echo the Happy-and-Productive worker hypothesis explored by many authors (for a review, see Cropanzano & Wright, 2001; Wright, Cropanzano, Denney, & Moline, 2002). Several studies carried out recently have reported findings that confirm the existence of a link between happiness, operationalized as well-being (a construct that includes positive affect in a broader model), and job performance (Cropanzano & Wright, 2001; Zelenski, Murphy, & Jenkins, 2008).

In spite of the strong potential of mindfulness in the workplace, the happy-and-productive worker hypothesis, and MBIs' possibilities as an effective practice to promote organizational health and well-being, only two controlled trials have explored the effects of mindfulness training at work (Shonin, Van Gordon, Dunn, Singh, & Griffiths, 2014; Hülshager, Alberts, Feinholdt, & Lang, 2013). Therefore, the aim of this study is to conduct a controlled trial of an MBI in order to observe its effects on positive outcomes such as happiness, work engagement, and job performance. A secondary objective of this research is to test the efficacy of a shorter version of an MBI because many organizations do not have the time and resources to implement a classic 8-week program.

Mindfulness as a Positive Psychology Intervention

Both Mindfulness and Positive Psychology are relatively new research areas that are rooted in ancient wisdom traditions. On the one hand, Positive Psychology stems from ancient Greek Philosophy and the reflections of Aristippus and Aristotle about the different perspectives on well-being (Ryan & Deci, 2001). On the other hand, contemporary Mindfulness practices come from different Buddhist Contemplative Traditions such as Vipassana and Mahayana (Kornfield, 2011). Similarly, there has been an incredible increase in the quantity and quality of research in both fields of inquiry (Black, 2011; Donaldson, Dollwet, & Rao, 2014). More

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4 importantly, both views promote the idea of overcoming suffering and languishing in the
5 service of a “life well lived” (Seligman, 2002) and the pursuit of an optimal way of being or
6
7 “genuine happiness” (Ricard, 2010; Seligman, 2002).
8
9

10
11 Positive Psychology is a field of psychological science that focuses on the study and
12 observation of positively deviated behaviors, outcomes, and processes at the individual,
13 collective, and societal levels of analysis (Seligman, 2002). Positive Psychology shares a
14 common goal with Mindfulness, based on the idea of developing and increasing skills and
15 tools to promote wellbeing and optimal human functioning. The science of positive
16 psychology is able to propose rigorously tested, meaningful, and sustainable ways to enhance
17 wellbeing that would offer real-world happiness seekers a more rewarding and effective
18 experience of helping themselves (Howells, Ivtzan, & Eiroa-Orosa, 2014).
19
20
21
22
23
24
25
26
27
28
29
30

31 Mindfulness can be defined as a form of awareness that arises from attending to the
32 present moment in a non-judgmental and accepting manner (Bishop et al., 2004). Whether
33 mindfulness is a stable trait for some individuals or a momentary state for others, it is an
34 inherently human quality that can be developed so that individuals can bring quality to the
35 way they attend to thoughts, actions, and emotional states (Mellor, Ingram, Van Huizen,
36 Arnold, & Harding, 2016). Research has shown that mindfulness is subject to being
37 developed through specific training (Shapiro & Izett, 2008). Several studies in the field of
38 cognitive neuropsychology have shown that engaging in as little as ten minutes of daily
39 practice generates structural changes in regions of the brain associated with executive
40 information processing, attention, and self-regulation (Lutz, Dunne, & Davidson, 2007;
41 Hölzel et al., 2011).
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56

57 Buddhism clearly and strongly endorses “the cultivation of happiness, the genuine
58 inner transformation by deliberately selecting and focusing on positive mental states” (Lama
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4 & Cutler, 1998, pp. 44–45). In Buddhism, mindfulness is only one aspect of a broader
5
6 Eightfold Path designed to transform destructive thoughts and behaviors into virtuous ones
7
8 and promote joy and equanimity (Rahula, 1959). Among the factors of the Eightfold Path,
9
10 Right Effort (sammappadhana) is defined as the will to prevent and remove negative states
11
12 of mind and generate and sustain positive mental states (Rahula, 1959). Thus, mindfulness
13
14 practice was originally intended to strengthen mental capacities in order to disrupt negative
15
16 states and cultivate positive psychological processes, rather than sustaining an affectively
17
18 neutral state (Garland et al., 2015). This cognitive skill (Bishop et al.; 2004, Dahl, Lutz, &
19
20 Davidson, 2016) serves as the foundation for cultivating higher-order qualities of mind such
21
22 as compassion, equanimity, joy, and love. Traditional Buddhist teachings point out that these
23
24 qualities of mind are the vehicles to overcoming suffering, and that they are clear, scientific,
25
26 and applicable (Nhat Hahn, 2006).
27
28
29
30
31
32

33
34 The majority of the scientific models of mindfulness offer an extinguishing account
35
36 of how mindfulness works, focusing on getting rid of maladaptive habits and disengaging
37
38 from negative states of mind, rather than cultivating adaptive behavior and positive states of
39
40 mind (Garland et al., 2015a). Consequently, the majority of MBIs have focused on the relief
41
42 of negative symptoms and conditions such as stress, burnout, chronic pain, and addiction
43
44 relapse (Arias et al., 2006). In doing so, they have left out one of the main aspects of
45
46 Mindfulness training from the Buddhist tradition perspective: cultivating higher-order
47
48 qualities of mind through the practice of focused attention and open awareness, by
49
50 considering elements such as compassion, equanimity, joy, and kindness as simple outcomes,
51
52 rather than key elements, of the practice (Naht Hahn, 2006). Taking this into account, the
53
54 combination of Mindfulness and Positive Psychology seems to be the logical path for the
55
56 integration of two disciplines that share essential goals and values.
57
58
59
60
61
62
63
64
65

Positive Consequences of Mindfulness at Work

Mindfulness and Happiness

Studies have shown that mindfulness promotes both hedonic (Brown & Cordon, 2009) and eudaimonic well-being (Brown et al., 2007). Hedonic well-being is associated with pain relief and increased pleasure; eudaimonic well-being stands for living a meaningful, self-realized, and fully functional life (Ivtzan et al., 2016). Despite the focus on deficit reduction, MBIs have also led to improvements in positive variables, such as positive affect (Geschwind, Peeters, Drukker, Van Os, & Wichers, 2011), cognitive functioning (Hölzel et al., 2011), positive reappraisal of thoughts (Hanley & Garland 2014), and improved interpersonal interactions (Goleman, 2006).

Garland et al. (2015a) proposed the Mindfulness-To-Meaning theory in order to clarify potential paths through which mindfulness practice enhances positive variables, mainly eudaimonic well-being. The theory posits that mindfulness facilitates positive reappraisal because it evokes a decentered mode of awareness where thoughts and emotions are viewed from a metacognitive perspective—allowing for the flexible construction of more adaptive appraisals. By mindfully accepting experiences instead of dwelling on them, cognitive resources are freed up to broaden the scope of attention to encompass pleasurable and meaningful events and, therefore, build motivation toward purposeful engagement with life (Garland et al., 2015a). Empirical articles aimed at providing evidence for the Mindfulness to meaning theory have found that Mindfulness training stimulates an upward spiral of positive affect and cognition, which are key elements of well-being (Garland, Geschwind, Peeters, & Wichers, 2015b). Furthermore, increases in trait Mindfulness have

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4 been associated with more frequent use of positive reappraisal (Garland, Kiken, Faurot,
5
6
7 Palsson, & Gaylord, 2016).

8
9 Empirical research conducted to date supports the role of mindfulness in happiness,
10
11 operationalized as well-being. Ivtzan et al. (2016) conducted a Positive Mindfulness
12
13 Intervention randomized controlled trial (RCT) that integrated mindfulness with a series of
14
15 positive psychology variables that effectively increased participants' happiness,
16
17 operationalized as wellbeing, compared to controls. In this case, wellbeing was assessed
18
19 through the Pemberton Happiness Index (PHI, Hervás & Vázquez, 2013), an integrative
20
21 measure of well-being that includes items related to different domains of remembered well-
22
23 being (general, hedonic, eudaimonic, and social well-being) and experienced well-being
24
25 (i.e., positive and negative emotional events that happened the day before). Using trait
26
27 measures of mindfulness, significant correlations have been found with a variety of cognitive
28
29 and affective indicators of mental health and happiness. Mindfulness may facilitate happiness
30
31 directly by adding clarity and vividness to current experience and encouraging closer,
32
33 moment-to-moment, sensory contact with life, that is, without dense filtering of experience
34
35 through discriminatory thought (Brown & Ryan, 2003). Trait Mindfulness has been
36
37 associated with lower levels of emotional disturbance (e.g., depressive symptoms, anxiety,
38
39 and stress), higher levels of subjective well-being (lower negative affect, higher positive
40
41 affect, and satisfaction with life), and higher levels of eudemonic well-being (e.g., vitality,
42
43 self-actualization) (Brown & Ryan, 2003; Carlson & Brown, 2005). Moreover, people with
44
45 high levels of this construct are better equipped to recognize, manage, and resolve day-to-
46
47 day problems, which promotes a healthy mind (Hollis-Walker & Collosino, 2011).

48
49 Moreover, Mindfulness has been associated with a more adaptive appraisal of
50
51 stressful situations (Wolever et al., 2012), promoting better emotion regulation (Hülshager,
52
53
54
55
56
57
58
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4 Alberts, Feinholdt, & Lang, 2013), work-family balance (Allen & Kiburz, 2011), and sleep
5
6 quality (Hülshager et al., 2013). It also produces increases in positive emotions, which, in
7
8 turn, lead to increases in a wide range of personal resources and life satisfaction (Fredrickson
9
10 et al., 2008). Finally, Mindfulness meditation frequency has been shown to be a great
11
12 predictor of well-being, measured with the PHI questionnaire, which considers well-being to
13
14 be a construct with multiple domains (general, hedonic, eudemonic, and social well-being,
15
16 as well as positive and negative affect). The PHI also relates positively to the Five Facet
17
18 Mindfulness Questionnaire (FFMQ) facet of Observing, as well as the attitude of Self
19
20 Compassion, both significant outcomes of sustained practice (Schoormans & Nyklíček,
21
22 2011; Campos et al., 2015).
23
24
25
26
27

28
29 Considering all the empirical evidence provided, it is feasible to consider happiness,
30
31 operationalized as well-being, as an outcome of mindfulness training.
32
33
34
35

Mindfulness and Work Engagement

36
37

38
39 When employees are engaged in their work, they are highly energetic, enthusiastic,
40
41 and fully immersed in their jobs (Schaufeli & Bakker, 2004; Schaufeli, Salanova, González-
42
43 Romá, & Bakker, 2002). Having and maintaining this state of mind is an important indicator
44
45 of employee well-being (Bakker & Demerouti, 2008), and it enhances the occurrence of
46
47 behaviors known to promote efficient organizational functioning (e.g., Rich, Lepine, &
48
49 Crawford, 2010). According to Rich et al. (2010), engaged individuals can be described as
50
51 being fully immersed in the activities they are doing. Mindfulness is positively related to
52
53 work engagement by enhancing this experience of being immersed and attentive. Receptive
54
55 attention increases the clarity and vividness of one's experiences, so that individuals become
56
57 more engrossed and positively engaged in their activities (Brown & Ryan, 2003).
58
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4
5
6
7 On the same path, Kahn (1992) argued that personal engagement in work is a
8
9 function of being psychologically present at work. Psychological presence is similar to
10
11 mindfulness in that it reflects whether individuals are “fully there” in the present moment,
12
13 open, attentive, and aware. Psychological presence is positively related to work engagement
14
15 because individuals who are more present in their work roles experience more personal
16
17 engagement (Kahn, 1990). In addition to greater immersion in activities, mindfulness can
18
19 also foster engagement by helping individuals to see existing activities in novel and more
20
21 interesting ways, based on the idea of the “beginner’s mind”, one of the core elements of
22
23 Mindfulness practice, thus promoting a heightened state of involvement and wakefulness in
24
25 these activities (Langer & Moldoveanu, 2000).
26
27
28
29
30

31 Mindfulness can be instrumental in shifting one's perspective or “re-perceiving”
32
33 what is already known (Carmody, Baer, Lykins, & Olendzki, 2009; Shapiro et al., 2006),
34
35 thus keeping employees interested, attentive, and involved in their work. To understand how
36
37 this may work, imagine engaging in what you consider to be a work-related activity, but
38
39 approach it as if you were doing it for the first time: being receptive and attentive to see what
40
41 this activity has to offer. This open awareness may lead you to discover new and interesting
42
43 aspects of the task that were not as “clear” to you before. As the Greek philosopher Heraclitus
44
45 said “You can’t step in the same river twice” (Heraclitus as cited in Plato, 1921, p 92). As a
46
47 result, you may feel more engaged in the activity.
48
49
50
51
52

53 Furthermore, Mindfulness has been positively associated with work engagement
54
55 through the mediation of the psychological construct of “authentic functioning”, defined as
56
57 being aware of one's self and regulating oneself accordingly (Avolio & Gardner, 2005). Work
58
59 engagement is dependent on people investing their “true selves” in their work (Kahn, 1990,
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1992). Therefore, by supporting the individual's authentic functioning, mindfulness promotes work engagement. Mindfulness helps individuals to make the conscious decision to engage in work-related activities, thus internalizing external role demands within their core sense of self (Weinstein, Brown, & Ryan, 2009). Authentic functioning describes this process of internalization by stating that authentic people are both open and humble, expressing their true selves, but willing to adapt at the same time (Leroy et al., 2013).

Mindfulness and Performance

A recent meta-analysis gathered different random controlled trials of MBIs performed in clinical populations using measures of cognitive capabilities. Results suggest that early phases of mindfulness training, which are more concerned with the development of focused attention, could be associated with significant improvements in selective and executive attention. However, the following phases, which are characterized by open monitoring of internal and external stimuli, could be mainly associated with improved, unfocused, sustained attention abilities (Chiesa & Serretti, 2011). These claims are supported by the findings of Zeinda et al. (2010), who indicate that brief mindfulness training significantly improves visuo-spatial processing, working memory, and executive functioning, compared to a control group that listened to a recorded book.

All these improvements in basic cognitive abilities are potential antecedents for improved performance at work, where focusing one's attention and making complex decisions while taking many factors into account are key behaviors (Goleman, 2013). For instance, the ability to sustain focused attention over longer periods of time would probably positively impact the overall productivity of office workers. It would help them to complete their desired number of daily tasks in a shorter time span with fewer interruptions and errors,

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

thus providing the opportunity to achieve the same goals and spend fewer working hours on them. In addition, the ability to take many different factors into account in complex decision making would be likely to increase the efficacy and positive impact of these decisions. As the scope broadens when considering different elements in key decisions, the person becomes more likely to tackle potential difficulties and setbacks in advance.

A recently conducted study evaluating the potential of awareness training through mindfulness meditation showed significant increases in employer-rated job performance in a medium-sized sample of middle managers. These results suggest that mindfulness-based (i.e., present-moment-focused) working styles may be more effective than goal-based (i.e., future-orientated) working styles (Shonin, Van Gordon, & Griffiths, 2014). In a similar way, Reb et al. (2015) established a strong connection between awareness, absent-mindedness, and work performance. The measures were significantly related to emotional exhaustion, job satisfaction, need satisfaction, task performance, organizational citizenship behaviors (OCBs), and deviance. It is worth noting that all three measures of performance (task performance, OCBs, and deviance) were rated by the employees' supervisors, rather than by the employees themselves.

Hypotheses

Based on the above, we formulate the following hypothesis:

H1: Participants who complete the intervention program will exhibit statistically significant increases in their levels of Mindfulness, Happiness, Work Engagement, and Performance, compared to participants in the control group.

4 **Method**
56 *Participants and procedure*
7

8 The study was conducted at a large semi-public Spanish hospital. All the employees were
9 invited (approximately 1.500 individuals) to participate in the workshop through the Human
10 Resources internal on-line training platform. The participants were informed about the nature
11 of the study and given the first evaluation at the beginning of the first session. The study was
12 described as a scientific program about the “benefits of mindfulness for managing work
13 stress”. The participants were told that the study would be conducted by university
14 researchers, that the results would be confidential, and that the choice of whether to
15 participate or not would not affect their standing with their employer. Participation was
16 completely voluntary, and individuals were not rewarded for their involvement in the study.
17
18
19
20
21
22
23
24
25
26
27
28
29

30 Two successive calls to participate in the study were held. In the first call, 11
31 individuals (100% women) attended the first session, and all of them completed the
32 intervention program. In the second call, 10 individuals attended the first session (80%
33 women), but two dropped out after the second session. Additionally 15 individuals (60%
34 women) were assigned to a control group in a waiting list format based on the time of
35 soliciting inscription in the course. The term “waiting list” refers to a group of participants
36 included in the outcome study who are assigned to a waiting list and receive intervention
37 after the active treatment group. This control group served as an untreated comparison group
38 during the study. All the control group members participated in the intervention program
39 after the study was over. Baseline demographic characteristics for each group are shown in
40 Table 4.
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

The Hospital supported the study by allowing the participants to attend the sessions during work hours without losing pay, and by validating the intervention as a professional training activity.

Mindfulness Program Description

The program was titled “Stress Management and Wellbeing promotion for Health Professionals”, and it was developed by the Hospital’s HR Manager as an adaptation of Mark William’s Mindfulness Based Cognitive Therapy (MBCT). The program was validated by Spain’s national commission for job training activities.

The participants attended three 150-minute sessions and received a CD containing guided meditations to facilitate daily self-practice. Weekly sessions were structured considering three different components: (I) A taught/presentation component (approximately 60 minutes), (II) a facilitated group discussion component (approximately 60 minutes), and a guided meditation and/or mindfulness exercise (approximately 30 minutes). A short break (5-10 minutes) was always scheduled before the guided meditation practice. The participants were encouraged to develop both formal and informal mindfulness practice through follow up worksheets and suggested reading materials. The workshop was guided by the Hospital’s HR Manager, who had received prior training as a Mindfulness teacher. To complete the workshop, participants had to attend all three sessions. The specific session contents and structure are presented in Table 4.

At the beginning of the first session, the participants filled out the initial questionnaire. After the last session, the participants received the final questionnaire via e-mail and answered within the following week.

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Measures

Five Facet Mindfulness Questionnaire. The Five Facet Mindfulness Questionnaire (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006) is a 20-item, brief scale that assesses five different dimensions of Mindfulness, viewing it as higher-order factor. The five dimensions include: (I) Observe, (II) Describe, (III) Act with Awareness, (IV) Non Reactivity to own thoughts, and (V) Non Judgment of own experience. Participants indicate the frequency of 20 behaviors on a 7-point Likert scale (0=*almost never*, 6=*almost always*). Items include “I’m good at finding words to describe my feelings” and “I’m easily distracted”. Half of the items are reverse scored. The scale presented good internal reliability (Pre $\alpha=.88$; Post $\alpha=.86$), even though the authors of the latest validation suggest revising the items corresponding to Non-Reactivity (Tran, Glück, & Nader, 2013).

Utrecht Work Engagement Scale. The Utrecht Work Engagement Short Scale (Schaufeli, Bakker, & Salanova, 2006) is a 9-item short-version questionnaire that assesses the three aspects of work engagement: (I) Vigor, (II) Dedication, and (III) Absorption. Participants indicate the frequency of specific feelings and behaviors on a 7-point Likert scale (0=*almost never*, 6=*almost always*), including “At my job, I feel strong and vigorous” and “I’m enthusiastic about my job”. The scale presented high internal reliability (Pre $\alpha=.81$; Post $\alpha=.95$).

Pemberton Happiness Index. The Pemberton Happiness Index (Hervás & Vázquez, 2013) is an integrative measure of happiness that encompasses the different domains of remembered well-being (general, hedonic, eudemonic, and social) and experienced well-being (positive and negative emotional events that happened the day before). Participants use a 10-point Likert scale (10 = *strong agreement*, 1= *strong disagreement*) to indicate the degree of agreement with 10 selected statements about remembered happiness, and they respond

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

YES/NO to 10 experiences that occurred the day before, including “I feel very connected to the people around me” and “I did something I really enjoy doing”. The scale showed high internal reliability (Pre $\alpha=.85$; Post $\alpha=.87$) and consistency.

Self-Evaluated Performance. Six items were taken from the HERO (Healthy & Resilient Organization) questionnaire (Salanova, Llorens, Cifre, & Martinez, 2012) to assess in-role and extra-role self-rated performance on a 7-point Likert type scale (0=*almost never*, 6=*almost always*). The items include, “I achieve my work-related objectives” and “I go beyond my official responsibilities to help my teammates”. The scale showed good internal consistency (Pre $\alpha=.80$; Post $\alpha=.85$).

Data Analysis

A significance level of $p<0.05$ and two-tailed tests were employed throughout. Differences between group allocation conditions at baseline and endpoint were assessed using Analysis of Variance (ANOVA) with a 2×2 design (i.e., a group factor [intervention, control] and a time factor [baseline, endpoint]). In addition, univariate analysis of each outcome variable was performed, following the recommendations made by Winter (2013) to use Student’s T test with small sample sizes to identify effects possibly overlooked in the analysis of variance.

Effect sizes (Cohen’s d) were estimated based on difference scores of each dependent variable, and they showed the size of the between-groups effect (absolute value) using a mean averaged standard deviation. Cohen (1988) defined effect sizes as "small, $d = .2$," "medium, $d = .5$," and "large, $d = .8$ ", stating that "there is a certain risk in inherent in offering conventional operational definitions for those terms for use in power analysis in as diverse a field of inquiry as behavioral science" (p. 25). Effect sizes can also be thought of as the average percentile standing of the average treated (or experimental) participant compared to the average untreated (or control) participant. An effect size of 0.0 indicates that the mean of

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

the treated group is at the 50th percentile of the untreated group. An effect size of 0.8 indicates that the mean of the treated group is at the 79th percentile of the untreated group. An effect size of 1.7 indicates that the mean of the treated group is at the 95.5 percentile of the untreated group.

Results

Results showed a significant interaction effect of group (intervention, control) and time (pre, post) for all the dependent variables [Mindfulness ($F(1) = 43.10, p < 0.001$), Happiness ($F(1) = 25.84, p < 0.001$), Performance ($F(1) = 23.68, p < 0.001$), except Work Engagement ($F(1) = 2.22, p < 0.05$). Figure 1 shows plotted means for each time factor (pre, post) across the groups (intervention and control). A clear and strong effect of the Mindfulness Program was observed for each outcome variable, suggesting that the Mindfulness Program improves levels of trait Mindfulness, Happiness, and Performance. Correlations, standard deviations, and Cronbach's alphas are shown in Table 2 for pre-intervention scores and in Table 3 for post-intervention scores on each variable.

Further analysis was carried out using paired samples t-tests for both groups (intervention, control) to test for differences between time factors. The results indicate significant differences in the intervention group's dependent variable mean scores [Mindfulness ($t(18) = -7.88, p < 0.001, d = 0.66$), Happiness ($t(18) = -5.03, p < 0.001, d = 0.63$), Work Engagement ($t(18) = -4.06, p < 0.001, d = 0.50$), Performance ($t(18) = -4.76, p < 0.001, d = 0.72$)]. This supports the ANOVA results that include Work Engagement among the outcome variables whose levels increased significantly in the intervention group.

Results from t-test comparisons of the time factor for the control group indicated no significant differences for the outcome variables Mindfulness ($t(14) = 0.496, p = 0.62$) and

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Work Engagement ($t(14)=-1.02, p=0.32$), and significant interactions for Happiness ($t(14)=2.24, p<0.05, d=0.07$) and Performance ($t(14)=2.41, p<0.05, d=0.46$).

Finally, interaction effects were further examined by comparing time factors (pre, post) across each group (intervention, control). The results of t-test comparisons between groups (intervention, control) showed no significant interactions in all the outcome variables at baseline time [Mindfulness ($t(32)=-0.44, p=0.66$), Happiness ($t(32)=-0.65, p=0.52$), Work Engagement ($t(32)=-1.40, p=1.70$), Performance ($t(32)=-1.70, p=0.9$)]. Comparison of the same variables at the end time shows significant interactions in all outcome variables [Mindfulness ($t(32)=-3.39, p<0.05, d=1.17$), Happiness ($t(32)=-2.49, p<0.05, d=0.89$), Work Engagement ($t(32)=-2.33, p<0.05, d=0.87$), Performance ($t(32)=-4.77, p<0.001, d=1.64$)]. Mean and standard deviation scores for each variable across both groups at different times (pre, post) are shown on Table 5.

Discussion

A controlled trial was conducted to assess the effectiveness of a short MBI as a Positive Organizational Psychology optimization intervention for improving Mindfulness, Work Engagement, Happiness, and Job Performance. A small sample of healthcare workers was allocated to the MBI group or a waiting list control group that received the intervention protocol once the study had ended. Outcomes are consistent with the proposed hypothesis. After participating in the three-week intervention program, participants showed significant improvements with moderate effect sizes, compared to controls, on levels of Mindfulness, Work Engagement, Happiness, and Job Performance. The findings suggest that the abbreviated Mindfulness training program is a successful strategy for improving employee happiness, work engagement, and performance (for a graphic representation of differences between the intervention and control groups, see Figure 1).

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

The results are generally consistent with the findings from the following studies on Mindfulness in occupational contexts: (i) a randomized controlled trial by Shonin et al. (2014) showing that an eight-week second-wave MBI called MAT (Mindful Awareness Training) diminished the levels of work-related stress and psychological distress, and increased job satisfaction and employer-rated job performance; (ii) a cross-sectional study by Ho (2011) showing that an employee meditation experience was positively associated with self-directed learning, organizational innovativeness, and organizational performance in Taiwanese technological company workers; (iii) a cross-sectional study of employed (i.e., >20 h per week) parents by Allen and Kiburz (2012) showing that trait mindfulness was positively associated with work-life balance, sleep quality, and vitality; (iv) a longitudinal growth modeling study about the positive effect of MBIs on promoting Work Engagement through the mediation of Authentic Functioning (Leroy et al., 2013); and (v) a controlled trial of an 8-week mindfulness training program in a UK-based organization that reported improved scores on measures of well-being, satisfaction with life, hope, and diminished scores of anxiety (Mellor et al., 2016).

Unexpectedly, participants allocated to the control group showed a statistically significant decrease in their well-being and performance scores. To find a possible explanation for this occurrence, we took a closer look at the participants' work conditions and possible events that could help us to explain this negative outcome. First, the participants were allocated to the control group using a "first-come, first-served" logic, and so it is plausible that some frustration could be experienced by those who wished to attend the first round of sessions of the program and could not do so because they did not respond fast enough. The negative emotions associated with this event could somewhat explain the

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4 decrease in self-ratings of well-being and performance, inducing perceptions of low self-
5
6 efficacy and lack of psychological resources to cope with their existing job demands. Second,
7
8 some participants in the control group could have been impeded by their work load and
9
10 existing resources from successfully enrolling in and attending the program at that specific
11
12 moment. In this regard, knowing that there is a stress management program available at their
13
14 workplace and not being able to attend due to time/work constraints could produce
15
16 heightened awareness of negative and stressful experiences. This poses a significant
17
18 challenge to developing successful interventions in the future. Securing support and
19
20 commitment from management, translated specifically into time and space to conduct the
21
22 intervention program within the required time margins, is a critical element for success, as
23
24 well as making sure that participants' workload does not keep them from attending this kind
25
26 of initiative. The negative changes experienced by the control group members are consistent
27
28 with the idea that awareness heightens affective experience and reactivity, exacerbating
29
30 negative symptoms when not coupled with acceptance and coping/reappraisal skills.
31
32
33
34
35
36
37
38

39 Even considering the presence of these negative outcomes, we believe the findings of
40
41 this study support the happy and productive worker theory (Wright et al., 2002), which
42
43 proposes the relevance of positive affect and wellbeing as key elements in promoting healthy
44
45 and high-achieving work environments and workers. Moreover, it serves as a valid and
46
47 innovative example of a Positive Organizational Intervention designed to develop specific
48
49 positive outcomes associated with high performance and psychosocial well-being.
50
51
52
53

54 Regarding the underlying psychological mechanisms that explain the effectiveness of
55
56 the mindfulness intervention program, the structure and content of the program indicate that
57
58 attention-related skills, such as awareness and observation, and perceptual focus shifting
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

skills, such as acceptance, non-judgment, and non-reactivity, are the two main components. Attention monitoring skills cultivated through mindfulness meditation exercises enhance awareness of the present moment experience. As such, attention monitoring is a mechanism for the effects of mindfulness on improving cognitive functioning outcomes in affectively neutral contexts (Lindsay & Creswell, 2016), and it heightens affective experience and reactivity, both exacerbating negative symptoms and enhancing positive experiences. Therefore, attention monitoring skills alone are not sufficient to improve performance on cognitive tasks that balance attentional control with emotion regulation. Acceptance modifies the way one relates to the present moment experience, regulating reactivity to affective experience. Thus, attention monitoring and acceptance skills together boost performance on cognitive tasks that involve emotion regulation, reduce negative reactivity (e.g., anxiety, depression, stress), reduce grasping for positive experiences (e.g., craving, substance use), and improve stress-related health outcomes (Lindsay & Creswell, 2016). Moreover, positive reappraisal could be another plausible psychological mechanism explaining the effects of the intervention program. Garland et al. (2015a) propose the mindfulness-to-meaning theory, which asserts that by modifying how one attends to the cognitive, affective, and interoceptive sequelae of emotion provocation, mindfulness introduces flexibility into the creation of autobiographical meaning, stimulating the natural human capacity to positively reappraise adverse events and savor the positive aspects of experience. By fostering positive reappraisals and emotions, mindfulness may generate deep eudemonic meanings that promote resilience and engagement with a valued and purposeful life. Another important mechanism through which mindfulness is believed to modulate dysphoric mood states and enhance well-being (whether work-related or otherwise) is via the cultivation of compassion and self-compassion. Research has shown that mindfulness can lead to a greater awareness of the

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

individual's own suffering and psychological distress, and this helps to achieve a greater awareness of the suffering of others (Shonin et al., 2013a). In turn, greater levels of compassion and self-compassion are thought to lead to improvements in levels of tolerance, cooperation (e.g., with senior management), and interpersonal skills in general (Shonin et al., 2013b). Based on this idea, there is empirical evidence supporting the relationship between facets of mindfulness and self-compassion as relevant elements to explain well-being (Baer, Lykins, & Peters, 2012; Campos et al., 2015). Last but not least, Davidson and Schuyler (2015) presented relevant neuroscientific evidence pointing to four constituents of well-being attained through Mindfulness training, these are: 1. Sustained Positive Emotion; 2. Recovery from negative emotion; 3. Empathy, altruism and pro-social behavior; and 4. Mind wandering, mindfulness and emotion-captured attention. All of the neural circuits identified as underlying to these four constituents of well-being exhibit plasticity, and thus can be transformed through experience and training regimes as short as two weeks.

Although the efficacy of shorter versions of traditional MBIs remains to be demonstrated in the long run, the findings of this study suggest that it is relevant to utilize these abbreviated treatments. They are a cost and time effective way to introduce Mindfulness training and practice as a Healthy Organizational Practice (Salanova et al., 2013) aimed to promote Work Engagement, Happiness, and Job Performance. The traditional eight-week programs are a "gold standard" for MBIs, but establishing the necessary commitment from management to develop such a program in any kind of organization is difficult to accomplish without any prior experience in Mindfulness. In this regard, shorter versions of consistently proven intervention protocols could act as a successful first step in developing Mindfulness practice as a long term strategy to effectively promote and sustain

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

an Engaged, Happy, and Productive workforce. In fact, Jon Kabat-Zinn (1990), who developed MBSR, describes mindfulness as a skill that can only be developed through continuous practice. Comparing it with a muscle, he explains that mindfulness can only grow, become stronger, and become more flexible when we continuously work on it and challenge it (Hülshager, 2015).

Limitations

The most relevant limitation of the study is the sample size, combined with the lack of a proper active control intervention, instead of the waiting list format. It was a significant challenge to recruit participants in a highly demanding work environment in terms of quantitative overload and limited time. Therefore, it is necessary to clarify and establish management's commitment to supporting the intervention program as a key element when repeating the study with a larger sample size. Even though positive results were observed, the size of the sample is too small to make assumptions about the general efficacy of short MBIs as Positive Organizational Psychology optimization interventions. Furthermore, the lack of a specific and comparable alternative intervention for the control group undermines the value of the results, considering that any kind of intervention is usually better than nothing at all. Additionally, the exclusive use of self-report measures is a weakness that should be addressed in future research projects by incorporating second and third person ratings, as well as behavioral indicators such as key performance indicators.

Future Research

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

The most important line of research that emerges from the results of this study involves conducting high-standard controlled trials with larger samples and active control group intervention programs. Following this approach would be a necessary step in validating the efficacy of shorter versions of MBIs and making a stronger case for Mindfulness as a strategy to promote happy and productive workers. As a complementary approach, intervention evaluation through diary studies could yield relevant information about the underlying psychological mechanisms affected by Mindfulness practice that have a direct impact on Happiness, Work Engagement, and Job Performance, such as positive emotions, coping mechanism, character strengths, and mindsets. Another possible line of inquiry would be to consider the influence of organizational practices and characteristics and their positive/negative interactions with Mindfulness, Happiness, Work Engagement, and Job Performance at both an individual and collective level of analysis.

References

- Allen, T. D., & Kiburz, K. M. (2012). Trait mindfulness and work–family balance among working parents: The mediating effects of vitality and sleep quality. *Journal of Vocational Behavior, 80*, 372–379. doi: 10.1016/j.jvb.2011.09.002
- Arias, A. J., Steinberg, K., Banga, A., & Trestman, R. L.(2006). Systematic review of the efficacy of meditation techniques as treatments for medical illness. *Journal of Alternative and Complementary Medicine, 12*, 817– 832.
- Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly, 16*, 315–338
- Baer, R. a, Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27–45.
doi:10.1177/1073191105283504
- Baer, R. A., Lykins, E. L., & Peters, J. R. (2012).Mindfulness and self-compassion as predictors of psychologicalwellbeing in long-termmeditators and matched nonmeditators. *The Journal of Positive Psychology, 7*(3), 230–238.
<http://dx.doi.org/10.1080/17439760.2012.674548>.
- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International, 13*(3), 209–223. doi:10.1108/13620430810870476
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, . . .Devins, G.(2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11*(3), 230-241.

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Black, D.S. (2011) Mindfulness Research Guide: a New Paradigm for Managing Empirical
5
6 Health Information. *Mindfulness*, 1, 174-176. doi: 10.1007/s12671-010-0019-0
7
8

9
10 Brown, K. W. & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its
11
12 role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4),
13
14 822–848. doi:10.1037/0022-3514.84.4.822
15
16

17
18
19 Brown, K. W., Ryan, R. M. & Creswell, J. (2007) Mindfulness: Theoretical Foundations
20
21 and Evidence for its Salutary Effects. *Psychological Inquiry*, 18(4), 211-237. doi:
22
23 10.1080/10478400701598298.
24
25

26
27 Brown, K.W., & Cordon, S. (2009). Toward a phenomenology of mindfulness: subjective
28
29 experience and emotional correlates. In F. Didonna (Ed.), *Clinical handbook of*
30
31 *mindfulness* (pp. 59–81). New-York: Springer.
32
33

34
35
36 Campos, D., Cebolla, A., Quero, S., Bretón-López, J., Botella, C., Soler, J., Baños, R. M.
37
38 (2015). Meditation and happiness: Mindfulness and self-compassion may mediate the
39
40 meditation–happiness relationship. *Personality and Individual Differences*, 6–11.
41
42 doi:10.1016/j.paid.2015.08.040
43
44

45
46
47 Carlson, L. E., & Brown, K. W. (2005). Validation of the Mindful Attention Awareness
48
49 Scale in a cancer population. *Journal of Psychosomatic Research*, 58, 29–33.
50
51

52
53 Carmody, J., Baer, R. A., Lykins, E. L. B., & Olendzki, N. (2009). An empirical study of
54
55 the mechanisms of mindfulness in a mindfulness-based stress reduction program.
56
57 *Journal of Clinical Psychology*, 65, 613–626.
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Chiesa, A., & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric
5
6 disorders: A systematic review and meta-analysis. *Psychiatry Research*, 187, 441–453.
7
8

9
10 Chiesa, A., Calati, R., & Serretti, A. (2011). Does mindfulness training improve cognitive
11
12 abilities? A systematic review of neuropsychological findings. *Clinical Psychology*
13
14 *Review*, 31, 449–464.
15
16

17
18
19 Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale,
20
21 NJ: Lawrence Earlbaum Associates.
22
23

24
25 Cropanzano, R., & Wright, T.(2001) When a “Happy” Worker is Really a “Productive”
26
27 Worker. *Consulting Psychology Journal*, 53(3), 182-199.
28
29

30
31 Dahl, C. J., Lutz, A. & Davidson, R. J. (2015) Reconstructing and deconstructing the self:
32
33 cognitive mechanisms in meditation practice. *Trends in Cognitive Science*, 19(9), 521-
34
35 523. doi: 10.1016/j.tics.2015.07.001
36
37

38
39 Davidson, R., & Schuyler, B. (2015) Neuroscience of Happiness. In J. Helliwell, R. Layard
40
41 and J. Sachs (Eds). *World Happiness Report 2015* (pp. 88-105). New York:
42
43 Sustainable Development Solutions Network.
44
45

46
47
48 Donaldson, S., Dollwet, M. & Rao, M. (2014) Happiness, excellence and optimal human
49
50 functioning revisited: Examining the peer reviewed literature linking positive
51
52 psychology. *Journal of Positive Psychology*, 10(3), 185-195. doi:
53
54 10.1080/17439760.2014.943801
55
56
57
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Fredrickson, B. L., Cohn, M. a, Coffey, K. a, Pek, J., & Finkel, S. M. (2008). Open hearts
5
6 build lives: positive emotions, induced through loving-kindness meditation, build
7
8 consequential personal resources. *Journal of Personality and Social Psychology*,
9
10 95(5), 1045–62. doi:10.1037/a0013262
11
12
13

14
15 Garland, E. L., Farb, N. A., Goldin, P. R., Fredrickson, B. L. (2015a) Mindfulness
16
17 Broadens Awareness and Builds Eudaimonic Meaning: A Process Model of Mindful
18
19 Positive Emotion Regulation. *Psychological Inquiry*, 26, 293-314. doi:
20
21 10.1080/1047840X.2015.1064294
22
23
24

25
26 Garland, E. L., Geschwind, N., Peeters, F. & Wichers, M. (2015b) Mindfulness training
27
28 promotes upward spirals of positive affect and cognition: multilevel and
29
30 autoregressive latent trajectory modeling analyses. *Frontiers in Psychology*, 6, 1-13.
31
32 doi: 10.3389/fpsyg.2015.00015.
33
34
35

36
37 Garland, E. L., Kiken, L. G., Faurot, K., Palsson, O. & Gaylord, S. A. (2016) Upward
38
39 Spirals of Mindfulness and Reappraisal: Testing the Mindfulness-to-Meaning Theory
40
41 with Autoregressive Latent Trajectory Modeling. *Cognitive Therapy and Research*,
42
43 40(228), 1-12. doi: 10.1007/s10608-016-9768-y.
44
45
46

47
48 Geschwind, N., Peeters, F., Drukker, M., Van Os, J., & Wichers, M. (2011). Mindfulness
49
50 training increases momentary positive emotions and reward experience in adults
51
52 vulnerable to depression: a randomized controlled trial. *Journal of Consulting and*
53
54 *Clinical Psychology*, 79(5), 618–628.
55
56
57
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Goldstein, J. (2003) *Insight Meditation: The Practice of Freedom*. Boston, Massachusetts:
5
6 Shambala Publications.
7
8

9
10 Goleman, D. (2013) *Focus: The Hidden Driver of Excellence*. New York, New York:
11
12 Harper Collins.
13
14

15
16 Glomb, T. M, Duffy, M. K, Bono, J. E., & Yang, T. (2012). *Mindfulness at work. Research*
17
18 *in Personnel and Human Resource Management, 30*, 115-157.
19
20

21
22 Hervás, G., & Vázquez, C. (2013). Construction and validation of a measure of integrative
23
24 well-being in seven languages: the Pemberton Happiness Index. *Health and Quality of*
25
26 *Life Outcomes, 11*, 66. doi:10.1186/1477-7525-11-66
27
28

29
30
31 Hofmann, S., Sawyer, A., Witt, A. & Oh, D. (2010) The effect of mindfulness-based
32
33 therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and*
34
35 *Clinical Psychology.78*(2), 169-183. doi: 10.1037/a0018555.
36
37
38

39
40 Hollis-Walker, L. & Colosimo, K. (2011) Mindfulness, self-compassion, and happiness in
41
42 non meditators: A theoretical and empirical examination. *Personality and Individual*
43
44 *Differences. 50*, 222-227.
45
46
47

48
49 Hölzel, B. K., Lazar, S.W., Gard, T., Schuman-Olivier, Z., Vago, D. R., & Ott, U. (2011).
50
51 How does mindfulness meditation work? Proposing mechanisms of action from a
52
53 conceptual and neural perspective. *Perspectives on Psychological Science, 6*(6), 537–
54
55 559.
56
57
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Hölzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerrasmoti, S. M., Gard, T. &
5

6 Lazar, S. W. (2011) Mindfulness Practice leads to increases in regional brain gray
7
8 matter density. *Psychiatry Research*, 191(1), 36-43. doi:
9

10 10.1016/j.psychresns.2010.08.006
11
12
13
14

15 Howells, I., Ivtzan, I., Eiroa-Orosa, F.(2014). Putting the "app" in Happiness: A
16

17 randomized controlled trial for a Smart Phone-Based Mindfulness Intervention to
18
19 Enhance Wellbeing. *Journal of Happiness Studies*, 17(1), 163-185. doi:
20

21 10.1007/s10902-014-9589-1
22
23
24
25

26 Hülshager, U. R., Alberts, H. J. E. M., Feinholdt, A., & Lang, J. W. B. (2013). Benefits of
27

28 mindfulness at work: the role of mindfulness in emotion regulation, emotional
29

30 exhaustion, and job satisfaction. *The Journal of Applied Psychology*, 98(2), 310–25.
31

32 doi:10.1037/a0031313
33
34
35
36

37 Hülshager, U.R. (2015) Making Sure That Mindfulness Is Promoted in Organizations in
38

39 the Right Way and for the Right Goals. *Industrial and Organizational Psychology*.
40

41 8(4), 674-679.
42
43
44

45 Ivtzan, I., Young, T., Martman, J., Jeffrey, A., Lomas, T., Hart, R. & Eiroa-Orosa, F. J.
46

47 (2016) Integrating Mindfulness into Positive Psychology: a Randomised Controlled
48

49 Trial of an Online Positive Mindfulness Program. *Mindfulness*, 7(6), 1396-1407. doi:
50

51 10.1007/s12671-016-0581-1
52
53
54
55

56 Kornfiel, J. (2011) *Teachings of the Buddha*. Boston, Massachussets: Shambala
57

58 Publications.
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Kabat-Zinn, J. (1990) *Full Catastrophe Living*. New York: Bantam Books.
5
6

7
8 Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement
9
10 at work. *Academy of Management Journal*, 33, 692–724.
11
12

13
14 Kahn, W. A. (1992). To be fully there: Psychological presence at work. *Human Relations*,
15
16 45, 321–349.
17
18

19
20 Khoury, B., Sharma, M., Rush, S. E., & Fournier, C. (2015). Mindfulness-based stress
21
22 reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic*
23
24 *Research*, 78(6), 519-528. doi:10.1016/j.jpsychores.2015.03.009
25
26

27
28 Lama, D. & Cutler, H. C. (1998). *The art of happiness*. New York, NY: Riverhead Books.
29
30

31
32 Langer, E. J., & Moldoveanu, M. (2000). Mindfulness research and the future. *Journal of*
33
34 *Social Issues*, 56, 129–139
35
36

37
38 Leroy, H., Anseel, F., Dimitrova, N. G., & Sels, L. (2013). Mindfulness, authentic
39
40 functioning, and work engagement: A growth modeling approach. *Journal of*
41
42 *Vocational Behavior*, 82(3), 238–247. doi:10.1016/j.jvb.2013.01.012
43
44

45
46 Lindsay, E. K., & Creswell, D. J. (2016) Mechanisms of Mindfulness Training: Monitor
47
48 and Acceptance Theory (MAT). *Clinical Psychology Review*, 51, 48-59. doi:
49
50 10.1016/j.cpr.2016.10.011
51
52

53
54
55 Lutz, A., Dunne, J. D. & Davidson, R. J. (2007) Meditation and the Neuroscience of
56
57 Consciousness. In P.D. Zelazo, M. Moscovitch & E. Thompson (eds.), *Cambridge*
58
59 *Handbook of Consciousness*. (499-555). Cambridge: Cambridge University Press.
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

- 1
2
3
4 Mellor, N. J., Ingram, L., Van Huizen, M., Arnold, J. & Harding, A. (2016) Mindfulness
5
6 Training and Employee Wellbeing. *International Journal of Workplace Health*
7
8 *Management*, 9(2), 126-145. doi: 10.1108/IJWHM-11-2014-0049.
9
10
11
12 Nhat Hanh, T. (2006) *True Love: A Practice for Awakening the Heart*. Boston,
13
14 Massachusetts: Shambala Publications.
15
16
17
18
19 Niemiec, R. (2012) Mindful Living: Character Strengths interventions as pathways for the
20
21 five mindfulness trainings. *International Journal of Wellbeing*, 2(1), 22–33.
22
23 doi:10.5502/ijw.v2i1.2
24
25
26
27 Nyaniponika (1973). *The heart of Buddhist meditation*. New York, New York: Weiser
28
29 Books.
30
31
32
33
34 Rahula, W. (1959). *What the Buddha taught*. New York, NY: Grove Press
35
36
37
38 Reb, J., Narayanan, J & Whei Ho, Z. (2015) Mindfulness at Work: Antecedents and
39
40 Consequences of Employee Awareness and Absent Mindedness. *Mindfulness*. 6, 111-
41
42 122. doi: 10.1007/s12671-013-0236-4
43
44
45
46 Ricard, M. (2010) *Why Meditate*. Carlsband, California: Hay House.
47
48
49
50 Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and
51
52 effects on job performance. *Academy of Management Journal*, 53(3), 617–635.
53
54
55
56 Ryan, R. R. & Deci, E. L. (2001) On Happiness and Human Potentials: A Review of
57
58 Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, 52,
59
60 141-166. doi: 10.1146/annurev.psych.52.1.141.
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Salanova, M., Llorens, S., Acosta, H., & Torrente, P. (2013). Positive interventions in
5
6 Positive Organizations. *Terapia Psicológica*, 31(31), 101–113.
7
8

9
10 Salanova, M., Llorens, S., Cifre, E., & Martinez, I. M. (2012). We Need a Hero! Toward a
11
12 Validation of the Healthy and Resilient Organization (HERO) Model. *Group &*
13
14 *Organization Management*, 37(6), 785–822. doi:10.1177/1059601112470405
15
16
17

18
19 Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their
20
21 relationship with burnout and engagement: a multi-sample study. *Journal of*
22
23 *Organizational Behavior*, 25(3), 293–315. doi:10.1002/job.248
24
25
26

27
28 Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work
29
30 engagement with a short questionnaire: A cross-national study. *Educational and*
31
32 *Psychological Measurement*, 66(4), 701–716. doi:10.1177/0013164405282471
33
34
35

36
37 Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The
38
39 measurement of engagement and burnout: A two sample confirmatory factor analytic
40
41 approach. *Journal of Happiness Studies*, 3(1), 71–92.
42
43

44
45 Schaufeli, W., & Salanova, M. (2011). Work engagement: On how to better catch a
46
47 slippery concept. *European Journal of Work and Organizational Psychology*, 20(1),
48
49 39–46. doi:10.1080/1359432X.2010.515981
50
51
52

53
54 Seligman, M. (2002) *Authentic Happiness: Using the New Positive Psychology to Realize*
55
56 *Your Potential for Lasting Fulfillment*. New York, New York: The Free Press.
57
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Seligman, M., Steen, T., Park, N., & Peterson, C. (2005) Positive Psychology Progress:
5

6 Empirical Validation of Interventions. *The American Psychologist*. 60(5), 410-421.
7
8
9

10 Shapiro, S.L. and Izett, C.D. (2008), "Meditation: a universal tool for cultivating empathy",
11

12 in Hick, S.F. and Bien, T. (Eds), *Mindfulness and the Therapeutic Relationship*,
13

14 *Guilford Press*, New York, NY, pp. 161-175.
15
16
17

18 Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of
19

20 mindfulness. *Journal of Clinical Psychology*, 62(3), 373–386. doi:10.1002/jclp.20237
21
22
23

24 Shonin, E., Van Gordon, W., & Griffiths, M. D. (2013a). Meditation Awareness Training
25

26 (MAT) for improved psychological wellbeing: a qualitative examination of participant
27

28 experiences. *Journal of Religion and Health*. doi:10.1007/s10943-013-9679-0
29
30
31

32 Shonin, E., Van Gordon, W., Slade, K., & Griffiths, M. D. (2013b). Mindfulness and other
33

34 Buddhist-derived interventions in correctional settings: a systematic review.
35

36 *Aggression and Violent Behavior*, 18, 365–372.
37
38
39

40 Shonin, E., Van Gordon, W., Dunn, T. J., Singh, N. N., & Griffiths, M. D. (2014).
41

42 Meditation Awareness Training (MAT) for Work-related Wellbeing and Job
43

44 Performance: A Randomised Controlled Trial. *International Journal of Mental Health*
45

46 *and Addiction*, 12(6), 806-823. doi:10.1007/s11469-014-9513-2
47
48
49

50 Shonin, E., Van Gordon, W., & Griffiths, M. D. (2014). Meditation awareness training
51

52 (MAT) for improved psychological well-being: a qualitative examination of
53

54 participant experiences. *Journal of Religion and Health*, 53(3), 849–63.
55
56
57

58 doi:10.1007/s10943-013-9679-0
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Schoormans, D. & Nyklíček, I. (2011). Mindfulness and psychological well-being: Are they
5
6 related to type of meditation technique practiced? *The journal of alternative and*
7
8 *complementary medicine, 17(7), 629–634.*
9

10
11
12 Taris, T., & Schreurs, P.(2009) Well-being and organizational performance: An
13
14 organizational-level test of the happy-productive worker hypothesis. *Work & Stress,*
15
16 *23(2), 120-136. doi: 10.1080/02678370903072555.*
17
18
19

20
21 Tran, U. S., Glück, T. M., & Nader, I. W. (2013). Investigating the Five Facet Mindfulness
22
23 Questionnaire (FFMQ): Construction of a Short Form and Evidence of a Two-Factor
24
25 Higher Order Structure of Mindfulness. *Journal of Clinical Psychology, 69(9), 951–*
26
27 *965. doi:10.1002/jclp.21996*
28
29

30
31
32 Peterson, C & Seligman, M. (2004) *Character Strengths and Virtues: A Handbook and*
33
34 *Classification.* Oxford, New York: American Psychological Association and Oxford
35
36 University Press.
37
38

39
40 Peterson, C., & Park, N. (2003). Positive psychology as the evenhanded positive
41
42 psychologist views it. *Psychological Inquiry, 14, 141–146.*
43
44

45
46
47 Plato. (1921) *Cratylus, Plato in Twelve Volumes.* Cambridge, MA :Harvard University
48
49 Press.
50

51
52
53 Weinstein, N., Brown, K. W., & Ryan, R. M. (2009). A multi-method examination of
54
55 mindfulness on stress attribution, coping and emotional well-being. *Journal of*
56
57 *Research in Personality, 43, 374–385*
58
59
60
61
62
63
64
65

1 MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE
2
3

4 Winter, J. (2013) Using the Student's *t*-test with extremely small sample sizes. *Practical*
5
6 *Assessment Research and Evaluation*, 18(10), 1-12.
7
8
9

10 World Health Organization (1948) Preamble to the Constitution of the World Health
11
12 Organization as adopted by the International Health Conference, New York, 19-22
13
14 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official
15
16 Records of the World Health Organization, no. 2, p. 100) and entered into force on 7
17
18 April 1948. Retrieved from: <http://www.who.int/about/definition/en/print.html>
19
20
21
22

23 Wolever, R. Q., Bobinet, K. J., McCabe, K., Mackenzie, E. R., Fekete, E., Kusnick, C. A.,
24
25 & Baime, M. (2012). Effective and viable mind-body stress reduction in the
26
27 workplace: A randomized controlled trial. *Journal of Occupational Health*
28
29 *Psychology*, 17(2), 246–258. doi: 10.1037/a0027278
30
31
32
33

34 Wright, Thomas A.; Cropanzano, Russell; Denney, Philip J.; Moline, Gary L. (2002).
35
36 When a happy worker is a productive worker: A preliminary examination of three
37
38 models. *Canadian Journal of Behavioral Science*, 34(3), Jul 2002, 146-
39
40 150. doi:10.1037/h0087165
41
42
43
44

45 Zeidan, F., Johnson, S. K., Diamond, B. J., David, Z., & Goolkasian, P. (2010).
46
47 Mindfulness meditation improves cognition: Evidence of brief mental training.
48
49 *Consciousness and Cognition*, 19(2), 597-605. doi: 10.1016/j.concog.2010.03.014
50
51
52
53

54 Zelenski, J., Murphy, S., & Jenkins, D.(2008) The Happy-Productive Worker Thesis
55
56 Revisited. *Journal of Happiness Studies*. 9(4). 521-537.
57
58
59
60
61
62
63
64
65

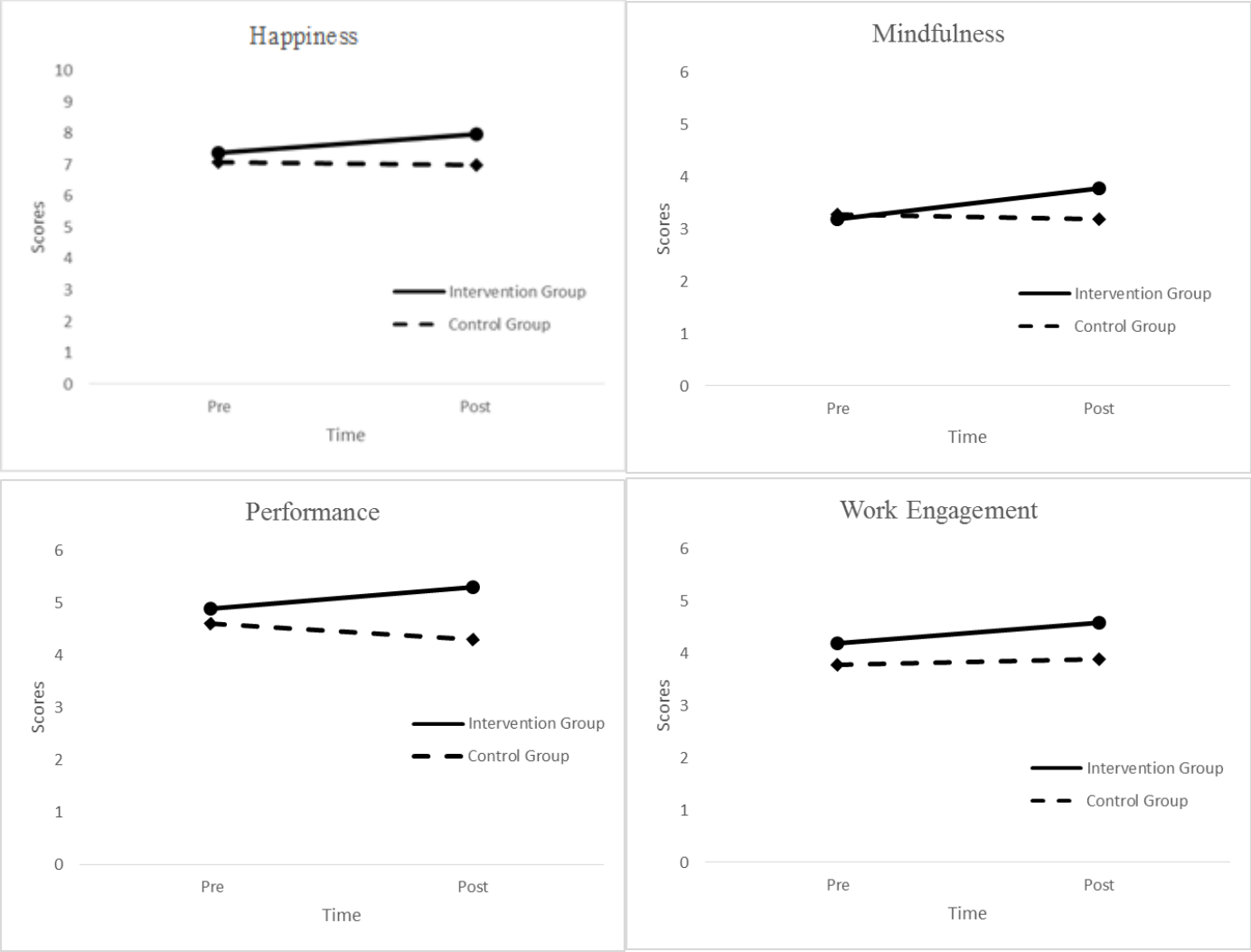
MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Figure 1. Line plots showing the impact of time factor (pre, post) on dependent variables across groups.



MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Session N°	Rationale	Structure	Homework
1	<ul style="list-style-type: none"> Recognizing the tendency to be on automatic pilot. Commitment to learning how to step out of it. Practice in purposefully moving attention round the body. 	<ul style="list-style-type: none"> Class Orientation (Welcome, Format, Intentions) Ground Rules Introductions Raisin exercise (Eating Meditation) Body scan 	<ul style="list-style-type: none"> Body scan Mindfulness of routine activity
2	<ul style="list-style-type: none"> What is Stress and recognizing its presence and its effects. Noticing stress in the body and the chatter of mind Emotion, body sensations, behavior (thoughts are not facts) 	<ul style="list-style-type: none"> Mindful Movement Home practice review Thoughts/feelings exercise Pleasant experiences diary Sitting Meditation introducing posture Explanation of homework Closing 	<ul style="list-style-type: none"> Body scan or mindful movement Sitting meditation with focus on breath (10-15 mins) Pleasant experiences diary Routine activity 'Noticing'
3	<ul style="list-style-type: none"> Maintaining balance in life is helped by regular mindfulness practice, preparing for the future, the end of the beginning, not the beginning of the end Good intentions can be strengthened by linking the practice with reasons for taking care of oneself. 	<ul style="list-style-type: none"> Mindful Movement Homework review Reflections on the course Preparing for the future Concluding meditation 	

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Table 2: Pre Intervention Means, Standard Deviation, Internal Consistency Reliability Coefficients and Correlations (N=34)

Variables	Mean	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(1)Total Mindfulness (FFMQ)	3.48	0.68	0.88	0.71**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2)Observe (FFMQ)	3.10	0.87	0.69	0.62**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(3)Describe (FFMQ)	3.47	0.81	0.63	0.72**	0.36**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(4)Awareness (FFMQ)	3.43	0.81	0.83	0.82**	0.26	0.40*	-	-	-	-	-	-	-	-	-	-	-	-	-
(5)Non Judgement (FFMQ)	3.63	1.10	0.84	0.67**	0.49**	0.25	0.62**	-	-	-	-	-	-	-	-	-	-	-	-
(6)Non Reactivity (FFMQ)	3.24	0.76	0.62	0.50**	0.42*	0.32	0.28	0.41*	-	-	-	-	-	-	-	-	-	-	-
(7)Total Happiness (PHI)	7.57	1.24	0.85	0.49**	0.36**	0.21	0.25	0.42*	0.54**	-	-	-	-	-	-	-	-	-	-
(8)Remembered Happiness (PHI)	7.48	1.27	0.87	0.38**	0.37**	0.22	0.24	0.41*	0.52**	0.99**	-	-	-	-	-	-	-	-	-
(9)Experienced Happiness (PHI)	7.25	1.40	0.92	0.23	0.12	0.08	0.30	0.36*	0.48**	0.61**	0.53**	-	-	-	-	-	-	-	-
(10)Total Work Engagement (UWES)	4.24	1.06	0.81	0.19	0.10	0.12	0.01	0.08	0.50**	0.64**	0.63**	0.55**	-	-	-	-	-	-	-
(11)Dedication (UWES)	3.90	1.29	0.86	0.21	0.06	0.13	-0.02	0.09	0.47**	0.61**	0.59**	0.58**	0.93**	-	-	-	-	-	-
(12)Vigor (UWES)	4.03	1.14	0.81	0.21	0.06	0.12	-0.06	0.18	0.47*	0.75**	0.75**	0.45**	0.87**	0.84**	-	-	-	-	-
(13)Absorption (UWES)	4.10	1.15	0.80	0.05	0.08	0.25	-0.03	0.04	0.50**	0.61**	0.61**	0.33	0.87**	0.78**	0.86**	-	-	-	-
(14)Performance	4.91	0.75	0.80	-0.68	-0.08	0.24	-0.12	0.02	0.12	0.29	0.29	0.18	0.26	0.31	0.44*	0.37	-	-	-
(15)In role Performance	4.85	0.90	0.76	1.61	-0.53	0.83	-0.23	-0.07	0.05	0.16	0.17	0.05	0.12	0.21	0.20	0.18	0.84**	-	-
(16)Extra Role Performance	4.97	0.82	0.87	0.71**	-0.93	0.34	0.04	0.12	0.16	0.32	0.32	0.25	0.33	0.31	0.55**	0.44**	0.81**	0.38*	-

FFMQ, Five Facet Mindfulness Questionnaire (0=Minimum;6=Maximum), PHI, Pemberton Happiness Index (0=Minimum;10=Maximum), UWES,Utrecht Work Engagement Scale (0=Minimum;6=Maximum).

*, $P < 0.05$; **, $P < 0.01$

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Table 3: Post Intervention Means, Standard Deviation, Internal Consistency Reliability Coefficients and Correlations (N=34)

Variables	Mean	SD	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
(1)Total Mindfulness (FFMQ)	3.48	0.68	0.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(2)Observe (FFMQ)	3.10	0.87	0.68	0.63**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(3)Describe (FFMQ)	3.47	0.81	0.67	0.56**	0.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(4)Awareness (FFMQ)	3.43	0.81	0.84	0.51**	0.09	0.28	-	-	-	-	-	-	-	-	-	-	-	-	-
(5)Non Judgement (FFMQ)	3.63	1.10	0.82	0.78**	0.52**	0.41*	0.48**	-	-	-	-	-	-	-	-	-	-	-	-
(6)Non Reactivity (FFMQ)	3.24	0.76	0.82	0.56**	0.37*	0.22	0.15	0.18	-	-	-	-	-	-	-	-	-	-	-
(7)Total Happiness (PHI)	7.57	1.24	0.87	0.48**	0.34	0.12	0.15	0.35	0.48**	-	-	-	-	-	-	-	-	-	-
(8)Remembered Happiness (PHI)	7.48	1.27	0.89	0.53**	0.32	0.15	0.21	0.38*	0.45*	0.96**	-	-	-	-	-	-	-	-	-
(9)Experienced Happiness (PHI)	7.25	1.40	0.90	0.34	0.16	0.18	0.27	0.34	0.24	0.60**	0.62**	-	-	-	-	-	-	-	-
(10)Total Work Engagement (UWES)	4.24	1.06	0.95	0.27	0.03	0.08	-0.04	0.01	0.53**	0.65**	0.42*	0.55**	-	-	-	-	-	-	-
(11)Dedication (UWES)	3.90	1.29	0.85	0.24	0.03	0.09	-0.05	-0.27	0.45*	0.70**	0.71**	0.52**	0.93**	-	-	-	-	-	-
(12)Vigor (UWES)	4.03	1.14	0.90	0.30	0.09	0.08	-0.01	0.04	0.44*	0.73**	0.76**	0.45**	0.92**	0.96**	-	-	-	-	-
(13)Absorption (UWES)	4.10	1.15	0.82	0.27	0.03	0.18	0.04	-0.09	0.47*	0.56**	0.60**	0.39*	0.90**	0.86**	0.86**	-	-	-	-
(14)Performance	4.91	0.75	0.85	0.08	0.09	0.20	-0.30	-0.18	0.13	0.25	0.18	-0.13	0.30	0.35	0.36	0.26	-	-	-
(15)In role Performance	4.85	0.90	0.81	-0.62	0.12	0.03	-0.45*	-0.28	0.05	0.11	0.05	-0.19	0.17	0.20	0.18	0.12	0.88**	-	-
(16)Extra Role Performance	4.97	0.82	0.87	0.21	0.32	0.33	-0.49	-0.30	0.18	0.33	0.28	0.07	0.35	0.39*	0.46*	0.34	0.85**	0.51**	-

FFMQ, Five Facet Mindfulness Questionnaire (0=Minimum;6=Maximum), PHI, Pemberton Happiness Index (0=Minimum;10=Maximum), UWES,Utrecht Work Engagement Scale

(0=Minimum;6=Maximum), Performance (0=Minimum;6=Maximum)

*, $P < 0.05$; **, $P < 0.01$

MINDFULNESS CAN MAKE YOU HAPPY-AND-PRODUCTIVE

Table 4: Baseline demographic characteristics for each condition

	Intervention (N=19)	Control (N=15)
Age, mean(SD)	38 (6.11)	36(6.67)
Female (%)	95%	60%
Tenure, mean (SD)	3.6(2.1)	3.9(1.8)

Table 5: Pre – Post Intervention and Control Groups Scores– Mean (SD)

	Intervention (N=19)		Control (N=15)	
	Pre	Post	Pre	Post
Mindfulness (FFMQ)	3.2 (0.5)	3.8 (0.4)	3.3 (0.5)	3.2 (0.6)
Observe (FFMQ)	3.0 (0.8)	3.6 (0.6)	3.0 (0.9)	2.8 (0.7)
Describe (FFMQ)	3.4 (0.7)	3.9 (0.6)	3.6 (0.7)	3.4 (0.7)
Awareness (FFMQ)	3.5 (0.5)	3.7 (0.5)	3.6 (0.7)	3.3 (0.7)
Non Judgement (FFMQ)	3.2 (1.1)	3.8 (0.9)	3.6 (1.3)	3.4 (1.1)
Non Reactivity (FFMQ)	3.0 (0.8)	3.5 (0.7)	3.0 (0.8)	2.7 (0.7)
Happiness (PHI)	7.4 (1.0)	8.0 (0.9)	7.1 (1.3)	7.0 (1.3)
Remembered Happiness (PHI)	7.4 (1.0)	7.8 (0.9)	7.2 (1.3)	7.2 (1.3)
Experienced Happiness (PHI)	6.6 (1.6)	7.3 (1.4)	6.1 (1.4)	6.3 (1.2)
Engagement (UWES)	4.2 (0.8)	4.6 (0.8)	3.8 (0.9)	3.9 (0.8)
Dedication (UWES)	4.3 (1.0)	4.6 (0.7)	3.5 (1.2)	3.6 (1.1)
Vigor (UWES)	4.0 (0.9)	4.6 (0.8)	3.7 (1.1)	3.7 (1.1)
Absorption (UWES)	4.3 (0.8)	4.7 (0.8)	3.8 (1.2)	3.8 (1.2)
Performance	4.9 (0.6)	5.3 (0.5)	4.6 (0.6)	4.3 (0.7)
In role Performance	4.5 (0.6)	5.2 (0.5)	4.4 (0.8)	4.3 (0.7)
Extra Role Performance	4.8 (0.5)	5.3 (0.4)	4.6 (0.7)	4.5 (0.7)

FFMQ, Five Facet Mindfulness Questionnaire (0=Minimum;6=Maximum),
 PHI, Pemberton Happiness Index (0=Minimum;10=Maximum),
 UWES,Utrecht Work Engagement Scale (0=Minimum;6=Maximum),
 Performance (0=Minimum;6=Maximum).