

26 mindfulness & compassion relevant abstracts: july '17 newsletter

(Crane, Brewer et al. 2016; Ainsworth, Bolderston et al. 2017; Buric, Farias et al. 2017; Canevello and Crocker 2017; Christie, Atkins et al. 2017; Creswell 2017; Dethier and Philippot 2017; Gilbert, Catarino et al. 2017; Hackman, Munira et al. 2017; Hare 2017; Key, Rowa et al. 2017; Kirby, Tellegen et al. 2017; Klingbeil, Renshaw et al. 2017; Kok and Singer 2017; Layous, Nelson et al. 2017; Lindahl, Fisher et al. 2017; Maynard, Solis et al. 2017; Nolte, Downing et al. 2017; Rahl, Lindsay et al. 2017; Shimura, Takaesu et al. 2017; Sinclair, Kondejewski et al. 2017; Vedel and Thomsen 2017; Ward, Duke et al. 2017; Warren and Wray-Lake 2017; Webster, Weststrate et al. 2017; Wilkinson and Pickett 2017)

Ainsworth, B., H. Bolderston, et al. (2017). **"Testing the differential effects of acceptance and attention-based psychological interventions on intrusive thoughts and worry."** *Behaviour Research and Therapy* 91: 72-77. <http://www.sciencedirect.com/science/article/pii/S0005796717300190>

(Available in free full text) Worry is a key component of anxiety and may be an effective target for therapeutic intervention. We compared two psychological processes (attention and acceptance) on the frequency of intrusive worrying thoughts in an experimental worry task. 77 participants were randomised across three groups and completed either a 10 min attention or acceptance-based psychological exercise, or progressive muscle relaxation control. We subsequently measured anxiety, and the content and frequency of intrusive thoughts before and after a 'worry induction task'. Groups did not differ in baseline worry, anxiety or thought intrusions. Both attention and acceptance-based groups experienced fewer negative thought intrusions (post-worry) compared to the relaxation control group. The acceptance exercise had the largest effect, preventing 'worry induction'. Increases in negative intrusive thoughts predicted subjective anxiety. We provide evidence that acceptance and attention psychological exercises may reduce anxiety by reducing the negative thought intrusions that characterise worry.

Buric, I., M. Farias, et al. (2017). **"What is the molecular signature of mind-body interventions? A systematic review of gene expression changes induced by meditation and related practices."** *Frontiers in Immunology* 8(670). <http://journal.frontiersin.org/article/10.3389/fimmu.2017.00670>

(Available in free full text) There is considerable evidence for the effectiveness of mind-body interventions (MBIs) in improving mental and physical health, but the molecular mechanisms of these benefits remain poorly understood. One hypothesis is that MBIs reverse expression of genes involved in inflammatory reactions that are induced by stress. This systematic review was conducted to 25 examine changes in gene expression that occur after MBIs and to explore how these molecular changes are related to health. We searched PubMed throughout September 2016 to look for studies that have used gene expression analysis in MBIs (i.e., mindfulness, yoga, Tai Chi, Qigong, relaxation response, and breath regulation). Due to the limited quantity of studies, we included both clinical and non-clinical samples with any type of research design. Eighteen relevant studies were retrieved and analysed. Overall, the studies indicate that these practices are associated with a downregulation of nuclear factor kappa B (NF- κ B) pathway; this is the opposite of the effects of chronic stress on gene expression and suggests that MBI practices may lead to a reduced risk of inflammation-related diseases. However, it is unclear how the effects of MBIs compare to other healthy interventions such as exercise or nutrition due to the small number of available studies. More research is required to be able to understand the effects of MBIs at the molecular level.

Canevello, A. and J. Crocker (2017). **"Compassionate goals and affect in social situations."** *Motivation and Emotion* 41(2): 158-179. <http://dx.doi.org/10.1007/s11031-016-9599-x>

Optimal social interactions can leave people feeling socially connected and at ease, which has clear implications for health and psychological well-being. Yet, not all social interactions leave people feelings at ease and connected. What explains this variability? We draw from the egosystem-ecosystem theory of social motivation (Crocker and Canevello 2008) to suggest that compassionate goals to support others explain some of this variability. We explored the nature of this association across four studies and varying social contexts. Across studies, compassionate goals predicted greater feelings of ease and connection. Results also indicate that a cooperative mindset may be one mechanism underlying this association: Findings suggest a temporal sequence in which compassionate goals lead to cooperative mindsets, which then lead to feeling at ease and connected. Thus, these studies suggest that people's compassionate goals lead to their sense of interpersonal ease and connection, which may ultimately have implications for their sense of belonging.

Christie, A. M., P. W. B. Atkins, et al. (2017). **"The meaning and doing of mindfulness: The role of values in the link between mindfulness and well-being."** *Mindfulness* 8(2): 368-378. <http://dx.doi.org/10.1007/s12671-016-0606-9>

The role of values-based action in facilitating change is central to Acceptance and Commitment Therapy but more peripheral in more traditional mindfulness-based interventions. This paper examined the role of values-based action in the relationship between mindfulness and both eudemonic and hedonic well-being in two samples—an undergraduate sample (n = 630) and a postgraduate sample (n = 199). It was hypothesized that mindfulness would be related to well-being indirectly through values-based action, measured as decreases in psychological barriers to values-based action and increases in values-congruent behavior. In both samples, significant indirect effects were identified from mindfulness to hedonic and eudemonic well-being through values-based action. These studies provide initial evidence that mindfulness effects well-being partly through facilitating meaningful behavioral change. The implication of this finding is that mindfulness interventions may be enhanced with an explicit focus on values clarification and the application of mindfulness to values-based behavior.

Crane, R. S., J. Brewer, et al. (2016). **"What defines mindfulness-based programs? The warp and the weft."** *Psychological Medicine* 47(6): 990-999. <https://www.cambridge.org/core/article/what-defines-mindfulnessbased-programs-the-warp-and-the-weft/BA98A87D84A3097A06BFC3A1FBB61C2B>

(Available in free full text) There has been an explosion of interest in mindfulness-based programs (MBPs) such as Mindfulness-Based Stress Reduction (MBSR) and Mindfulness-Based Cognitive Therapy. This is demonstrated in increased research, implementation of MBPs in healthcare, educational, criminal justice and workplace settings, and in mainstream interest. For the sustainable development of the field there is a need to articulate a definition of what an MBP is and what it is not. This paper provides a framework to define the essential characteristics of the family of MBPs originating from the parent program MBSR, and the processes which inform adaptations of MBPs for different populations or contexts. The framework addresses the essential characteristics of the program and of teacher. MBPs: are informed by theories and practices that draw from a confluence of contemplative traditions, science, and the major disciplines of medicine, psychology and education;

underpinned by a model of human experience which addresses the causes of human distress and the pathways to relieving it; develop a new relationship with experience characterized by present moment focus, decentering and an approach orientation; catalyze the development of qualities such as joy, compassion, wisdom, equanimity and greater attentional, emotional and behavioral self-regulation, and engage participants in a sustained intensive training in mindfulness meditation practice, in an experiential inquiry-based learning process and in exercises to develop understanding. The paper's aim is to support clarity, which will in turn support the systematic development of MBP research, and the integrity of the field during the process of implementation in the mainstream.

Creswell, J. D. (2017). **"Mindfulness interventions."** *Annu Rev Psychol* 68: 491-516. <https://www.ncbi.nlm.nih.gov/pubmed/27687118>

Mindfulness interventions aim to foster greater attention to and awareness of present moment experience. There has been a dramatic increase in randomized controlled trials (RCTs) of mindfulness interventions over the past two decades. This article evaluates the growing evidence of mindfulness intervention RCTs by reviewing and discussing (a) the effects of mindfulness interventions on health, cognitive, affective, and interpersonal outcomes; (b) evidence-based applications of mindfulness interventions to new settings and populations (e.g., the workplace, military, schools); (c) psychological and neurobiological mechanisms of mindfulness interventions; (d) mindfulness intervention dosing considerations; and (e) potential risks of mindfulness interventions. Methodologically rigorous RCTs have demonstrated that mindfulness interventions improve outcomes in multiple domains (e.g., chronic pain, depression relapse, addiction). Discussion focuses on opportunities and challenges for mindfulness intervention research and on community applications.

Dethier, V. and P. Philippot (2017). **"Attentional focus during exposure in spider phobia: The effect of valence and schematicity of a partial distractor."** *Behaviour Research and Therapy* 93: 104-115. <http://www.sciencedirect.com/science/article/pii/S0005796717300633>

This study examines the impact of partial distractor valence and schematicity (i.e., their relation to fear representation) on exposure efficacy. One hundred forty-one spider phobics were exposed to spider pictures and asked, in a between-subjects experimental design, to form mental images of words that were fear related (to spiders) and negative (schematic negative), fear unrelated and negative (non-schematic negative) or fear unrelated and positive (non-schematic positive). Multilevel measures of anxiety were performed at pre-exposure, post-exposure and 6 days' follow-up. Results show that both of the negative condition groups displayed similar results on all outcome variables and systematically differed from the positive condition group. While the latter group displayed a stronger decline in distress during exposure itself, the other groups showed greater exposure benefits: a stronger decline in emotional and avoidance responses and skin conductance responses from pre- to post-exposure and more approach behaviours when confronted with a real spider. The critical feature of distraction thus seems not to be the fact of being distracted from the phobic stimulus, but rather the fact of performing emotional avoidance by distracting oneself from negative affect. The results highlight that the acceptance of aversive emotional states is a critical active process in successful exposure.

Gilbert, P., F. Catarino, et al. (2017). **"The development of compassionate engagement and action scales for self and others."** *Journal of Compassionate Health Care* 4(1): 4. <http://dx.doi.org/10.1186/s40639-017-0033-3>

Studies of the value of compassion on physical and mental health and social relationships have proliferated in the last 25 years. Although, there are several conceptualisations and measures of compassion, this study develops three new measures of compassion competencies derived from an evolutionary, motivational approach. The scales assess 1. the compassion we experience for others, 2. the compassion we experience from others, and 3. self-compassion based on a standard definition of compassion as a 'sensitivity to suffering in self and others with a commitment to try to alleviate and prevent it'. We explored these in relationship to other compassion scales, self-criticism, depression, anxiety, stress and well-being.

Hackman, J., S. Munira, et al. (2017). **"Revisiting psychological mechanisms in the anthropology of altruism."** *Human Nature* 28(1): 76-91. <http://dx.doi.org/10.1007/s12110-016-9278-3>

Anthropologists have long been interested in the reasons humans choose to help some individuals and not others. Early research considered psychological mediators, such as feelings of cohesion or closeness, but more recent work, largely in the tradition of human behavioral ecology, shifted attention away from psychological measures to clearer observables, such as past behavior, genetic relatedness, affinal ties, and geographic proximity. In this paper, we assess the value of reintegrating psychological measures—perceived social closeness—into the anthropological study of altruism. Specifically, analyzing social network data from four communities in rural Bangladesh (N = 516), we show that perceived closeness has a strong independent effect on helping, which cannot be accounted for by other factors. These results illustrate the potential value of reintegrating proximate psychological measures into anthropological studies of human cooperation.

Hare, B. (2017). **"Survival of the friendliest: Homo sapiens evolved via selection for prosociality."** *Annu Rev Psychol* 68: 155-186. <https://www.ncbi.nlm.nih.gov/pubmed/27732802>

The challenge of studying human cognitive evolution is identifying unique features of our intelligence while explaining the processes by which they arose. Comparisons with nonhuman apes point to our early-emerging cooperative-communicative abilities as crucial to the evolution of all forms of human cultural cognition, including language. The human self-domestication hypothesis proposes that these early-emerging social skills evolved when natural selection favored increased in-group prosociality over aggression in late human evolution. As a by-product of this selection, humans are predicted to show traits of the domestication syndrome observed in other domestic animals. In reviewing comparative, developmental, neurobiological, and paleoanthropological research, compelling evidence emerges for the predicted relationship between unique human mentalizing abilities, tolerance, and the domestication syndrome in humans. This synthesis includes a review of the first a priori test of the self-domestication hypothesis as well as predictions for future tests.

Key, B. L., K. Rowa, et al. (2017). **"Mindfulness-based cognitive therapy as an augmentation treatment for obsessive-compulsive disorder."** *Clinical Psychology & Psychotherapy*: n/a-n/a. <http://dx.doi.org/10.1002/cpp.2076>

A significant number of obsessive-compulsive disorder (OCD) patients continue to experience symptoms that interfere with their functioning following cognitive behavioural therapy (CBT). Providing an additional augmentation treatment following CBT could help reduce these residual symptoms. Mindfulness interventions that facilitate less reactivity to thoughts and feelings may be helpful for patients suffering from residual OCD symptoms. The purpose of the current randomized waitlist control trial was to evaluate the feasibility and impact of providing an 8-week mindfulness-based cognitive therapy (MBCT) intervention following completion of a CBT intervention to OCD patients who continued to suffer from significant symptoms. Results indicated that compared to the waitlist control group, MBCT participants reported decreases in OCD symptoms (d = 1.38), depression symptoms (d = 1.25), anxiety symptoms (d = 1.02), and obsessive beliefs (d = 1.20) along with increases in self-compassion (d = 0.77) and mindfulness skills (d = 0.77). Additionally, participants reported high levels of satisfaction with the MBCT intervention. The results suggest that the use of MBCT for OCD as an augmentation therapy is acceptable to patients who

continue to suffer from OCD symptoms after completing CBT and provides some additional relief from residual symptoms. Key Practitioner Message: * Mindfulness interventions teach skills that facilitate disengaging from cognitive routines and accepting internal experience, and these skills may be valuable in treating obsessive-compulsive disorder (OCD), as individuals describe getting "stuck" in repetitive thoughts and consequent rituals. * The results of this study suggest that teaching mindfulness skills using an 8-week mindfulness-based cognitive therapy (MBCT) intervention provides an added benefit (decreases in OCD, depression, and anxiety symptoms) for patients with OCD who have completed a cognitive behavioural therapy intervention and continued to suffer from significant symptoms. * Participation in MBCT was also associated with increases in mindfulness skills including increased ability to be nonjudgmental and nonreactive. By fostering a nonjudgmental stance towards intrusive thoughts, mindfulness may discourage suppression and avoidance of thoughts and this could lead to increased habituation and a decreased reliance on compulsions. * The use of MBCT as an augmentation treatment should be further explored to elucidate whether this treatment is beneficial for preventing relapse of OCD and could be compared against further cognitive behavioural therapy to see if offering participants a different and theoretically compelling intervention, such as MBCT, would outperform "more of the same" for individuals with OCD.

Kirby, J. N., C. L. Tellegen, et al. (2017). **"A meta-analysis of compassion-based interventions: Current state of knowledge and future directions."** *Behavior Therapy*. <http://www.sciencedirect.com/science/article/pii/S0005789417300667>

Abstract Objective Scientific research into compassion has burgeoned over the past 20 years and interventions aiming to cultivate compassion towards self and others have been developed. This meta-analysis examined the effects of compassion-based interventions on a range of outcome measures. Method Twenty-one randomized controlled trials (RCTs) from the last 12 years were included in the meta-analysis, with data from 1,285 participants analyzed. Effect sizes were standardized mean differences calculated using the difference in pre-post change in the treatment group and control group means, divided by the pooled pre-intervention standard deviation. Results Significant between group differences in change scores were found on self-report measures of compassion ($d = 0.55$, $k = 4$, 95% CI [0.33-0.78]), self-compassion ($d = 0.70$, $k = 13$, 95% CI [0.59-0.87]), mindfulness ($d = 0.54$, $k = 6$, 95% CI [0.38-0.71]), depression ($d = 0.64$, $k = 9$, 95% CI [0.45-0.82]), anxiety ($d = 0.49$, $k = 9$, 95% CI [0.30-0.68]), psychological distress ($d = 0.47$, $k = 14$, 95% CI [0.19-0.56]), and well-being ($d = 0.51$, $k = 8$, 95% CI [0.30-0.63]). These results remained when including active control comparisons. Evaluations of risk of bias across studies pointed towards a relative lack of publication bias and robustness of findings. However, the evidence-base underpinning compassion interventions relies predominantly on small sample sizes. Conclusions Future directions are provided for compassion research including, the need for improved methodological rigor, larger scale RCTs, increased specificity on the targets of compassion, and examination of compassion across the lifespan. Although further research is warranted, the current state of evidence highlights the potential benefits of compassion-based interventions on a range of outcomes.

Klingbeil, D. A., T. L. Renshaw, et al. (2017). **"Mindfulness-based interventions with youth: A comprehensive meta-analysis of group-design studies."** *Journal of School Psychology* 63: 77-103. <http://www.sciencedirect.com/science/article/pii/S0022440517300341>

The treatment effects of Mindfulness-Based Interventions (MBIs) with youth were synthesized from 76 studies involving 6121 participants. A total of 885 effect sizes were aggregated using meta-regression with robust variance estimation. Overall, MBIs were associated with small treatment effects in studies using pre-post ($g = 0.305$, $SE = 0.039$) and controlled designs ($g = 0.322$, $SE = 0.040$). Treatment effects were measured after a follow-up period in 24 studies ($n = 1963$). Results demonstrated that treatment effects were larger at follow-up than post-treatment in pre-post ($g = 0.462$, $SE = 0.118$) and controlled designs ($g = 0.402$, $SE = 0.081$). Moderator analyses indicated that intervention setting and intervention dosage were not meaningfully related to outcomes after controlling for study design quality. With that said, the between-study heterogeneity in the intercept-only models was consistently small, thus limiting the amount of variance for the moderators to explain. A series of exploratory analyses were used to investigate the differential effectiveness of MBIs across four therapeutic process domains and seven therapeutic outcome domains. Small, positive results were generally observed across the process and outcome domains. Notably, MBIs were associated with moderate effects on the process variable of mindfulness in controlled studies ($n = 1108$, $g = 0.510$). Limitations and directions for future research and practice are discussed.

Kok, B. E. and T. Singer (2017). **"Effects of contemplative dyads on engagement and perceived social connectedness over 9 months of mental training: A randomized clinical trial."** *JAMA Psychiatry* 74(2): 126-134. <http://dx.doi.org/10.1001/jamapsychiatry.2016.3360>

Importance Loneliness is a risk factor for depression and other illnesses and may be caused and reinforced by maladaptive social cognition. Secularized classical meditation training programs address social cognition, but practice typically occurs alone. Little is known about the effectiveness of contemplative practice performed in dyads. **Objective** To introduce and assess the effectiveness of contemplative dyadic practices relative to classical-solitary meditation with regard to engagement and perceived social connectedness. **Design, Setting, and Participants** The ReSource Project was a 9-month open-label efficacy trial of three, 3-month secularized mental training modules. Replacement randomization was used to assign 362 healthy participants in Leipzig and Berlin, Germany. Eligible participants were recruited between November 11, 2012, and February 13, 2013, and between November 13, 2013, and April 30, 2014. Intention-to-treat analyses were conducted. **Interventions** Breathing meditation and body scan (the presence module), loving-kindness meditation and affect dyad (the affect module), and observing-thoughts meditation and perspective dyad (the perspective module). **Main Outcomes and Measures** Primary outcomes were self-disclosure and social closeness. Engagement measures included compliance (ie, the mean [95% margin of error] number of meditation sessions that a participant engaged in per week), liking, and motivation to practice. **Results** Thirty participants dropped out after assignment to 3 experimental groups; 90 participants were assigned to a retest control that did not complete the main outcome measures; 16 participants provided no state-change data for the affect and perspective modules (226 remaining participants; mean age of 41.15 years; 59.3% female). Results are aggregated across training cohorts. Compliance was similar across the modules: loving-kindness meditation (3.78 [0.18] sessions), affect dyad (3.59 [0.14] sessions), observing-thoughts meditation (3.63 [0.20] sessions), and perspective dyad (3.24 [0.18] sessions). Motivation was higher for meditation (11.20 [0.40] sessions) than the dyads (9.26 [0.43] sessions) and was higher for the affect dyad (10.11 [0.46] sessions) than the perspective dyad (8.41 [0.46] sessions). Social closeness increased during a session for the affect dyad (1.49 [0.12] sessions) and the perspective dyad (1.06 [0.12] sessions) and increased over time for the affect dyad (slope of 0.016 [0.003]) and the perspective dyad (slope of 0.012 [0.003]). Self-disclosure increased over time for the affect dyad (slope of 0.023 [0.004]) and the perspective dyad (slope of 0.006 [0.005]), increasing more steeply for the affect dyad ($P < .001$). **Conclusions and Relevance** Contemplative dyads elicited engagement similar to classical contemplative practices and increased perceived social connectedness. Contemplative dyads represent a new type of intervention targeting social connectedness and intersubjective capacities deficient in participants who experience loneliness and in many psychopathologies.

Layous, K., S. K. Nelson, et al. (2017). **"What triggers prosocial effort? A positive feedback loop between positive activities, kindness, and well-being."** *The Journal of Positive Psychology* 12(4): 385-398. <https://dx.doi.org/10.1080/17439760.2016.1198924>

Across two studies, we found evidence supporting a positive feedback loop between positive activities, kindness and well-being. In Study 1, participants were randomly assigned to one of four distinct positive activities (versus a neutral writing activity) before spending three weeks engaging in kind acts. We found that the positive activities served as triggers ? that is, they predicted greater prosocial effort, which in turn predicted greater well-being immediately following the intervention and at a two-week follow-up. In Study 2, we explored the specific effects of a gratitude trigger, and extended the intervention period to six weeks. Although, we did not replicate the direct effect of the gratitude trigger on prosocial effort, people who wrote gratitude letters (versus writing about their week) reported relatively greater elevation, which predicted greater prosocial effort during the six weeks. In turn, replicating Study 1, greater effort predicted higher well-being immediately following the study.

Lindahl, J. R., N. E. Fisher, et al. (2017). **"The varieties of contemplative experience: A mixed-methods study of meditation-related challenges in western buddhists."** *PLOS ONE* 12(5): e0176239. <https://doi.org/10.1371/journal.pone.0176239>

(Available in free full text) Buddhist-derived meditation practices are currently being employed as a popular form of health promotion. While meditation programs draw inspiration from Buddhist textual sources for the benefits of meditation, these sources also acknowledge a wide range of other effects beyond health-related outcomes. The Varieties of Contemplative Experience study investigates meditation-related experiences that are typically underreported, particularly experiences that are described as challenging, difficult, distressing, functionally impairing, and/or requiring additional support. A mixed-methods approach featured qualitative interviews with Western Buddhist meditation practitioners and experts in Theravāda, Zen, and Tibetan traditions. Interview questions probed meditation experiences and influencing factors, including interpretations and management strategies. A follow-up survey provided quantitative assessments of causality, impairment and other demographic and practice-related variables. The content-driven thematic analysis of interviews yielded a taxonomy of 59 meditation-related experiences across 7 domains: cognitive, perceptual, affective, somatic, conative, sense of self, and social. Even in cases where the phenomenology was similar across participants, interpretations of and responses to the experiences differed considerably. The associated valence ranged from very positive to very negative, and the associated level of distress and functional impairment ranged from minimal and transient to severe and enduring. In order to determine what factors may influence the valence, impact, and response to any given experience, the study also identified 26 categories of influencing factors across 4 domains: practitioner-level factors, practice-level factors, relationships, and health behaviors. By identifying a broader range of experiences associated with meditation, along with the factors that contribute to the presence and management of experiences reported as challenging, difficult, distressing or functionally impairing, this study aims to increase our understanding of the effects of contemplative practices and to provide resources for mediators, clinicians, meditation researchers, and meditation teachers.

Maynard, B. R., M. R. Solis, et al. (2017). **"Mindfulness-based interventions for improving cognition, academic achievement, behavior and socio-emotional functioning of primary and secondary students."** *Campbell Collaboration*. <https://www.campbellcollaboration.org/library/mindfulness-based-interventions-primary-and-secondary-school-students.html>

(Available in free full text) Results indicate mixed results of school-based mindfulness interventions across the outcomes of interest in this review, with finding favorable impacts of mindfulness interventions on those processes that are likely more directly targeted by mindfulness interventions, namely cognitive and socioemotional outcomes. We found a lack of support at posttest to indicate that those positive effects on cognitive and socioemotional outcomes then translate into favorable outcomes for academic and behavioral outcomes as is hypothesized. The lack of heterogeneity for all outcomes with the exception of the behavioral outcomes indicate that the interventions in this review, although quite diverse in their characteristics, produced similar results across studies on cognitive, socioemotional and academic outcomes. These findings provide some support for the use of school-based mindfulness interventions for some outcomes, but do not provide overwhelming support of MBIs as being the panacea as some have advocated. The quality of the evidence varied, with some important risks of bias present across a large proportion of studies which threatens the internal validity of the included studies and is cause for caution in interpreting the results of this review. Overall, the evidence from this review urges caution in the enthusiasm for, and widespread adoption of, school-based mindfulness interventions for children and youth. While the evidence points to positive effects on socioemotional and cognitive outcomes, there is a lack of evidence of effects on academic and behavioral outcomes. Despite the empirical support of mindfulness-based interventions for adults, children and adolescents may not benefit from mindfulness-based interventions similarly to adults. Children and adolescents may not be developmentally ready for the complex cognitive tasks, focus and level of awareness that mindfulness-based interventions require. Moreover, we know little about the costs and adverse effects of school-based mindfulness interventions—the costs of implementing these programs may not be justified, and there are some indications that mindfulness-based interventions may have some adverse effects on children and youth; however, these have not been adequately examined. If schools do want to implement mindfulness-based interventions, we urge schools to evaluate the practice in a rigorous way and monitor outcomes and costs.

Nolte, A. G. W., C. Downing, et al. (2017). **"Compassion fatigue in nurses: A metasynthesis."** *Journal of Clinical Nursing*: n/a-n/a. <http://dx.doi.org/10.1111/jocn.13766>

(Available in free full text) Aims and objectives: To interpret the body of qualitative work focusing on compassion fatigue to distil a common understanding that could then be applied to nursing care. Background: Complex demands place extraordinary stress on nurses struggling to work in overburdened healthcare systems. The result can be the inability to care well for others, leading to compassion fatigue, burnout and increased numbers leaving the profession. Metasynthesis offers a means of more fully illuminating compassion fatigue and further understanding of practices which might reduce its negative consequences. Design: Metasynthesis. Method: As a method designed to facilitate knowledge development, metasynthesis allowed for integration of qualitative study findings conducted between 1992–2016 using defined search terms. Six databases were searched for articles published in English. Nine papers met the criteria for review and metasynthesis was conducted using the meta-ethnographic approach detailed by Noblit and Hare. Results: Four themes related to compassion fatigue were found by consensus discussion. The themes included: physical ("just plain worn out") and emotional symptoms ("walking on a tightrope"), triggering factors ("an unbearable weight on shoulders" and "alone in a crowded room"), and measures to overcome/prevent ("who has my back?"). Conclusions: Compassion fatigue is a concept of documented relevance to those in nursing and represents a basic inability to nurture others and engenders a temporal component. Synthesis of studies provides evidence of the veracity of the concept for application to clinical practice and research related to nursing care. Relevance to clinical practice: Findings provide insight into the clinical milieu needed to prevent compassion fatigue. A theoretical model is presented which can be used to guide future research, as well as the creation of clinical practice policies which might mitigate the development of compassion fatigue and its potential consequences.

Rahl, H. A., E. K. Lindsay, et al. (2017). **"Brief mindfulness meditation training reduces mind wandering: The critical role of acceptance."** *Emotion* 17(2): 224-230. <https://www.ncbi.nlm.nih.gov/pubmed/27819445>

Mindfulness meditation programs, which train individuals to monitor their present-moment experience in an open or accepting way, have been shown to reduce mind wandering on standardized tasks in several studies. Here we test 2 competing accounts for how mindfulness training reduces mind wandering, evaluating whether the attention-monitoring component of mindfulness training alone reduces mind wandering or whether the acceptance training component is necessary for reducing mind wandering. Healthy young adults (N = 147) were randomized to either a 3-day brief mindfulness training condition incorporating instruction in both attention monitoring and acceptance, a mindfulness training condition incorporating attention monitoring instruction only, a relaxation training condition, or an active reading-control condition. Participants completed measures of dispositional mindfulness and treatment expectancies before the training session on Day 1 and then completed a 6-min Sustained Attention to Response Task (SART) measuring mind wandering after the training session on Day 3. Acceptance training was important for reducing mind wandering, such that the attention-monitoring plus acceptance mindfulness training condition had the lowest mind wandering relative to the other conditions, including significantly lower mind wandering than the attention-monitoring only mindfulness training condition. In one of the first experimental mindfulness training dismantling studies to-date, we show that training in acceptance is a critical driver of mindfulness-training reductions in mind wandering. This effect suggests that acceptance skills may facilitate emotion regulation on boring and frustrating sustained attention tasks that foster mind wandering, such as the SART.

Shimura, A., Y. Takaesu, et al. (2017). **"Childhood parental bonding affects adulthood trait anxiety through self-esteem."** *Comprehensive Psychiatry* 74: 15-20. <http://www.sciencedirect.com/science/article/pii/S0010440X16303467>

Abstract Introduction The association between trait anxiety and parental bonding has been suggested. However, the mechanism remains uncertain and there is no study focused on general adult population. We investigated the association and the mechanism between childhood parental bonding and adulthood trait anxiety in the general adult population. Material and methods A cross-sectional retrospective survey was conducted in 2014 with 853 adult volunteers from the general population. The Parental Bonding Instrument, Rosenberg Self-Esteem Scale, and State-Trait Anxiety Inventory Form Y (STAI-Y) were self-administered. Structural equation modelling was used for the analysis. Results Childhood parental bonding affected adulthood trait anxiety indirectly mediated by self-esteem. Trait anxiety was decreased by parental care and increased by parental overprotection through self-esteem. This model explained 51.1% of the variability in STAI-Y trait anxiety scores. Conclusions This study suggests an important role of self-esteem as a mediator between childhood parental bonding and adulthood trait anxiety.

Sinclair, S., J. Kondejewski, et al. (2017). **"Can self-compassion promote healthcare provider well-being and compassionate care to others? Results of a systematic review."** *Applied Psychology: Health and Well-Being*: n/a-n/a. <http://dx.doi.org/10.1111/aphw.12086>

(Available in free full text) Background: This meta-narrative review, conducted according to the RAMESES (Realist And Meta-narrative Evidence Syntheses: Evolving Standards) standards, critically examines the construct of self-compassion to determine if it is an accurate target variable to mitigate work-related stress and promote compassionate caregiving in healthcare providers. Methods: PubMed, Medline, CINAHL, PsycINFO, and Web of Science databases were searched. Studies were coded as referring to: (1) conceptualisation of self-compassion; (2) measures of self-compassion; (3) self-compassion and affect; and (4) self-compassion interventions. A narrative approach was used to evaluate self-compassion as a paradigm. Results: Sixty-nine studies were included. The construct of self-compassion in healthcare has significant limitations. Self-compassion has been related to the definition of compassion, but includes limited facets of compassion and adds elements of uncompassionate behavior. Empirical studies use the Self-Compassion Scale, which is criticised for its psychometric and theoretical validity. Therapeutic interventions purported to cultivate self-compassion may have a broader effect on general affective states. An alleged outcome of self-compassion is compassionate care; however, we found no studies that included patient reports on this primary outcome. Conclusion: We critically examine and delineate self-compassion in healthcare providers as a composite of common facets of self-care, healthy self-attitude, and self-awareness rather than a construct in and of itself.

Vedel, A. and D. K. Thomsen (2017). **"The dark triad across academic majors."** *Personality and Individual Differences* 116: 86-91. <http://www.sciencedirect.com/science/article/pii/S0191886917302817>

The Dark Triad traits (i.e., narcissism, psychopathy, and Machiavellianism) have been associated with the desire for power, status, and social dominance in the workplace, and these desires have been hypothesized to draw Dark Triad individuals towards occupations affording such outcomes. Following this reasoning, the Dark Triad may also influence educational choices. Research in other personality traits has shown that Big Five traits impact educational choices: Students in different academic majors differ on Big Five traits at enrollment. The aim of the present study was to explore whether there are also pre-existing Dark Triad differences across academic majors. Accordingly, the Big Five and the Dark Triad traits were measured in a sample of newly enrolled students (N = 487) in different academic majors (psychology, economics/business, law, and political science), and mean scores were compared. Group differences in the Big Five personality traits largely replicated previous findings. Group differences in the Dark Triad traits were also found and included medium and large effect sizes with the largest differences being between economics/business students (having high Dark Triad scores) and psychology students (having low Dark Triad scores). These findings indicate that Dark Triad as well as Big Five traits may influence educational choices.

Ward, A. F., K. Duke, et al. (2017). **"Brain drain: The mere presence of one's own smartphone reduces available cognitive capacity."** *Journal of the Association for Consumer Research* 2(2): 140-154. <http://www.journals.uchicago.edu/doi/abs/10.1086/691462>

(Available in free full text) Our smartphones enable—and encourage—constant connection to information, entertainment, and each other. They put the world at our fingertips, and rarely leave our sides. Although these devices have immense potential to improve welfare, their persistent presence may come at a cognitive cost. In this research, we test the "brain drain" hypothesis that the mere presence of one's own smartphone may occupy limited-capacity cognitive resources, thereby leaving fewer resources available for other tasks and undercutting cognitive performance. Results from two experiments indicate that even when people are successful at maintaining sustained attention—as when avoiding the temptation to check their phones—the mere presence of these devices reduces available cognitive capacity. Moreover, these cognitive costs are highest for those highest in smartphone dependence. We conclude by discussing the practical implications of this smartphone-induced brain drain for consumer decision-making and consumer welfare.

Warren, M. T. and L. Wray-Lake (2017). **"Does mindfulness prepare adolescents for value-behavior concordance? Examining the role of value content."** *Journal of Adolescence* 58: 56-66. <http://www.sciencedirect.com/science/article/pii/S0140197117300660>

Great thinkers throughout history advocated living one's values, yet little research has examined factors that contribute to adolescents' value-behavior concordance (VBC). Mindfulness may foster VBC via heightened awareness of values, but VBC for intrinsic values may be more adaptive than VBC for extrinsic values. To situate mindfulness in developmental context, we examined age and attachment security as predictors of mindfulness. We collected self- and parent-report data from 299 families (Mage-adolescents = 14.45, SD = 1.68; 51% female) from 42 US states to test these ideas. Results indicated that mindfulness was positively associated with intrinsic VBC but was negatively linked with extrinsic VBC, and both kinds of VBC partially mediated the link from mindfulness to meaning (but not life satisfaction). Attachment security was associated with higher mindfulness. Overall, mindfulness may deliver its benefits by helping young people avoid behaviors that align with extrinsic values.

Webster, J. D., N. M. Weststrate, et al. (2017). **"Wisdom and meaning in emerging adulthood."** *Emerging Adulthood* 0(0): 2167696817707662. <http://journals.sagepub.com/doi/abs/10.1177/2167696817707662>

Wisdom and meaning are important developments in emerging adulthood. In two studies, we investigated the relationship between wisdom and meaning using self-report measures (Study 1; N = 298) and narrative coding (Study 2; N = 271). Study 1 supported the hypothesis that the search for and presence of meaning in life were both positively correlated with wisdom. The presence of meaning partially mediated the relationship between wisdom and positive self-characteristics (i.e., optimism and self-esteem). Study 2 extended these results by coding two styles of narrative meaning-making in autobiographical memories of stressful life events. As predicted, wisdom was positively associated with exploratory processing (i.e., deriving lessons and insights) in stressful memories but uncorrelated with redemptive processing (i.e., aimed at positive emotional transformation). Results suggest a possible pathway through which wisdom and meaning influence positive self-development and the importance of styles of narrative meaning-making that differentially predict wisdom.

Wilkinson, R. G. and K. E. Pickett (2017). **"The enemy between us: The psychological and social costs of inequality."** *European Journal of Social Psychology* 47(1): 11-24. <http://dx.doi.org/10.1002/ejsp.2275>

(Available in free full text) There is now substantial evidence that larger income differences in a society increase the prevalence of most of the health and social problems that tend to occur more frequently lower down the social ladder. The pathways through which human beings are sensitive to inequality are however less clear. This paper outlines the explanatory theory that we think best fits the growing but incomplete body of evidence available. Inequality appears to have its most fundamental effects on the quality of social relations—with implications affecting the prevalence of a number of psychopathologies. We suggest that human beings have two contrasting evolved social strategies: one that is adaptive to living in a dominance hierarchy and the other appropriate to more egalitarian societies based on reciprocity and cooperation. Although both strategies are used in all societies, we hypothesise that the balance between them changes with the extent of material inequality.