

## **22 mindfulness & compassion relevant abstracts: september '15 newsletter**

(Devlin, Zaki et al. 2014; Albertson, Neff et al. 2015; Anderson, Heywood-Everett et al. 2015; Bluth and Blanton 2015; Feldman 2015; Firth, Barkham et al. 2015; Galen, Sharp et al. 2015; Goldsmith, Lewis et al. 2015; Gotink, Chu et al. 2015; Kearns, Shawyer et al. 2015; Khoury, Sharma et al. 2015; Liao and Wei 2015; Lord, Sheng et al. 2015; Remmers, Topolinski et al. 2015; Schoenmaker, Juffer et al. 2015; Tajika, Ogawa et al. 2015; van Dijke and Ford 2015; Visted, Vøllestad et al. 2015; Williams, Harfmann et al. 2015; Witvliet, Hofelich Mohr et al. 2015; Würtzen, Dalton et al. 2015; Zheng, Fehr et al. 2015)

Albertson, E., K. Neff, et al. (2015). **"Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention."** *Mindfulness* 6(3): 444-454. <http://dx.doi.org/10.1007/s12671-014-0277-3>

Body dissatisfaction is a major source of suffering among women of all ages. One potential factor that could mitigate body dissatisfaction is self-compassion, a construct that is garnering increasing research attention due to its strong association with psychological health. This study investigated whether a brief 3-week period of self-compassion meditation training would improve body satisfaction in a multigenerational group of women. Participants were randomized either to the meditation intervention group (N = 98; M age = 38.42) or to a waitlist control group (N = 130; M age = 36.42). Results suggested that compared to the control group, intervention participants experienced significantly greater reductions in body dissatisfaction, body shame, and contingent self-worth based on appearance, as well as greater gains in self-compassion and body appreciation. All improvements were maintained when assessed 3 months later. Self-compassion meditation may be a useful and cost-effective means of improving body image in adult women.

Anderson, N., S. Heywood-Everett, et al. (2015). **"Faith-adapted psychological therapies for depression and anxiety: Systematic review and meta-analysis."** *Journal of Affective Disorders* 176: 183-196. <http://www.sciencedirect.com/science/article/pii/S0165032715000233>

AbstractBackground Incorporating faith (religious or spiritual) perspectives into psychological treatments has attracted significant interest in recent years. However, previous suggestion that good psychiatric care should include spiritual components has provoked controversy. To try to address ongoing uncertainty in this field we present a systematic review and meta-analysis to assess the efficacy of faith-based adaptations of bona fide psychological therapies for depression or anxiety. Methods A systematic review and meta-analysis of randomised controlled trials were performed. Results The literature search yielded 2274 citations of which 16 studies were eligible for inclusion. All studies used cognitive or cognitive behavioural models as the basis for their faith-adapted treatment (F-CBT). We identified statistically significant benefits of using F-CBT. However, quality assessment using the Cochrane risk of bias tool revealed methodological limitations that reduce the apparent strength of these findings. Limitations Whilst the effect sizes identified here were statistically significant, there were relatively a few relevant RCTs available, and those included were typically small and susceptible to significant biases. Biases associated with researcher or therapist allegiance were identified as a particular concern. Conclusions Despite some suggestion that faith-adapted CBT may out-perform both standard CBT and control conditions (waiting list or "treatment as usual"), the effect sizes identified in this meta-analysis must be considered in the light of the substantial methodological limitations that affect the primary research data. Before firm recommendations about the value of faith-adapted treatments can be made, further large-scale, rigorously performed trials are required.

Bluth, K. and P. W. Blanton (2015). **"The influence of self-compassion on emotional well-being among early and older adolescent males and females."** *The Journal of Positive Psychology* 10(3): 219-230. <http://dx.doi.org/10.1080/17439760.2014.936967>

Self-compassion has been associated with well-being in adult samples, but has rarely been assessed in adolescents. In this study, 90 students ages 11-18 completed an online survey assessing self-compassion, life satisfaction, perceived stress and positive and negative affect. Findings indicated that older female adolescents had lower self-compassion than either older male adolescents or early adolescents of either gender, and self-compassion was associated significantly with all dimensions of emotional well-being with the exception of positive affect. Additionally, phase of adolescence, but not gender, was found to moderate the relationship between self-compassion and dimensions of well-being; for older adolescents, the inverse relationship between self-compassion and negative affect was stronger. Lastly, the influence of the various components of self-compassion was investigated and discussed.

Devlin, H. C., J. Zaki, et al. (2014). **"Not as good as you think? Trait positive emotion is associated with increased self-reported empathy but decreased empathic performance."** *PLoS ONE* 9(10): e110470. <http://dx.doi.org/10.1371/journal.pone.0110470>

(Available in free full text) How is positive emotion associated with our ability to empathize with others? Extant research provides support for two competing predictions about this question. An *empathy amplification* hypothesis suggests positive emotion would be associated with greater empathy, as it often enhances other prosocial processes. A contrasting *empathy attenuation* hypothesis suggests positive emotion would be associated with lower empathy, because positive emotion promotes self-focused or antisocial behaviors. The present investigation tested these competing perspectives by examining associations between dispositional positive emotion and both subjective (i.e., self-report) and objective (i.e., task performance) measures of empathy. Findings revealed that although trait positive emotion was associated with increased subjective beliefs about empathic tendencies, it was associated with both increases and decreases in task-based empathic performance depending on the target's emotional state. More specifically, trait positive emotion was linked to lower overall empathic accuracy toward a high-intensity negative target, but also a higher sensitivity to emotion upshifts (i.e., shifts in emotion from negative to positive) toward positive targets. This suggests that trait positive affect may be associated with decreased objective empathy in the context of mood incongruent (i.e., negative) emotional stimuli, but may increase some aspects of empathic performance in the context of mood congruent (i.e., positive) stimuli. Taken together, these findings suggest that trait positive emotion engenders a compelling subjective-objective gap regarding its association with empathy, in being related to a heightened perception of empathic tendencies, despite being linked to mixed abilities in regards to empathic performance.

Feldman, R. (2015). **"The adaptive human parental brain: Implications for children's social development."** *Trends Neurosci* 38(6): 387-399. <http://www.ncbi.nlm.nih.gov/pubmed/25956962>

Although interest in the neurobiology of parent-infant bonding is a century old, neuroimaging of the human parental brain is recent. After summarizing current comparative research into the neurobiology of parenting, here I chart a global 'parental caregiving' network that integrates conserved structures supporting mammalian caregiving with later-evolving

networks and implicates parenting in the evolution of higher order social functions aimed at maximizing infant survival. The response of the parental brain to bonding-related behavior and hormones, particularly oxytocin, and increased postpartum brain plasticity demonstrate adaptation to infant stimuli, childrearing experiences, and cultural contexts. Mechanisms of biobehavioral synchrony by which the parental brain shapes, and is shaped by, infant physiology and behavior emphasize the brain basis of caregiving for the cross-generation transmission of human sociality.

Firth, N., M. Barkham, et al. (2015). **"Therapist effects and moderators of effectiveness and efficiency in psychological wellbeing practitioners: A multilevel modelling analysis."** *Behaviour Research and Therapy* 69: 54-62. <http://www.sciencedirect.com/science/article/pii/S0005796715000595>

**Objectives** The study investigated whether psychological wellbeing practitioners (PWP) working within the UK government's Improving Access to Psychological Therapies (IAPT) initiative are differentially effective (i.e., therapist effect size) and differentially efficient (i.e., rate of clinical change), and the moderating effect of demographic and process factors on outcomes. **Design and Methods** Routine clinical outcome data (depression, anxiety, and functional impairment) were collected from a single IAPT service. A total of 6111 patients were treated by 56 PWPs. Multilevel modelling (MLM) determined the size of the therapist effect and examined significant moderators of clinical outcomes. PWPs were grouped according to below average, average, and above average patient outcomes and compared on clinical efficiency. **Results** Therapist effects accounted for 6–7% of outcome variance that was moderated by greater initial symptom severity, treatment duration, and non-completion of treatment. Clinically effective PWPs achieved almost double the change per treatment session. As treatment durations increased beyond protocol guidance, outcomes atrophied. Treatment non-completion was particularly detrimental to outcome. **Conclusions** PWPs appear to be differentially effective and efficient despite ostensibly delivering protocol driven interventions. Implications for services, training, and supervision are outlined.

Galen, L., M. Sharp, et al. (2015). **"Nonreligious group factors versus religious belief in the prediction of prosociality."** *Social Indicators Research* 122(2): 411-432. <http://dx.doi.org/10.1007/s11205-014-0700-0>

Previous research has suggested that religious belief is associated with a range of prosocial behaviors such as social embeddedness and generosity. However, this literature has often conflated belief in God with group involvement and failed to control for demographic and social network effects. Rather than assessing prosociality by comparing religious group members with the unaffiliated, the present study also includes secular/nonreligious group members. Multiple regression analyses controlling for confounds diminishes many of the apparent differences between religious and nonreligious individuals. Belief in God itself accounts for approximately 1–2 % of the variance in social embeddedness domains and <1 % of the variance in the domains of outside-group charity and community volunteering. Belief in God is associated with homophily and parochial behavior such as within-group charitable donations and constrained contact with different others. These findings indicate that prosocial benefits are more related to general group membership equally available to religious and secular group members alike than they are to specifically religious content. Religious beliefs are related to within-group prosociality as well as homophily and parochialism directed to those outside the group.

Goldsmith, L. P., S. W. Lewis, et al. (2015). **"Psychological treatments for early psychosis can be beneficial or harmful, depending on the therapeutic alliance: An instrumental variable analysis."** *Psychological Medicine* 45(11): 2365-2373. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4501302/>

(Available in free full text) **BACKGROUND:** The quality of the therapeutic alliance (TA) has been invoked to explain the equal effectiveness of different psychotherapies, but prior research is correlational, and does not address the possibility that individuals who form good alliances may have good outcomes without therapy. **METHOD:** We evaluated the causal effect of TA using instrumental variable (structural equation) modelling on data from a three-arm, randomized controlled trial of 308 people in an acute first or second episode of a non-affective psychosis. The trial compared cognitive behavioural therapy (CBT) over 6 weeks plus routine care (RC) v. supportive counselling (SC) plus RC v. RC alone. We examined the effect of TA, as measured by the client-rated CALPAS, on the primary trial 18-month outcome of symptom severity (PANSS), which was assessed blind to treatment allocation. **RESULTS:** Both adjunctive CBT and SC improved 18-month outcomes, compared to RC. We showed that, for both psychological treatments, improving TA improves symptomatic outcome. With a good TA, attending more sessions causes a significantly better outcome on PANSS total score [effect size  $-2.91$ , 95% confidence interval (CI)  $-0.90$  to  $-4.91$ ]. With a poor TA, attending more sessions is detrimental (effect size  $+7.74$ , 95% CI  $+1.03$  to  $+14.45$ ). **CONCLUSIONS:** This is the first ever demonstration that TA has a causal effect on symptomatic outcome of a psychological treatment, and that poor TA is actively detrimental. These effects may extend to other therapeutic modalities and disorders.

Gotink, R. A., P. Chu, et al. (2015). **"Standardised mindfulness-based interventions in healthcare: An overview of systematic reviews and meta-analyses of rcts."** *PLoS ONE* 10(4): e0124344. <http://dx.doi.org/10.1371/journal.pone.0124344>

(Available in free full text) **Background** Mindfulness-based therapies are being used in a wide range of common chronic conditions in both treatment and prevention despite lack of consensus about their effectiveness in different patient categories. **Objective** To systematically review the evidence of effectiveness MBSR and MBCT in different patient categories. **Methods** A systematic review and meta-analysis of systematic reviews of RCTs, using the standardized MBSR or MBCT programs. We used PRISMA guidelines to assess the quality of the included reviews and performed a random effects meta-analysis with main outcome measure Cohen's d. All types of participants were considered. **Results** The search produced 187 reviews: 23 were included, covering 115 unique RCTs and 8,683 unique individuals with various conditions. Compared to wait list control and compared to treatment as usual, MBSR and MBCT significantly improved depressive symptoms ( $d=0.37$ ; 95%CI 0.28 to 0.45, based on 5 reviews,  $N=2814$ ), anxiety ( $d=0.49$ ; 95%CI 0.37 to 0.61, based on 4 reviews,  $N=2525$ ), stress ( $d=0.51$ ; 95%CI 0.36 to 0.67, based on 2 reviews,  $N=1570$ ), quality of life ( $d=0.39$ ; 95%CI 0.08 to 0.70, based on 2 reviews,  $N=511$ ) and physical functioning ( $d=0.27$ ; 95%CI 0.12 to 0.42, based on 3 reviews,  $N=1015$ ). **Limitations** include heterogeneity within patient categories, risk of publication bias and limited long-term follow-up in several studies. **Conclusion** The evidence supports the use of MBSR and MBCT to alleviate symptoms, both mental and physical, in the adjunct treatment of cancer, cardiovascular disease, chronic pain, depression, anxiety disorders and in prevention in healthy adults and children.

Kearns, N. P., F. Shawyer, et al. (2015). **"Does rumination mediate the relationship between mindfulness and depressive relapse?"** *Psychol Psychother.* <http://www.ncbi.nlm.nih.gov/pubmed/26119013>

**OBJECTIVES:** Major depressive disorder is a significant mental illness that is highly likely to recur, particularly after three or more previous episodes. Increased mindfulness and decreased rumination have both been associated with decreased depressive relapse. The aim of this study was to investigate whether rumination mediates the relationship between mindfulness and depressive relapse. **DESIGN:** This prospective design involved a secondary data analysis for identifying causal mechanisms using mediation analysis. **METHODS:** This study was embedded in a pragmatic randomized controlled trial of mindfulness-based cognitive therapy (MBCT) in which 203 participants (165 females, 38 males; mean age: 48 years), with a history of at least

three previous episodes of depression, completed measures of mindfulness, rumination, and depressive relapse over a 2-year follow-up period. Specific components of mindfulness and rumination, being nonjudging and brooding, respectively, were also explored. RESULTS: While higher mindfulness scores predicted reductions in rumination and depressive relapse, the relationship between mindfulness and relapse was not found to be mediated by rumination, although there appeared to be a trend. CONCLUSIONS: Our results strengthen the argument that mindfulness may be important in preventing relapse but that rumination is not a significant mediator of its effects. The study was adequately powered to detect medium mediation effects, but it is possible that smaller effects were present but not detected. PRACTITIONER POINTS: Mindfulness may be one of several components of MBCT contributing to prevention of depressive relapse. Although the original rationale for MBCT rested largely on a model of relapse causally linked to rumination, our findings suggest that the mechanism by which mindfulness impacts relapse is more complex than a simple effect on rumination.

Khoury, B., M. Sharma, et al. (2015). "**Mindfulness-based stress reduction for healthy individuals: A meta-analysis.**" *Journal of Psychosomatic Research* 78(6): 519-528. <http://dx.doi.org/10.1016/j.jpsychores.2015.03.009>

Background: An increasing number of mindfulness-based stress reduction (MBSR) studies are being conducted with nonclinical populations, but very little is known about their effectiveness. Objective: To evaluate the efficacy, mechanisms of actions, and moderators of MBSR for nonclinical populations. Data sources: A systematic review of studies published in English journals in Medline, CINAHL or Alt HealthWatch from the first available date until September 19, 2014. Study selection: Any quantitative study that used MBSR as an intervention, that was conducted with healthy adults, and that investigated stress or anxiety. Results: A total of 29 studies (n = 2668) were included. Effect-size estimates suggested that MBSR is moderately effective in pre-post analyses (n = 26; Hedge's g = .55; 95% CI [.44, .66], p < .00001) and in between group analyses (n = 18; Hedge's g = .53; 95% CI [.41, .64], p < .00001). The obtained results were maintained at an average of 19 weeks of follow-up. Results suggested large effects on stress, moderate effects on anxiety, depression, distress, and quality of life, and small effects on burnout. When combined, changes in mindfulness and compassion measures correlated with changes in clinical measures at post-treatment and at follow-up. However, heterogeneity was high, probably due to differences in the study design, the implemented protocol, and the assessed outcomes. Conclusions: MBSR is moderately effective in reducing stress, depression, anxiety and distress and in ameliorating the quality of life of healthy individuals; however, more research is warranted to identify the most effective elements of MBSR.

Liao, K. Y.-H. and M. Wei (2015). "**Insecure attachment and depressive symptoms: Forgiveness of self and others as moderators.**" *Personal Relationships* 22(2): 216-229. <http://dx.doi.org/10.1111/per.12075>

Most of the research on forgiveness has examined forgiveness of others, but not forgiveness of self even though researchers have argued that the latter deserves more attention. To fill this gap in the literature, and based on attachment theory's internal working models of self and others, this study examined forgiveness of self and others as moderators in the association between insecure attachment and depressive symptoms. A total of 403 undergraduate students participated in the study. Results supported the moderator role of forgiveness of self. Specifically, at high levels of forgiveness of self, the association between insecure attachment (i.e., anxiety and avoidant attachment) and depressive symptoms was not significant. The results did not support forgiveness of others as a moderator.

Lord, S. P., E. Sheng, et al. (2015). "**More than reflections: Empathy in motivational interviewing includes language style synchrony between therapist and client.**" *Behavior Therapy* 46(3): 296-303. <http://www.sciencedirect.com/science/article/pii/S0005789414001373>

Empathy is a basic psychological process that involves the development of synchrony in dyads. It is also a foundational ingredient in specific, evidence-based behavioral treatments like motivational interviewing (MI). Ratings of therapist empathy typically rely on a gestalt, "felt sense" of therapist understanding and the presence of specific verbal behaviors like reflective listening. These ratings do not provide a direct test of psychological processes like behavioral synchrony that are theorized to be an important component of empathy in psychotherapy. To explore a new objective indicator of empathy, we hypothesized that synchrony in language style (i.e., matching how statements are phrased) between client and therapists would predict gestalt ratings of empathy over and above the contribution of reflections. We analyzed 122 MI transcripts with high and low empathy ratings based on the Motivational Interviewing Treatment Integrity global rating scale. Linguistic inquiry and word count was used to estimate language style synchrony (LSS) of adjacent client and therapist talk turns. High-empathy sessions showed greater LSS across 11 language style categories compared with low-empathy sessions (p < .01), and overall, average LSS was notably higher in high-empathy versus low-empathy sessions (d = 0.62). Regression analyses showed that LSS was predictive of empathy ratings over and above reflection counts; a 1 SD increase in LSS is associated with a 2.4 times increase in the odds of a high-empathy rating, controlling for therapist reflections (odds ratio = 2.4; 95% CI: 1.36; 4.24, p < .01). These findings suggest empathy ratings are related to synchrony in language style, over and above synchrony of content as measured by therapist reflections. Novel indicators of therapist empathy may have implications for the study of MI process as well as the training of therapists.

Remmers, C., S. Topolinski, et al. (2015). "**Mindful(I) intuition: Does mindfulness influence the access to intuitive processes?**" *The Journal of Positive Psychology* 10(3): 282-292. <http://dx.doi.org/10.1080/17439760.2014.950179>

(Available in free full text) The assumption that mindfulness facilitates the access to intuitive processes has been theoretically formulated but not investigated yet. Therefore, the present study explored whether the intuitive performance in a judgment of semantic coherence task of N = 94 participants was related to trait mindfulness. In contrast to our hypothesis, self-reported mindfulness and the mindfulness facet, acting without judgment in specific, were negatively associated with intuitive performance. In an exploratory part of the study, we induced mindfulness, rumination, and distraction. We expected that participants in the mindfulness condition would outperform participants in the other two conditions in the intuition task. Even though we used a well-established paradigm to induce mindfulness, there were no differences between groups in intuition. We propose that future studies investigating the impact of mindfulness on processes such as intuition, should use more intensive manipulations of mindfulness. Possible explanations for the current findings and limitations are discussed.

Schoenmaker, C., F. Juffer, et al. (2015). "**From maternal sensitivity in infancy to adult attachment representations: A longitudinal adoption study with secure base scripts.**" *Attachment & Human Development* 17(3): 241-256. <http://dx.doi.org/10.1080/14616734.2015.1037315>

We examined whether differences in adult attachment representations could be predicted from early and later maternal sensitivity, controlling for early and later assessments of attachment. In this longitudinal study on 190 adoptees, attachment at 23 years was measured with the Attachment Script Assessment. Maternal sensitivity was observed in infancy and at seven and 14 years. Attachment was also measured in infancy and at 14 years. Higher maternal sensitivity in infancy predicted more secure attachment in infancy and more secure attachment representations in young adulthood. Higher maternal sensitivity in middle childhood also predicted more secure attachment representations in young adulthood. There was no continuity of

attachment from infancy to young adulthood, but attachment in adolescence and young adulthood were significantly related. Even in genetically unrelated families, maternal sensitivity in early and middle childhood predicts attachment representations in young adults, confirming the importance of sensitive parenting for human development.

Tajika, A., Y. Ogawa, et al. (2015). **"Replication and contradiction of highly cited research papers in psychiatry: 10-year follow-up."** *Br J Psychiatry*. <http://www.ncbi.nlm.nih.gov/pubmed/26159600>

Background Contradictions and initial overestimates are not unusual among highly cited studies. However, this issue has not been researched in psychiatry. Aims To assess how highly cited studies in psychiatry are replicated by subsequent studies. Method We selected highly cited studies claiming effective psychiatric treatments in the years 2000 through 2002. For each of these studies we searched for subsequent studies with a better-controlled design, or with a similar design but a larger sample. Results Among 83 articles recommending effective interventions, 40 had not been subject to any attempt at replication, 16 were contradicted, 11 were found to have substantially smaller effects and only 16 were replicated. The standardised mean differences of the initial studies were overestimated by 132%. Studies with a total sample size of 100 or more tended to produce replicable results. Conclusions Caution is needed when a study with a small sample size reports a large effect.

van Dijke, A. and J. Ford (2015). **"Adult attachment and emotion dysregulation in borderline personality and somatoform disorders."** *Borderline Personality Disorder and Emotion Dysregulation* 2(1): 6. <http://www.bpded.com/content/2/1/6>

(Available in free full text) BACKGROUND: Borderline personality disorder (BPD) and somatoform disorders (SoD) involve significant problems in relationships and emotion regulation, but the similarities and differences between these disorders in these areas is not well understood. METHOD: In 472 psychotherapy inpatients BPD and/or SoD diagnoses were confirmed or ruled out using clinical interviews and standardized measures. Emotional under- and over-regulation and indices of adult attachment working models and fears were assessed with validated self-report measures. Bivariate and multivariate analyses were conducted to examine relationships among the study variables and differences based on diagnostic status. RESULTS: Under-regulation of emotion was moderately related to fear of abandonment but weakly related to fear of closeness. Over-regulation of emotion was moderately related to fear of closeness but not to fear of abandonment. BPD was associated with under-regulation of emotion and fear of abandonment, and, when comorbid with SoD, with fear of closeness. SoD was associated with inhibition or denial of fears of abandonment or closeness, and over-regulation of emotion. CONCLUSIONS: Study results suggest that insecure attachment may play a role in both BPD and SoD, but in different ways, with hyperactivating emotion dysregulation prominent in BPD and deactivating emotion dysregulation evident in SoD. Also, combined hyper- and deactivating strategy components that may reflect a pattern of disorganized attachment were found, particularly in patients with comorbid BPD and SoD.

Visted, E., J. Vøllestad, et al. (2015). **"The impact of group-based mindfulness training on self-reported mindfulness: A systematic review and meta-analysis."** *Mindfulness* 6(3): 501-522. <http://dx.doi.org/10.1007/s12671-014-0283-5>

Mindfulness-based interventions (MBIs) show promising results in both clinical and non-clinical settings. A number of studies indicate that self-reported mindfulness is associated with adaptive psychological functioning and decreased symptom distress. However, there have been no systematic reviews of research on self-reported mindfulness as an outcome of MBIs for clinical and non-clinical samples. It is also unclear to what extent MBIs actually lead to increased and stable self-reported mindfulness. A systematic literature search was conducted to identify studies measuring self-reported mindfulness before and after an MBI. Meta-analytic procedures were used to investigate self-reported mindfulness as an outcome of MBIs. The results show that several questionnaires have been designed to measure mindfulness, and these have been applied to a variety of samples. Although methodological issues preclude definite conclusions, the meta-analysis indicates that MBIs increase self-reported mindfulness. Effect sizes indicate that increases are in the medium range (Hedges'  $g = 0.53$ ). However, over half of the studies found no significant effects of MBIs on self-reported mindfulness from pre- to post-intervention. Also, studies of MBIs against active control conditions show no significant advantage for MBIs in increasing self-reported mindfulness. This raises serious questions concerning the validity of the mindfulness questionnaires currently in use. The addition of a full or half day of intensive mindfulness training (retreats) as part of the intervention moderate the effect sizes in positive direction. Implications for future research include the need for analysis of statistical mediation as well as further validation of questionnaires. Comparisons of MBIs to established evidence-based interventions as active control conditions are also called for.

Williams, C. L., E. J. Harfmann, et al. (2015). **"Specificity of parental bonding and rumination in depressive and anxious emotional distress."** *Personality and Individual Differences* 79: 157-161. <http://www.sciencedirect.com/science/article/pii/S0191886915000951>

We examined how different dimensions of rumination may mediate the impact of parental bonding (lack of care and overprotectiveness) on negative emotional symptomatology (anxiety and depression). Survey data from participants were analyzed using structural equation modeling. Results indicated that brooding rumination fully mediated the relationship between maternal care and depressive and anxious symptomatology. These findings suggest that to the extent that maternal caregivers are low in warmth and support, offspring are more likely to develop a brooding style of ruminative thinking associated with heightened emotional distress. This research supports the growing body of evidence suggesting that cognitive variables form a pathway between troublesome parent/child interactions and psychopathology.

Witvliet, C. v., A. J. Hofelich Mohr, et al. (2015). **"Transforming or restraining rumination: The impact of compassionate reappraisal versus emotion suppression on empathy, forgiveness, and affective psychophysiology."** *The Journal of Positive Psychology* 10(3): 248-261. <http://dx.doi.org/10.1080/17439760.2014.941381>

We tested the effects of practicing compassionate reappraisal vs. emotional suppression as direct coping responses to victims' ruminations about a past interpersonal offense. Participants (32 females, 32 males) were randomly assigned to learn one coping strategy which immediately followed three of six offense rumination trials (counterbalanced). For both strategy types, coping (vs. offense ruminating) reduced ratings of negative emotion, decreased the use of negative emotion language, and reduced tension at the brow muscle (corrugator EMG). Only compassionate reappraisal coping (vs. offense rumination) immediately prompted greater empathy and emotional forgiveness toward the offender. Empathy ratings for the first coping trial mediated the relationship between strategy type and empathy ratings for the final rumination trial. Compassionate reappraisal strategy participants increased their empathy toward the offender while ruminating at the end of the study. Compassionate reappraisal participants (vs. emotional suppression) described coping (vs. rumination) with more positive language, and also had calmer cardiac pre-ejection period responses.

Würtzen, H., S. O. Dalton, et al. (2015). **"Effect of mindfulness-based stress reduction on somatic symptoms, distress, mindfulness and spiritual wellbeing in women with breast cancer: Results of a randomized controlled trial."** *Acta Oncologica* 54(5): 712-719. <http://informahealthcare.com/doi/abs/10.3109/0284186X.2014.997371>

Background. Women with breast cancer experience different symptoms related to surgical or adjuvant therapy. Previous findings and theoretical models of mind-body interactions suggest that psychological wellbeing, i.e. levels of distress, influence the subjective evaluation of symptoms, which influences or determines functioning. The eight-week mindfulness-based stress reduction (MBSR) program significantly reduced anxiety and depression in breast cancer patients in a randomized controlled trial (NCT00990977). In this study we tested the effect of MBSR on the burden of breast cancer related somatic symptoms, distress, mindfulness and spiritual wellbeing and evaluated possible effect modification by adjuvant therapy and baseline levels of, distress, mindfulness and spiritual wellbeing. Material and methods. A population-based sample of 336 women Danish women operated for breast cancer stages I-III were randomized to MBSR or usual care and were followed up for somatic symptoms, distress, mindfulness skills and spiritual wellbeing post-intervention and after six and 12 months. Effect was tested by general linear regression models post-intervention, and after six and 12 months follow-up and by mixed effects models for repeated measures of continuous outcomes. Effect size (Cohen's d) was calculated to explore clinical significance of effects among intervention group. Finally, modification of effect of MBSR on burden of somatic symptoms after 12 months' follow-up by adjuvant therapy and baseline levels of, distress, mindfulness and spiritual wellbeing were estimated. Results. General linear regression showed a significant effect of MBSR on the burden of somatic symptoms post-intervention and after 6 months' follow-up. After 12 months' follow-up, no significant effect of MBSR on the burden of somatic symptoms was found in mixed effect models. A statistically significant effect of MBSR on distress was found at all time-points and in the mixed effect models. Significant effects on mindfulness were seen after six and 12 months and no significant effect was observed for spiritual wellbeing. No significant modification of MBSR effect on somatic symptom burden was identified. Conclusion. This first report from a randomized clinical trial on the long-term effect of MBSR finds an effect on somatic symptom burden related to breast cancer after six but not 12 months follow-up providing support for MBSR in this patient group.

Zheng, X., R. Fehr, et al. (2015). **"The unburdening effects of forgiveness: Effects on slant perception and jumping height."** *Social Psychological and Personality Science* 6(4): 431-438. <http://spp.sagepub.com/content/6/4/431.abstract>

Research shows that in the aftermath of conflict, forgiveness improves victims' well-being and the victim-offender relationship. Building on the research on embodied perception and economy of action, we demonstrate that forgiveness also has implications for victims' perceptions and behavior in the physical domain. Metaphorically, unforgiveness is a burden that can be lightened by forgiveness; we show that people induced to feel forgiveness perceive hills to be less steep (Study 1) and jump higher in an ostensible fitness test (Study 2) than people who are induced to feel unforgiveness. These findings suggest that forgiveness may lighten the physical burden of unforgiveness, providing evidence that forgiveness can help victims overcome the negative effects of conflict.