

28 mindfulness & compassion relevant abstracts: november '16 newsletter

(Arnocky, Piché et al. 2016; Böckler, Tusche et al. 2016; Bornemann, Kok et al. 2016; Demakakos, Pillas et al. 2016; Diedrich, Hofmann et al. 2016; Elices, Pascual et al. 2016; Fiddick, Brase et al. 2016; Gong, Ni et al. 2016; Gotink, Meijboom et al. 2016; Gu, Strauss et al. 2016; Hazlett-Stevens and Oren 2016; Hoffmann, Banzhaf et al. 2016; Hyde, Waller et al. 2016; Johnson, Burke et al. 2016; Krieger, Berger et al. 2016; Kuyken, Warren et al. 2016; Lancaster, Klein et al. 2016; McDonald, Sherman et al. 2016; Morawska, Mitchell et al. 2016; Pereira, Barkham et al. 2016; Petrocchi, Ottaviani et al. 2016; Rowe, Shepstone et al. 2016; Siu, Ma et al. 2016; Sobol-Kwapinska 2016; Sobol-Kwapinska and Jankowski 2016; Strauss, Lever Taylor et al. 2016; Tsur, Berkovitz et al. 2016; Wong, Yip et al. 2016)

Arnocky, S., T. Piché, et al. (2016). **"Altruism predicts mating success in humans."** *British Journal of Psychology*: n/a-n/a. <http://dx.doi.org/10.1111/bjop.12208>

In order for non-kin altruism to evolve, altruists must receive fitness benefits for their actions that outweigh the costs. Several researchers have suggested that altruism is a costly signal of desirable qualities, such that it could have evolved by sexual selection. In two studies, we show that altruism is broadly linked with mating success. In Study 1, participants who scored higher on a self-report altruism measure reported they were more desirable to the opposite sex, as well as reported having more sex partners, more casual sex partners, and having sex more often within relationships. Sex moderated some of these relationships, such that altruism mattered more for men's number of lifetime and casual sex partners. In Study 2, participants who were willing to donate potential monetary winnings (in a modified dictator dilemma) reported having more lifetime sex partners, more casual sex partners, and more sex partners over the past year. Men who were willing to donate also reported having more lifetime dating partners. Furthermore, these patterns persisted, even when controlling for narcissism, Big Five personality traits, and socially desirable responding. These results suggest that altruists have higher mating success than non-altruists and support the hypothesis that altruism is a sexually selected costly signal of difficult-to-observe qualities. [And see the excellent discussion of this article in the BPS Digest - <https://digest.bps.org.uk/2016/07/22/altruistic-people-have-more-sex/-more-46/>].

Böckler, A., A. Tusche, et al. (2016). **"The structure of human prosociality: Differentiating altruistically motivated, norm motivated, strategically motivated, and self-reported prosocial behavior."** *Social Psychological and Personality Science* 7(6): 530-541. <http://spp.sagepub.com/content/7/6/530.abstract>

Prosocial behavior is crucial for functioning societies. However, its reliable scientific assessment and the understanding of its underlying structure are still a challenge. We integrated 14 paradigms from diverse disciplines to identify reliable and method-independent subcomponents of human prosociality; 329 participants performed game theoretical paradigms and hypothetical distribution tasks commonly used in behavioral economics and completed interactive computer tasks and self-reports typically employed in psychology. Four subcomponents of prosociality were identified by exploratory factor analysis and verified by confirmatory factor analysis in an independent sample: altruistically motivated prosocial behavior, norm motivated prosocial behavior, strategically motivated prosocial behavior, and self-reported prosocial behavior. Altruistically motivated behavior was related to gender, to enhanced cognitive skills, and to reduced negative affect. Our study provides a crucial step toward an overarching framework on prosocial behavior that will benefit future research on predictors, neural underpinnings, and plasticity of human cooperation and prosociality.

Bornemann, B., B. E. Kok, et al. (2016). **"Helping from the heart: Voluntary upregulation of heart rate variability predicts altruistic behavior."** *Biological Psychology* 119: 54-63. <http://www.sciencedirect.com/science/article/pii/S0301051116302071>

Our various daily activities continually require regulation of our internal state. These regulatory processes covary with changes in High Frequency Heart Rate Variability (HF-HRV), a marker of parasympathetic activity. Specifically, incidental increases in HF-HRV accompany positive social engagement behavior and prosocial action. Little is known about deliberate regulation of HF-HRV and the role of voluntary parasympathetic regulation in prosocial behavior. Here, we present a novel biofeedback task that measures the ability to deliberately increase HF-HRV. In two large samples, we find that a) participants are able to voluntarily upregulate HF-HRV, and b) variation in this ability predicts individual differences in altruistic prosocial behavior, but not non-altruistic forms of prosociality, assessed through 14 different measures. Our findings suggest that self-induction of parasympathetic states is involved in altruistic action. The biofeedback task may provide a measure of deliberate parasympathetic regulation, with implications for the study of attention, emotion, and social behavior.

Demakakos, P., D. Pillas, et al. (2016). **"Parenting style in childhood and mortality risk at older ages: A longitudinal cohort study."** *The British Journal of Psychiatry* 209(2): 135-141. <http://bjp.rcpsych.org/content/early/2016/02/19/bjp.bp.115.163543>

Background Parenting style is associated with offspring health, but whether it is associated with offspring mortality at older ages remains unknown. Aims We examined whether childhood experiences of suboptimal parenting style are associated with increased risk of death at older ages. Method Longitudinal cohort study of 1964 community-dwelling adults aged 65–79 years. Results The association between parenting style and mortality was inverse and graded. Participants in the poorest parenting style score quartile had increased risk of death (hazard ratio (HR) = 1.72, 95% CI 1.20–2.48) compared with those in the optimal parenting style score quartile after adjustment for age and gender. Full adjustment for covariates partially explained this association (HR = 1.49, 95% CI 1.02–2.18). Parenting style was inversely associated with cancer and other mortality, but not cardiovascular mortality. Maternal and paternal parenting styles were individually associated with mortality. Conclusions Experiences of suboptimal parenting in childhood are associated with increased risk of death at older ages.

Diedrich, A., S. G. Hofmann, et al. (2016). **"Self-compassion enhances the efficacy of explicit cognitive reappraisal as an emotion regulation strategy in individuals with major depressive disorder."** *Behaviour Research and Therapy* 82: 1-10. <http://www.sciencedirect.com/science/article/pii/S0005796716300572>

Cognitive reappraisal has been shown to be an effective strategy to regulate depressed mood in healthy and remitted depressed individuals. However, individuals currently suffering from a clinical depression often experience difficulties in utilizing this strategy. Therefore, the goal of this study was to examine whether the efficacy of explicit cognitive reappraisal in major depressive disorder can be enhanced through the use of self-compassion and emotion-focused acceptance as preparatory strategies. Thereby, explicit cognitive reappraisal refers to purposefully identifying, challenging, and modifying depressogenic cognitions to reduce depressed mood. To test our hypotheses, we induced depressed mood at four points in time in 54

participants (64.8% female; age M = 35.59, SD = 11.49 years) meeting criteria for major depressive disorder. After each mood induction, participants were instructed to either wait, or employ self-compassion, acceptance, or reappraisal to regulate their depressed mood. Depressed mood was assessed before and after each mood induction and regulation period on a visual analog scale. Results indicated that participants who had utilized self-compassion as a preparatory strategy experienced a significantly greater reduction of depressed mood during reappraisal than did those who had been instructed to wait prior to reappraisal. Participants who had used acceptance as a preparatory strategy did not experience a significantly greater reduction of depressed mood during subsequent reappraisal than those in the waiting condition. These findings provide preliminary evidence that the efficacy of explicit cognitive reappraisal is moderated by the precursory use of other emotion regulation strategies. In particular, they suggest that depressed individuals might benefit from using self-compassion to facilitate the subsequent use of explicit cognitive reappraisal.

Elices, M., J. C. Pascual, et al. (2016). **"Impact of mindfulness training on borderline personality disorder: A randomized trial."** *Mindfulness* 7(3): 584-595. <http://dx.doi.org/10.1007/s12671-016-0492-1>

Recent research suggests that deficits in the ability to be mindful may be related to core aspects of borderline personality disorder (BPD). Mindfulness plays a central role in BPD treatment, and evidence also indicates that mindfulness is the most commonly practiced of the skills taught in dialectical behavior therapy (DBT). The present study investigated whether a 10-week mindfulness training program would improve BPD symptoms and mindfulness-related capacities in a sample of individuals diagnosed with BPD. A total of 64 participants (mean age = 31.64, SD = 6.9; 86 % female) were randomized to 10 weeks of mindfulness (n = 32) or interpersonal effectiveness skills training (control group; n = 32). BPD symptoms and mindfulness capacities were measured at pre- and post-intervention. Compared to the control group, participants assigned to mindfulness experienced a significantly greater reduction and increase, respectively, in BPD symptoms and decentering capacity. Treatment response rates (in reference to BPD symptoms) were higher for the mindfulness group (40 vs. 13 %). Interpersonal effectiveness alone did not result in improvements on any outcome measures. These findings suggest that mindfulness training may be a useful approach to decreasing BPD symptoms while simultaneously improving mindfulness capacities.

Fiddick, L., G. L. Brase, et al. (2016). **"Major personality traits and regulations of social behavior: Cheaters are not the same as the reckless, and you need to know who you're dealing with."** *Journal of Research in Personality* 62: 6-18. <http://www.sciencedirect.com/science/article/pii/S0092656616300101>

This research explores the hypothesis that major personality traits are systematically associated with social regulation response tendencies. Specifically, the adaptive function of specific traits from 'Big-Five' and HEXACO models were evaluated in terms of how they are understood and utilized in predicting the behaviors of others. Big-Five factors of agreeableness and conscientiousness track tendencies to obey or break social contract and precautionary rules, but not discriminatively nor as predicted. HEXACO traits, however, provided discriminative patterns of associations between personality and response tendencies (within individuals and for third-person associations, cross-culturally) in greater accord with previous work. Honesty-humility is associated with social contract behaviors and conscientiousness is associated with precaution behaviors, consistent with conceptualizations as psychological adaptations for tracking fitness-relevant individual differences.

Gong, H., C.-X. Ni, et al. (2016). **"Mindfulness meditation for insomnia: A meta-analysis of randomized controlled trials."** *Journal of Psychosomatic Research* 89: 1-6. <http://www.sciencedirect.com/science/article/pii/S0022399916303579>

Background Insomnia is a widespread and debilitating condition that affects sleep quality and daily productivity. Although mindfulness meditation (MM) has been suggested as a potentially effective supplement to medical treatment for insomnia, no comprehensively quantitative research has been conducted in this field. Therefore, we performed a meta-analysis on the findings of related randomized controlled trials (RCTs) to evaluate the effects of MM on insomnia. Methods Related publications in PubMed, EMBASE, the Cochrane Library and PsycINFO were searched up to July 2015. To calculate the standardized mean differences (SMDs) and 95% confidence intervals (CIs), we used a fixed effect model when heterogeneity was negligible and a random effect model when heterogeneity was significant. Results A total of 330 participants in 6 RCTs that met the selection criteria were included in this meta-analysis. Analysis of overall effect revealed that MM significantly improved total wake time and sleep quality, but had no significant effects on sleep onset latency, total sleep time, wake after sleep onset, sleep efficiency, total wake time, ISI, PSQI and DBAS. Subgroup analyses showed that although there were no significant differences between MM and control groups in terms of total sleep time, significant effects were found in total wake time, sleep onset latency, sleep quality, sleep efficiency, and PSQI global score (absolute value of SMD range: 0.44–1.09, all p < 0.05). Conclusions The results suggest that MM may mildly improve some sleep parameters in patients with insomnia. MM can serve as an auxiliary treatment to medication for sleep complaints.

Gotink, R. A., R. Meijboom, et al. (2016). **"8-week mindfulness based stress reduction induces brain changes similar to traditional long-term meditation practice – a systematic review."** *Brain and Cognition* 108: 32-41. <http://www.sciencedirect.com/science/article/pii/S0278262616301312>

The objective of the current study was to systematically review the evidence of the effect of secular mindfulness techniques on function and structure of the brain. Based on areas known from traditional meditation neuroimaging results, we aimed to explore a neuronal explanation of the stress-reducing effects of the 8-week Mindfulness Based Stress Reduction (MBSR) and Mindfulness Based Cognitive Therapy (MBCT) program. Methods We assessed the effect of MBSR and MBCT (N = 11, all MBSR), components of the programs (N = 15), and dispositional mindfulness (N = 4) on brain function and/or structure as assessed by (functional) magnetic resonance imaging. 21 fMRI studies and seven MRI studies were included (two studies performed both). Results The prefrontal cortex, the cingulate cortex, the insula and the hippocampus showed increased activity, connectivity and volume in stressed, anxious and healthy participants. Additionally, the amygdala showed decreased functional activity, improved functional connectivity with the prefrontal cortex, and earlier deactivation after exposure to emotional stimuli. Conclusion Demonstrable functional and structural changes in the prefrontal cortex, cingulate cortex, insula and hippocampus are similar to changes described in studies on traditional meditation practice. In addition, MBSR led to changes in the amygdala consistent with improved emotion regulation. These findings indicate that MBSR-induced emotional and behavioral changes are related to functional and structural changes in the brain.

Gu, J., C. Strauss, et al. (2016). **"Examining the factor structure of the 39-item and 15-item versions of the five facet mindfulness questionnaire before and after mindfulness-based cognitive therapy for people with recurrent depression."** *Psychol Assess* 28(7): 791-802. <https://www.ncbi.nlm.nih.gov/pubmed/27078186>

Research into the effectiveness and mechanisms of mindfulness-based interventions (MBIs) requires reliable and valid measures of mindfulness. The 39-item Five Facet Mindfulness Questionnaire (FFMQ-39) is a measure of mindfulness commonly used to assess change before and after MBIs. However, the stability and invariance of the FFMQ factor structure have not yet been tested before and after an MBI; pre to post comparisons may not be valid if the structure changes over this period. Our primary aim was to examine the factor structure of the FFMQ-39 before and after mindfulness-based cognitive therapy (MBCT)

in adults with recurrent depression in remission using confirmatory factor analysis (CFA). Additionally, we examined whether the factor structure of the 15-item version (FFMQ-15) was consistent with that of the FFMQ-39, and whether it was stable over MBCT. Our secondary aim was to assess the general psychometric properties of both versions. CFAs showed that pre-MBCT, a 4-factor hierarchical model (excluding the "observing" facet) best fit the FFMQ-39 and FFMQ-15 data, whereas post-MBCT, a 5-factor hierarchical model best fit the data for both versions. Configural invariance across the time points was not supported for both versions. Internal consistency and sensitivity to change were adequate for both versions. Both FFMQ versions did not differ significantly from each other in terms of convergent validity. Researchers should consider excluding the Observing subscale from comparisons of total scale/subscale scores before and after mindfulness interventions. Current findings support the use of the FFMQ-15 as an alternative measure in research where briefer forms are needed. (PsycINFO Database Record

Hazlett-Stevens, H. and Y. Oren (2016). **"Effectiveness of mindfulness-based stress reduction bibliotherapy: A preliminary randomized controlled trial."** *J Clin Psychol.* <https://www.ncbi.nlm.nih.gov/pubmed/27487300>

OBJECTIVE: This randomized controlled investigation examined the effectiveness of a self-help bibliotherapy format of the evidence-based mindfulness-based stress reduction (MBSR) intervention. METHOD: College students seeking stress reduction were randomly assigned to a 10-week MBSR bibliotherapy intervention group (n = 47) or a no-treatment control group (n = 45). Self-report measures were collected at baseline and postintervention. RESULTS: A total of 25 bibliotherapy and 43 control group participants provided final data following the intervention period. Compared to the control group, bibliotherapy participants reported increased mindfulness following the intervention. Significant decreases on measures of depression, anxiety, stress, perceived stress, and anxiety sensitivity also were reported postintervention as well as increased quality of life in physical health, psychological, and environmental domains. No statistically significant group effects were found for social relationships quality of life domain, worry, and experiential avoidance measures. CONCLUSION: This MBSR workbook may provide an acceptable and effective alternative for motivated individuals seeking to reduce stress, at least for a select group of individuals who are willing and able to sustain participation in the intervention.

Hoffmann, F., C. Banzhaf, et al. (2016). **"Where the depressed mind wanders: Self-generated thought patterns as assessed through experience sampling as a state marker of depression."** *Journal of Affective Disorders* 198: 127-134. <http://www.sciencedirect.com/science/article/pii/S0165032715313914>

Abstract Background Self-generated thoughts (SGTs), such as during mind wandering, occupy much of our waking life. Individuals with Major Depressive Disorder (MDD) are less in the "here and now" and prone to rumination. Few studies have looked at SGTs in depression using experience sampling methods and no study has so far investigated the specific contents of depressive SGTs and how they vary from one time point to another. Methods MDD patients (n=25) and matched healthy controls (n=26) performed an established mind wandering task, involving non-demanding number discriminations. Intermittent probe questions ask for participants' current SGTs, that is, how off-task the thoughts are, how positive or negative, self- or other-related, and past- or future-oriented. Results Multi-level modelling revealed that MDD patients engaged in more mind wandering than healthy controls. Their SGTs were predominantly negative and less positive, more self-related and past-oriented. Strongest predictor of depressive SGT was the decreased positive valence of thoughts. MDD patients' future and past-oriented thoughts were particularly more negative compared to healthy controls. Within MDD patients, the less positively valenced thoughts they had and the less variable these thoughts were, the more depressive symptoms they showed. Limitation No other measures of rumination and worry were used. Conclusion MDD patients show a very specific SGT pattern, possibly reflecting ruminative and anxious thoughts. This SGT pattern in depression might represent a useful state marker and even constitute an etiological factor of this debilitating disease, considering the importance of current SGT on and individual's cognitive processes and affective states.

Hyde, L. W., R. Waller, et al. (2016). **"Heritable and nonheritable pathways to early callous-unemotional behaviors."** *American Journal of Psychiatry* 173(9): 903-910. <http://ajp.psychiatryonline.org/doi/abs/10.1176/appi.ajp.2016.15111381>

Objective: Callous-unemotional behaviors in early childhood signal higher risk for trajectories of antisocial behavior and callous-unemotional traits that culminate in later diagnoses of conduct disorder, antisocial personality disorder, and psychopathy. Studies demonstrate high heritability of callous-unemotional traits, but little research has examined specific heritable pathways to early callous-unemotional behaviors. Studies also indicate that positive parenting protects against the development of callous-unemotional traits, but genetically informed designs have not been used to confirm that these relationships are not the product of gene-environment correlations. In a sample of adopted children and their biological and adoptive mothers, the authors tested novel heritable and nonheritable pathways to preschool callous-unemotional behaviors. Method: In an adoption cohort of 561 families, history of severe antisocial behavior assessed in biological mothers and observations of adoptive mother positive reinforcement at 18 months were examined as predictors of callous-unemotional behaviors at 27 months. Results: Despite limited or no contact with offspring, biological mother antisocial behavior predicted early callous-unemotional behaviors. Adoptive mother positive reinforcement protected against early callous-unemotional behaviors. High levels of adoptive mother positive reinforcement buffered the effects of heritable risk for callous-unemotional behaviors posed by biological mother antisocial behavior. Conclusions: The findings elucidate heritable and nonheritable pathways to early callous-unemotional behaviors. The results provide a specific heritable pathway to callous-unemotional behaviors and compelling evidence that parenting is an important nonheritable factor in the development of callous-unemotional behaviors. The finding that positive reinforcement buffered heritable risk for callous-unemotional behaviors has important translational implications for the prevention of trajectories to serious antisocial behavior.

Johnson, C., C. Burke, et al. (2016). **"Effectiveness of a school-based mindfulness program for transdiagnostic prevention in young adolescents."** *Behaviour Research and Therapy* 81: 1-11. <http://www.sciencedirect.com/science/article/pii/S0005796716300389>

Anxiety, depression and eating disorders show peak emergence during adolescence and share common risk factors. School-based prevention programs provide a unique opportunity to access a broad spectrum of the population during a key developmental window, but to date, no program targets all three conditions concurrently. Mindfulness has shown promising early results across each of these psychopathologies in a small number of controlled trials in schools, and therefore this study investigated its use in a randomised controlled design targeting anxiety, depression and eating disorder risk factors together for the first time. Students (M age 13.63; SD = .43) from a broad band of socioeconomic demographics received the eight lesson, once weekly, "Dot be" mindfulness in schools curriculum (N = 132) or normal lessons (N = 176). Anxiety, depression, weight/shape concerns and wellbeing were the primary outcome factors. Although acceptability measures were high, no significant improvements were found on any outcome at post-intervention or 3-month follow-up. Adjusted mean differences between groups at post-intervention were .03 (95% CI: -.06 to -.11) for depression, .01 (-.07 to -.09) for anxiety, .02 (-.05 to -.08) for weight/shape concerns, and .06 (-.08 to -.21) for wellbeing. Anxiety was higher in the mindfulness than the control group at follow-up for males, and those of both genders with low baseline levels of weight/shape concerns or depression. Factors that may be important to address for effective dissemination of mindfulness-based interventions in schools are

discussed. Further research is required to identify active ingredients and optimal dose in mindfulness-based interventions in school settings.

Krieger, T., T. Berger, et al. (2016). **"The relationship of self-compassion and depression: Cross-lagged panel analyses in depressed patients after outpatient therapy."** *Journal of Affective Disorders* 202: 39-45.
<http://www.sciencedirect.com/science/article/pii/S0165032716304670>

Abstract Background Previous cross-sectional studies suggest that self-compassion and depressive symptoms are consistently negatively associated. Although it is often implicitly assumed that (a lack of) self-compassion precedes depressive symptoms, so far no study has tested whether (lack of) self-compassion is a cause or a consequence of depressive symptoms, or both. Method To examine such reciprocal effects, we used data of 125 depressed outpatients after a time limited cognitive-behavioral psychotherapy. We assessed self-compassion and depressive symptoms via self-report measures and the presence of a major depressive episode directly after therapy, as well as 6 and 12 months later. Results Cross-lagged panel analyses indicated that (lack of) self-compassion significantly predicted subsequent depressive symptoms while controlling for autoregressive effects, whereas depressive symptoms did not predict subsequent levels of self-compassion. This was also the case for the relationship between self-compassion and the presence of a major depressive episode. The same patterns also occurred when we separately tested the reciprocal effects for two composite sub-measures of either positive or negative facets of self-compassion. Limitations Causality cannot be inferred from our results. Depressive symptoms and self-compassion could still be causally unrelated, and a third variable could account for their negative association. Conclusions These findings support the notions that (a lack of) self-compassion could serve as a vulnerability factor for depression and that cultivating self-compassion may deserve a focus in depression prevention programs or treatments.

Kuyken, W., F. C. Warren, et al. (2016). **"Efficacy of mindfulness-based cognitive therapy in prevention of depressive relapse: An individual patient data meta-analysis from randomized trials."** *JAMA Psychiatry* 73(6): 565-574.
<http://dx.doi.org/10.1001/jamapsychiatry.2016.0076>

Importance Relapse prevention in recurrent depression is a significant public health problem, and antidepressants are the current first-line treatment approach. Identifying an equally efficacious nonpharmacological intervention would be an important development. **Objective** To conduct a meta-analysis on individual patient data to examine the efficacy of mindfulness-based cognitive therapy (MBCT) compared with usual care and other active treatments, including antidepressants, in treating those with recurrent depression. **Data Sources** English-language studies published or accepted for publication in peer-reviewed journals identified from EMBASE, PubMed/Medline, PsycINFO, Web of Science, Scopus, and the Cochrane Controlled Trials Register from the first available year to November 22, 2014. Searches were conducted from November 2010 to November 2014. **Study Selection** Randomized trials of manualized MBCT for relapse prevention in recurrent depression in full or partial remission that compared MBCT with at least 1 non-MBCT treatment, including usual care. **Data Extraction and Synthesis** This was an update to a previous meta-analysis. We screened 2555 new records after removing duplicates. Abstracts were screened for full-text extraction (S.S.) and checked by another researcher (T.D.). There were no disagreements. Of the original 2555 studies, 766 were evaluated against full study inclusion criteria, and we acquired full text for 8. Of these, 4 studies were excluded, and the remaining 4 were combined with the 6 studies identified from the previous meta-analysis, yielding 10 studies for qualitative synthesis. Full patient data were not available for 1 of these studies, resulting in 9 studies with individual patient data, which were included in the quantitative synthesis. **Results** Of the 1258 patients included, the mean (SD) age was 47.1 (11.9) years, and 944 (75.0%) were female. A 2-stage random effects approach showed that patients receiving MBCT had a reduced risk of depressive relapse within a 60-week follow-up period compared with those who did not receive MBCT (hazard ratio, 0.69; 95% CI, 0.58-0.82). Furthermore, comparisons with active treatments suggest a reduced risk of depressive relapse within a 60-week follow-up period (hazard ratio, 0.79; 95% CI, 0.64-0.97). Using a 1-stage approach, sociodemographic (ie, age, sex, education, and relationship status) and psychiatric (ie, age at onset and number of previous episodes of depression) variables showed no statistically significant interaction with MBCT treatment. However, there was some evidence to suggest that a greater severity of depressive symptoms prior to treatment was associated with a larger effect of MBCT compared with other treatments. **Conclusions and Relevance** Mindfulness-based cognitive therapy appears efficacious as a treatment for relapse prevention for those with recurrent depression, particularly those with more pronounced residual symptoms. Recommendations are made concerning how future trials can address remaining uncertainties and improve the rigor of the field.

Lancaster, S. L., K. P. Klein, et al. (2016). **"Mindfulness and relaxation: A comparison of brief, laboratory-based interventions."** *Mindfulness* 7(3): 614-621. <http://dx.doi.org/10.1007/s12671-016-0496-x>

Mindfulness meditation has garnered increased interest as a treatment for a variety of psychological conditions, including anxiety. Due to its increasing popularity and the lack of research comparing it with previously validated treatments, this project compares brief, laboratory-based mindfulness meditation and progressive muscle relaxation (PMR) interventions. These interventions were examined in relation to facets of state mindfulness, mood, and state anxiety, with particular emphasis on how gender differences moderate these outcomes. Undergraduate students were recruited and randomly assigned to either a mindfulness intervention or a relaxation intervention. Across conditions, participants reported significant reductions in both negative affect and positive affect, while those in the PMR group reported significant changes in cognitive anxiety and women in the PMR group reported significant changes in somatic anxiety. These results differ from those of previous studies, which could indicate that mindfulness and relaxation exercises may influence men and women differently when cognitive or somatic symptoms of anxiety are more predominant in the present moment. Additional applications of mindfulness and further directions for research are discussed.

McDonald, H. M., K. A. Sherman, et al. (2016). **"Mindfulness and the experience of psychological distress: The mediating effects of emotion regulation and attachment anxiety."** *Mindfulness* 7(4): 799-808.
<http://dx.doi.org/10.1007/s12671-016-0517-9>

Mindfulness has been linked with decreased psychological distress, yet little is known about the possible intervening variables to explain this link. The aim of this study was to investigate the contribution of attachment styles and emotion regulation in explaining the relationship between mindfulness and psychological distress. It was hypothesised that mindfulness would be inversely associated with psychological distress, and that attachment style (attachment anxiety and attachment avoidance) and emotion regulation would mediate this relationship. Australian adults (N = 402) completed an online questionnaire assessing mindfulness, emotion regulation, attachment style, and current psychological distress. Bootstrap mediation analyses confirmed an inverse relationship between mindfulness and distress. Both attachment anxiety and emotion regulation deficits were found to mediate the association between mindfulness and distress; however, attachment avoidance was not found to have a mediating effect. The findings are the first to demonstrate that attachment anxiety and emotion regulation deficits, in part, explain the association between mindfulness and various indicators of psychological distress. These findings highlight factors that may be useful to focus on within psychosocial interventions addressing psychological distress.

Morawska, A., A. E. Mitchell, et al. (2016). **"Effects of triple p parenting intervention on child health outcomes for childhood asthma and eczema: Randomised controlled trial."** *Behaviour Research and Therapy* 83: 35-44. <http://www.sciencedirect.com/science/article/pii/S0005796716300961>

Childhood chronic health conditions have considerable impact on children. We aimed to test the efficacy of a brief, group-based parenting intervention for improving illness-related child behaviour problems, parents' self-efficacy, quality of life, parents' competence with treatment, and symptom severity. A 2 (intervention vs. care as usual) by 3 (baseline, post-intervention, 6-month follow-up) design was used, with random group assignment. Participants were 107 parents of 2- to 10-year-old children with asthma and/or eczema. Parents completed self-report questionnaires, symptom diaries, and home observations were completed. The intervention comprised two 2-h group discussions based on Triple P. Parents in the intervention group reported (i) fewer eczema-related, but not asthma-related, child behaviour problems; (ii) improved self-efficacy for managing eczema, but not asthma; (iii) better quality of life for parent and family, but not child; (iv) no change in parental treatment competence; (v) reduced symptom severity, particularly for children prescribed corticosteroid-based treatments. Results demonstrate the potential for brief parenting interventions to improve childhood chronic illness management, child health outcomes, and family wellbeing. Effects were stronger for eczema-specific outcomes compared to asthma-specific outcomes. Effects on symptom severity are very promising, and further research examining effects on objective disease severity and treatment adherence is warranted.

Pereira, J.-A., M. Barkham, et al. (2016). **"The role of practitioner resilience and mindfulness in effective practice: A practice-based feasibility study."** *Administration and Policy in Mental Health and Mental Health Services Research*: 1-14. <http://dx.doi.org/10.1007/s10488-016-0747-0>

(Available in free full text) A growing body of literature attests to the existence of therapist effects with little explanation of this phenomenon. This study therefore investigated the role of resilience and mindfulness as factors related to practitioner wellbeing and associated effective practice. Data comprised practitioners (n = 37) and their patient outcome data (n = 4980) conducted within a stepped care model of service delivery. Analyses employed benchmarking and multilevel modeling to identify more and less effective practitioners via yoking of the therapist factors and nested patient outcomes. A therapist effect of 6.7 % was identified based on patient depression (PHQ-9) outcome scores. More effective practitioners compared to less effective practitioners displayed significantly higher levels of mindfulness as well as resilience and mindfulness combined. Implications for policy, research and practice are discussed.

Petrocchi, N., C. Ottaviani, et al. (2016). **"Compassion at the mirror: Exposure to a mirror increases the efficacy of a self-compassion manipulation in enhancing soothing positive affect and heart rate variability."** *The Journal of Positive Psychology*: 1-12. <http://dx.doi.org/10.1080/17439760.2016.1209544>

Abstract We tested whether a mirror could enhance the efficacy of a self-compassion manipulation in increasing soothing positive affect and heart rate variability (HRV). Eighty-six participants generated four phrases they would use to soothe and encourage their best friend. Second, they described an episode where they criticized themselves and were assigned to one of three conditions: (a) repeat the four phrases to themselves while looking at the mirror; (b) repeat the four phrases to themselves without the mirror; (c) look at themselves in the mirror without repeating the phrases. Participants in condition (a) reported higher levels of 'soothing' positive affect and HRV compared to participants in conditions (b) and (c). The effect of the 'phrases at the mirror' manipulation on soothing affect was mediated by increased common humanity. The mirror enhances the efficacy of this self-compassion manipulation in activating the soothing affect system connected with parasympathetic nervous system activity.

Rowe, A. C., L. Shepstone, et al. (2016). **"Attachment security and self-compassion priming increase the likelihood that first-time engagers in mindfulness meditation will continue with mindfulness training."** *Mindfulness* 7(3): 642-650. <http://dx.doi.org/10.1007/s12671-016-0499-7>

(Available in free full text) Mindfulness practice has many mental and physical health benefits but can be perceived as 'difficult' by some individuals. This perception can discourage compliance with mindfulness meditation training programs. The present research examined whether the activation of thoughts and feelings related to attachment security and self-compassion (through semantic priming) prior to a mindfulness meditation session might influence willingness to engage in future mindfulness training. We expected both of these primes to positively influence participants' willingness to continue with mindfulness training. We primed 117 meditation-naïve individuals (84 female; mean age of 22.3 years, SD = 4.83) with either a self-compassion, attachment security, or a neutral control prime prior to an introductory mindfulness exercise and measured their post-session willingness to engage in further training. Both experimental primes resulted in higher willingness to engage in further mindfulness training relative to the control condition. The self-compassion prime did so indirectly by increasing state mindfulness, while the attachment security prime had a direct effect. This study supports theoretical links between self-compassion and mindfulness and reveals a causal role for these factors in promoting willingness to engage in mindfulness training. Our findings have implications for improving compliance with mindfulness intervention programs.

Siu, A. F. Y., Y. Ma, et al. (2016). **"Maternal mindfulness and child social behavior: The mediating role of the mother-child relationship."** *Mindfulness* 7(3): 577-583. <http://dx.doi.org/10.1007/s12671-016-0491-2>

Mindfulness is defined as moment-by-moment social awareness derived from a non-judgmental, friendly, and receptive attitude. Previous research suggested that mindfulness has a positive effect on parenting. The present study examined the association between mindfulness, parent-child relationship, and child social behavior in a Chinese sample. Two-hundred and sixteen mothers with children of preschool age completed a set of questionnaires on their mindfulness, parent-child relationships, and their children's social behavior. A path analysis of their responses indicated that mindfulness had a significant and positive effect on the mother-child relationship in terms of attachment, involvement, and parental confidence and a negative effect on discipline practice and relational frustration. Mindfulness also had a significantly negative indirect effect on children's emotional symptoms, conduct problems, hyperactivity, and peer problems and a significant and positive indirect effect on children's prosocial behavior. These results supported previous findings that mindful parents were more involved in their children's lives and have a tendency to be more aware of their children's needs. Implications of these results are discussed.

Sobol-Kwapinska, M. (2016). **"Calm down – it's only neuroticism. Time perspectives as moderators and mediators of the relationship between neuroticism and well-being."** *Personality and Individual Differences* 94: 64-71. <http://www.sciencedirect.com/science/article/pii/S0191886916300046>

Neuroticism is associated with poor well-being, and researchers search for variables that influence the relationship between these two constructs. The current study is focused on time perspective (TP) as a moderator and mediator of the link between neuroticism and selected aspects of well-being, that is, self-esteem, satisfaction with life, optimism and life engagement. The results suggest that, contrary to expectation, strong concentration on the present, perceived as an important and unique time area, by highly neurotic individuals intensifies the negative relationship between neuroticism and self-esteem,

satisfaction with life and life engagement. Attention has been paid to the importance of distance to time for the well-being of people with high levels of neuroticism. Moreover, the findings provide evidence for the role of negative past TP and unbalanced TP in explaining the negative association between neuroticism and well-being.

Sobol-Kwapinska, M. and T. Jankowski (2016). **"Positive time: Balanced time perspective and positive orientation."** *Journal of Happiness Studies* 17(4): 1511-1528. <http://dx.doi.org/10.1007/s10902-015-9656-2>

The aim of the research presented in this article is to investigate the relationship between positive orientation and time perspective as outlined by Zimbardo and Boyd (J Pers Soc Psychol 77:1271–1288, 1999) and extended by an additional form of concentration on the present. The Polish version of the Zimbardo Time Perspective Inventory was used. A third type of present time perspective, namely active concentration on the present, was measured by the Carpe Diem Scale. One hundred and eighty five Polish people (non-students) participated in a survey to which a canonical-correlation analysis and a cluster analysis were applied. Positive orientation was correlated with a balanced temporal profile comprising a strong positive past orientation, moderate concentration on the future, poor fatalistic time perspective, poor concentration on the negative past and moderate active concentration on the present. Whereas a positive orientation is based on a general positive attitude towards life and self, a balanced time perspective reflects a general positive attitude towards time, in which an active concentration on the present plays an important role.

Strauss, C., B. Lever Taylor, et al. (2016). **"What is compassion and how can we measure it? A review of definitions and measures."** *Clin Psychol Rev* 47: 15-27. <https://www.ncbi.nlm.nih.gov/pubmed/27267346>

The importance of compassion is widely recognized and it is receiving increasing research attention. Yet, there is lack of consensus on definition and a paucity of psychometrically robust measures of this construct. Without an agreed definition and adequate measures, we cannot study compassion, measure compassion or evaluate whether interventions designed to enhance compassion are effective. In response, this paper proposes a definition of compassion and offers a systematic review of self- and observer-rated measures. Following consolidation of existing definitions, we propose that compassion consists of five elements: recognizing suffering, understanding the universality of human suffering, feeling for the person suffering, tolerating uncomfortable feelings, and motivation to act/acting to alleviate suffering. Three databases were searched (Web of Science, PsycInfo, and Medline) and nine measures included and rated for quality. Quality ratings ranged from 2 to 7 out of 14 with low ratings due to poor internal consistency for subscales, insufficient evidence for factor structure and/or failure to examine floor/ceiling effects, test-retest reliability, and discriminant validity. We call our five-element definition, and if supported, the development of a measure of compassion based on this operational definition, and which demonstrates adequate psychometric properties.

Tsur, N., N. Berkovitz, et al. (2016). **"Body awareness, emotional clarity, and authentic behavior: The moderating role of mindfulness."** *Journal of Happiness Studies* 17(4): 1451-1472. <http://dx.doi.org/10.1007/s10902-015-9652-6>

Emotional clarity is considered a basic component of self-knowledge. However, not much is known regarding its association with self-knowledge in terms of bodily aspects, and the combinations by which these two aspects are used to enhance authentic living. Based on a salutogenic perspective, the current study examined whether emotional clarity and body awareness are associated. Further, we tested the hypothesis that these constructs contribute to authentic behavior through the moderation of mindfulness. 341 university students completed questionnaires assessing body awareness, emotional clarity, mindfulness, and authentic behavior. The findings indicated that body awareness and emotional clarity are moderately correlated. SEM analysis revealed that emotional clarity was correlated with authentic behavior, and that mindfulness moderated the association between body awareness and authentic behavior. Further, a two-factor model for authentic behavior was generated; intrapersonal-authenticity and interpersonal-authenticity. Hierarchical regression analyses indicated that while emotional clarity was associated with both factors, body awareness was only associated with interpersonal-authenticity, through the moderation of mindfulness. Mindfulness further mediated the association between emotional clarity and interpersonal-authenticity. The findings indicate that body awareness and emotional clarity are pivotal for self-knowledge processes, yet demonstrate a complicated mechanism under which they operate. While emotional information seems to be more accessible for authentic behavior enhancement, the use of bodily information is conditioned by mindfulness.

Wong, S. Y. S., B. H. K. Yip, et al. (2016). **"Mindfulness-based cognitive therapy v. Group psychoeducation for people with generalised anxiety disorder: Randomised controlled trial."** *The British Journal of Psychiatry* 209(1): 68-75. <http://bjp.rcpsych.org/content/209/1/68>

Background Research suggests that an 8-week mindfulness-based cognitive therapy (MBCT) course may be effective for generalised anxiety disorder (GAD). Aims To compare changes in anxiety levels among participants with GAD randomly assigned to MBCT, cognitive-behavioural therapy-based psychoeducation and usual care. Method In total, 182 participants with GAD were recruited (trial registration number: CUHK_CCT00267) and assigned to the three groups and followed for 5 months after baseline assessment with the two intervention groups followed for an additional 6 months. Primary outcomes were anxiety and worry levels. Results Linear mixed models demonstrated significant group × time interaction ($F(4,148) = 5.10, P = 0.001$) effects for decreased anxiety for both the intervention groups relative to usual care. Significant group × time interaction effects were observed for worry and depressive symptoms and mental health-related quality of life for the psychoeducation group only. Conclusions These results suggest that both of the interventions appear to be superior to usual care for the reduction of anxiety symptoms.