

Research

“Meditative Smiling - A Path to Well-being”

Keywords: Embodied Positive Mindfulness,
Smiling, Meditation, Well-being, Positive Psychology Intervention,
Randomised Controlled Trial

Preface and Acknowledgements

The present work is built upon findings from numerous fields such as the science of Mindfulness, Positive Psychology, the science of embodiment, neuroscience and numerous other body-oriented fields such as body psychotherapy and trauma therapy, to name but a few. This work would not exist if it wasn't for the work

done by the pioneers in these fields. It is but a humble attempt to contribute to allowing people to develop their full potential, regardless of education, financial situation and personal or cultural backgrounds.

The author would like to thank the following people for their work and inspiration:

Thich Nhat Hanh and his sangha for their teachings on the Buddhist roots of Mindfulness

Dr. Itai Ivztan and Dr. Tim Lomas for their work on Positive Mindfulness

Dr. Kate Hefferon for her work on the role of the body in Positive Psychology

Family and friends for their ongoing support and love.

And my fellow MAPP student cohort

Special thanks go to Dr. Itai Ivztan for his guidance and supervision as well as to the participants in this study, without whom this work would not have been possible.

TABLE OF CONTENTS

ABSTRACTp.4

INTRODUCTION.....p.5

METHOD.....	p.8
RESULTS.....	p.12
DISCUSSION	p.15
REFERENCE.....	p.21
APPENDICES.....	p.28
1. RATIONALE SHEET FOR JOURNAL ARTICLE CHOSEN.....	p.28
2. INFORMATION REGARDING JOURNAL SUBMISSION REQUIREMENTS.....	p.29
3. SMILING MEDITATION SCRIPT.....	p.44
4. REFLECTIVE QUESTIONS.....	p.45
5. PARTICIPANT INVITATION LETTER (INTERVENTION GROUP).....	p.46
6. PARTICIPANT INVITATION LETTER (CONTROL GROUP).....	p.49
7. CONSENT FORM	p.52
8. DEBRIEF SHEET.....	p.53
9. PROMOTIONAL MATERIAL FOR RECRUITMENT.....	p.55
10. QUESTIONNAIRES.....	p.56

Abstract

The aim of the present study was to investigate whether meditative smiling would enhance a number of well-being variables. Based on the IAA model of mindfulness, the positive mindfulness cycle, the broaden-and-build theory of positive emotions and the theory of embodiment, it was hypothesized that well-being could be increased by combining smiling with mindfulness in a body-focused positive intervention (the Smiling

Meditation). The study featured an online randomised controlled trial and 32 participants (30 females with a mean age of 40.5 years) completed the intervention, which consisted of practicing the 5-minute Smiling Meditation three times per day over seven consecutive days. Both the experimental and the control group completed self-report measures on mindfulness, gratitude, compassion, positive emotions and self-acceptance at pre- and post intervention time points as well as one month later. The experimental group showed significant improvements in mindfulness, gratitude and compassion both at the post-test and at the longitudinal point compared to the control group. These findings suggest that body-oriented positive mindfulness interventions may be efficient in improving well-being in adult, non-clinical populations, paving the way for further research into the concept of 'embodied positive mindfulness'.

Introduction

Mindfulness, 'the awareness that emerges through paying attention, on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment' (Kabat-Zinn, 2003, p.145), is becoming an ever-growing phenomenon in research settings and in Western society as a whole. Yet, both mindfulness research and application in real-life settings have largely focused on decreasing negative

variables such as stress, anxiety and depression (Kashdan et al., 2015) or insomnia, pain and substance abuse (Craigie et al., 2008; Heidenreich et al., 2006; Teasdale et al., 2000). Considering the growing numbers of people who suffer from these conditions, this research and its application are of utmost importance and have helped immensely in alleviating suffering through programmes such as Mindfulness-Based-Stress-Reduction (MBSR) or Mindfulness-Based-Cognitive-Therapy (MBCT).

Nevertheless, limiting Mindfulness to a clinical population and to reducing negative variables, as imperative as this work may be, is neglecting its full potential; especially as these same mindfulness interventions have already shown positive ‘side effects’ like increased positive emotions (Geschwind et al., 2011) or improved relationships (Goleman, 2006), both of which are paramount in wellbeing (Ryff & Keyes, 1995; Diener et al., 2002). This not only suggests that mindfulness has indeed a great potential to increase positive variables that is worth exploring, re-orienting mindfulness research and practice towards well-being is returning to its Buddhist roots and honouring the tradition that it comes from, which defines Mindfulness as ‘a path towards enduring unconditional well-being’ (Shonin et al., 2016, p.290).

In order to close this current gap in Western Mindfulness literature and return to the Buddhist intention of the practice, one can turn to the science of well-being, Positive Psychology, a field that has extensively studied well-being in its numerous forms.

As a matter of fact, Positive Psychology has shown that mindfulness does indeed increase hedonic and eudaimonic well-being, improving both the pleasant and the meaningful life (Brown & Cordon, 2009; Brown et al., 2007). Based on these findings, Positive Psychology has not only recognised Mindfulness’ potential to increase well-being, it has honoured this potential by combining some of its most prominent interventions (like the three good things and strengths practice) with Mindfulness in programmes such as the Mindfulness-Based-Flourishing-Programme (MBFP) (Ivtzan et al., 2016b) or the Mindfulness-Based-Strengths-Practice (MBSP) (Ivtzan et al., 2016a). Both have proven efficient in increasing a large number of positive variables with a longitudinal effect; a finding that is particularly interesting considering that to-date, Positive Psychology interventions often lack a longitudinal effect (Avey et al., 2008). This invites the hypothesis that Mindfulness may play an important role in lasting well-being, possibly making it the missing ingredient in current Positive Psychology interventions (PPIs). Despite these advances in ‘positive mindfulness’, the field is only emerging and necessitates further research and investigation, as well as the development of further positive mindfulness interventions (Lindsay & Creswell, 2015; Garland, Gaylord & Fredrickson, 2011).

A theoretical framework for such further research is already in place, combining prominent theories from the science of mindfulness and the science of well-being. Shapiro & Carlson’s IAA Model of Mindfulness (2006), which highlights the importance of intention, attention and attitude in mindfulness practice is of utmost importance, as ‘your intentions set the stage for what is possible’ (Kabat-Zinn 1990, p.32). Thus, setting an intention to increase well-being by paying attention to the positive experience of the present moment with an attitude of curiosity, openness and kindness (Shapiro et al, 2006) is a pre-requisite. This concept of mindfulness to increase well-being can be married with the broaden-and-build effect of positive

emotions (Fredrickson, 2001), a prominent Positive Psychology theory, that has shown that deliberately seeking out positive experiences induces creativity, objectivity and optimism, builds personal resources and increases overall well-being in an upward spiral (Garland et al., 2010). Indeed, Ivtzan et al. (2016b) have shown that combining mindfulness with Positive Psychology Interventions (PPIs) creates a 'positive mindfulness cycle' where mindfulness and PPIs mutually enhance one another with a longitudinal effect. The present study builds on these theories, combining a well-being oriented practice with mindfulness.

Currently, most Positive Psychology interventions however focus on cognition and emotion, neglecting the role of the body in well-being (Hefferon, 2013; Hefferon, 2015), thereby overlooking the body's potential to increase the latter. To close this current gap in the literature, one can turn to other psychology branches such as human and social psychology, who have extensively studied how the body influences the mind (Howson, 2005; Meier et al., 2012), a phenomenon known as embodiment. Embodiment is defined as 'an awareness of and responsiveness to bodily sensations' (Impett et al., 2006, p.40) that rests on the understanding that 'thoughts, feelings and behaviours are grounded in sensory experiences and bodily states' (Meier et al., 2012, p.706). Our thoughts are influenced by our bodily states and actions (Kontra et al., 2012), which in turn influence the way we interpret our personal and social interactions (Vacharkulksemsuk & Fredrickson, 2012). Research has shown that being aware of one's physical sensations increases psychological and subjective well-being (Anderson, 2006; Impett et al., 2006), confirming the importance of turning towards the 'somato-psychic side to flourishing' (Hefferon, 2013, p.8). Increasing research from behaviourism and neuroscience supports this mind-body unity theory (Ngnoumen & Langer, 2016), and there is growing evidence that the body, through postures and facial expressions, directly influences psychological variables such as self-confidence and positive affect (Strack et al., 1988; Cuddy, 2016).

One such facial expression that is linked to well-being is the smile. As a matter of fact, a large body of research into smiling from different fields confirms the mind-body connection and its influence on well-being: Nettle et al. (2005) have shown that smiling increases dopamine and serotonin levels, two important hormones in the regulation of positive affect and motivation respectively. Strack et al. (1988) have shown that smiling induces positive emotions, which confirms the facial feedback hypothesis, a hypothesis that asserts that facial expressions are capable of influencing our emotions. Another study by Ekman and Davidson (1993) has revealed that deliberate smiling activates the same regions in the brain than a spontaneous smile that results from a pleasant experience. This suggests that a voluntary smile produces the same reaction in the brain than a 'real' smile, which makes it possible to voluntarily trigger a release of serotonin and dopamine in the brain (Chopra, 2014). So far, there is no empirically validated Positive Psychology intervention on smiling, despite its proven positive effect due to the mind-body connection. The present stance in Positive Psychology appears to be that consciously putting a smile on one's face is akin to a 'fake smile' that has no impact on well-being (Hertenstein et al., 2009). Yet, research suggests the opposite: indeed, any type of deliberate smile decreases anxiety and stress (Kraft and Pressman, 2012) and the study of the effect of forced smiling on positive emotions and physiology by Doukas et al. (2012) has revealed that

you can indeed ‘fake it ’til you make it’. This concept has been picked up by Amy Cuddy, who successfully uses certain power poses to induce self-confidence in people (2016). This concept of ‘nudges’ – ‘minimal psychological and physical commitments, and the use of psychological shortcuts and attitudes that follow from behaviour’ (Cuddy, 2016, p.256) - as well as the mind-body connection have been applied in the creation of the present Mindfulness-based PPI.

Applying Mindfulness to the act of smiling is imperative in successfully enhancing well-being: the mind-body connection has been extensively researched in the science of mindfulness, showing that the practice can be used to improve overall brain functioning (Siegel, 2009; Hölzel et al., 2011) which increases well-being. Especially relevant are Davidson et al.’s 2003 findings that have shown that practising Mindfulness increases the left-sided anterior activation, which is responsible for positive affect. Davidson et al.’s work provides the hard data for Fredrickson’s broaden-and-build theory (2001) upon which this study is built: Smiling triggers a number of positive physiological and psychological reactions that are enhanced by adding Mindfulness to the process. By activating the part of the brain that is responsible for positive affect, Mindfulness further enhances the benefits of smiling, thus creating the broaden-and-build effect of positive emotions as well as a ‘positive mindfulness cycle’.

Using this mind-body connection to positively ‘manipulate’ our body to enhance well-being without being aware of the positive effects of, in this case, smiling would be missing out on most of its benefits, as the research into embodiment has shown (Niedenthal, 2007; Niedenthal et al., 2009): It is indeed the awareness of the ‘perceptual, somato-visceral and motoric re-experiencing of the emotion in one’s self...that affects how emotional information is processed’ (Niedenthal, 2007, p.1002). This awareness and experiencing of the smile can best be achieved through Mindfulness, as Mindfulness is by definition a type of awareness that emerges from paying attention to the present experience (Bishop et al., 2004).

Furthermore, Mindfulness has been shown to enhance savouring (Garland et al., 2015), which intensifies and prolongs the enjoyment, awareness and appreciation of a pleasurable experience (Bryant and Veroff, 2007) and the positive emotions it brings with it (Niedenthal, 2007). Without this mindful awareness of the positive emotions, physical sensations and cognitions smiling brings with it, we would not be able to savour our smile, hence missing out on its numerous benefits. As a matter of fact, Mindfulness is imperative in ‘finding, regulating, manipulating and sustaining...positive experiences’ (Ivtzan et al., 2016b, p.1398), as a range of studies have shown: for example, Mindfulness increases the sensory experience of sex (Heiman & Meston, 1997) as well as a number of daily life activities such as eating or walking (Geschwind et al., 2011).

Combining these findings on smiling, mindfulness, positive psychology and embodiment, it was hypothesised that using the mind-body connection in conjunction with positive mindfulness would enhance well-being.

The present study set out to investigate whether a positive mindfulness-based PPI that deliberately uses the body (through the act of smiling) to increase well-being would prove effective, attempting to close the

current gap in the literature and potentially paving the way for a new field: embodied positive mindfulness.

To evaluate whether practising the 5-minute Smiling Meditation three times per day over a period of seven consecutive days would increase well-being, the following five variables were tested pre- and post-intervention and one month later: mindfulness, positive emotions, gratitude, self-acceptance and compassion for others. It was hypothesised that participants in the experimental group who performed the Smiling Meditation would show a significant improvement in these well-being variables.

Method

Participants

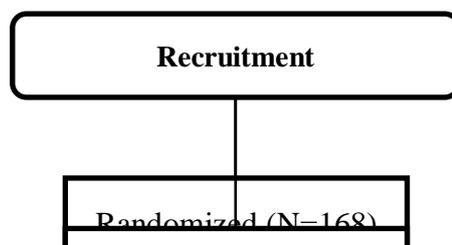
The Smiling Meditation was evaluated via a randomised controlled trial with a between-group independent variable defined as participation in an experimental group or a control group. The recruitment process targeted members of the adult general population with an inclusion criterion of 18 years and above. The sample size was based on the widely accepted rule of thumb for experimental designs (Wilson-Van Voorhis & Morgan, 2007), requiring 30 participants in the experimental group and 30 participants in the control group to allow for 80% power. The process ran until these numbers were reached at one-month follow-up.

Recruitment was carried out mostly online via the use of social networks. Some participants were recruited through personal invitation or through contact with businesses and organisations. The study was described as an opportunity to practice meditation for a week and gave detailed information of what participation entailed. A proper command of the English language was a pre-requisite. Participation in the research study was advertised as voluntary and confidential (with anonymous data analysis) and the possibility to withdraw without reason was provided. No incentives were offered.

168 participants were initially recruited and randomly assigned to either the experimental group ($n = 84$) or the control group ($n = 84$). 130 participants representing 29 different nationalities completed at least the first questionnaire (75 in the experimental group and 55 in the control group). The experimental group consisted of 65 women and 10 men; the control group consisted of 45 women and 10 men. The mean age of the participants in the experimental group was 40.48 (SD = 10.56), the mean age of the participants in the control group was 38.42 (SD = 9.65).

85 participants completed the post-test questionnaire (43 in the experimental group and 42 in the control group). 66 participants completed the one-month follow-up questionnaire (32 in the experimental group and 34 in the control group).

Fig. 1 Participant flow chart



- Completed post-test scales (N=42)
- Followed up at one month (N=34)

The data analyses were run solely on the completers of the study. For the experimental group, these consisted of 32 participants, out of which 30 were female (93.8%) and 2 were male (6.3%); their mean age was 40.5 years (SD=10.13). The total number of meditators in this group was 6 (18.8%). The control group consisted of 34 completers: 27 were female (79.4%) and 7 were male (20.6%) - their mean age was 39.58 years (SD = 9.65). 9 completers in the control group were meditators (26.5%).

Procedure

The Smiling Meditation introduced in this paper is a 5-minute long guided meditation, that combines the simple act of smiling with mindfulness, in order to increase well-being in the general adult population. The Smiling Meditation requests practitioners to sit comfortably, either cross-legged on the floor or upright in a chair (with their back against the chair, their feet on the floor and their hands on their legs), in a quiet place of their choice. The meditation starts by asking practitioners to take a few deep inhales through the nose and some full exhales out of the mouth with their eyes closed, in order to reconnect with themselves. This invites practitioners into the meditative state. After approximately one minute, practitioners are invited to gradually bring a soft smile to their lips and observe how their face, their heart and the rest of their body starts to feel. After about a minute, they are asked to let their smile fade away and observe how the sensations in their face, their heart and the rest of the body feel now with this neutral face. After another minute, practitioners are given the cue to smile again, this time letting their smile infuse their whole body and their entire being (1 minute), allowing practitioners to fully savour the benefits of their smile. To finish,

they are invited to let a feeling of gratitude arise (1 minute) (see Appendix 3).

Participants in the experimental group were given access to an online platform that gave detailed instructions about what to do in video and written format. After having read/viewed these instructions and created an account with an anonymous username and password, participants gained access to the audio recording of the Smiling Meditation and performed the Smiling Meditation 3 times per day (once in the morning, once in the evening, and one more time during the day at a moment of their choice) over 7 consecutive days. At the end of each day, participants were invited to answer 2 reflective questions designed to maximise the benefits of, and get deeper insight into, their practice, as well as to allow insight into the effects of the Smiling Meditation on their daily life (see Appendix 4). An example of such a question is: “Under which circumstances have you used the meditation today, and was it beneficial?” (This question could be answered every day). Answering the reflective questions was optional, the data was not analysed.

A written transcript of the Smiling Meditation was provided and the audio recording of the meditation was downloadable from the online platform onto any device, in case participants were unable to return online to practice the meditation.

With 15 years of meditation practice and 4 years of experience in teaching meditation/mindfulness, the Smiling Meditation was created and recorded by the author of this paper.

Following recruitment and randomisation via an online randomiser (168 numbers, range 1-2, balanced) participants received a personal invitation letter per email containing detailed instructions as well as a link to an online survey platform. After giving consent and providing demographic information as well as meditation experience, participants in both the experimental and control groups completed a 5-scale online questionnaire to collect baseline data. Completion time was approximately 20 minutes.

Following this pre-test, the experimental group performed the Smiling Meditation 3 times per day over 7 consecutive days. A motivational email was sent out each morning to remind practitioners to meditate. The control group received no intervention. After one week, the experimental and the control group completed the same, 5-scale questionnaire to provide post-test data. The same questionnaire was completed by the experimental and the control group one month later to provide longitudinal data. Participants in the control group who completed all questionnaires gained complimentary access to the Smiling Meditation immediately after completion of the last questionnaire. Participants in the control group who completed one or two questionnaires gained complimentary access to the Smiling Meditation at the end of the study. All participants in the experimental and the control group were sent a debrief letter following the completion of the study, explaining the aims of the research.

This research was approved by the School of Psychology Research Ethics Committee of the University of East London (UEL) and is based on the British Psychological Society’s code of ethics and conduct (BPS, 2009) and their code of human research ethics (BPS, 2014). As the present research was an online study, the BPS’ (2017) ethics guidelines for internet-mediated research were especially considered.

Measures

Five quantitative self-report scales were used to determine participants' level of well-being, measuring levels of mindfulness, positive emotions, gratitude, compassion for others and self-acceptance. All scales were completed online by participants in the control and the experimental group to provide pre- and post-measures (immediately after the intervention and one month later). All measures showed good internal reliability at baseline.

Walach et al.'s (2006) Freiburg Mindfulness Inventory (FMI) is a 14-item scale that measures levels of mindfulness on a 4-point Likert scale. The scale is best suited for generalised contexts where participants have no prior knowledge of the Buddhist concept of mindfulness. The final score is obtained by adding up all the items. Participants were asked to determine their levels of mindfulness of the preceding week. Internal reliability at baseline was $\alpha=0.814$.

The Positive Affect Subscale of the Positive and Negative Affect Scale (PANAS) (Watson et al's, 1988) is a 10-item scale that measures positive affect levels on a 5-point Likert scale. The scale features 10 words that describe different positive feelings and emotions. Positive affect scores are obtained by adding the respective scores to obtain a sum between 10-50. Participants were asked to rate how much they had felt each emotion over the preceding week. Internal reliability at baseline was $\alpha=0.842$.

The Gratitude Questionnaire – Six Item Form (GQ-6) (McCullough et al., 2002) is a 6-item scale that measures levels of gratitude on a 7-point Likert scale. Gratitude levels are measured by adding each item to obtain a total score between 6-42. Internal reliability at baseline was $\alpha=0.767$.

Compassion for Others Scale (COS) (Pommier, 2011) is a 24-item scale that measures compassion for others on a 5-point Likert scale. A compassion score is obtained by calculating the mean of each sub scale (Kindness, Indifference, Common Humanity, Separation, Mindfulness, Disengagement) before computing a total mean. Internal reliability at baseline was $\alpha=0.912$.

The self-acceptance sub scale of Ryff & Keyes' (1995) Psychological Well-Being Scale (PWB) is a 7-item scale that measures self-acceptance levels on a 6-point Likert scale. Internal reliability at baseline was $\alpha=0.816$.

Data Analyses

For the purpose of this paper, only the data of the participants who completed all three measures (henceforth called completers) were analysed (pre- and post intervention and one month follow-up). To examine the effects of the Smiling Meditation, the completers' scores were put in and analysed in SPSS 24 for Mac. To verify the reliability of the scales at baseline, Cronbach's alpha coefficients were run. A Shapiro-Wilk test of normality was carried out ($p >.05$) and histograms were generated, confirming normal distribution of the data. A chi-square test was run to analyse whether randomisation achieved its purpose; there was no significant difference between the experimental and the control groups at baseline in terms of gender (female) and age. As the number of male participants and the number of participants who are regular meditators was below 20 for both the experimental and the control group, no chi-square tests were run on this demographic information to avoid a Type 1 error (Langdrige & Hagger-Johnson, 2013).

Independent sample (two-tailed) *t*-tests were performed on the baseline scores of all scales between the

experimental and the control groups.

Inspection of the boxplots showed some minor baseline outliers (experimental group: positive affect (1), gratitude (1), compassion (2) - control group: gratitude (1), self-acceptance (1); after checking for errors, these outliers were kept in the data analysis as the 5% trimmed mean of the scales was very similar (Pallant, 2016, p.65). This decision was verified by assessing the examination of studentized residuals, which confirmed that there were no values greater than ± 3 , and hence these outliers were considered non-significant (Laerd Statistics, 2015).

Following the results of these preliminary statistical tests, mixed between-within-subjects analyses of variance (split plot ANOVAs) were carried out on the pre-and post scores of each scale to compare the gradual development of the completers in the experimental and the control group over these three points in time. To examine the differences between the completers in the experimental group and the control group at the follow-up point, additional independent sample (two-tailed) *t*-tests were performed on all scales to provide longitudinal data. Analyses were carried out with a significance of $p > .05$.

Results

There was no significant difference between the experimental group and the control group in terms of gender (female) and age, and equal variance was present. As the chi-square test could not be run on the other demographic information (meditation practice) due to insufficient numbers (<20, see above), mean age and gender only were considered to establish the absence of statistical significance between both groups. More control group participants completed the study in comparison with the experimental group: experimental group completers = 42.6% of those who completed baseline measures, control group completers = 61.8% of those who completed baseline measures.

As shown in the measures section above, all scales proved good internal reliability with Crohnbach's alphas between 0.767 and 0.912. There was equal variance and no statistically significant difference in the baseline scores of each scale between both groups (see Table 1).

Table 1: Comparison of demographic characteristics and baseline psychometric measures between experimental and control groups completers

Socio-demographics	Experimental (<i>n</i> = 32)		Control (<i>n</i> = 34)		Statistical significance
	N	%	N	%	

Gender (female)	30	93.8%	27	79.4%	$\chi^2 = 1.78$ $p = .181$
Meditators	6	18.8%	9	26.5%	n/a
	M	SD	M	SD	
Age	40.50	10.13	39.58	9.65	$t = .368$ $p = .714$. (2-tailed)
Well-being					
Mindfulness (FMI)	32.15	6.22	32.11	5.97	$t = .026$ $p = .980$ (2-tailed)
Positive Affect (PANAS)	31.37	6.63	33.11	7.02	$t = -1.034$ $p = .305$ (2-tailed)
Gratitude (GQ-6)	34.93	4.49	33.44	5.44	$t = 1.213$ $p = .229$ (2-tailed)
Compassion (COS)	4.11	0.52	3.87	0.48	$t = 1.970$ $p = .053$ (2-tailed)
Self-acceptance (SAPWB)	29.69	5.93	29.91	5.73	$t = -.156$ $p = .877$ (2-tailed)

The split plot ANOVAS showed that there was homogeneity of variances for all scales as assessed by Levene's test of homogeneity of variance ($p > .05$). There was homogeneity of covariances for all scales, as assessed by Box's test of equality of covariance matrices ($p > .001$). Mauchly's test of sphericity indicated that the assumption of sphericity was met for the two-way interaction, group*time, of all scales ($p > .05$). There was a statistically significant two-way interaction between the groups (experimental + control) and time on mindfulness ($p = .004$) and positive emotions ($p = .003$), hence simple main effects for group and time were analysed and main effects were not considered. To guide the interpretation on these scales, profile plots were checked (Pallant, 2016, p.287).

Mindfulness: Post-intervention, there was a statistically significant effect of time on mindfulness for the experimental group, $F(2,62) = 17.57$, $p < .001$ partial eta squared = .362: there was a significant increase in mindfulness between pre-intervention and post-intervention ($M = -4.50$, $SE = .845$, $p < .001$) and longitudinal measurements ($M = -3.84$, $SE = .806$, $p < .001$). There was no statistically significant effect of time on mindfulness for the control group $F(2,66) = 1.579$, $p = .210$, partial eta squared = .046. There was a statistically significant difference in mindfulness between groups at post-intervention, $F(1,64) = 7.625$, $p = .008$, partial eta squared = .106 with a medium effect size (Cohen, 1988, pp. 284-7): mindfulness levels were statistically significantly higher in the experimental group ($M = 36.66$), compared to the control group ($M = 32.85$); this effect was maintained over time (see Table 2).

Positive Affect: Post-intervention, there was no statistically significant difference in positive emotions between the experimental and the control group, $F(1,64) = 2.994$, $p = .088$, partial eta squared = .045 with a small effect size. The same was observed at the longitudinal point, $F(1,64) = 1.583$, $p = .213$, partial eta squared = .024 with a small effect size. Although there was a statistically significant difference in positive emotions in the experimental group after the intervention ($F(2,62) = 8.276$, $p = .001$, partial eta squared = .211 with a large effect size), no conclusions could be made regarding the effects of the Smiling Meditation on positive emotions, as positive emotions increased significantly at the longitudinal point for the control group (see Table 2).

There was no statistically significant two-way interaction between the groups (experimental + control) and

time on gratitude, compassion and self-acceptance; therefore, main effects were interpreted for the between- and within-subjects factors (Pallant, 2016, p.286).

Gratitude: The main effect of group showed a statistically significant difference in gratitude between the experimental and control group, $F(1,64) = 5.477, p = .022$, partial eta squared = .079 (medium effect size). The experimental group showed a significantly higher level of gratitude post-intervention ($M = 36.66, SD = 4.34$) and at the longitudinal point ($M = 36.31, SD = 5.28$) compared to the control group (post-intervention: $M = 33.06, SD = 5.83$ / longitudinal point: $M = 33.88, SD = 4.01$), suggesting that the Smiling Meditation has a positive impact on gratitude with a longitudinal effect.

Compassion: There was a substantial main effect for time, Wilk's Lambda = .897, $F(2,63) = 3.609, p = .033$, partial eta squared = .103 (medium effect size). The main effect of group showed a statistically significant difference in compassion between the experimental and the control group, $F(1,64) = 8.234, p = .006$, partial eta squared = .114 (medium effect size). Inspection of the profile plots showed a slight decrease in compassion over time in the control group, whereas the experimental group increased their levels of compassion post-intervention and at the longitudinal point (compared to pre-intervention) (see Table 2).

Self-acceptance: Although the main effect of time showed a statistically significant difference in self-acceptance at the different time points, $F(2,128) = 8.886, p < .001$, partial eta squared = .122 (medium effect size), the main effect of group showed no statistically significant difference in self-acceptance between the experimental and the control group, $F(1,64) = .078, p = .780$, partial eta squared = .001 (very small effect size, therefore it is not surprising that statistical significance was not reached).

Independent sample *t*-tests were run on the longitudinal measures of all scales. There was no significant difference in scores between the experimental and control group regarding positive emotions and self-acceptance. There was a significant difference in mindfulness scores between the experimental group ($M = 36.00, SD = 5.28$) and the control group ($M = 33.47, SD = 6.59; t(64) = 1.713, p = .042$, two-tailed). The magnitude of the differences in the means (mean difference = 2.529, 95% *CI*: -.421 to 5.479) is small (eta squared = .044) (Cohen, 1988, pp. 284-7). There was a significant difference in gratitude scores between the experimental group ($M = 36.31, SD = 5.29$) and the control group ($M = 33.88, SD = 4.01; t(64) = 2.111, p = .039$, two-tailed). The magnitude of the differences in the means (mean difference = 2.430, 95% *CI*: .130 to 4.730) is moderate (eta squared = .065). There was a significant difference in compassion scores between the experimental group ($M = 4.15, SD = .49$) and the control group ($M = 3.81, SD = .46; t(64) = 2.875, p = .005$, two-tailed). The magnitude of the differences in the means (mean difference = .34, 95% *CI*: .103 to .573) is moderate (eta squared = .114).

Table 2: Measurement results of all scales comparing experimental and control groups post-intervention and after one month

	Post-test						1 month post-test						Time x group interaction					
	Experimental (n = 32)		Control (n = 34)		Mean difference statistical difference			Experimental (n = 32)		Control (n = 34)		Mean difference statistical difference			Greenhouse-Geisser interaction of outcomes with group			
	M	SD	M	SD	MD	t	p	M	SD	M	SD	MD	t	p	F	df	p	η^2
FMI	36.65	5.33	32.85	5.82	3.80	2.76	.008	36.00	25.00	33.47	6.6	2.53	1.71	.042	5.89	1.8	.004	.084
PA	35.38	6.17	32.79	5.94	2.58	1.73	.088	33.44	6.47	35.44	6.46	-2.00	-1.25	.213	6.1	1.9	.003	.087
GQ-6	36.66	4.34	33.06	5.84	3.59	2.82	.006	36.31	5.29	33.88	4.01	2.43	2.11	.039	2.17	1.8	.122	.033
COS	4.25	0.45	3.86	0.48	0.39	3.35	.001	4.15	0.49	3.81	0.46	0.34	2.87	.005	2.29	1.8	.109	.035
SAPWB	31.31	5.65	30.41	5.61	0.90	.65	.519	31.63	5.22	31.21	5.43	0.41	0.31	.750	1.05	1.9	.352	.016

Discussion

Important findings have been made regarding the effect of the Smiling Meditation on well-being:

Inspection of the data showed that participation in the intervention group significantly increased levels of mindfulness, compassion to others and gratitude both post-intervention and at the longitudinal point; this impact was confirmed by a statistically significant difference of the means of the above variables in the longitudinal analysis of the control versus the experimental group. Longitudinal data is often missing when it comes to the evaluation of Positive Psychology Interventions (PPIs) (Avey et al., 2008); the results of the present study are therefore a valuable contribution to the growing list of PPIs as the Smiling Meditation has a longitudinal effect on important well-being variables.

Increased mindfulness has been associated with overall psychological well-being (Brown and Ryan, 2003), increased compassion to others has been shown to create a higher motivation to connect with others, enhancing personal relationships that are imperative to well-being (Cassel, 2009) and increased gratitude has been linked to subjective well-being (Watkins, 2004) as well as allowing people to extract more meaning from their experiences (McCullough, 2002). Therefore, both hedonic and eudaimonic well-being have been improved by the Smiling Meditation, confirming the hypothesis that meditative smiling would increase well-being, as well as confirming that if one sets an intention to one's practice, the desired effects are attained (Shapiro, 1992). The present study invites further research into positive mindfulness, opening up a myriad of possibilities to combine mindfulness with an intention to increase positive variables.

The results of this study also highlight the importance of including the body in well-being interventions: as bodily states influence interpretation of personal and social experiences (Vacharkulksen & Fredrickson, 2012), meditative smiling, which triggers a whole range of positive physical/emotional sensations and cognitions, has had a positive impact on gratitude and compassion, two imperative variables in subjective and psychological well-being. This not only confirms the theory that the body influences the mind (Howson, 2005), it shows that embodiment has a true potential to increase well-being and should be actively pursued in the creation of well-being interventions.

The awareness of the benefits of this positive mind-body connection was rendered possible by the mindful awareness that was brought to the experience of smiling. Mindfulness is therefore a key aspect of this

embodied positive intervention, as it allows not only to become aware of the pleasant experience of smiling, it invites the practitioner to savour these positive sensations, thoughts and emotions, potentially bringing a longitudinal effect to the practice via the broaden-and-build theory. As a matter of fact, without the mindful awareness of a positive experience, a positive experience may go completely unnoticed and its benefits may be lost (Niedenthal, 2007). This is reflected in the results of the positive emotions variable that was tested in this study: the scores of the positive emotions variable went up significantly after seven days of meditative smiling, yet dropped again at the longitudinal point. Surely, participants did not stop smiling for an entire month, they simply stopped being mindful of the pleasant experience of the smile after the intervention, hence missing out on the positive emotions brought about by the physiological and neurological effects of smiling.

As the present study shows, it is imperative to bring mindfulness to the body; yet, it is equally important to make the positive functions of the body an active part of mindfulness meditation. It was the awareness brought to the positive act of smiling that brought about an increase in compassion to others and gratitude. Although classical mindfulness practices include the 'body scan' or other prominent interventions like yoga use the body, no validated meditative practice to date actively uses a particular positive function of the body to deliberately create well-being. The results of the present study on meditative smiling show that using the mind-body connection as well as the concept of 'nudges' - 'minimal psychological and physical commitments and use of psychological shortcuts and attitudes following from behaviours' (Cuddy, 2016, p.256) in combination with positive mindfulness increases/creates well-being. A future study could incorporate the Body Awareness Questionnaire (BAQ; Shields, Mallory & Simon, 1989; Mehling et al., 2009), to give a clearer insight into the role of the body in the positive effects of the Smiling Meditation. In the meantime, this longitudinal increase in mindfulness, compassion to others and gratitude lays the foundation for further research into positive embodiment and positive mindfulness and its combination: embodied positive mindfulness.

The practice of meditative smiling also suggests the confirmation of the positive mindfulness cycle theory (Ivtzan et al., 2016b), which states that PPIs (here smiling) combined with mindfulness influence and enhance each other, 'leading to an increase in an individual's well-being which could serve better than the beneficial impact of mindfulness or PPIs as separate practices' (ibid.,p.2). However, further research is needed to investigate this in more detail: a future study could compare the effects of the Smiling Meditation with the effects of the simple act of smiling and regular mindfulness meditation. Nevertheless, there is great potential in combining the science of mindfulness with the field of positive psychology, in order to enhance both mindfulness interventions and PPIs. Further research could combine any validated PPI with mindfulness, to evaluate the effect of such a combination in comparison to the effect of the PPI or the mindfulness intervention on their own.

It's by looking more closely at the positive variables gratitude and compassion to others that have been

increased, that the true potential of the Smiling Meditation is revealed: there has been extensive research into gratitude over the past decade, showing that gratitude is an important variable in well-being (Wood, From & Geraghty, 2010). Gratitude not only increases joy, attentiveness, energy and pro-social behaviour (Froh et al., 2009), its main quality is its ability to counter the hedonic treadmill and prevent hedonic adaptation (Sheldon & Lyubomirsky, 2012). The Smiling Meditation contributes an intervention to the science of gratitude, offering a simple and short exercise to prevent or counter negative emotions arising from hedonic adaptation with a longitudinal effect. A lot of gratitude interventions have been shown to lose their effect over time (Wood, From & Geraghty, 2010), the longitudinal increase in gratitude induced by the Smiling Meditation is therefore an important contribution to the science of gratitude. Being a positive emotion, regularly bringing up a feeling of gratitude will contribute to the broaden-and-build effect of positive emotions (Fredrickson, 2001), allowing practitioners to broaden their minds with creativity, objectivity and optimism and build enduring personal resources, which, in turn, will induce more positive emotions in an upward spiral (Garland et al., 2010; Garland et al., 2015).

It is particularly interesting to see that such a simple, short intervention increases compassion to others, considering that it consists solely of observing one's own smile with no mentioning of other people. It could therefore be considered as an alternative practice to the Loving Kindness Meditation (LKM) (Salzberg, 1995) - the current go-to meditation in the literature to increase compassion (Hutcherson et al., 2008; Salzberg, 1995). The Smiling Meditation is less time consuming as it requires only 5 minutes of a practitioner's time in comparison to the 20-minute Metta Meditation, and it may be a more 'neutral' and simple meditation (especially for beginners) than LKM, which can trigger difficult emotions.

Compassion to others is a paramount emotion in the cultivation of subjective and psychological well-being (Gilbert, 2005), but above all, it is the emotion par excellence in the mind-body connection: increased compassion to others correlates with a higher vagal tone, which reflects the power, activity and health of the vagus nerve (Keltner, 2005). The vagus nerve is the most important nerve in the body and runs from the brain to the heart, the lungs and the digestive system, regulating all of the above as well as important psychological functions such as emotions, attachment, communication and self-regulation (Porges, 2011). The Smiling Meditation can therefore be considered a compassion intervention, contributing to a research field that is still in its beginnings as well as an intervention to regulate the vagus nerve, contributing to overall health and well-being. To get a clear insight into the Smiling Meditations effect on the vagus nerve, further research needs to be conducted, measuring vagal tone and heart rate variability.

Despite these promising findings, it is important to explore the two variables that showed no statistically significant difference.

Although mindfulness has been shown to reduce the attentional bias towards negative stimuli (Goldin & Gross, 2010) and thus increasing positive emotions, one week's practice of the Smiling Meditation may not have been enough time to reduce participants' negativity bias (the brain's 'preference' for negative stimuli), which may explain that there was no statistically significant increase in positive emotions over time. As

substantial research into smiling from both neuroscience and biology has shown its effects on the brain and the body, confirming the neurobiological increase of positive emotions, one could hypothesise that the negativity bias may be responsible for participants not noticing a substantial change in their positive emotions over time, which was then reflected in the self-report measure. To confirm this assumption, the effect of the Smiling Meditation on positive emotions could be tested through brain maps and physiological testing of serotonin and dopamine levels pre- and post intervention and longitudinally. Once confirmed, further research could be made, allowing participants either to practice the Smiling Meditation for a longer period of time and/or it could be combined with a ‘learned optimism’ intervention (Seligman, 1990) or a savouring intervention to teach participants to become more aware of and able to consciously savour their positive emotions.

There was also no statistically significant increase in self-acceptance between the experimental and the control groups, yet profile plots showed a parallel increase in self-acceptance over time between the experimental and the control groups with a longitudinal effect. A possible explanation could be that in the case of the self-acceptance variable, the questionnaire that was administered to collect pre- and post measures may have worked like an intervention for the control group. The process of monitoring one’s well-being by completing a number of scales may have increased participants’ self-acceptance score and maintained it over time. This, in itself, is an important finding; this result invites the hypothesis that self-acceptance, an important well-being variable, can be improved by observing and reviewing oneself through the completion of well-being scales. Further research could be conducted to see if these results can be replicated and thus confirm the hypothesis. Nevertheless, it is important to point out that meditative smiling increases self-acceptance with a longitudinal effect, another important variable in overall well-being and should therefore be considered a relevant intervention to promote self-acceptance and help practitioners feel good about themselves. This ‘feeling good about oneself’ was probably the result of the positive sensations, emotions and cognitions triggered by the act of smiling and practitioners’ awareness of all the good inside of themselves. This however is just a hypothesis that necessitates further investigation in a future qualitative study.

Further Research

The results of the present study have shown the Smiling Meditation’s potential to increase important well-being variables. It is a short and simple intervention that is accessible to everyone, regardless of personal, cultural and financial background. It can be delivered free-of-charge to a wide and diverse population via the internet, making it relatively easy to administer and to conduct further research on a large scale. It would indeed be interesting to conduct further research with depressed/anxious individuals, in order to evaluate the effects of the Smiling Meditation on depression and anxiety, as these are growing conditions in our fast-paced world. A meta-analysis of 25 PPIs conducted by Sin and Lyubomirsky (2009) has shown that PPIs have a particularly positive effect on depressed participants.

Further research could also be conducted with people suffering from post-traumatic stress disorder (PTSD)

as PTSD has been linked to low vagal tone. Low vagal tone makes adaptive responses to environmental challenges difficult, further increasing sensitivity to stress (Porges, 2011, p.192). As increased compassion fosters a higher vagal tone, the Smiling Meditation may be a good intervention for sufferers of PTSD and may help them in regulating their emotions, their attachment style, and their communication, enhancing their overall social experience.

Adding a qualitative research element to further research with different populations, asking participants about what circumstances they used the Smiling Meditation in, could shed further light on its benefits and may reveal other situations/conditions in which meditative smiling is beneficial.

The simplicity of the Smiling Meditation also makes it a very child-friendly intervention; further research could be conducted with children and teenagers to explore its effect on the younger population. Depending on these findings, the Smiling Meditation could be an interesting intervention in schools and/or at home for teachers and parents to use with their students/children, teaching them well-being from an early age.

Limitations

The participants in the experimental condition performed the Smiling Meditation only for seven consecutive days, although this short period of time was enough to statistically significantly increase four out of five variables (mindfulness, compassion, gratitude, self-acceptance), a longer practice may have allowed to see the development of the the variable positive emotions, as research into this type of meditative practices is usually conducted over 8 weeks (Davidson et al., 2003). Practicing the Smiling Meditation for a longer period of time would also have allowed to introduce different scales into the research design, which would have generated a deeper insight into the potential benefits and/or limitations of this practice.

The present study was a randomised control trial with a no-intervention control group. Further research could be conducted with a smiling-only and a mindfulness-only control group in order to clearly evaluate whether meditative smiling is more potent than smiling or meditation separately.

The data analysis was only carried out on the completers of the present study, which then made for a rather small sample size (32 experimental participants and 34 control participants). Carrying out an intent-to-treat analysis (Moher et al., 2001) would have allowed to analyse the present study using all 130 participants that completed at least baseline measures.

The evaluation of the Smiling Meditation was carried out via the scores of self-report measures filled out by participants at three points in time (baseline, post intervention and one-month follow up). This reliance on self-report measures only is another limitation that may have influenced results due to participants' potential response bias. Using brain maps, fMRI technology and physiological tests (serotonin and dopamine levels, heart rate variability, vagal tone) would provide more reliant hard data and should be considered in future studies.

Although external validity was strong because the meditation was delivered online to the general population in exactly the same way it is intended to be used in real-life settings, participants were predominantly females from Western cultures with knowledge of how to use the internet. Further research should be conducted with more male participants, in order to evaluate the effects of the Smiling Meditation on men

compared to females, especially as current research suggests that mindfulness has a better effect on female practitioners (Rojjani et al., 2017). Due to the small number of male participants, it was impossible to conduct this comparison in the present study.

The online recruitment and delivery of the study's materials, i.e the questionnaires as well as the meditation, may have excluded participation from sections of the general population such as those with no internet access, those with no knowledge of how to use the internet like the elderly or the less educated and the poorer members of society. Further research should include these populations.

Recruitment may also only have reached those with a certain level of education and a pre-existing interest in meditation. Recruitment, data collection and delivery of the meditation could be done in-person in a future study, maybe through a qualitative study, to assure a more culturally diverse sample.

Compliance with Ethical Standards

The author declares that she has no conflict of interest.

NB: The present dissertation was written in compliance with journal requirements (*Mindfulness*, approx. 30 pages including references, 11-point Times New Roman, 1.5 spacing, see Appendix 2)

REFERENCES

- Anderson, R. (2006). Body Intelligence Scale: Defining and measuring the intelligence of the body. *The Humanistic Psychologist*, 34(4), 357-367.
- Avey, J.B., Luthans, F. & Mhatre, K.H. (2008). A call for longitudinal research in positive organisational behaviour. *Journal of Organisational Behaviour*, 29(5), 705-711.
- Bishop, S.R., Lau, M., Shapiro, S., Carlson, L., Anderson, N.D., Segal, Z.V. et al. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11(3), 230-241.
- Brown, K.W & Ryan, R.M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822-848.
- Brown, K.W. & Cordon, S. (2009). Toward a phenomenology of mindfulness: subjective experience and emotional correlates. In F. Didonna (Ed.), *Clinical Handbook of Mindfulness* (pp.59-81). New York: Springer.
- Brown, K.W., Ryan, R.M. & Creswell, J.D. (2007). Mindfulness: theoretical foundations and evidence for its salutary effects. *Psychological Inquiry*, 18(4), 211-237.
- Bryant, F.B. & Veroff, J. (2007). *Savouring: a new model of positive experience*. Mahwah: Lawrence Erlbaum Associates Inc.
- Cassell, E.J. (2009). Compassion. In S.J. Lopez & C.R. Snyder (Eds.) (2009). *The Oxford Handbook of Positive Psychology (2nd Edition)*. Oxford: Oxford University Press.
- Chopra,, V.G.N. (2014). Biopsychology of positive mental health: Biological substrates of human flourishing. *Indian Journal of Positive Psychology*, 5(2), 137-144.
- Cohen, J.W. (1988). *Statistical power analysis for the behavioural sciences* (2nd Edition). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Compton, W. & Hoffman, E. (2012). *Positive Psychology: the science of happiness and flourishing*. USA: Wadsworth Cengage Learning.
- Craigie, M.A., Rees, C.S., Marsh,A. & Nathan, P. (2008). Mindfulness-based cognitive therapy for generalised anxiety disorder: A preliminary evaluation. *Behavioural and Cognitive Psychotherapy*, 36, 553-568.

Cuddy, A. (2016). *Presence: Bringing your boldest self to your biggest challenges*. London, UK: Orion Publishing Group Ltd.

Davidson, R., Kabat-Zinn, J., Schumacher, J. et al. (2003). Alterations in brain and immune function produced by mindfulness meditation. *Psychosomatic Medicine*, 65, 564-570.

Diener, E., Lucas, R.E. & Oishi, S. (2002). Subjective Well-being: the science of happiness and life satisfaction. In C.R Snyder and S.J. Lopez (Eds.). *The Handbook of Positive Psychology*. New York: Oxford University Press.

Doukas, A., McManus, J. & D'Andrea, W. (2012). Fake it 'til you make it: examining individual differences in the impact of forced smiling and laughter on physiology and affect. *Psychophysiology*, 49, S46-S46.

Ekman, P. & Davidson, R.J. (1993). Voluntary Smiling Changes Regional Brain Activity. *Psychological Science*, 4(5), 342-345.

Fredrickson, B. (2001). The role of positive emotions in positive psychology: the broaden-and-build theory of positive emotions. *American Psychologist*, 56(3), 218-226.

Froh, J.J., Kashdan, T.B., Ozimkowski, K.M. and Miller, N. (2009). Who benefits the most from a gratitude intervention in children and adolescents? Examining Positive affect as a moderator. *Journal of Positive Psychology*, 4(5), 408-422.

Garland, E.L., Gaylord, S. & Fredrickson, B.L. (2011). Positive reappraisal mediates the stress-reductive effects of mindfulness: An upward spiral process. *Mindfulness*, 2(1), 59-67.

Garland, E.L., Farb, N.A., Goldin, P. & Fredrickson, B. (2015). Mindfulness broadens awareness and builds eudaimonic meaning at the attention-appraisal-emotion interface: a process model of mindful positive emotion regulation. *Psychological Inquiry*, 26(4), 293-314.

Garland, E.L., Fredrickson, B., Kring, A.M., Johnson, D.P, Meyer, P.S. & Penn, D.L. (2010). Upward spirals of positive emotions counter downward spirals of negativity: Insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review*, 30(7), 849-864.

- Geschwind, N., Peeters, F., Drukker, M., Van Os, J. & Wichers, M. (2011). Mindfulness training increases momentary positive emotions and reward experience in adults vulnerable to depression: a randomized controlled trial. *Journal of Consulting and Clinical Psychology, 79*(5), 618-628.
- Gilbert, P. (Ed.) (2005). *Compassion: Conceptualisations, research and use in psychotherapy*. New York: Routledge.
- Goldin, P.R & Gross, J.J. (2010). Effects of Mindfulness-based stress reduction (MBSR) on emotion regulation in social anxiety disorder. *Emotion, 10*, 83-91.
- Goleman, D. (2006). *Social intelligence: the new science of human relationships*. New York: Bantam.
- Hefferon, K. (2013). *Positive Psychology and the body: the somatopsychic side to flourishing*. Berkshire, England: Open University Press.
- Hefferon, K. (2015). The Role of Embodiment in Optimal Functioning. Published in S. Joseph (Ed.)(2015). *Positive Psychology In Practice: Promoting human flourishing in work, health, education and everyday life* (2nd Edition). Hoboken, NJ: JohnWiley & Sons Inc.
- Heidenreich, T., Tuin, I., Pflug, B., Michal, M. & Michalak, J. (2006). Mindfulness-based cognitive therapy for persistent insomnia: A pilot study. *Psychotherapy and Psychosomatics, 75*(3), 188-189.
- Heiman, J.R & Meston, C.M. (1997). Empirically validated treatment for sexual dysfunction. *Annual Review of Sex Research, 8*, 148-194.
- Hertenstein, M., Hansel, C., Butts, S. & Hile, S. (2009). Smile intensity in photographs predicts divorce later in life. *Motivation Emotion, 33*, 99-105.
- Hölzel, B.K., Lazar, S.W., Gard, T, Schuman-Olivier, Z., Vago, D.R. & Ott, U. (2011). How does Mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. *Perspectives on Psychological Science, 6*(6), 537-559.
- Howson, A. (2005). *The body in society: An introduction*. Cambridge: Blackwell Publishing.
- Hutcherson, C.A., Seppala, E.M & Gross, J.J. (2008). Loving Kindness Meditation increases social connectedness. *Emotion, 8*(5), 720-724.

- Impett, E.A., Daubenmier, J.J. & Hirschman, A.L. (2006). Minding the body: Yoga, embodiment and well-being. *Sexuality Research & Social Policy*, 3(4), 39-48.
- Ivtzan, I., Niemic, R.M. & Briscoe, C. (2016a). A study investigating the effects of Mindfulness-Based Strengths Practice (MBSP) on well-being. *International Journal of Wellbeing*, 6(2), 1-13.
- Ivtzan, I., Young, T., Martman, J., et al. (2016b). Integrating Mindfulness into Positive Psychology: A Randomised Controlled Trial of an Online Positive Mindfulness Program. *Mindfulness*, 7(6), 1396-1407.
- Kabat-Zinn, J. (1990). *Full catastrophe living: The program of the stress-reduction clinic at the University of Massachusetts Medical Center*. New York: Delta
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: Past, present and future. *Clinical Psychology: Science and Practice*, 10(2), 144-156.
- Kashdan, T.B., Rottenberg, J., Goodman, F.R. Disabato, D.J & Begovic, E. (2015). Lumping and splitting in the study of meaning in life: thoughts on surfing, surgery, scents and sermons. *Psychological Inquiry*, 26(4), 336-342.
- Keltner, D. (2009). *Born to be good: The science of a meaningful life*. New York: W.W. Norton & Company
- Kontra, C., Goldin-Meadow, S. & Beilock, S.L. (2012). Embodied learning across the life span. *Topics in Cognitive science*, 4(4), 731-739.
- Kraft, T.L & Pressman, S.D (2012). Grin and bear it: The influence of manipulated facial expression on the stress response. *Psychological Science*, 23(11), 1372-1378.
- Laerd Statistics (2015). Two-way mixed ANOVA using SPSS Statistics. *Statistical tutorials and software guides*. Retrieved from <https://statistics.laerd.com/>
- Langdridge, D. & Hagger-Johnson, G. (2013). *Introduction to Research methods and Data Analysis in Psychology* (3rd Edition). Harrow, UK: Pearson Education Ltd.
- Lindsay, E.K & Creswell, J.D. (2015). Back to the basics: how attention monitoring and acceptance stimulate positive growth. *Psychological Inquiry*, 26(4), 343-348.
- McCullough, M.E, Emmons, R.A. & Tsang, J. (2002). The grateful disposition: a conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82(1), 112-127.

- Mehling, W.E., Gopisetty, V., Dauvenmier, J., Price, C.J., Hecht, F.M. & Stewart, A. (2009). Body awareness: Construct and self report measures. *PLoS One*, 4(5): e5614, doi: 10.1371/journal.pone.0005614.
- Meier, B.P., Schnall, S., Schwarz, N. & Barth, J.A. (2012). Embodiment in social psychology. *Topics in Cognitive Science*, 4(4), 705-716.
- Moher, D., Schultz, K.F. & Altman, D.G. (2001). The CONSORT statement: revised recommendations for improving the quality of reports of parallel-group randomised trials. *Annals of Internal Medicine*, 134(8), 657-662.
- Nettle, D. (2005). *Happiness: The Science Behind a Smile*. Oxford: Oxford University Press.
- NeuroImage*, 12(1), 1-13.
- Ngnoumen, C.T. & Langer, E.J. (2016). Mindfulness: The essence of wellbeing and happiness. Published in Ivtzan, I. & Lomas, T. (Eds.) (2016). *Mindfulness in Positive Psychology: The Science of Meditation and Wellbeing*. Abingdon: Routledge, pp. 97-107.
- Niedenthal, P.M. (2007). Embodying emotion. *Science*, 316(5827), 1002-1005.
- Niedenthal, P.M., Winkielman, P., Mondillon, L. & Vermeulen, N. (2009). Embodiment of emotion concepts. *Journal of Personality and Social Psychology*, 96(6), 1120.
- Pallant, J. (2016). *SPSS Survival Manual (6th Edition)*. Maidenhead, UK: Open University Press, McGraw-Hill Education.
- Peterson, C. (2012). *Pursuing the good life: 100 reflections on positive psychology*. New York, NY: Oxford University Press.
- Pommier, E.A. (2011). The compassion scale. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 72, 1174.
- Porges, S.W. (2011). *The Polyvagal Theory: Neurophysiological foundations of emotions, attachment, communication, self-regulation*. New York: W.W: Norton & Company
- Rojiani, R., Santoyo, J.F., Rahrig, H., Roth, H.D. & Britton, W.B. (2017). Women benefit more than men in response to college-based meditation training. *Frontiers in Psychology*, DOI: <https://doi.org/10.3389/fpsyg.2017.00551>

- Ryff, C.D. and Keyes, C.L.M. (1995). The structure of psychological wellbeing revisited. *Journal of Personality and Social Psychology*, 69(4), 719-727.
- Salzberg, S. (1995). *Loving Kindness: The revolutionary art of happiness*. Boston: Shambala Publications, Inc.
- Seligman, M. (1990). *Learned Optimism*. New York: Vintage Books.
- Seligman, M.E. (2008). Positive Health. *Applied Psychology*, 57(s1), 3-18.
- Shapiro, D.H. (1992). A preliminary study of long-term meditators: goals, effects, religious orientation, cognitions. *Journal of Transpersonal Psychology*, 24(1), 23-39.
- Shapiro, S.L., Carlson, L.e., Astin, J.A. & Freedman, B. (2006). Mechanisms of Mindfulness. *Journal of Clinical Psychology*, 62(3), 373-386.
- Sheldon, K.M. & Lyubomirsky, S. (2012). The challenge of staying happier: Testing the Hedonic Adaptation Prevention Model. *Personality and Social Psychology Bulletin*, 38(5), 670-680.
- Shields, S.A., Mallory, M.E. & Simon, A. (1989). The body awareness questionnaire: Reliability and validity. *Journal of Personality Assessment*, 53(4), 802-815.
- Shonin, E., Van Gordon, W. & Griffiths, M.D. (2016). Mindfulness and Wellbeing. Published in Ivztan, I. and Lomas, T. (Eds.) (2016). *Mindfulness in Positive Psychology: The Science of Meditation and Wellbeing*. Abingdon: Routledge, pp. 280-292.
- Siegel, D.J. (2009). Mindful awareness, mindsight and neural integration. *The Humanistic Psychologist*, 37(2), 137-158.
- Sin, N.L. & Lyubomirsky, S. (2009). Enhancing wellbeing and alleviating depressive symptoms with positive psychology interventions: a practice-friendly meta-analysis. *Journal of Clinical Psychology*, 65(5), 467-487.
- Strack, F., Martin, L. & Stepper, S. (1988). Inhibiting and facilitating conditions of the human smile: a non-obtrusive test of the facial feedback hypothesis. *Journal of Personality and Social Psychology*, 54, 768-777.

Teasdale, J.D., Segel, Z.V., Williams, J.M.G., Ridgeway, V.A., Soulsby, J.M. & Lau, M.A., (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, 68(4), 615.

The British Psychological Society (2009). *Code of Ethics and Conduct*. Leicester, available on: <http://beta.bps.org.uk/sites/beta.bps.org.uk/files/Policy%20-%20Files/Code%20of%20Ethics%20and%20Conduct%20%282009%29.pdf>

The British Psychological Society (2014). *Code of Human Research Ethics*. Leicester, available on: <http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli>

The British Psychological Society (2017). *Ethics Guidelines for Internet-mediated Research*. Leicester: available on <http://www.bps.org.uk/publications/policy-and-guidelines/research-guidelines-policy-documents/research-guidelines-poli>

Vacharkulksemsuk, T. & Fredrickson, B.L. (2012). Strangers in sync: Achieving embodied rapport through shared movements. *Journal of Experimental Social Psychology*, 48(1), 399-402.

Walach, H., Buchheld, N., Büttenmüller, V., Kleinknecht, N. & Schmidt, S. (2006). Measuring mindfulness - the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40(8), 1543-1555.

Watkins, P.C. (2004). Gratitude and Subjective Well-Being. Published in R.E. Emmons & M.E. McCullough (Eds.). *The Psychology of Gratitude*. Oxford: Oxford University Press.

Watson, D., Clark, L.E. & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070.

Wilson Van Voorhis, C.R. & Morgan, B.L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50.

Wood, A.M., Froh, J.J. & Geraghtly, A.W.A (2010). Gratitude and well-being: a review and theoretical integration. *Clinical Psychology Review*, 30(7), 890-905.

APPENDICES

Appendix 1: Rationale Sheet for Journal Chosen

1) Title of Work: Meditative Smiling - A Path to Well-Being

2) Title of Journal: Mindfulness

3) Editor-in-Chief: Nirbhay N. Singh

4) Rationale:

a) Aims and Scope of chosen journal

My piece of work was best suited to the aims and scope of this particular journal as it:

- Advances research, practice and theory on mindfulness
- Offers the single scholarly source dedicated to mindfulness theory and multidisciplinary research
- Is supported by an editorial board that is composed of highly qualified and experienced multidisciplinary team of experts in mindfulness
- Helps define and advance the science and practice of mindfulness
- Features papers that address issues involving the training of clinicians, institutional staff, teachers, parents and industry personnel as well as the use of mindfulness across cultures
- Features diverse viewpoints
- Reaches a diverse readership, as mindfulness is applied in numerous fields
- Provides clear, concise and professional manuscript guidelines

b) Example of a similar piece of work:

The journal of Mindfulness has published a randomised controlled trial on positive mindfulness that was run online:

Ivtzan, I., Young, T., Martman, J., et al. (2016). Integrating Mindfulness into Positive Psychology: A Randomised Controlled Trial of an Online Positive Mindfulness Program. *Mindfulness*, 7(6), 1396-1407.

c) Alternative choices:

- International Journal of Wellbeing (Reasons for not choosing this journal include: too broad a scope - no clear definition of 'wellbeing')
- International Journal of Applied Positive Psychology (Reasons for not choosing this journal include: very international therefore more competition, focus on applied positive psychology therefore more restricted as to readership)

*Appendix 2: Information regarding journal submission requirements
(Journal of Mindfulness)*

Editorial procedure

Double-blind peer review

This journal follows a double-blind reviewing procedure. Authors are therefore requested to submit:

- A blinded manuscript without any author names and affiliations in the text or on the title page. Self-identifying citations and references in the article text should be avoided.
- A separate title page, containing title, all author names, affiliations, and the contact information of the corresponding author. Any acknowledgements, disclosures, or funding information should also be included on this page.

Manuscript Submission

Submission of a manuscript implies: that the work described has not been published before; that it is not under consideration for publication anywhere else; that its publication has been approved by all co-authors, if any, as well as by the responsible authorities – tacitly or explicitly – at the institute where the work has been carried out. The publisher will not be held legally responsible should there be any claims for compensation.

Permissions

Authors wishing to include figures, tables, or text passages that have already been published elsewhere are required to obtain permission from the copyright owner(s) for both the print and online format and to include evidence that such permission has been granted when submitting their papers. Any material received without such evidence will be assumed to originate from the authors.

Online Submission

Please follow the hyperlink “Submit online” on the right and upload all of your manuscript files following the instructions given on the screen.

Suggested Reviewers

Authors of research and review papers, excluding editorial and book review submissions, are allowed to provide the names and contact information for, maximum, 4 to 6 possible reviewers of their paper. When uploading a paper to the Editorial Manager site, authors must provide complete contact information for each recommended reviewer, along with a specific reason for your suggestion in the comments box for each person. The journal will consider reviewers recommended by the authors only if the reviewers’ institutional email is provided. A minimum of two suggested reviewers should be from a university or research institute in the United States. You may not suggest the Editor or Associate Editors of the journal as potential reviewers. Although there is no guarantee that the editorial office will use your suggested reviewers, your help is appreciated and may speed up the selection of appropriate reviewers.

Authors should note that it is inappropriate to list as preferred reviewers researchers from the same institution as any of the authors, collaborators and co-authors from the past five years as well as anyone whose relationship with one of the authors may present a conflict of interest. The journal will not tolerate this practice and reserves the right to reject submissions on this basis.

Title Page

The title page should include:

- The name(s) of the author(s)
- A concise and informative title
- The affiliation(s) and address(es) of the author(s)
- The e-mail address, and telephone number(s) of the corresponding author
- If available, the 16-digit ORCID of the author(s)

Abstract

Please provide an abstract of 150 to 250 words. The abstract should not contain any undefined abbreviations or unspecified references.

Keywords

Please provide 4 to 6 keywords which can be used for indexing purposes.

Text Formatting

Manuscripts should be submitted in Word.

- Use a normal, plain font (e.g., 10-point Times Roman) for text.
- Use italics for emphasis.
- Use the automatic page numbering function to number the pages.
- Do not use field functions.
- Use tab stops or other commands for indents, not the space bar.
- Use the table function, not spreadsheets, to make tables.
- Use the equation editor or MathType for equations.
- Save your file in docx format (Word 2007 or higher) or doc format (older Word versions).

Manuscripts with mathematical content can also be submitted in LaTeX.

- [LaTeX macro package \(zip, 182 kB\)](#)

Headings

Please use no more than three levels of displayed headings.

Abbreviations

Abbreviations should be defined at first mention and used consistently thereafter.

Footnotes

Footnotes can be used to give additional information, which may include the citation of a reference included in the reference list. They should not consist solely of a reference citation, and they should never include the bibliographic details of a reference. They should also not contain any figures or tables.

Footnotes to the text are numbered consecutively; those to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data). Footnotes to the title or the authors of the article are not given reference symbols.

Always use footnotes instead of endnotes.

Acknowledgments

Acknowledgments of people, grants, funds, etc. should be placed in a separate section on the title page. The names of funding organizations should be written in full.

Terminology

- Please always use internationally accepted signs and symbols for units (SI units).

Scientific style

- Generic names of drugs and pesticides are preferred; if trade names are used, the generic name should be given at first mention.
- Please use the standard mathematical notation for formulae, symbols etc.:
Italic for single letters that denote mathematical constants, variables, and unknown quantities
Roman/upright for numerals, operators, and punctuation, and commonly defined functions or abbreviations, e.g., cos, det, e or exp, lim, log, max, min, sin, tan, d (for derivative)
Bold for vectors, tensors, and matrices.

References

Citation

Cite references in the text by name and year in parentheses. Some examples:

- Negotiation research spans many disciplines (Thompson 1990).
- This result was later contradicted by Becker and Seligman (1996).
- This effect has been widely studied (Abbott 1991; Barakat et al. 1995; Kelso and Smith 1998; Medvec et al. 1999).

Reference list

The list of references should only include works that are cited in the text and that have been published or accepted for publication. Personal communications and unpublished works should only be mentioned in the text. Do not use footnotes or endnotes as a substitute for a reference list.

Reference list entries should be alphabetized by the last names of the first author of each work.

- Journal article
Harris, M., Karper, E., Stacks, G., Hoffman, D., DeNiro, R., Cruz, P., et al. (2001). Writing labs and the Hollywood connection. *Journal of Film Writing*, 44(3), 213–245.
- Article by DOI
Slifka, M. K., & Whitton, J. L. (2000) Clinical implications of dysregulated cytokine production. *Journal of Molecular Medicine*, doi:10.1007/s001090000086
- Book
Calfee, R. C., & Valencia, R. R. (1991). *APA guide to preparing manuscripts for journal publication*. Washington, DC: American Psychological Association.
- Book chapter
O’Neil, J. M., & Egan, J. (1992). Men’s and women’s gender role journeys: Metaphor for healing, transition, and transformation. In B. R. Wainrib (Ed.), *Gender issues across the life cycle* (pp. 107–123). New York: Springer.
- Online document
Abou-Allaban, Y., Dell, M. L., Greenberg, W., Lomax, J., Peteet, J., Torres, M., & Cowell, V. (2006). Religious/spiritual commitments and psychiatric practice. Resource document. American Psychiatric Association. http://www.psych.org/edu/other_res/lib_archives/archives/200604.pdf. Accessed 25 June 2007.

Journal names and book titles should be italicized.

For authors using EndNote, Springer provides an output style that supports the formatting of in-text citations and reference list.

- [EndNote style \(zip, 3 kB\)](#)

Article length

"The average article length is approximately 30 manuscript pages. For manuscripts exceeding the standard 30 pages, authors should contact the Editor in Chief, Nirbhay N. Singh directly at nirbsingh52@aol.com."

Tables

- All tables are to be numbered using Arabic numerals.
- Tables should always be cited in text in consecutive numerical order.
- For each table, please supply a table caption (title) explaining the components of the table.
- Identify any previously published material by giving the original source in the form of a reference at the end of the table caption.

- Footnotes to tables should be indicated by superscript lower-case letters (or asterisks for significance values and other statistical data) and included beneath the table body.

Artwork and Illustrations Guidelines

Electronic Figure Submission

- Supply all figures electronically.
- Indicate what graphics program was used to create the artwork.
- For vector graphics, the preferred format is EPS; for halftones, please use TIFF format. MSOffice files are also acceptable.
- Vector graphics containing fonts must have the fonts embedded in the files.
- Name your figure files with "Fig" and the figure number, e.g., Fig1.eps.

Line Art

- Definition: Black and white graphic with no shading.
- Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size.
- All lines should be at least 0.1 mm (0.3 pt) wide.
- Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi.
- Vector graphics containing fonts must have the fonts embedded in the files.

Halftone Art

- Definition: Photographs, drawings, or paintings with fine shading, etc.
- If any magnification is used in the photographs, indicate this by using scale bars within the figures themselves.
- Halftones should have a minimum resolution of 300 dpi.

Combination Art

- Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc.
- Combination artwork should have a minimum resolution of 600 dpi.

Color Art

- Color art is free of charge for online publication.
- If black and white will be shown in the print version, make sure that the main information will still be visible. Many colors are not distinguishable from one another when converted to black and white.

A simple way to check this is to make a xerographic copy to see if the necessary distinctions between the different colors are still apparent.

- If the figures will be printed in black and white, do not refer to color in the captions.
- Color illustrations should be submitted as RGB (8 bits per channel).

Figure Lettering

- To add lettering, it is best to use Helvetica or Arial (sans serif fonts).
- Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt).
- Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label.
- Avoid effects such as shading, outline letters, etc.
- Do not include titles or captions within your illustrations.

Figure Numbering

- All figures are to be numbered using Arabic numerals.
- Figures should always be cited in text in consecutive numerical order.
- Figure parts should be denoted by lowercase letters (a, b, c, etc.).
- If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text. Do not number the appendix figures, "A1, A2, A3, etc." Figures in online appendices (Electronic Supplementary Material) should, however, be numbered separately.

Figure Captions

- Each figure should have a concise caption describing accurately what the figure depicts. Include the captions in the text file of the manuscript, not in the figure file.
- Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type.
- No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption.
- Identify all elements found in the figure in the figure caption; and use boxes, circles, etc., as coordinate points in graphs.
- Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

Figure Placement and Size

- Figures should be submitted separately from the text, if possible.
- When preparing your figures, size figures to fit in the column width.

- For most journals the figures should be 39 mm, 84 mm, 129 mm, or 174 mm wide and not higher than 234 mm.
- For books and book-sized journals, the figures should be 80 mm or 122 mm wide and not higher than 198 mm.

Permissions

If you include figures that have already been published elsewhere, you must obtain permission from the copyright owner(s) for both the print and online format. Please be aware that some publishers do not grant electronic rights for free and that Springer will not be able to refund any costs that may have occurred to receive these permissions. In such cases, material from other sources should be used.

Accessibility

In order to give people of all abilities and disabilities access to the content of your figures, please make sure that

- All figures have descriptive captions (blind users could then use a text-to-speech software or a text-to-Braille hardware)
- Patterns are used instead of or in addition to colors for conveying information (colorblind users would then be able to distinguish the visual elements)
- Any figure lettering has a contrast ratio of at least 4.5:1

Electronic Supplementary Material

Springer accepts electronic multimedia files (animations, movies, audio, etc.) and other supplementary files to be published online along with an article or a book chapter. This feature can add dimension to the author's article, as certain information cannot be printed or is more convenient in electronic form.

Before submitting research datasets as electronic supplementary material, authors should read the journal's Research data policy. We encourage research data to be archived in data repositories wherever possible.

Submission

- Supply all supplementary material in standard file formats.
- Please include in each file the following information: article title, journal name, author names; affiliation and e-mail address of the corresponding author.
- To accommodate user downloads, please keep in mind that larger-sized files may require very long download times and that some users may experience other problems during downloading.

Audio, Video, and Animations

- Aspect ratio: 16:9 or 4:3
- Maximum file size: 25 GB
- Minimum video duration: 1 sec

- Supported file formats: avi, wmv, mp4, mov, m2p, mp2, mpg, mpeg, flv, mxf, mts, m4v, 3gp

Text and Presentations

- Submit your material in PDF format; .doc or .ppt files are not suitable for long-term viability.
- A collection of figures may also be combined in a PDF file.

Spreadsheets

- Spreadsheets should be submitted as .csv or .xlsx files (MS Excel).

Specialized Formats

- Specialized format such as .pdb (chemical), .vrl (VRML), .nb (Mathematica notebook), and .tex can also be supplied.

Collecting Multiple Files

- It is possible to collect multiple files in a .zip or .gz file.

Numbering

- If supplying any supplementary material, the text must make specific mention of the material as a citation, similar to that of figures and tables.
- Refer to the supplementary files as “Online Resource”, e.g., "... as shown in the animation (Online Resource 3)", "... additional data are given in Online Resource 4”.
- Name the files consecutively, e.g. “ESM_3.mpg”, “ESM_4.pdf”.

Captions

- For each supplementary material, please supply a concise caption describing the content of the file.

Processing of supplementary files

- Electronic supplementary material will be published as received from the author without any conversion, editing, or reformatting.

Accessibility

In order to give people of all abilities and disabilities access to the content of your supplementary files, please make sure that

- The manuscript contains a descriptive caption for each supplementary material
- Video files do not contain anything that flashes more than three times per second (so that users prone to seizures caused by such effects are not put at risk)

Integrity of research and reporting

Ethical standards

Manuscripts submitted for publication must contain a statement to the effect that all human and animal studies have been approved by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

It should also be stated clearly in the text that all persons gave their informed consent prior to their inclusion in the study. Details that might disclose the identity of the subjects under study should be omitted.

These statements should be added in a separate section before the reference list. If these statements are not applicable, authors should state: The manuscript does not contain clinical studies or patient data.

The editors reserve the right to reject manuscripts that do not comply with the above-mentioned requirements. The author will be held responsible for false statements or failure to fulfill the above-mentioned requirements

Conflict of interest

Authors must indicate whether or not they have a financial relationship with the organization that sponsored the research. This note should be added in a separate section before the reference list.

If no conflict exists, authors should state: The authors declare that they have no conflict of interest.

English Language Editing

For editors and reviewers to accurately assess the work presented in your manuscript you need to ensure the English language is of sufficient quality to be understood. If you need help with writing in English you should consider:

- Asking a colleague who is a native English speaker to review your manuscript for clarity.
- Visiting the English language tutorial which covers the common mistakes when writing in English.
- Using a professional language editing service where editors will improve the English to ensure that your meaning is clear and identify problems that require your review. Two such services are provided by our affiliates Nature Research Editing Service and American Journal Experts.
- [English language tutorial](#)
- [Nature Research Editing Service](#)
- [American Journal Experts](#)

Please note that the use of a language editing service is not a requirement for publication in this journal and does not imply or guarantee that the article will be selected for peer review or accepted.

If your manuscript is accepted it will be checked by our copyeditors for spelling and formal style before publication.

Ethical Responsibilities of Authors

This journal is committed to upholding the integrity of the scientific record. As a member of the Committee on Publication Ethics (COPE) the journal will follow the COPE guidelines on how to deal with potential acts of misconduct.

Authors should refrain from misrepresenting research results which could damage the trust in the journal, the professionalism of scientific authorship, and ultimately the entire scientific endeavour. Maintaining integrity of the research and its presentation can be achieved by following the rules of good scientific practice, which include:

- The manuscript has not been submitted to more than one journal for simultaneous consideration.
 - The manuscript has not been published previously (partly or in full), unless the new work concerns an expansion of previous work (please provide transparency on the re-use of material to avoid the hint of text-recycling (“self-plagiarism”).
 - A single study is not split up into several parts to increase the quantity of submissions and submitted to various journals or to one journal over time (e.g. “salami-publishing”).
 - No data have been fabricated or manipulated (including images) to support your conclusions
 - No data, text, or theories by others are presented as if they were the author’s own (“plagiarism”).
Proper acknowledgements to other works must be given (this includes material that is closely copied (near verbatim), summarized and/or paraphrased), quotation marks are used for verbatim copying of material, and permissions are secured for material that is copyrighted.
- Important note:** the journal may use software to screen for plagiarism.
- Consent to submit has been received explicitly from all co-authors, as well as from the responsible authorities - tacitly or explicitly - at the institute/organization where the work has been carried out, **before** the work is submitted.
 - Authors whose names appear on the submission have contributed sufficiently to the scientific work and therefore share collective responsibility and accountability for the results.
 - Authors are strongly advised to ensure the correct author group, corresponding author, and order of authors at submission. Changes of authorship or in the order of authors are **not** accepted **after** acceptance of a manuscript.
 - Adding and/or deleting authors **at revision stage** may be justifiably warranted. A letter must accompany the revised manuscript to explain the role of the added and/or deleted author(s). Further documentation may be required to support your request.
 - Requests for addition or removal of authors as a result of authorship disputes after acceptance are honored after formal notification by the institute or independent body and/or when there is agreement between all authors.
 - Upon request authors should be prepared to send relevant documentation or data in order to verify the validity of the results. This could be in the form of raw data, samples, records, etc. Sensitive information in the form of confidential proprietary data is excluded.

If there is a suspicion of misconduct, the journal will carry out an investigation following the COPE guidelines. If, after investigation, the allegation seems to raise valid concerns, the accused author will be

contacted and given an opportunity to address the issue. If misconduct has been established beyond reasonable doubt, this may result in the Editor-in-Chief's implementation of the following measures, including, but not limited to:

- If the article is still under consideration, it may be rejected and returned to the author.
- If the article has already been published online, depending on the nature and severity of the infraction, either an erratum will be placed with the article or in severe cases complete retraction of the article will occur. The reason must be given in the published erratum or retraction note. Please note that retraction means that the paper is **maintained on the platform**, watermarked "retracted" and explanation for the retraction is provided in a note linked to the watermarked article.
- The author's institution may be informed.

Compliance with Ethical Standards

To ensure objectivity and transparency in research and to ensure that accepted principles of ethical and professional conduct have been followed, authors should include information regarding sources of funding, potential conflicts of interest (financial or non-financial), informed consent if the research involved human participants, and a statement on welfare of animals if the research involved animals.

Authors should include the following statements (if applicable) in a separate section entitled "Compliance with Ethical Standards" when submitting a paper:

- Disclosure of potential conflicts of interest
- Research involving Human Participants and/or Animals
- Informed consent

Please note that standards could vary slightly per journal dependent on their peer review policies (i.e. single or double blind peer review) as well as per journal subject discipline. Before submitting your article check the instructions following this section carefully.

The corresponding author should be prepared to collect documentation of compliance with ethical standards and send if requested during peer review or after publication.

The Editors reserve the right to reject manuscripts that do not comply with the above-mentioned guidelines. The author will be held responsible for false statements or failure to fulfill the above-mentioned guidelines.

Disclosure of potential conflicts of interest

Authors must disclose all relationships or interests that could influence or bias the work. Although an author may not feel there are conflicts, disclosure of relationships and interests affords a more transparent process, leading to an accurate and objective assessment of the work. Awareness of real or perceived conflicts of interests is a perspective to which the readers are entitled and is not meant to imply that a financial relationship with an organization that sponsored the research or compensation for consultancy work is inappropriate. Examples of potential conflicts of interests **that are directly or indirectly related to the research** may include but are not limited to the following:

- Research grants from funding agencies (please give the research funder and the grant number)
- Honoraria for speaking at symposia
- Financial support for attending symposia

- Financial support for educational programs
- Employment or consultation
- Support from a project sponsor
- Position on advisory board or board of directors or other type of management relationships
- Multiple affiliations
- Financial relationships, for example equity ownership or investment interest
- Intellectual property rights (e.g. patents, copyrights and royalties from such rights)
- Holdings of spouse and/or children that may have financial interest in the work

In addition, interests that go beyond financial interests and compensation (non-financial interests) that may be important to readers should be disclosed. These may include but are not limited to personal relationships or competing interests directly or indirectly tied to this research, or professional interests or personal beliefs that may influence your research.

The corresponding author collects the conflict of interest disclosure forms from all authors. In author collaborations where formal agreements for representation allow it, it is sufficient for the corresponding author to sign the disclosure form on behalf of all authors. Examples of forms can be found

- [here:](#)

The corresponding author will include a summary statement **on the title page that is separate from their manuscript**, that reflects what is recorded in the potential conflict of interest disclosure form(s).

See below examples of disclosures:

Funding: This study was funded by X (grant number X).

Conflict of Interest: Author A has received research grants from Company A. Author B has received a speaker honorarium from Company X and owns stock in Company Y. Author C is a member of committee Z.

If no conflict exists, the authors should state:

Conflict of Interest: The authors declare that they have no conflict of interest.

Research involving human participants and/or animals

1) Statement of human rights

When reporting studies that involve human participants, authors should include a statement that the studies have been approved by the appropriate institutional and/or national research ethics committee and have been performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

If doubt exists whether the research was conducted in accordance with the 1964 Helsinki Declaration or comparable standards, the authors must explain the reasons for their approach, and demonstrate that the independent ethics committee or institutional review board explicitly approved the doubtful aspects of the study.

The following statements should be included in the text before the References section:

Ethical approval: “All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.”

For retrospective studies, please add the following sentence:

“For this type of study formal consent is not required.”

2) Statement on the welfare of animals

The welfare of animals used for research must be respected. When reporting experiments on animals, authors should indicate whether the international, national, and/or institutional guidelines for the care and use of animals have been followed, and that the studies have been approved by a research ethics committee at the institution or practice at which the studies were conducted (where such a committee exists).

For studies with animals, the following statement should be included in the text before the References section:

Ethical approval: “All applicable international, national, and/or institutional guidelines for the care and use of animals were followed.”

If applicable (where such a committee exists): “All procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.”

If articles do not contain studies with human participants or animals by any of the authors, please select one of the following statements:

“This article does not contain any studies with human participants performed by any of the authors.”

“This article does not contain any studies with animals performed by any of the authors.”

“This article does not contain any studies with human participants or animals performed by any of the authors.”

Informed consent

All individuals have individual rights that are not to be infringed. Individual participants in studies have, for example, the right to decide what happens to the (identifiable) personal data gathered, to what they have said during a study or an interview, as well as to any photograph that was taken. Hence it is important that all participants gave their informed consent in writing prior to inclusion in the study. Identifying details (names, dates of birth, identity numbers and other information) of the participants that were studied should not be published in written descriptions, photographs, and genetic profiles unless the information is essential for scientific purposes and the participant (or parent or guardian if the participant is incapable) gave written informed consent for publication. Complete anonymity is difficult to achieve in some cases, and informed consent should be obtained if there is any doubt. For example, masking the eye region in photographs of participants is inadequate protection of anonymity. If identifying characteristics are altered to protect anonymity, such as in genetic profiles, authors should provide assurance that alterations do not distort scientific meaning.

The following statement should be included:

Informed consent: “Informed consent was obtained from all individual participants included in the study.”
If identifying information about participants is available in the article, the following statement should be included:

“Additional informed consent was obtained from all individual participants for whom identifying information is included in this article.”

Research Data Policy

The journal encourages authors, where possible and applicable, to deposit data that support the findings of their research in a public repository. Authors and editors who do not have a preferred repository should consult Springer Nature’s list of repositories and research data policy.

- [List of Repositories](#)
- [Research Data Policy](#)

General repositories - for all types of research data - such as figshare and Dryad may also be used.

Datasets that are assigned digital object identifiers (DOIs) by a data repository may be cited in the reference list. Data citations should include the minimum information recommended by DataCite: authors, title, publisher (repository name), identifier.

- [DataCite](#)

Springer Nature provides a research data policy support service for authors and editors, which can be contacted at researchdata@springernature.com.

This service provides advice on research data policy compliance and on finding research data repositories. It is independent of journal, book and conference proceedings editorial offices and does not advise on specific manuscripts.

- [Helpdesk](#)

After acceptance

Upon acceptance of your article you will receive a link to the special Author Query Application at Springer’s web page where you can sign the Copyright Transfer Statement online and indicate whether you wish to order OpenChoice, offprints, or printing of figures in color.

Once the Author Query Application has been completed, your article will be processed and you will receive the proofs.

Copyright transfer

Authors will be asked to transfer copyright of the article to the Publisher (or grant the Publisher exclusive publication and dissemination rights). This will ensure the widest possible protection and dissemination of information under copyright laws.

- [Creative Commons Attribution-NonCommercial 4.0 International License](#)

Offprints

Offprints can be ordered by the corresponding author.

Color illustrations

Online publication of color illustrations is free of charge. For color in the print version, authors will be expected to make a contribution towards the extra costs.

Proof reading

The purpose of the proof is to check for typesetting or conversion errors and the completeness and accuracy of the text, tables and figures. Substantial changes in content, e.g., new results, corrected values, title and authorship, are not allowed without the approval of the Editor.

After online publication, further changes can only be made in the form of an Erratum, which will be hyperlinked to the article.

Online First

The article will be published online after receipt of the corrected proofs. This is the official first publication citable with the DOI. After release of the printed version, the paper can also be cited by issue and page numbers.

Open Choice

In addition to the normal publication process (whereby an article is submitted to the journal and access to that article is granted to customers who have purchased a subscription), Springer provides an alternative publishing option: Springer Open Choice. A Springer Open Choice article receives all the benefits of a regular subscription-based article, but in addition is made available publicly through Springer's online platform SpringerLink.

- [Open Choice](#)

Copyright and license term – CC BY

Open Choice articles do not require transfer of copyright as the copyright remains with the author. In opting for open access, the author(s) agree to publish the article under the Creative Commons Attribution License.

- [Find more about the license agreement](#)

Appendix 3: The Smiling Meditation (Transcript)

- Sit down comfortably: – **either** in a cross-legged position on the floor with the palms of your hands resting on your knees – **or** upright in a chair with your back against the chair, your feet touching the floor and your hands resting on your legs
- Keep your spine straight
- Close your eyes and take a moment to reconnect with yourself
- Bring your attention to your breath and take a couple of deep inhales and full exhales
- Now gently let go of the awareness on your breath, and **very slowly**, bring a **soft smile** to your lips
- Allow your smile to **gradually** grow bigger
- Notice what happens in your face, in your heart and in the rest of your body
- **Gradually** let go of the smile (return your lips to neutral) and observe how you feel now
- **Gradually** smile again and allow this smiling state to spread throughout your entire body, from head to toe. Infuse your heart, your bones, your muscles, your organs (don't forget the brain!) and each and every cell in your body with your smile
- Allow your smile to infuse your entire being
- Take a moment to thank yourself for your smile and allow a feeling of gratitude to arise
- When you feel ready to come out of your smiling meditation, gently reconnect with your breath and allow it to bring you back slowly.

Appendix 4: Reflective Questions

(At the end of each day, the participants can answer two reflective questions. Answering the questions is optional. The questions are designed to help the participants become more aware of the effects the meditation has on them. In addition, they may also help the researcher identify potential difficulties and areas for improvement.)

- Under which circumstances have you used the meditation today, and was it beneficial? (This question is to be answered every day)
- Do you feel any particular sensations in your body during the practice of the meditation? Where in the body do you feel those sensations?
- How do you feel following the smiling meditation practice today?
- Have you learned anything about yourself from today's smiling meditation practice?
- Have you noticed any changes to your relationships following the practice of the meditation?
- Do you feel any difference in your reaction to your daily routine following the practice of the meditation? For example, your reaction to traffic jams, your partner not throwing out the garbage, your kids refusing to brush their teeth, or your boss giving you extra work.
- Do you feel any change in your experience of acceptance and compassion towards yourself? For example, changes in your reactions towards yourself in situations you consider as your shortcomings or flaws
- What is the most significant insight you are taking with you from this last week of smiling meditation practice?

PARTICIPANT INVITATION LETTER
UNIVERSITY OF EAST LONDON

School of Psychology
Stratford Campus
Water Lane
London E15 4LZ

The Principal Investigator

Name: Pamela Strasser
Email: u1421189@uel.ac.uk
Phone: +352 661 393987

Consent to Participate in a Research Study

The purpose of this letter is to provide you with the information needed in order to decide whether to participate in a research study. The study is being conducted as part of my Masters (MSc) of Applied Positive Psychology degree at the University of East London.

Project Title

Meditative Smiling – A Path to Well-being

Project Description

The study aims to increase participants' well-being through a simple, 5-minute-long guided smiling meditation. Participants are asked to perform the Smiling Meditation three times daily:

- once in the morning (to start the day)
- once in the evening (to end the day)
- once more in the day at a moment of their choice

This process is to be repeated over a period of 7 **consecutive** days.

The study will run online. The start date will be February 4th, 2017. If you would like to participate in the study, please sign the consent form that follows this letter. Signing the consent form will grant you access to the study's materials.

The first step of the study consists in completing a simple questionnaire that will assist our research. After completion of the questionnaire, you will be guided to an online platform. The start page contains a welcome video and detailed information about the Smiling Meditation. Please watch this video and read the written text. Once you have acquainted yourself with the materials on the start page, please click on the 'enroll for free' button - you will be asked to create a personal account, using an anonymous username and password.

Please choose a username that does not reveal your identity. Once you have created your account, you will get access to the study's materials (the guided meditation and two daily reflective questions).

For your convenience, we have created a script that can be printed out, as well as an audio recording of the Smiling Meditation that you can download to any of your personal devices.

As already mentioned, please meditate 3x daily (once in the morning, once in the evening, and once during the day at a moment of your choice). At the end of the day, please answer your 2 daily reflective questions. You may return to the platform to do the guided meditation or use the recording that you have downloaded to your personal device(s). You must return to the platform to answer the 2 daily questions. The questions are short and are designed to help you reflect on the personal benefits of your meditation practice.

At the end of your 7 days of practice you will receive an email containing a link to the questionnaire to be filled in at the end of the study. Please take the time to complete this questionnaire. It is the same one that you fill in at the beginning of the study. The data retrieved from these questionnaires will allow us to scientifically analyse the benefits of the meditation that we are testing. Without this data, we won't be able to scientifically establish this meditation as a proven method to increase well-being.

One month after the end of the study, you will be asked to complete the same questionnaire one last time. This will allow us to analyse whether practising the meditation for seven days has a lasting effect.

The Smiling Meditation will be an enjoyable and insightful experience for most participants. However, if the meditation raises concerns, you may contact the researcher at any time, throughout the study. Contact details are provided at the beginning of this letter.

Although it is unlikely, should you feel the need to seek further support, you may contact a charity listed below. As the study will be delivered online, there are charities listed for different countries:

1. RETHINK (UK): www.rethink.org
2. SANE (UK): www.sane.org.uk
3. LIGUE LUXEMBOURGEOISE D'HYGIENE MENTALE (LU): www.llhm.lu
4. INSTITUT FIR PSYCHOLOGESCH GESONDHEETSFOERDERUNG (LU): www.ipg.lu

If you live in a country that is not listed here, please contact me if you need help with finding an appropriate support organisation in your country.

Confidentiality of the Data

All data will be gathered anonymously. You will be asked to register online with an anonymous username and password of your choice. Please choose a username that does not reveal your identity.

The collected data will be stored securely in electronic form and will only be accessible to the study researchers. For research and publication purposes, the data will be kept after the study has been completed – the data will remain anonymous and confidential throughout.

Location

The study will be conducted online – all materials relating to the study will be accessible through an online platform. The actual intervention, the smiling meditation, can be done in a quiet place of your choice.

Disclaimer

You are not obliged to take part in this study and should not feel coerced. You are free to withdraw at any time. Should you choose to withdraw from the study, you may do so without disadvantage to yourself and without any obligation to give a reason. Should you withdraw, the researcher reserves the right to use your anonymous data in the write-up of the study and any further analysis that may be conducted by the researcher.

Please feel free to ask me any questions. If you are happy to participate in the study, you will be asked to sign a consent form prior to your participation. Please retain this invitation letter for reference.

If you have any questions or concerns about how the study has been conducted, please contact the study's supervisor Dr. Itai Ivtzan, School of Psychology, University of East London, Water Lane, London E15 4LZ (Tel: +44 (0)20 8223 4384. Email: i.ivtzan@uel.ac.uk)

Thank you in anticipation.

With gratitude,
Pamela Strasser

PARTICIPANT INVITATION LETTER
UNIVERSITY OF EAST LONDON

School of Psychology
Stratford Campus
Water Lane
London E15 4LZ

The Principal Investigator

Name: Pamela Strasser
Email: u1421189@uel.ac.uk
Phone: +352 661 393987

Consent to Participate in a Research Study

The purpose of this letter is to provide you with the information needed in order to decide whether to participate in a research study. The study is being conducted as part of my Masters (MSc) of Applied Positive Psychology degree at the University of East London.

Project Title

Meditative Smiling – A Path to Well-being

Project Description

The study aims to increase participants' well-being through a simple, 5-minute-long guided smiling meditation. Participants are asked to perform the Smiling Meditation three times daily:

- once in the morning (to start the day)
- once in the evening (to end the day)
- once more in the day at a moment of their choice

This process is to be repeated over a period of 7 **consecutive** days.

The study will run online. The start date will be February 4th, 2017. If you would like to participate in the study, please sign the consent form that follows this letter. Signing the consent form will grant you access to the study's materials.

The first step of the study consists in completing a simple questionnaire that will assist our research. One week later, you will be asked to complete the same questionnaires again. You will not have anything to do during that first week. Your completion of the questionnaires allows us to collect vital data before you start the meditation. One month later, you will be asked to complete the questionnaires again. After completion of the third set of questionnaires, you will be guided to an online platform. The start page contains a welcome

video and detailed information about the Smiling Meditation in. Please watch this video and read the written text. Once you have acquainted yourself with the materials on the start page, please click on the ‘enroll for free’ button that will give you access to the guided meditation and two daily reflective questions.

For your convenience, we have created a script that can be printed out, as well as an audio recording of the Smiling Meditation that you can download to any of your personal devices.

As already mentioned, please meditate 3x daily (once in the morning, once in the evening, and once during the day at a moment of your choice). At the end of the day, please answer your 2 daily reflective questions. You may return to the platform to do the guided meditation or use the recording that you have downloaded to your personal device(s). You must return to the platform to answer the 2 daily questions. The questions are short and are designed to help you reflect on the personal benefits of your meditation practice. The study ends once you have completed the 7 days of meditation.

The Smiling Meditation will be an enjoyable and insightful experience for most participants. However, if the meditation raises concerns, you may contact the researcher at any time, throughout the study. Contact details are provided at the beginning of this letter.

Although it is unlikely, should you feel the need to seek further support, you may contact a charity listed below. As the study will be delivered online, there are charities listed for different countries:

1. RETHINK (UK): www.rethink.org
2. SANE (UK): www.sane.org.uk
3. LIGUE LUXEMBOURGEOISE D’HYGIENE MENTALE (LU): www.lhlm.lu
4. INSTITUT FIR PSYCHOLOGESCH GESONDHEETSFOERDERUNG (LU): www.ipg.lu

If you live in a country that is not listed here, please contact me if you need help with finding an appropriate support organisation in your country.

Confidentiality of the Data

All data will be gathered anonymously. You will be asked to register online with an anonymous username and password of your choice. Please choose a username that does not reveal your identity.

The collected data will be stored securely in electronic form and will only be accessible to the study researchers. For research and publication purposes, the data will be kept after the study has been completed – the data will remain anonymous and confidential throughout.

Location

The study will be conducted online – all materials relating to the study will be accessible through an online platform. The actual intervention, the smiling meditation, can be done in a quiet place of your choice.

Disclaimer

You are not obliged to take part in this study and should not feel coerced. You are free to withdraw at any time. Should you choose to withdraw from the study, you may do so without disadvantage to yourself and without any obligation to give a reason. Should you withdraw, the researcher reserves the right to use your anonymous data in the write-up of the study and any further analysis that may be conducted by the researcher.

Please feel free to ask me any questions. If you are happy to participate in the study, you will be asked to sign a consent form prior to your participation. Please retain this invitation letter for reference.

If you have any questions or concerns about how the study has been conducted, please contact the study's supervisor Dr. Itai Ivtzan, School of Psychology, University of East London, Water Lane, London E15 4LZ (Tel: +44 (0)20 8223 4384. Email: i.ivtzan@uel.ac.uk)

Thank you in anticipation.

With gratitude,
Pamela Strasser

CONSENT FORM

UNIVERSITY OF EAST LONDON

Consent to participate in a research study

Meditative Smiling – A Path to Well-being

I have read and understood the information sheet for the “Meditative Smiling – A Path to Well-being” study and have been provided with a copy to keep. The nature and purpose of the research have been explained to me and I have had the opportunity to discuss any potential questions and concerns with the researcher(s). I understand what is being proposed and the procedures in which I will be involved have been explained to me.

I understand that my involvement in this study, and particular data from this research, will remain strictly confidential. Only the researcher(s) involved in the study will have access to identifying data. It has been explained to me what will happen once the research study has been completed.

I hereby freely and fully consent to participate in the “Meditative Smiling – A Path to Well-being” study, which has been fully explained to me. Having given this consent, I understand that I have the right to withdraw from the study at any time, without disadvantage to myself and without being obliged to give any reason. I also understand that, should I withdraw, the researcher reserves the right to use my anonymous data in the write-up of the study and in any further analysis that may be conducted by the researcher.

Participant’s Name
(BLOCK CAPITALS).....

Participant’s Signature.....

Researcher’s Name (BLOCK CAPITALS).....

Researcher’s Signature.....

Date.....

Appendix 8: Participant Debrief Sheet

PARTICIPANT DEBRIEF SHEET

Study Debriefing Information

This study aimed to increase participants' well-being through a 5-minute guided Smiling Meditation over a period of 7 days. The meditation was done 3x daily, once in the morning once in the evening and once more at a moment of your choice and you were asked to answer two reflective questions per day. Previous research has shown that meditation enhances well-being and that smiling starts a series of positive biochemical reactions in the body that lead to better health and increased well-being. As researchers, we were interested in combining both these practices (meditation and smiling) to increase well-being. It was important for us to create a practice that increases well-being that is accessible to all, free-of-charge, and readily available anywhere at any time.

How was this tested?

In this study, you were asked to practice the Smiling Meditation three times daily and to answer two reflective questions per day, over a period of 7 consecutive days.

Hypothesis and main questions:

We expect to find that after completing the 7-day Smiling Meditation practice, participants will report higher levels of well-being compared to prior study engagement. We suspect that participants will experience increased well-being through higher levels of mindfulness, positive emotions, gratitude, compassion and self-compassion, autonomy, self-acceptance and improved relations. We also expect to find reduced levels of stress in participants after completing the 7 days of Smiling Meditation practice.

Research has shown that mindfulness, positive emotions, gratitude, compassion and self-compassion, autonomy, self-acceptance and improved relations increase well-being. As researchers, we were interested in creating a simple, short intervention that would increase these aspects in participants and therefore enhance their well-being.

Why is this study important?

This study is important because it introduces a simple, short intervention that can potentially significantly enhance people's well-being at no cost and with a minimum of time investment.

A high volume of studies exist that focus on decreasing negative symptoms such as depression, stress and anxiety; yet there is still a significantly smaller number of studies that focus on increasing well-being.

As researchers, we hope that this study allowed you to explore a meditation practice that may enhance your life. We hope that you enjoyed learning something new about yourself and that you are able to bring this simple practice and its benefits into your daily life.

Further Questions:

If you have any questions or concerns regarding about how the study has been conducted, please contact the study's supervisor Dr. Itai Ivtzan, School of Psychology, University of East London, Water Lane, London E15 4LZ (Tel: +44 (0)20 8223 4384. Email: i.ivtzan@uel.ac.uk)

Thank you again for your participation!

With my utmost gratitude,

Pamela Strasser

Have you always wanted to start a regular meditation practice but didn't quite get around to it? How about starting in the New Year?

Pamela Strasser, is running a 7-day research study on a guided meditation that focuses on increasing self-compassion, self-acceptance, positive emotions, gratitude, mindfulness and positive relations, as well reducing stress and anxiety.

Whether you are a total beginner, already a regular meditator or simply interested in increasing your well-being, this is the perfect opportunity for you!

The study will run online and participation is anonymous and of course, free of charge. All you have to do is log on to an online platform, fill in a few questionnaires and download a 5-minute guided meditation that you will do three times daily over a 7-day period. The study is supervised by the Department of Psychology at the University of East London (UEL) and has received ethical clearance by the UEL Ethics Committee.

It is Pamela's final project of her MSc in Applied Positive Psychology and aims to provide health professionals, yoga and meditation teachers as well as the general public with a scientifically validated guided meditation that helps people increase their well-being.

If you are interested in participating in the study or if you would simply like to get more information, please email Pamela at her UEL email address: u1421189@uel.ac.uk or call her on +352 661 39 39 87.

Your participation would not only allow you to increase your well-being, it would contribute to growing the field of Positive Psychology, the science of wellbeing.

A) Freiburg Mindfulness Inventory

Description:

The FMI is a useful, valid and reliable questionnaire for measuring mindfulness. It is most suitable in generalized contexts, where knowledge of the Buddhist background of mindfulness cannot be expected. The 14 items cover all aspects of mindfulness.

The purpose of this inventory is to characterize your experience of mindfulness. Please use the last ___ days as the time-frame to consider each item. Provide an answer for every statement as best you can. Please answer as honestly and spontaneously as possible. There are neither 'right' nor 'wrong' answers, nor 'good' or 'bad' responses. What is important to us is your own personal experience.

1	2	3	4
Rarely	Occasionally	Fairly often	Almost always

I am open to the experience of the present moment. 1 2 3 4

I sense my body, whether eating, cooking, cleaning or talking.

When I notice an absence of mind,

I gently return to the experience of the here and now.

I am able to appreciate myself.

I pay attention to what's behind my actions.

I see my mistakes and difficulties without judging them.

I feel connected to my experience in the here-and-now.

I accept unpleasant experiences.

I am friendly to myself when things go wrong.

I watch my feelings without getting lost in them.

In difficult situations, I can pause without immediately reacting.

I experience moments of inner peace and ease, even when things get hectic and stressful.

I am impatient with myself and with others.

I am able to smile when I notice how I sometimes make life difficult.

Scoring Information:

Add up all items to get one summary score. When scoring, please observe that there are a couple of reversed items. For these you need to reverse the scoring, preferably by a recode command that recodes 1 into 4, 2 into 3, 3 into 2 and 4 into 1.

The item to be recoded is "I am impatient with myself and with others."

At the moment, we do not recommend to use separate factor-scale scores. If you wish to do so, we recommend that you analyze your own data set and extract 4 to 6 factors according to the data structure you find and then proceed accordingly, adding up item scores per scale.

Reference:

Walach, H., Buchheld, N., Buittenmuller, V., Kleinknecht, N., Schmidt, S. (2006).
Measuring Mindfulness - The Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40, 1543-1555.

C) Positive And Negative Affect Schedule (PANAS)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way over the past week (circle the instructions you followed when taking this measure).

- 1 Very Slightly or Not at All
- 2 A Little
- 3 Moderately
- 4 Quite a Bit
- 5 Extremely

- 1. Interested
- 2. Distressed
- 3. Excited
- 4. Upset
- 5. Strong
- 6. Guilty
- 7. Scared
- 8. Hostile
- 9. Enthusiastic
- 10. Proud
- 11. Irritable
- 12. Alert
- 13. Ashamed
- 14. Inspired
- 15. Nervous
- 16. Determined
- 17. Attentive
- 18. Jittery
- 19. Active
- 20. Afraid

Scoring Instructions:

Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect.

Mean Scores: Momentary = 29.7 (SD 7.9); Weekly = 33.3 (SD 7.2)

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect. Mean Score: Momentary = 14.8 (SD 5.4); Weekly = 17.4 (SD 6.2)

Copyright © 1988 by the American Psychological Association. Reproduced with permission.

The official citation that should be used in referencing this material is Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070.

D) The Gratitude Questionnaire 6-Item Form (GQ-6)

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

___ 1. I have so much in life to be thankful for.

___ 2. If I had to list everything that I felt grateful for, it would be a very long list.

___ 3. When I look at the world, I don't see much to be grateful for.*

___ 4. I am grateful to a wide variety of people.

___ 5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.

___ 6. Long amounts of time can go by before I feel grateful to something or someone.*

Scoring Instructions:

1. Add up your scores for items 1, 2, 4, and 5.

2. Reverse your scores for items 3 and 6. That is, if you scored a "7," give yourself a "1," if you

scored a "6," give yourself a "2," etc.

3. Add the reversed scores for items 3 and 6 to the total from Step 1. This is your total GQ-6 score.

This number should be between 6 and 42.

Reference:

McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, 82, 112-127.

F) Compassion Scale

HOW I TYPICALLY ACT TOWARDS OTHERS

Please read each statement carefully before answering. To the left of each item, indicate how often you behave in the stated manner, using the following scale:

Almost

Almost

Never

Always

1

2

3

4

5

____ 1. When people cry in front of me, I often don't feel anything at all.

____ 2. Sometimes when people talk about their problems, I feel like I don't care.

____ 3. I don't feel emotionally connected to people in pain.

____ 4. I pay careful attention when other people talk to me.

____ 5. I feel detached from others when they tell me their tales of woe.

____ 6. If I see someone going through a difficult time, I try to be caring toward that person.

____ 7. I often tune out when people tell me about their troubles.

____ 8. I like to be there for others in times of difficulty.

____ 9. I notice when people are upset, even if they don't say anything.

- _____10. When I see someone feeling down, I feel like I can't relate to them.
- _____11. Everyone feels down sometimes, it is part of being human.
- _____12. Sometimes I am cold to others when they are down and out.
- _____13. I tend to listen patiently when people tell me their problems.
- _____14. I don't concern myself with other people's problems.
- _____15. It's important to recognize that all people have weaknesses and no one's perfect.
- _____16. My heart goes out to people who are unhappy.
- _____17. Despite my differences with others, I know that everyone feels pain just like me.
- _____18. When others are feeling troubled, I usually let someone else attend to them.
- _____19. I don't think much about the concerns of others.
- _____20. Suffering is just a part of the common human experience.
- _____21. When people tell me about their problems, I try to keep a balanced perspective on the situation.
- _____22. I can't really connect with other people when they're suffering.
- _____23. I try to avoid people who are experiencing a lot of pain.
- _____24. When others feel sadness, I try to comfort them.

Coding Key:

Kindness Items: 6, 8, 16, & 24

Indifference Items: 2, 12, 14, & 18 (Reversed Scored)

Common Humanity: 11, 15, 17, & 20

Separation: 3, 5, 10, & 22 (Reversed Scored)

Mindfulness: 4, 9, 13, & 21

Disengagement: 1, 7, 19, & 23 (Reverse Scored)

To reverse-score, change the following values: 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1

To compute a total Compassion Score, take the mean of each subscale (after reverse-scoring) and compute a total mean.

Please remember that if you plan to examine the subscales separately, you should not reverse-code. Before reverse-coding, for example, higher indifference scores represent more indifference, but after reverse-coding higher indifference scores represent less indifference. This is why the subscales of indifference, separation, and disengagement are reverse-coded before taking an overall compassion mean.

Reference:

Pommier, E. A. (2011). The compassion scale. *Dissertation Abstracts International Section A Humanities and Social Sciences*, 72, 1174.

G) Ryff's Psychological Well-Being Scale (Self-Acceptance Subscale)

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	

Self-acceptance Sub-scale (Items 6,12,18,24,30,36,42)

- 6. When I look at the story of my life, I am pleased with how things have turned out.
- 12. In general, I feel confident and positive about myself.
- 18. I feel like many of the people I know have gotten more out of life than I have.
- 24. I like most aspects of my personality.
- 30. In many ways, I feel disappointed about my achievements in life.
- 36. My attitude about myself is probably not as positive as most people feel about themselves.
- 42. When I compare myself to friends and acquaintances, it makes me feel good about who I am.

Scoring Instruction:

- 1) Recode negative phrased items: # 18, 30, 36, 39. (i.e., if the scored is 6 in one of these items, the adjusted score is 1; if 5, the adjusted score is 2 and so on...)
- 2) Add together the final degree of agreement in the 6 dimensions:
Self-acceptance: items 6,12,18,24,30,36,42

References:

1. Ryff, C.D., & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry*, 9, 1-28.
2. Ryff, C.D. (1995). Psychological well-being in adult life. *Current Directions in Psychological Science*, 4, 99-104.
3. Ryff, C.D., & Keyes, C.L.M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69, 719-727.