

How mindfulness can increase flourishing

"A conscious control over life and my emotions:" mindfulness practice and healthy young people. A qualitative study.

J Adolesc Health. 2013 May;52(5):572-7

Monshat K, Khong B, Hassed C, Vella-Brodrick D, Norrish J, Burns J, Herrman H.

<http://www.ncbi.nlm.nih.gov/pubmed/23298987>

PURPOSE: Although quantitative benefits of mindfulness training have been demonstrated in youth, little is known about the processes involved. The aim of this study was to gain a detailed understanding of how young people engage with the ideas and practices known as mindfulness using qualitative enquiry.

METHODS: Following completion of a six-week mindfulness training program with a nonclinical group of 11 young people (age 16-24), a focus group (N = 7) and open-ended interviews (n = 5) were held and audio-recorded. Qualitative data, collected at eight time points over three months from the commencement of training, were coded with the aid of computer software. Grounded theory methodology informed the data collection process and generation of themes and an explanatory model that captured participants' experiences.

RESULTS: Participants described their daily lives as beset by frequent experiences of distress sometimes worsened by their unhelpful or destructive reactions. With mindfulness practice, they initially reported greater calm, balance, and control. Subsequently they commented on a clearer understanding of themselves and others. Mindfulness was then described as a "mindset" associated with greater confidence and competence and a lessened risk of future distress.

CONCLUSIONS: Participants demonstrated a sophisticated understanding of and engagement with mindfulness principles and practice. Their reported experience aligned well with qualitative research findings in adults and theoretical literature on mindfulness. An encouraging finding was that, with ongoing mindfulness practice and within a relatively short time, participants were able to move beyond improved emotion regulation and gain greater confidence in their ability to manage life challenges.

Mindfulness, authentic functioning, and work engagement: A growth modeling approach

Hannes Leroy, Frederik Anseel, Nicoletta G. Dimitrova, Luc Sels.

Journal of Vocational Behavior, Volume 82, Issue 3, June 2013, Pages 238-247

<http://www.sciencedirect.com/science/article/pii/S0001879113000456>

Previous research has demonstrated that mindfulness helps reduce symptoms of work stress but research has yet to clarify *whether* and *how* mindfulness is linked to work engagement. Using self-

determination theory we hypothesize that mindfulness is positively related to work engagement and that this relationship can be better understood through authentic functioning. We collected survey data on these variables in the context of six mindfulness trainings at three points in time: before the training, directly after the training, and four months after training. We examined the relationships between mindfulness, authentic functioning, and work engagement, both statically (cross-sectionally) and dynamically as they change over training. Results show that authentic functioning mediates the relationship between mindfulness and work engagement, partially for the static relationship and fully for the dynamic relationship. We discuss how these findings further clarify the role of mindfulness in the workplace and highlight the implications for the literature on authentic functioning and work engagement.

Mindfulness and its Role in Physical and Psychological Health.

Prazak, M., Critelli, J., Martin, L., Miranda, V., Purdum, M. and Powers, C.

(2012), *Applied Psychology: Health and Well-Being*, 4: 91–105.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1758-0854.2011.01063.x/abstract>

This study examined the relationships of mindfulness, a form of focused self-awareness, with physical and psychological health. Mindfulness was measured in terms of four stable forms of awareness: Observe, an awareness of internal and external stimuli; Describe, an ability to verbally express thoughts clearly and easily; Act with Awareness, the tendency to focus on present tasks with undivided attention; and Accept without Judgment, the tendency to take a nonjudgmental attitude toward one's own thoughts and emotions. These aspects of mindfulness were explored in relation to both physical health, which consisted of heart rate variability, a measure of overall cardiovascular health, and psychological health, which consisted of flourishing, existential well-being, negative affect, and social well-being in a sample of 506 undergraduate students. Individuals high in mindfulness showed better cardiovascular health and psychological health

Stepping out of history: mindfulness improves insight problem solving.

[Conscious Cogn.](#) 2012 Jun;21(2):1031-6.

[Ostafin BD](#), [Kassman KT](#).

<http://www.ncbi.nlm.nih.gov/pubmed/22483682>

Insight problem solving is hindered by automated verbal-conceptual processes. Because mindfulness meditation training aims at "nonconceptual awareness" which involves a reduced influence of habitual verbal-conceptual processes on the interpretation of ongoing experience, mindfulness may facilitate insight problem solving. This hypothesis was examined across two studies (total N=157). Participants in both studies completed a measure of trait mindfulness and a series of insight and noninsight problems. Further, participants in Study 2 completed measures of positive affect and a mindfulness or control training. The results indicated that (a) trait mindfulness predicts better insight but not noninsight problem solving (both studies), (b) this relation is maintained when controlling for positive affect (Study 2), (c) mindfulness training improves insight but not noninsight problem

solving (Study 2) and (d) this improvement is partially mediated by state mindfulness (Study 2). These findings are the first to document a direct relation between mindfulness and creativity.

The happy face of mindfulness: Mindfulness meditation is associated with perceptions of happiness as rated by outside observers

Volume 7, Issue 1, January 2012, pages 30-35

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<http://www.tandfonline.com/doi/full/10.1080/17439760.2011.626788#.UZ6FvKKnBko>

The last decade has witnessed an enormous increase in research examining the effects of mindfulness meditation. One of the basic assumptions guiding this research is that meditation ultimately makes people happier. In this article, in two studies we tested whether meditators actually *look* happier. To address this question, outside raters judged the happiness of meditators and non-meditators based on a 15-s video clip of their behaviour. Study 1 demonstrated that novice meditators looked happier after an intensive 9-day meditation retreat (as compared to before the retreat), while Study 2 demonstrated that experienced mindfulness meditators looked happier as compared to controls. The interpersonal implications of these findings are discussed.

Mindfulness and self-compassion as predictors of psychological wellbeing in long-term meditators and matched nonmeditators

Volume 7, Issue 3, May 2012, pages 230-238

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<http://www.tandfonline.com/doi/full/10.1080/17439760.2012.674548#.UZ6GNaKnBko>

Mindfulness training has well-documented effects on psychological health. Recent findings suggest that increases in both mindfulness and self-compassion may mediate these outcomes; however, their separate and combined effects are rarely examined in the same participants. This study investigated cross-sectional relationships between self-reported mindfulness, self-compassion, meditation experience, and psychological wellbeing in 77 experienced meditators and 75 demographically matched nonmeditators. Most mindfulness and self-compassion scores were significantly correlated with meditation experience and psychological wellbeing. Mindfulness and self-compassion accounted for significant independent variance in wellbeing. A significant relationship between meditation experience and wellbeing was completely accounted for by a combination of mindfulness and self-compassion scores. Findings suggest that both mindfulness and self-compassion skills may play important roles in the improved wellbeing associated with mindfulness training; however, longitudinal studies are needed to confirm these findings.

Mindfulness and its relationship to emotional regulation.

Emotion. 2012 Feb;12(1):81-90

Hill CL, Updegraff JA.

<http://www.ncbi.nlm.nih.gov/pubmed/22148996>

Research on the effectiveness and mechanisms of mindfulness training applied in psychotherapy is still in its infancy (Erisman & Roemer, 2010). For instance, little is known about the extent and processes through which mindfulness practice improves emotion regulation. This experience sampling study assessed the relationship between mindfulness, emotion differentiation, emotion lability, and emotional difficulties. Young adult participants reported their current emotional experiences 6 times per day during 1 week on a PalmPilot device. Based on these reports of emotions, indices of emotional differentiation and emotion lability were composed for negative and positive emotions. Mindfulness was associated with greater emotion differentiation and less emotional difficulties (i.e., emotion lability and self-reported emotion dysregulation). Mediation models indicated that the relationship between mindfulness and emotion lability was mediated by emotion differentiation. Furthermore, emotion regulation mediated the relationship between mindfulness and both negative emotion lability and positive emotion differentiation. This experience sampling study indicates that self-reported levels of mindfulness are related to higher levels of differentiation of one's discrete emotional experiences in a manner reflective of effective emotion regulation.

Mindfulness training effects for parents and educators of children with special needs.

Dev Psychol. 2012 Sep;48(5):1476-87

Benn R, Akiva T, Arel S, Roeser RW.

<http://www.ncbi.nlm.nih.gov/pubmed/22409766>

Parents and teachers of children with special needs face unique social-emotional challenges in carrying out their caregiving roles. Stress associated with these roles impacts parents' and special educators' health and well-being, as well as the quality of their parenting and teaching. No rigorous studies have assessed whether mindfulness training (MT) might be an effective strategy to reduce stress and cultivate well-being and positive caregiving in these adults. This randomized controlled study assessed the efficacy of a 5-week MT program for parents and educators of children with special needs. Participants receiving MT showed significant reductions in stress and anxiety and increased mindfulness, self-compassion, and personal growth at program completion and at 2 months follow-up in contrast to waiting-list controls. Relational competence also showed significant positive changes, with medium-to-large effect sizes noted on measures of empathic concern and forgiveness. MT significantly influenced caregiving competence specific to teaching. Mindfulness changes at program completion mediated outcomes at follow-up, suggesting its importance in maintaining emotional balance and facilitating well-being in parents and teachers of children with developmental challenges.

The direct and indirect benefits of dispositional mindfulness on self-esteem and social anxiety.

Anxiety Stress Coping. 2011 Mar;24(2):227-33.

Rasmussen MK, Pidgeon AM.

<http://www.ncbi.nlm.nih.gov/pubmed/20865588>

The current study investigated relationships between dispositional mindfulness, self-esteem, and social anxiety using self-report measures. Correlational data were collected from 205 Australian undergraduate students who completed the Mindful Attention Awareness Scale (MAAS), the Rosenberg Self-Esteem Scale (RSES), and the Social Interaction Anxiety Scale (SIAS). Mindfulness significantly predicted high levels of self-esteem and low levels of social anxiety. Mediation analysis supported the role of self-esteem as a partial mediator between mindfulness and social anxiety. Clinical implications and suggestions for future research are discussed.

[Impact of a training program in full consciousness (mindfulness) in the measure of growth and personal self-realization].

Psicothema. 2011 Feb;23(1):58-65.

Franco Justo C, de la Fuente Arias M, Salvador Granados M.

<http://www.ncbi.nlm.nih.gov/pubmed/21266143>

This research focused on the impact of a full awareness (mindfulness) program on the sense of growth and personal self-realization in a sample of secondary school students. A randomized controlled design with an experimental group and waiting-list group was implemented. The Self-concept and Self-actualization Questionnaire (AURE) was used as dependent variable and was administered before and after running the mindfulness program. The results show a statistically significant difference between pre-test and post-test scores on all factors and subfactors of the AURE. It is concluded that a program of meditation, focused on mindfulness training, may be a valid and appropriate instrument to improve a personal sense of self-realization and growth. It is also suggested that the use of such a program could be complementary with the Instructional-Emotive Program for Personal Growth and Self-realization (PIECAP) psycho-educational program.

Mindfulness training increases momentary positive emotions and reward experience in adults vulnerable to depression: a randomized controlled trial.

J Consult Clin Psychol. 2011 Oct;79(5):618-28

Geschwind N, Peeters F, Drukker M, van Os J, Wichers M.

<http://www.ncbi.nlm.nih.gov/pubmed/21767001>

OBJECTIVE: To examine whether mindfulness-based cognitive therapy (MBCT) increases momentary positive emotions and the ability to make use of natural rewards in daily life.

METHOD: Adults with a life-time history of depression and current residual depressive symptoms (mean age = 43.9 years, SD = 9.6; 75% female; all Caucasian) were randomized to MBCT (n = 64) or waitlist control (CONTROL; n = 66) in a parallel, open-label, randomized controlled trial. The Experience Sampling Method was used to measure momentary positive emotions as well as appraisal of pleasant activities in daily life during 6 days before and after the intervention. Residual depressive symptoms were measured using the 17-item Hamilton Depression Rating Scale (Hamilton, 1960).

RESULTS: MBCT compared to CONTROL was associated with significant increases in appraisals of positive emotion ($b^* = .39$) and activity pleasantness ($b^* = .22$) as well as enhanced ability to boost momentary positive emotions by engaging in pleasant activities ($b^* = .08$; all $ps < .005$). Associations remained significant when corrected for reductions in depressive symptoms or for reductions in negative emotion, rumination, and worry. In the MBCT condition, increases in positive emotion variables were associated with reduction of residual depressive symptoms (all $ps < .05$).

CONCLUSIONS: MBCT is associated with increased experience of momentary positive emotions as well as greater appreciation of, and enhanced responsiveness to, pleasant daily-life activities. These changes were unlikely to be pure epiphenomena of decreased depression and, given the role of positive emotions in resilience against depression, may contribute to the protective effects of MBCT against depressive relapse.

The direct and indirect benefits of dispositional mindfulness on self-esteem and social anxiety.

[Rasmussen MK, Pidgeon AM.](#)

[Anxiety Stress Coping.](#) 2011 Mar;24(2):227-33.

<http://www.ncbi.nlm.nih.gov/pubmed/20865588>

The current study investigated relationships between dispositional mindfulness, self-esteem, and social anxiety using self-report measures. Correlational data were collected from 205 Australian undergraduate students who completed the Mindful Attention Awareness Scale (MAAS), the Rosenberg Self-Esteem Scale (RSES), and the Social Interaction Anxiety Scale (SIAS). Mindfulness significantly predicted high levels of self-esteem and low levels of social anxiety. Mediation analysis supported the role of self-esteem as a partial mediator between mindfulness and social anxiety. Clinical implications and suggestions for future research are discussed.

Examining the protective effects of mindfulness training on working memory capacity and affective experience.

[Emotion.](#) 2010 Feb;10(1):54-64.

[Jha AP, Stanley EA, Kiyonaga A, Wong L, Gelfand L.](#)

We investigated the impact of mindfulness training (MT) on working memory capacity (WMC) and affective experience. WMC is used in managing cognitive demands and regulating emotions. Yet, persistent and intensive demands, such as those experienced during high-stress intervals, may deplete WMC and lead to cognitive failures and emotional disturbances. We hypothesized that MT may mitigate these deleterious effects by bolstering WMC. We recruited 2 military cohorts during the high-stress predeployment interval and provided MT to 1 (MT, n = 31) but not the other group (military control group, MC, n = 17). The MT group attended an 8-week MT course and logged the amount of out-of-class time spent practicing formal MT exercises. The operation span task was used to index WMC at 2 testing sessions before and after the MT course. Although WMC remained stable over time in civilians (n = 12), it degraded in the MC group. In the MT group, WMC decreased over time in those with low MT practice time, but increased in those with high practice time. Higher MT practice time also corresponded to lower levels of negative affect and higher levels of positive affect (indexed by the Positive and Negative Affect Schedule). The relationship between practice time and negative, but not positive, affect was mediated by WMC, indicating that MT-related improvements in WMC may support some but not all of MT's salutary effects. Nonetheless, these findings suggest that sufficient MT practice may protect against functional impairments associated with high-stress contexts.

Relational Aspects of Mindfulness: Implications for the Practice of Marriage and Family Therapy.

Laura Eubanks Gambrel and Margaret L. Keeling. *Contemporary Family Therapy*. 32.4 (Dec. 2010) p412-426.

<http://link.springer.com/article/10.1007%2Fs10591-010-9129-z>

Research has demonstrated the benefits of mindfulness interventions with individuals, including connections to increased life satisfaction, and positive affect. Mindfulness has effectively treated anxiety, borderline personality disorder, depression, chronic pain, and addiction. Recent studies show the positive effects of mindfulness on relationship satisfaction, empathy development, and skillful communication. We explore the potential benefits for integrating mindfulness, defined as nonjudgmental awareness, into the practice of marriage and family therapy. We argue that mindfulness may be useful with couples and families to improve communication, emotional regulation, empathy, and relationship well-being. Finally, we discuss practical ways of applying mindfulness in family therapy.

Deconstructing Mindfulness and Constructing Mental Health: Understanding Mindfulness and its Mechanisms of Action

Mindfulness December 2010, Volume 1, Issue 4, pp 235-253

Kimberly A. Coffey, Marilyn Hartman, Barbara L. Fredrickson

<http://link.springer.com/article/10.1007/s12671-010-0033-2#>

Research on mindfulness indicates that it is associated with improved mental health, but the use of multiple different definitions of mindfulness prevents a clear understanding of the construct. In particular, the boundaries between different conceptualizations of mindfulness and emotion regulation are unclear. Furthermore, the mechanisms by which any of these conceptualizations of mindfulness might influence mental health are not well-understood. The two studies presented here addressed these questions using correlational, self-report data from a non-clinical sample of undergraduate students. The first study used a combination of exploratory and confirmatory factor analyses to better understand the factor structure of mindfulness and emotion regulation measures. Results indicated that these measures assess heterogeneous and overlapping constructs, and may be most accurately thought of as measuring four factors: present-centered attention, acceptance of experience, clarity about one's internal experience, and the ability to manage negative emotions. A path analysis supported the hypothesis that mindfulness (defined by a two-factor construct including present-centered attention and acceptance of experience) contributed to clarity about one's experience, which improved the ability to manage negative emotions. The second study developed these findings by exploring the mediating roles of clarity about one's internal life, the ability to manage negative emotions, non-attachment (or the extent to which one's happiness is independent of specific outcomes and events), and rumination in the relationship between mindfulness and two aspects of mental health, psychological distress and flourishing mental health. Results confirmed the importance of these mediators in the relationship between mindfulness and mental health.

Intensive mindfulness training-related changes in cognitive and emotional experience

Volume 4, Issue 3, May 2009, pages 212-222

[Kevin M. Orzech^a](#), [Shauna L. Shapiro^b](#), [Kirk Warren Brown^{c*}](#) & [Matthew McKay^a](#)

<http://www.tandfonline.com/doi/full/10.1080/17439760902819394#.UZ6G5qKnBko>

This study examined the role of intensive mindfulness training on changes in day-to-day experiential processing, psychological symptoms, resilience, and well-being in two groups of community adults ($N= 69$). Using both quasi-experimental and longitudinal methods, the study found that intensive training, operationalized as 10–12 hours of formal mindfulness practice per day for 1 month, was significantly related to increases in training-specific experiential processing capacities, namely trait mindfulness and decentering (reperceiving), in comparison to pre–post-training wait-list controls. In both training groups combined, mindfulness, decentering, and acceptance increased over the pre-training to 1-month follow-up period. Intensive mindfulness training was also related to declines in anxiety and enhanced both subjective well-being and self-compassion from pre-training to follow-up in the two training groups. Finally, increases in trait mindfulness and acceptance were related to improvements in psychological symptoms, well-being, and resilience. Future directions for this novel area of mindfulness research are discussed.

Cultivating mindfulness: effects on well-being.

[Shapiro SL](#), [Oman D](#), [Thoresen CE](#), [Plante TG](#), [Flinders T](#).

J Clin Psychol. 2008 Jul;64(7):840-62

<http://www.ncbi.nlm.nih.gov/pubmed/18484600>

There has been great interest in determining if mindfulness can be cultivated and if this cultivation leads to well-being. The current study offers preliminary evidence that at least one aspect of mindfulness, measured by the Mindful Attention and Awareness Scale (MAAS; K. W. Brown & R. M. Ryan, 2003), can be cultivated and does mediate positive outcomes. Further, adherence to the practices taught during the meditation-based interventions predicted positive outcomes. College undergraduates were randomly allocated between training in two distinct meditation-based interventions, Mindfulness Based Stress Reduction (MBSR; J. Kabat-Zinn, 1990; n=15) and E. Easwaran's (1978/1991) Eight Point Program (EPP; n=14), or a waitlist control (n=15). Pretest, posttest, and 8-week follow-up data were gathered on self-report outcome measures. Compared to controls, participants in both treatment groups (n=29) demonstrated increases in mindfulness at 8-week follow-up. Further, increases in mindfulness mediated reductions in perceived stress and rumination. These results suggest that distinct meditation-based practices can increase mindfulness as measured by the MAAS, which may partly mediate benefits. Implications and future directions are discussed.

Mindfulness, Self-Esteem, and Unconditional Self-Acceptance

Journal of Rational-Emotive & Cognitive-Behavior Therapy Volume 26, Issue 2 , pp 119-126

<http://link.springer.com/article/10.1007%2Fs10942-007-0059-0#>

Ellis (Ellis, A. (1996), *Psychotherapy*, 22(1), 149–151) has been a longstanding critic of the concept of self-esteem and has offered the notion of unconditional self-acceptance as an alternative. Other researchers have suggested that cultivating mindfulness—attention directed towards one's immediate experiences with an attitude of non-judgment—also offers a healthier alternative to self-esteem (Ryan, R. M., & Brown, K. W. (2003) *Psychological Inquiry*, 14(1), 71–76). This study examined the relationship between mindfulness, self-esteem, and unconditional self-acceptance. A sample of 167 university students completed two measures of everyday mindfulness, and measures of self-esteem and unconditional self-acceptance. Positive correlations were found between mindfulness, self-esteem, and unconditional self-acceptance. Mindfulness skills may offer a means to cultivate unconditional self-acceptance and to shift from an emphasis on self-esteem as a measure of worth.

Mindfulness: Theoretical Foundations and Evidence for its Salutary Effects

[Kirk Warren Brown^a](#), [Richard M. Ryan^b](#) & [J. David Creswell^c](#)

Volume 18, Issue 4, 2007, pages 211-237

<http://www.tandfonline.com/doi/abs/10.1080/10478400701598298#.UZ6KN6KnBko>

Interest in mindfulness and its enhancement has burgeoned in recent years. In this article, we discuss in detail the nature of mindfulness and its relation to other, established theories of attention and awareness in day-to-day life. We then examine theory and evidence for the role of mindfulness in curtailing negative functioning and enhancing positive outcomes in several important life domains, including mental health, physical health, behavioral regulation, and interpersonal relationships. The processes through which mindfulness is theorized to have its beneficial effects are then discussed, along with proposed directions for theoretical development and empirical research.

The case for mindfulness-based approaches in the cultivation of empathy: does nonjudgmental, present-moment awareness increase capacity for perspective-taking and empathic concern?

J Marital Fam Ther. 2007 Oct;33(4):501-16.

Block-Lerner J, Adair C, Plumb JC, Rhatigan DL, Orsillo SM.

[http://www.ncbi.nlm.nih.gov/pubmed/17935532`](http://www.ncbi.nlm.nih.gov/pubmed/17935532)

Empathic responding, most notably perspective-taking and empathic concern, has important implications for interpersonal functioning. While empathy training approaches have received some support for a variety of populations, few extant interventions have targeted empathic responding in couples. Mindfulness- and acceptance-based behavioral approaches, for couples as a unit and/or for individual family members/partners, are proposed as an adjunct to empathy training interventions. Preliminary findings suggest that the viability of these interventions for increasing empathic responding should be further investigated, and specific suggestions for this line of research are offered.

Mindful relating: exploring mindfulness and emotion repertoires in intimate relationships.

J Marital Fam Ther. 2007 Oct;33(4):464-81.

Wachs K, Cordova JV.

<http://www.ncbi.nlm.nih.gov/pubmed/17935530>

This study tested the theory that mindfulness contributes to greater intimate relationship satisfaction by fostering more relationally skillful emotion repertoires. A sample of married couples was administered measures of mindful awareness, emotion skills, and marital quality. We hypothesized that mindfulness would be associated with both marital quality and partners' emotion skills and that the association between mindfulness and marital quality would be mediated by emotion repertoire skill. Findings suggested that emotion skills and mindfulness are both related to marital adjustment, and that skilled emotion repertoires, specifically those associated with identifying and communicating emotions, as well as the regulation of anger expression, fully mediate the association between mindfulness and marital quality. Theoretical implications are discussed.

A randomized controlled trial of mindfulness meditation versus relaxation training: effects on distress, positive states of mind, rumination, and distraction.

Jain S, Shapiro SL, Swanick S, Roesch SC, Mills PJ, Bell I, Schwartz GE.

Ann Behav Med. 2007 Feb;33(1):11-21.

<http://www.ncbi.nlm.nih.gov/pubmed/17291166>

BACKGROUND: Although mindfulness meditation interventions have recently shown benefits for reducing stress in various populations, little is known about their relative efficacy compared with relaxation interventions.

PURPOSE: This randomized controlled trial examines the effects of a 1-month mindfulness meditation versus somatic relaxation training as compared to a control group in 83 students (M age = 25; 16 men and 67 women) reporting distress. Method: Psychological distress, positive states of mind, distractive and ruminative thoughts and behaviors, and spiritual experience were measured, while controlling for social desirability.

RESULTS: Hierarchical linear modeling reveals that both meditation and relaxation groups experienced significant decreases in distress as well as increases in positive mood states over time, compared with the control group ($p < .05$ in all cases). There were no significant differences between meditation and relaxation on distress and positive mood states over time. Effect sizes for distress were large for both meditation and relaxation (Cohen's $d = 1.36$ and $.91$, respectively), whereas the meditation group showed a larger effect size for positive states of mind than relaxation (Cohen's $d = .71$ and $.25$, respectively). The meditation group also demonstrated significant pre-post decreases in both distractive and ruminative thoughts/behaviors compared with the control group ($p < .04$ in all cases; Cohen's $d = .57$ for rumination and $.25$ for distraction for the meditation group), with mediation models suggesting that mindfulness meditation's effects on reducing distress were partially mediated by reducing rumination. No significant effects were found for spiritual experience.

CONCLUSIONS: The data suggest that compared with a no-treatment control, brief training in mindfulness meditation or somatic relaxation reduces distress and improves positive mood states. However, mindfulness meditation may be specific in its ability to reduce distractive and ruminative thoughts and behaviors, and this ability may provide a unique mechanism by which mindfulness meditation reduces distress.

Alterations in brain and immune function produced by mindfulness meditation.

Davidson RJ, Kabat-Zinn J, Schumacher J, Rosenkranz M, Muller D, Santorelli SF, Urbanowski F, Harrington A, Bonus K, Sheridan JF.

Psychosom Med. 2003 Jul-Aug;65(4):564-70.

<http://www.ncbi.nlm.nih.gov/pubmed/12883106/>

OBJECTIVE: The underlying changes in biological processes that are associated with reported changes in mental and physical health in response to meditation have not been systematically explored. We performed a randomized, controlled study on the effects on brain and immune function of a well-known and widely used 8-week clinical training program in mindfulness meditation applied in a work environment with healthy employees.

METHODS: We measured brain electrical activity before and immediately after, and then 4 months after an 8-week training program in mindfulness meditation. Twenty-five subjects were tested in the meditation group. A wait-list control group (N = 16) was tested at the same points in time as the meditators. At the end of the 8-week period, subjects in both groups were vaccinated with influenza vaccine.

RESULTS: We report for the first time significant increases in left-sided anterior activation, a pattern previously associated with positive affect, in the meditators compared with the nonmeditators. We also found significant increases in antibody titers to influenza vaccine among subjects in the meditation compared with those in the wait-list control group. Finally, the magnitude of increase in left-sided activation predicted the magnitude of antibody titer rise to the vaccine.

CONCLUSIONS: These findings demonstrate that a short program in mindfulness meditation produces demonstrable effects on brain and immune function. These findings suggest that meditation may change brain and immune function in positive ways and underscore the need for additional research.

The benefits of being present: mindfulness and its role in psychological well-being.

[J Pers Soc Psychol.](#) 2003 Apr;84(4):822-48.

[Brown KW, Ryan RM.](#)

<http://www.ncbi.nlm.nih.gov/pubmed/12703651>

Mindfulness is an attribute of consciousness long believed to promote well-being. This research provides a theoretical and empirical examination of the role of mindfulness in psychological well-being. The development and psychometric properties of the dispositional Mindful Attention Awareness Scale (MAAS) are described. Correlational, quasi-experimental, and laboratory studies then show that the MAAS measures a unique quality of consciousness that is related to a variety of well-being constructs, that differentiates mindfulness practitioners from others, and that is associated with enhanced self-awareness. An experience-sampling study shows that both dispositional and state mindfulness predict self-regulated behavior and positive emotional states. Finally, a clinical intervention study with cancer patients demonstrates that increases in mindfulness over time relate to declines in mood disturbance and stress.

Mindfulness-based relationship enhancement

James W. Carson, Kimberly M. Carson, Karen M. Gil, Donald H. Baucom

<http://www.sciencedirect.com/science/article/pii/S0005789404800285>

Using a randomized wait-list controlled design, this study evaluated the effects of a novel intervention, mindfulness-based relationship enhancement, designed to enrich the relationships of relatively happy, nondistressed couples. Results suggested the intervention was efficacious in (a) favorably impacting couples' levels of relationship satisfaction, autonomy, relatedness, closeness, acceptance of one another, and relationship distress; (b) beneficially affecting individuals' optimism, spirituality, relaxation, and psychological distress; and (c) maintaining benefits at 3-month follow-up. Those who practiced mindfulness more had better outcomes, and within-person analyses of diary measures showed greater mindfulness practice on a given day was associated on several consecutive days with improved levels of relationship happiness, relationship stress, stress coping efficacy, and overall stress.