



2020

MIND & LIFE INSTITUTE

Contemplative Research  
CONFERENCE

## CRC 2020 Papers Schedule

Thursday, Nov 5

### Room D: Individual Papers

*Session Title:*

**Covid-19: Impact and virtual approaches**

*Paper #1*

**Presenter:** Stephanie Thompson, University of Washington

**Title:** Self-compassion Protects Postpartum Woman from Mental Health Problems in Response to COVID-19 Pandemic

**Authors:** SF Thompson, B Calhoun, L Shimomaeda, MR Smith & LJ Lengua

**Abstract:** Stress, adversity and mental health problems are often pronounced and stable in many families experiencing economic disadvantage. The global COVID-19 pandemic poses an extreme and societally disproportionate burden on these families. The current study examines risk and protective factors that may, even in the context of pre-existing and pandemic risks, predict maternal mental health changes from before to during the pandemic. Specifically, this study examined anxiety, depression, coping (active and avoidant), threat appraisal, self-compassion, mindfulness, and social support among mothers (N = 202) with young children living in a low-income context (<200% poverty). These mothers were previously enrolled in a study evaluating their first pregnancy and early postpartum adjustment. Pre-COVID-19 risk (a cumulative index of low income, financial insecurity, adolescent parenthood, low maternal education, and ACEs) did not predict changes in maternal mental health from before to during the pandemic. In contrast, mother's pandemic vulnerability (a cumulative index of having no medical insurance, employment, income, and childcare changes, and housing risks) and COVID-19 specific experiences (being in poor health, themselves/their child experiencing symptoms, in contact with someone with symptoms, having knowledge of someone who has tested positive or died, etc.)

predicted increases in mental health symptoms. Additionally, prior levels of self-compassion and active coping predicted decreases, whereas threat appraisal, mindfulness and avoidant coping predicted increases in maternal mental health symptoms from before to during the pandemic. Findings highlight promotable qualities (e.g. self-compassion, active coping) that have protective effects on mental health, even when co-occurring with profound stress and hardship.

» » » « « «

*Paper #2*

**Presenter:** James Floman, Yale School of Medicine

**Title:** Meditation, Emotion Regulation, and Post-Traumatic Growth During the COVID-19 Pandemic

**Authors:** JL Floman, J Jain, MA Brackett

**Abstract:** Acute and chronic stress both exert deleterious impacts on the brain and body. The COVID-19 pandemic presents a prolonged exposure to multiple acute stressors simultaneously (e.g., health concerns, economic insecurity, political instability). As such, the pandemic is exacerbating existing mental and physical health conditions, and may lead otherwise healthy individuals to develop disorders that could persist for years. This amounts to a public health crisis that has not been seen in a generation. Who is most likely to remain resilient through this time of crisis and why? Although there are limitations in the literature (e.g., intervention studies often lack active control groups), the current evidence suggests that people who regularly practice meditation are more emotionally resilient in the face of acute and chronic stressors. That said, it is not well-understood whether more experienced meditators consistently deploy more adaptive coping strategies beyond mindfulness or acceptance in normal times or during a time of crisis. Additionally, research on 'post-traumatic growth' has found that even in the most adverse circumstances, individuals may learn life lessons and grow from trying experiences. Accordingly, in an ongoing longitudinal study with a well-powered (N=2207) and diverse U.S. sample, greater meditation practice positively correlated with healthier patterns of coping (e.g., use of reappraisal and gratitude versus rumination and substance use), as well as post-traumatic growth in response to the present crisis. Meditation may serve as an effective public health measure during the COVID-19 pandemic, both to prevent and reduce psychological health problems.

» » » « « «

*Paper #3*

**Presenter:** Ai Kubo, Kaiser Permanente

**Title:** Pilot Pragmatic Randomized Trial of mHealth Mindfulness-Based Intervention for Advanced Cancer Patients and Their Informal Caregivers

**Authors:** A Kubo, E Kurtovich, M McGinnis, S Aghaee, A Altschuler, C Quesenberry Jr, T Kolevska, R Liu, N Greyz-Yusupov, A Avins

**Abstract:** Objective: Assess the feasibility of conducting a cluster randomized trial comparing technology-delivered mindfulness-based intervention programs against a waitlist control arm targeting advanced cancer patients and their informal caregivers. Methods: Two-arm cluster randomized trial within Kaiser Permanente Northern California. We recruited patients with metastatic solid malignancies or hematological cancers and their informal caregivers. Intervention group participants chose to either use a commercially available mindfulness app (10-20 minutes/day) or participate in a webinar-based mindfulness course for 6 weeks. The waitlist control group received usual care. We assessed feasibility measures and obtained participant-reported data on distress and quality of life outcomes pre- and post-intervention. Results: 103 patients (median age 67 years; female 70%; 81% White) and 39 caregivers (median age 66 years; female 79%; 69% White) were enrolled. Nearly all participants chose the mindfulness app over the webinar-based program. Among the participants in the intervention arm who chose the Headspace™ program and completed the postintervention (6-week) survey, 21 (68%) patients and 7 (47%) caregivers practiced the mindfulness program at least 50% of the days during the 6-week study period. Seventy-four percent of intervention participants were “very” or “extremely” satisfied with the mindfulness program. We observed improvements in anxiety, quality of life, mindfulness and posttraumatic growth among patients in the intervention arm compared to those in the control group. Conclusions: We demonstrated the feasibility of conducting a cluster randomized trial of mHealth mindfulness interventions for advanced cancer patients and their caregivers. Such remote interventions can be helpful particularly during the COVID-19 pandemic.

» » » « « «

*Paper #4*

**Presenter:** Douglas Gentile, Iowa State University

**Title:** Virtual Reality May Help Meditating become Reality

**Authors:** Douglas Gentile

**Abstract:** Meditation is similar to exercise – people know it would be good for them, but it’s difficult to be motivated to do it regularly. Also similarly, many technological supports exist to help people have good experiences. Over 400 college students were randomly assigned to one of four

conditions. In the virtual reality condition, participants experienced two 10-minute guided meditations. A male guided a basic relaxing mindfulness of breath meditation, and a female guided a self-compassion meditation. The first was set by a waterfall, the second in an autumn glade. Both had light music and natural sound effects. As participants turned their heads, they could look around the virtual environment. A video condition used the same sound, but paired it with videos of a waterfall and autumn glade that one could not explore, as the camera was stationary. An audio condition used the same sound, but nothing to look at. An article condition had participants read an article describing the benefits of meditation. All meditation conditions appear to have been equally absorbing, able to reduce mind-wandering, and increase positive emotions. The VR condition, however, was superior at increasing state mindfulness, was judged as more fun and enjoyable, as well as less difficult or boring. Participants were also most satisfied with the VR meditation, and it influenced expectations that meditating would be more pleasant. There were no differences between conditions, however, in expectations about whether meditation would be valuable, beneficial, nor in intentions to meditate in the coming month.

---

## Room E: Individual Papers

*Session Title:*

### Compassion, self-compassion, and prosociality, Part I

*Paper #1*

**Presenter:** Paul Condon, Southern Oregon University

**Title:** Recovering the relational starting point of compassion training

**Authors:** P Condon

**Abstract:** The cultivation of compassion through meditation training is of increasing interest to scientists, healthcare providers, educators, and policy makers as an approach to help address challenging psychological and social issues. Yet people encounter critical barriers to compassion that limit the effectiveness of compassion training—including the lack of adequately secure attachment, aversion to suffering, feeling alone in suffering, reductive impressions of self and others, and systemic inequities. These barriers emerge, in part, from a lack of relational support and are exacerbated by modernist conceptions that present meditation as an autonomous, self-help practice. This talk will present a solution centered on a communal basis as support for meditation, derived from the integration of diverse areas of psychology with contemplative traditions. Theories and findings from social, developmental, cognitive psychology, and neuroscience can inform meditation programs and help recover important relational elements of

compassion training from traditional cultures that address barriers to compassion, and thus promote more sustainable and inclusive care. In so doing, this panel will illustrate the value of psychological theories for translating important contextual elements of contemplative traditions into diverse western settings.

» » » « « «

*Paper #2*

**Presenter:** Jennifer Mascaro, Emory University

**Title:** Compassion-centered approaches to healthcare team resilience

**Authors:** Mascaro, Jennifer; Raison, Charles; Palmer, Kim; Ash, Marcia; Peacock, Caroline

**Abstract:** Healthcare providers and staff experience high rates of burnout compared to age-matched cohorts, which exerts profoundly negative social impact as well as vast national and institutional economic costs. However, the presence of positive social support among colleagues reduces burnout and improves job performance. Moreover, healthcare team relationships affect clinical care, and team relationship quality predicts patient mortality rates, treatment adherence, and patient safety. Together, these data indicate that team-based interventions to promote compassion, cohesion, and resilience may be ideal for reducing burnout among healthcare teams. We examined a team-based intervention, Compassion-Centered Spiritual Health Team Intervention (CCSH-TI), founded on insights from an established contemplative compassion-based practice and delivered by spiritual care professionals (chaplains). We used a mixed-method approach that included a randomized, wait-list controlled trial, followed by focus groups to examine the feasibility, acceptability, and impact of CCSH-TI among oncology clinical research coordinators (CRCs) working in disease-specific teams in a National Cancer Institute (NCI)-designated Comprehensive Cancer Center. Qualitative and quantitative data revealed intra- and interpersonal factors associated with an increased risk for burnout, as well as factors that emerged as protective. Attendance for all teams was high, participation was enthusiastic, and fewer than 10% of CRCs reported disinterest in the intervention or a belief that their spiritual beliefs were at odds with the intervention. Importantly, coordinators randomized to CCSH-TI reported an increase in self-reported resilience compared to coordinators randomized to the wait-list group. Ultimately, this study indicates that contemplative-based insights and compassion-centered support can increase healthcare team cohesion and resilience.

» » » « « «

*Paper #3*

**Presenter:** Blake Colaianne, Pennsylvania State University

**Title:** Care Cultivates Care: Longitudinal Relations Between High School Students' Development of Compassion and Belonging

**Authors:** Blake A. Colaianne, Michael J. Tumminia, Brian M. Galla, Robert W. Roeser

**Abstract:** Although research on compassion is growing, little attention has been devoted to the development of compassion during adolescence and the school factors that may promote or impede it during this important life-stage. Both scientific and contemplative perspectives on care and compassion posit that receiving care from others promotes a sense of safety and belonging, and that individuals who feel safe and connected are more likely to extend care to others. We explore this hypothesis in the context of adolescents' compassion development in high school and its related development of school belonging. Longitudinal data collected at three time points from 395 students at one high school (grades 9-12) were used. First, autoregressive, cross-lagged panel models revealed that high school students' positive perceptions of teacher care impacted their development of compassion across one schoolyear, and this relation is mediated through their own feelings of school belonging. Second, subgroup analyses of school belonging trajectory were used to demonstrate that growth in compassion was largest for students who showed improvement in their school belonging across the schoolyear. Identifying the key features that impact compassion development in adolescence can inform how high schools might cultivate these prosocial skills. Discussion will focus on qualities related to an adolescent cultivating compassion in school.

» » » « « «

*Paper #4*

**Presenter:** Jordan Quaglia, Naropa University

**Title:** Or versus And in Compassion Science: A Comprehensive Review and Empirical Findings

**Authors:** JT Quaglia, A Soisson, J Simmer-Brown

**Abstract:** The rapidly growing body of scientific research on compassion relies heavily on a distinction between self-compassion and other-oriented compassion (hereafter, other-compassion). However, the Buddhist traditions from which most studied compassion practices derive do not greatly emphasize this distinction. Moreover, at a foundational level, compassion is about challenging overly dualistic views that divide the world into self versus other. In this talk, I present findings from our comprehensive review of compassion training research that examined how the division of compassion, into self- versus other-compassion, has shaped research to date. Our review found patterns that were both consistent and inconsistent with a dualistic framing of compassion. This talk will also include related findings from two recent empirical studies, which examined compassion through a less dualistic lens. Altogether, these studies point to the need for more targeted research on combined experiences of self- and other-compassion, as well as on relations between thoughts about compassion versus actual compassion experience.

## Room F: Individual Papers

*Session Title:*

### Neuroscientific studies

*Paper #1*

**Presenter:** Dusana Dorjee, University of York

**Title:** Investigating neurodevelopmental changes resulting from contemplative training in schools: Opportunities, limitations and lessons learned so far

**Authors:** D Dorjee, T Nguyen, R Kaunhoven, K Sanger

**Abstract:** While research into neurodevelopmental mechanisms underlying contemplative practice in children and adolescents within school context is still scarce, based on four longitudinal controlled studies conducted in our lab using event-related brain potentials (ERPs) we have identified initial overarching patterns of findings in pre-adolescents (8-10 year-olds) and older adolescents (16-18 year-olds). In all four studies mindfulness-based training was delivered as part of regular school curricula by students' schoolteachers. In both age groups longitudinal changes in ERP markers of attention after 8 weeks of mindfulness training modulated the N2 component linked to improved inhibition of irrelevant stimuli. We have also detected longitudinal differences in emotion processing, indexed by the P300 or LPP components, in three studies but in two of these studies the effects were driven by declines in emotion processing in the control groups rather than improvements in the training group. In our latest study we found P300 longitudinal changes in the training group after 16 weeks of mindfulness training and further modulations in the LPP component emerged after continued training at 19-months follow-up. Comparing dispositional mindfulness (baseline) and longitudinal ERP effects associated with mindfulness across the studies, dispositional associations were stronger and did not always map onto changes after mindfulness training. Overall, these findings suggest that contemplative training in schools is most likely to modulate ERP markers of attention and emotion processing if delivered longer-term given its low-dose format. Effects of contemplative practices other than mindfulness and long-term developmental trajectories beyond one year of contemplative training need to be investigated.

» » » « « «

*Paper #2*

**Presenter:** Eric Garland, University of Utah

**Title:** Healing the Opioid Crisis with Mindfulness-Oriented Recovery Enhancement: Clinical Efficacy and Biobehavioral Mechanisms

**Authors:** E Garland

**Abstract:** The opioid epidemic is a dire threat to public health that is now being addressed with extreme urgency at both clinical and policy levels. To meet this need, Mindfulness-Oriented Recovery Enhancement (MORE) was developed through a decade-long NIH-funded treatment development process. Grounded in affective neuroscience, MORE is distinct from extant mindfulness-based interventions in that it unites traditional focused attention and open monitoring meditation practices with higher-order cognitive and affective strategies designed to reverse the downward shift in salience of natural reward relative to drug reward, representing a crucial tipping point to disrupt the progression of addiction. This presentation will describe results from a newly completed, five-year R01-funded full-scale clinical trial of MORE as a treatment for opioid misuse among people with chronic pain being treated in primary care – the largest trial of MORE to date (N=250). Relative to a supportive psychotherapy control condition, MORE led to clinically significant improvements in opioid misuse (a 40% reduction), opioid dosing, chronic pain symptoms, depression, positive affect, mindfulness, savoring, and meaning in life through the 9-month follow-up. The effects of MORE on reducing opioid misuse were mediated by increases in frontal midline theta power and coherence during meditation, whereas the effects of MORE on reducing pain severity were mediated by increases in self-transcendence – implicating meditative states of consciousness as key mechanisms of action. Given these findings, MORE is clearly an efficacious treatment for opioid misuse and chronic pain – two of the most prevalent and pernicious public health crises of the modern age.

» » » « « «

*Paper #3*

**Presenter:** Resh Gupta, Vanderbilt University

**Title:** Mindfulness-Based Cognitive Therapy: It's Got (Event-Related) Potential for Attentional Bias in Anxiety

**Authors:** RS Gupta, A Kujawa, D Fresco, A Bernstein, H Kang, PLA Schoenberg, DR Vago

**Abstract:** Anxiety disorders are associated with threat-related attentional bias, defined as the preferential tendency to allocate attention toward or away from threatening stimuli. Attentional bias may prolong states of anxiety by placing inordinate priority on potential threats in the environment, thus interfering with ongoing task demands and intensifying anxious mood states.



Using a dot-probe (DP) paradigm, Mueller and colleagues (2009) observed that individuals with social anxiety disorder display enhanced P1 event-related potential (ERP) amplitudes to angry-neutral versus happy-neutral face pair cues, suggesting early hypervigilance to angry faces, and decreased P1 amplitudes to probes replacing emotional (angry and happy) versus neutral face cues, suggesting reduced visual processing of emotionally salient locations at later stages of information processing—potentially a manifestation of attentional avoidance. In their mindfulness model, Vago and Silbersweig (2012) propose that mindfulness styles of meditation improve the control of attention by improving efficiency of engagement and disengagement processes, thereby reducing attentional bias. This study investigates the effects of Mindfulness-Based Cognitive Therapy (MBCT) on the P1 ERP, an early neurophysiological marker of attentional bias, in a population with moderate to high levels of trait anxiety (n = 42). More specifically, P1 ERPs time-locked to angry-neutral and happy-neutral face pair cues and probes in a DP task are assessed pre- and post-MBCT. P1 results from our current sample (n = 13) suggest that MBCT (1) decreases hypervigilance to angry face pair cues, (2) increases engagement with emotional face cues, and (3) increases attentional allocation to probes replacing happy, compared to neutral, faces.

» » » » « « « «

*Paper #4*

**Presenter:** Rael Cahn, University of Southern California

**Title:** Meditation Deconstructs the Narrative Self - ERP Evidence from the Self Name Paradigm

**Authors:** BR Cahn, C Brabozsz, A Delorme

**Abstract:** Transformation in the experience of self is both a long standing motivation for engaging in meditative practice and a self-reported result of engaging in such practice. We present evidence from an auditory oddball Self name paradigm indicating that the expected enhanced parietal late positivity potential in response to the passive presentation of the self name vs. other name is demonstrated in controls but not long term meditators from various traditions. Moreover, the parietal late positivity amplitude to the self name was positively correlated with negative affect and negatively correlated with self reported mindfulness and years of practice in long term meditators. Lastly, when participants were presented with the stimuli in an active target processing state this pattern was reversed. Implications for the effects of meditation on the experience of self will be explored.

Friday, Nov 6

## Room D: Individual Papers

*Session Title:*

Contemplative traditions: past and present

*Paper #1*

**Presenter:** David Divalerio, University of Wisconsin--Milwaukee

**Title:** Studying the History of Meditation through Tibetan Retreat Manuals

**Authors:** David Divalerio

**Abstract:** To further the comparative study of meditation as practiced in its traditional contexts, this paper presents some findings from a research project that derives from the reading and systematic comparison of a unique body of source material: thirty manuals for the practice of long-term meditative retreat, written in Tibetan between the twelfth and the twentieth centuries. By tracking variations in the stated prescriptions for how to live in meditative retreat (prescriptions that pertain to concerns of body, food, place, and social interaction), we can trace a history of retreat practice in Tibet and illuminate how meditative practice was shaped by the specific intellectual culture in which it was transmitted. This project offers the first book-length treatment of the phenomenon of long-term retreat, which has been a defining feature of Tibetan Buddhism since its inception. For scholars working from the perspective of the humanities, sensitive to differences in technologies of selfhood, "mountain dharma" (ri chos) retreat manuals by exegetes like Chegom Sherap Dorje (1124/5-1204/5), Yanggonpa (1213-1258), Karma Chakme (b. 1613) and Shabkar (1781-1851) constitute an invaluable trove of information for understanding meditation as a cultural phenomenon.

» » » « « «

*Paper #2*

**Presenter:** Kali Cape, University of Virginia

**Title:** Contemplation in A Context; An Analysis of a Fourteenth Century Tibetan Contemplative Training Manual

**Authors:** Kali Cape

**Abstract:** The topic of contemplative contexts, whether they be historical, ethical, ritual or social structures that defined meditation methods in their cultures of origin, remains an understudied but crucial factor for scholars of contemplative sciences to consider in formulating definitions of contemplation as pointed out by Germano (2014) and Dorjee (2016). This paper contributes a historical vantage point to this argument through an analysis of how a contemplative system was structured within its indigenous context. It presents an analysis of a fourteenth century Tibetan scripture, a contemplative manual called the Pith Instructions on the Four Yogas (mkha' 'gro snying thig gi rnal 'byor bzhi' man ngag). The Pith Instructions come from a body of scriptures of defining importance for the Great Perfection, Dzogchen (rdzogs chen), The Seminal Heart of the Dākinī (mkha' 'gro snying thig). As a precursor to systems of Great Perfection meditation as it is practiced today, its authors and commentators included Longchenpa (1308-1364), Rangjung Dorje Karmapa III (1284-1339) and the Fifth Dalai Lama, Ngawang Lobsang Gyatso (1617-82). The Pith Instructions explicitly presents a context centered framework of contemplative training. This emic framework is analyzed and classified to understand how The Pith Instructions defines meditation through its ancillary praxis. Through analyzing the structure and logic of this influential contemplative system in its early formulation, this paper advocates for a comprehensive definition of contemplative praxis inclusive of contemplation of philosophical tenets, motivational factors, attention regulation, ritual, narrative identity, sensory experience, recitation, psychological exercises, mind-states, postures, exercises and environment.

» » » « « «

*Paper #3*

**Presenter:** Michael Burke, St. Joseph's College New York

**Title:** Revealing the Nature of Reality: Applying Skillful Means from Chan (Chinese Zen) to explore Heidegger's Existential Approach

**Authors:** Michael Burke, Peter Lin, Joanne Chang

**Abstract:** While Western philosophy has long addressed the idea of mindfulness in terms of care for one's self and questions concerning personal identity, particularly in the intense exploration of existentialist thought that emerged in the twentieth century, this focus nonetheless has been primarily theoretical rather than practical and therapeutic. In order for mindfulness-based intervention instructors to cultivate a better understanding of the traditional values of mindfulness especially in dialogue with Western values of individuality and sufficiency, we propose exploring parallels between a mindfulness-based intervention from Chan, the Four Steps and one of the forerunners of existential philosophy, Martin Heidegger, demonstrating a convergence between this Western existential approach and Chinese Zen Buddhism. In this paper, a contemplative music scholar, a clinical psychologist, and a Continental philosopher will examine the similarities and differences between these two traditions.

*Paper #4*

**Presenter:** Yuria Celidwen, Pacifica Graduate Institute

**Title:** Rising the Feathered Serpent: A First Flight on Indigenous Contemplative Science

**Authors:** Yuria Celidwen

**Abstract:** The emergent field of contemplative studies draws inspiration mostly from Buddhist-derived practices, which have been secularized in the West as a popular source for benefits mainly related with stress reduction and attention. These benefits do not represent the higher resolve of spiritual realization and ethical goals. As studies on other contemplative traditions have been scarce, and with the intention of expanding the circle of inclusion, I bring Indigenous Mesoamerican traditions to the conversation to reclaim Indigenous traditional wisdom and validate its position as similar keepers of profound sophistication and variety. This paper is the first at Mind & Life to include Indigenous contemplative science and practice. This proposal makes the point that Indigenous funerary rites of the Nahua pre-colonial period were contemplative practices involving attention and embodied ritual to attain an integrated emotional-psycho-spiritual space. I use this basis to develop my thesis on the “ethics of belonging”, which is the sense of responsibility and connection with self, community, and environment that is engendered from compassionate action, ethics, and prosocial behavior. I argue that these spaces of communal ritual open the possibility of regeneration, while reestablishing a sense of belonging to land and community through embodied practices that reconnects the individual to its cultural identity, social role, and responsibility through fundamentally chthonic qualities. This ritual participation empowers the capacity for healing and resilience by regulating psychosocial disorders. Specifically, this communal ritual offers a vessel of contemplative practice that supports facing impermanence and finding a transcendent sense of belonging.

---

## **Room E: Individual Papers**

*Session Title:*

**Clinical trials of mindfulness-based interventions, Part I**

*Paper #1*

**Presenter:** Kevin Riordan, University of Wisconsin - Madison

**Title:** The Empirical Status of Mindfulness-Based Interventions: A Systematic Review of 44 Meta-Analyses of Randomized Controlled Trials

**Authors:** KM Riordan, SB Goldberg, S Sun, RJ Davidson

**Abstract:** Due to ongoing criticism of mindfulness-based interventions (MBIs) and their evidence base, we evaluated the empirical status of MBIs by systematically reviewing meta-analyses of randomized controlled trials (RCTs). We searched six databases for effect sizes based  $\geq 4$  trials that did not combine passive and active controls. Heterogeneity, moderators, tests of publication bias, risk of bias, and adverse effects were also extracted. Effect sizes based on the largest number of studies were identified across populations, problems, interventions, comparisons, and outcomes (PICOS). A total of 160 effect sizes were reported in 44 meta-analyses ( $k = 359$  RCTs,  $N = 31,466$  participants). MBIs showed superiority to passive controls across most PICOS. Effects were typically smaller and less often statistically significant when compared to active controls. MBIs were similar or superior to specific active controls and evidence-based treatments. Heterogeneity was typically moderate. Few consistent moderators were found. Results were generally robust to publication bias, although other sources of bias were identified. There was no evidence of serious adverse effects, although this was inconsistently reported. Statistical power may be lacking in meta-analyses, particularly for comparisons with active controls. As MBIs show promise across PICOS, future RCTs and meta-analyses should build upon identified strengths and limitations of this literature. Methodological recommendations for future RCTs and meta-analyses of MBIs are discussed.

» » » » « « « «

*Paper #2*

**Presenter:** Rebecca L. Acabchuk, University of Connecticut

**Title:** Self-Regulatory Processes Engaged by Mindfulness-Based Interventions: A Series of Systematic Reviews and Meta-Analyses

**Authors:** Rebecca L. Acabchuk

**Abstract:** Mindfulness-based programs (MBPs) are widely used to improve mental and physical health and to promote health behavior changes, including those related to substance use, smoking, and nutrition. Mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) are the two most highly studied MBPs, but variations of these approaches are proliferating for a variety of populations. Despite accumulating research supporting the effectiveness of these MBPs for various health-related outcomes, the mechanisms underlying clinical changes associated with MBPs remain unclear. Self-regulatory mechanisms have been

proposed as key hypothesized pathways; yet, the degree to which MBPs engage specific measures of self-regulation has not been systematically examined.

To better understand how MBPs work, for whom, and in what contexts, expert researchers from the field of contemplative science and mindfulness research collaborated to address the following questions:

1. What are the key target mechanisms of change in MBPs that may contribute to improving mental and physical health and promoting health behavior?
2. What measures should be used to best assess these target mechanisms of change?
3. How can we improve mindfulness-based programs and interventions to reliably and maximally engage these target mechanisms of change?

This presentation will (1) provide insight into the science of the behavior change framework as it applies to mindfulness research, (2) briefly review results of the three meta-analytic reviews, which include MBP effects on self-, cognitive- and emotion-related processes, (3) highlight gaps, limitations, diversity issues and recommendations for future work related to targeting self-regulatory mechanisms through MBP research.

» » » « « «

*Paper #3*

**Presenter:** Ekaterina Denkova, University of Miami

**Title:** Dissemination of Mindfulness Training in Time-Pressured High-Demand Settings

**Authors:** Ekaterina Denkova, Scott L. Rogers, Amishi P. Jha

**Abstract:** Mindfulness training (MT) has garnered substantial interest as a resilience and well-being enhancement tool in various time-pressured sectors ranging from public health and education to medicine, business, and the military. The increasing demand for MT has motivated the need to examine best practices for program delivery to increase its feasibility, efficacy, and scalable access. To address this need, a short-form, 4-week MT program, referred to as Mindfulness-Based Attention Training (MBAT), was offered to individuals from a variety of time-pressured high-demand settings. The core MBAT program was designed such that it can be tailored to the specific needs of various groups, and is amenable to the train-the-trainer (TTT) delivery by mindfulness-naïve individuals who receive training in mindfulness and are familiar with the professional context for delivery (e.g., schools, military life). This presentation will review recent findings on the feasibility and efficacy of MBAT offered across a variety of groups using the TTT delivery method. The findings suggest that cognitive resilience and psychological well-being can be fostered via contextualized short-form MT in high-pressured groups such as the military service members, military spouses, and first responders. Overall, these findings provide initial evidence for the salutary effects of tailored and TTT-delivered short-form MT.

» » » « « «

Paper #4

**Presenter:** Erica Sibinga, Johns Hopkins School of Medicine

**Title:** Mindfulness instruction for medication adherence among adolescents and young adults living with HIV: a randomized controlled trial

**Authors:** E Sibinga, L Webb, J Perin, C Parrish, V Tepper, D Kerrigan, J Ellen

**Abstract:** Adolescents and young adults 13-24 years old make up a disproportionate 21% of new HIV diagnoses. However, according to the Centers for Disease Control, individuals in this age group are least likely to effectively treat their HIV infection, with only 30% controlling their HIV. Our previous work with mindfulness-based stress reduction (MBSR) has shown promise for improving treatment among adolescents and young adults living with HIV (AYALH). This mixed-methods randomized controlled trial compared MBSR with a general health education program (HT). Participants were 13-24-year-olds with HIV infection. Ninety-seven AYALH consented to study participation; 74 conducted baseline data collection and were randomized to eight weekly sessions of MBSR or HT. Data were collected at baseline, three months (post-program), six months, and 12 months on psychological and cognitive functioning, as well as HIV disease management (medication adherence, CD4 count, HIV viral load). Longitudinal analyses were conducted. Additionally, in-depth interviews were conducted with a subset of participants at baseline and follow-up. Post-program, MBSR participants had greater increases than HT in self-reported medication adherence ( $p < 0.01$ ) and borderline decreased HIV viral load ( $p = 0.05$ ), but not at six- or 12-months. Qualitative analysis found that MBSR participants had greater HIV acceptance leading to increased medication adherence. Given the significant challenges related to HIV treatment in AYALH, these findings suggest that MBSR may play a role in improving HIV acceptance and medication adherence, with concomitant decrease in HIV viral load following MBSR program participation. Future research is needed to explore additional program elements that may enhance durability.

---

## Room F: Individual Papers

*Session Title:*

Scientific studies of experienced meditators

Paper #1

**Presenter:** Helen Y. Weng, University of California, San Francisco

**Title:** Clinical applications and scientific measurement of mindful interoception

**Authors:** Helen Y. Weng, Lisa Baker, Norman Farb, Cynthia Price

**Abstract:** Mindfulness interventions that cultivate mindful interoceptive awareness of bodily sensations (which facilitates emotional awareness and regulation) may improve symptoms in a variety of clinical disorders; however, the field lacks scientific tools to measure this process. Further, clients differ in their relationship to their bodies, as well as in neural structure and function. To develop a measure that accommodates experiential and neural diversity, the EMBODY task uses individualized machine learning applied to fMRI data to (1) learn and recognize internal attention states relevant for breath-focused meditation; and (2) decode these mental states during a meditation session. Within a mixed sample of experienced meditators and novice controls who completed a directed internal attention (IA) task (N=16), machine learning classifiers significantly recognized neural patterns associated with IA states of breath attention, mind wandering, self-referential processing, and 2 control states (attention to feet and sounds; >41% vs. 20% chance,  $p < 0.001$ ). At the individual level, IA states were recognized in most participants (87.5%), suggesting that recognition of IA neural patterns may be generalizable for most participants, although the brain patterns themselves were unique to each person. Next, these brain patterns were used to estimate IA states during a 10-min meditation period, producing individual-level readouts of attention states during meditation, and estimates of attention such as percentage time attending to breath or self-referential processing. These findings were replicated in a diverse sample of meditators (N=15, 80% racial and ethnic minorities, 53% LGBTQ+), demonstrating the utility of individualized neuroscience approaches to increase diversity within contemplative neuroscience.

» » » « « «

*Paper #2*

**Presenter:** Alea Skwara, University of California, Davis

**Title:** Calm Abiding Meditation, Inflammation, and Attention: A Computational Modeling Approach to Understanding the Effects of Meditation Retreat on Attentional Subprocesses

**Authors:** AC Skwara, GS Shields, BG King, FS Dhabhar, CD Saron

**Abstract:** Meditation practice has been linked to broad improvements in interference control. However, at a process level, such improvements could result from better controlled attention to goal-relevant stimuli, or from reduced automatic capture by goal-irrelevant stimuli. Moreover, although inflammatory activity is known to influence cognitive function, and meditation may affect inflammatory activity, few studies have directly explored the relationship between meditation-related changes in attention and inflammatory processes. To address these gaps, we examined associations between cognitive performance and cytokines in the context of an



intensive meditation retreat. Participants were randomly assigned to complete 3 months of meditation training first, or to serve as waiting-list controls. The waitlist control participants later completed a separate 3-month training intervention. While on retreat, participants engaged in full-time practice of shamatha meditation, which aims to cultivate concentration, attentional stability, and vividness of perception. We assessed participants' interference control performance with a flanker task at mid-retreat, and used computational modeling to derive component processes of controlled and automatic attention. We also collected blood samples at pre-, mid-, and post-retreat to quantify changes in cytokine activity. Training participants showed better controlled attention than waitlist controls during the first retreat, and controls showed significant improvements in controlled attention when they completed their own, second retreat. Inflammatory activity was inversely associated with controlled attention during both retreats. Our results suggest that intensive practice of shamatha meditation influences interference control by enhancing controlled attention to goal-relevant task elements, and that inflammatory activity relates to individual differences in controlled attention.



*Paper #3*

**Presenter:** Brandon King, University of California, Davis

**Title:** A Mindful Bias for Positive Emotional Cues

**Authors:** BG King, QA Conklin, AP Zanesco, CD Saron

**Abstract:** During mindfulness practice, practitioners set out to discern arising perceptions and feelings, without ongoing elaboration or second-order evaluation. But how might such non-elaborative discernment promote well-being when trained over time? One possibility is that mindfulness leads to greater impartiality and equanimity towards the full spectrum of affective experience. Another possibility is that mindfulness engenders a positive affective bias—fostering pleasant affective states, while reducing negative affectivity. To differentiate these alternatives, we studied the effects of mindfulness practice on affective bias before and after an intensive training intervention. We recruited two groups of experienced practitioners: a training group, who completed a month-long Insight meditation retreat; and a comparison group, who maintained their typical meditation practice at home. Participants judged the feeling states of people showing subtle positive (happy), subtle negative (disgust), or neutral facial expressions. To bias these judgments, the target faces were preceded by masked (full-intensity) primes on each trial. We found that mindfulness training improved participants' ability to detect subtle positive expressions, and led participants to rate objectively similar pleasant targets as subjectively more intense. Mindfulness training also reduced the typical slowing (interference) effect of emotional primes on judgments of target expressions—but only for positive emotional primes. Overall, we found that the effects of mindfulness training on affect bias were selective to positive emotional facial expressions. Our results support the idea that mindfulness practice promotes positive

emotional appraisals, by expanding the scope of attention to pleasant social cues, and by reducing the “stickiness” of lingering affect on subsequent experience.

*Paper #4*

*(WITHDRAWN BY AUTHOR)*

---

Saturday, Nov 7

## **Room D: Individual Papers**

*Session Title:*

**Contemplative approaches in academic culture and beyond**

*Paper #1*

**Presenter:** Wolfgang Lukas, Contemplative Scientific Collaboration

**Title:** The Mindful Researcher: Transforming Academia from Within

**Authors:** Wolfgang Lukas, Dav Clark, Annika Lübbert, Sophie-Anne Perkins, Mary Rees, Frank Schumann, Mareike Smolka, Fr. Francis Tiso, Marieke van Vugt

**Abstract:** Today’s academic environment is dominated by fierce competition for scarce resources. The majority of researchers struggle with chronic publication and career advancement pressures. Moreover, a lack of collaboration and support structures, rewards based on publication metrics, and increasing workload often lead to reduced quality of research (e.g., publication bias and hyped results) and life (e.g., burnout). In this process, science loses invaluable protagonists on the urgent quest to respond to our societal, humanitarian and ecological challenges. Under such systemic pressures, researchers (particularly contemplative practitioners) also face the challenge of enacting their values through their academic work. Consequently, they have been increasingly advocating that academia be rendered more compassionate, generous and inclusive. As a growing collaborative, we explore the values, practices, and structures that can sustain such a transformation. How can diverse stakeholders, including funding agencies and the public, contribute to this change? How can interdisciplinary collaboration and mutual support be skillfully embraced by research communities? What resources can social, embodied, or contemplative

practices and research provide in this direction? How can they assist researchers in maintaining their grounding in compassion, generosity and deliberate action?

Our vision for transforming academia focuses on practices that align larger social structures and collaborative projects with individual needs and values. We present possible pathways to integrate these practices and foster skill and integrity in our academic environments.

Furthermore, we invite participants to join our interdisciplinary dialogue and collaborative exploration, to advance an academic and research culture that is alive with purpose and meaning.

» » » « « «

*Paper #2*

**Presenter:** Dara James, Arizona State University

**Title:** Mindful writing group: A model of support and productivity for early career academics

**Authors:** D James, T Bautista, A Sisselman-Borgia, K Moreno

**Abstract:** Writing is a necessity for academics from project proposal to procurement of grant funding to dissemination of research findings. Academic writing can be a challenge for many early career academics; however, writing groups may provide structure and accountability to facilitate the process and develop efficacious writing habits. Further, through mechanisms, such as social support and connection with others, writing groups may reduce loneliness, bolster psychological well-being and alleviate stress. Mindfulness practices incorporated into an academic writing group structure may provide additional support for individuals to manage their stress, enhance emotion regulation, and increase productivity. The purpose of the current paper is to: 1) address the demands and stressors of early career academics, 2) explain how mindfulness can improve productivity in academia, 3) introduce a replicable model of an online mindful writing group using video conferencing technology, and 4) share individual experiences exemplifying the value of mindfulness and social support for early career academics.

» » » « « «

*Paper #3*

**Presenter:** Theo Masters-Waage, Singapore Management University

**Title:** Zen and the Art of Interruptions: The Complementary Role of Mindful Awareness and Acceptance in Buffering Against the Negative Impacts of Interruptions at Work

**Authors:** C Loo, TC Masters-Waage, J Reb, M Choy

**Abstract:** In the post-pandemic work context, one of the key challenges faced by employees is managing interruptions while working from home – whether that be childcare duties, impromptu

family interactions, or increased notifications from social media. Interruptions at work can lead to loss of productivity and negative impact well-being, impairing an individual's capacity to flourish in these challenging times. This paper examines whether mindfulness could buffer against these negative impacts. By adopting a bi-dimensional view of mindfulness, we hypothesized that mindful awareness would moderate the effect of interruptions on individual's work impairment (i.e. their incapacity to maintain focus on work tasks) and thus perform effectively (Hypothesis 1) and mindful acceptance would moderate the effect of interruptions on negative affect and thus job satisfaction and work engagement (Hypothesis 2; see Figure 1). Study 1 (N=197) provided support for both hypotheses using a two-wave field survey in which between-subject differences in dispositional mindfulness moderated the effect of interruptions on workplace outcomes in the expected directions. Study 2 (N=121) tested the same model using an experience-sampling approach run over 10 days (pre-registered at <https://osf.io/98rk7>). Results from multi-level modeling analyses found consistent support for the complementary role of mindful awareness and acceptance in reducing the negative impacts of interruptions on individuals (see Figure 1). Taken together, these studies provide evidence for the distinct and complementary role of the two mindfulness dimensions on managing interruptions at work, suggesting that mindfulness may play an even more important role in promoting flourishing in the "new normal".

» » » « « «

*Paper #4*

**Presenter:** Ji Song, University of Melbourne

**Title:** Awe expands our moral worlds: Awe increases moral expansiveness via connectedness

**Authors:** J Y Song, C Klebl, B Bastian

**Abstract:** Awe changes the way the self relates to the broader world and activates a sense of connectedness to a greater whole. Across 4 studies (N = 699), we examined whether awe, via this sense of connectedness, was an emotional pathway towards greater moral expansiveness, increasing moral concern towards a range of distal entities (e.g. outgroups, animals, plants). In an online survey investigating the trait level relationship (Study 1), we found that dispositional awe was positively related to moral expansiveness. In experiments using 2D videos (Studies 2 & 3), we found that awe conditions indirectly increased moral expansiveness, via state awe and then connectedness. In a follow-up study using Virtual Reality to simulate the Overview Effect of seeing the Earth from space (Study 4), we found that compared to controls, people in the awe condition were more morally expansive, reporting greater concern for a range of distal entities (e.g. member of opposing political party, refugee, cow, redwood tree). Further, the increase in moral expansiveness was found to be fully mediated via an increased sense of connectedness. It appears awe activates a sense of being broadly connected to many distant entities, and via this pathway, moral concern seems to flow. These findings are also novel in finding that the way awe promotes moral concern towards distal entities, via connectedness, may be different from the way awe has been found to promote moral concern towards closer human entities, via self-diminishment.

---

## Room E: Individual Papers

Session Title:

### Body-based practices

Paper #1

**Presenter:** Sat Bir Khalsa, Harvard Medical School

**Title:** A Yoga and Mindfulness-Based Program Improves the Psychological Health of Urban and Rural Education Professionals

**Authors:** NL Dyer, S Borden, JA Dusek, SBS Khalsa

**Abstract:** Purpose: Our purpose was to assess changes in psychological and occupational health in education professionals that attended a yoga and mindfulness-based program. Methods: Kripalu Center for Yoga & Health's RISE (Resilience, Integration, Self-awareness, Engagement) program includes yoga, meditation, and didactic/experiential activities. We examined results from two studies of RISE: 1) A single arm trial of a 3-day residential RISE program for urban education professionals consisting mostly of teachers (N = 74); and 2) A waitlist controlled trial of a 3-day residential RISE program for rural education professionals consisting mostly of administrators (N = 30). Self-report measures of psychological and occupational health were completed before (baseline), after (post), and two months after RISE (follow-up). The feasibility of attending the program was also assessed. Results: Within-group analyses in the two 3-day RISE programs for education professionals revealed that participants from both studies showed improvements in stress, mindfulness, empowerment, and self-compassion from baseline to post; and improvements in negative affect, mindfulness, empowerment, and self-compassion from baseline to follow-up. On visual analogue scales, the RISE program was rated as very feasible to attend by the urban education professionals and was rated as highly feasible to attend by the rural education professionals that lived closer to Kripalu. Conclusions: These results suggest that the 3-day yoga and mindfulness-based RISE program is feasible and improves education professionals' psychological health. On-going research continues to investigate the improvements in psychological health following RISE over a longer timeframe.

» » » « « «

*Paper #2*

**Presenter:** Jennifer Taylor, Institute of Musculoskeletal Health

**Title:** Personalised yoga for burnout and traumatic stress in junior doctors

**Authors:** J Taylor, L McLean, B Richards, N Glozier

**Abstract:** Objectives: Junior doctors are frequently exposed to occupational and traumatic stress, sometimes with tragic consequences. Mindfulness-based and fitness interventions are increasingly used to mitigate this, but have not been compared. We conducted a randomised, controlled pilot trial to assess the feasibility, acceptability and effectiveness of these interventions in junior doctors. Methods: We randomised participants (n=21) to weekly 1-hour sessions of personalised, trauma-informed yoga (n=10), with a 4-hour workshop, and eHealth homework; or group-format fitness (n=8) in an existing wellness programme, MDOK. Burnout, traumatic stress and suicidality were measured at baseline and eight weeks. Results: Both interventions reduced burnout, and yoga increased compassion satisfaction within group on the Professional Quality of Life scale, without difference between groups on this measure. Personalised yoga significantly reduced depersonalisation compared with group fitness on the Maslach Burnout Inventory and showed greater flexibility changes. Both interventions increased MBI Personal Accomplishment, with no changes in other self-report psychological or physiological metrics, including breath-counting. Participants doing one-to-one yoga rated it more highly overall than group fitness, and reported it comparatively more beneficial for mental and physical health. Face-to-face weekly sessions were 100% attended in yoga, but only 45% in fitness. Conclusion: In this pilot trial, both yoga and fitness improved burnout, but trauma-informed yoga reduced depersonalisation in junior doctors more than group-format fitness. One-to-one yoga was better adhered than fitness, but was more resource intensive. Junior doctors need larger-scale comparative research of the effectiveness and implementation of individual, organisational and systemic mental health interventions.



*Paper #3*

**Presenter:** Karin Matko, Chemnitz University of Technology

**Title:** How Does Ethical Education or Practicing Physical Yoga Exercises Influence the Outcomes of Meditation? Differential and Incremental Effects on Well-being, Affect and Stress.

**Authors:** K Matko, P Sedlmeier, HC Bringmann

**Abstract:** Meditation is commonly practiced in a specific context, e. g., the eight-fold yoga path. To date, only few studies have investigated the effects of adding specific components of this path to the practice of meditation. Our study was the first to address this issue by using an

experimental single-case research design. This study was part of a project evaluating a new mind-body program called Meditation-Based Lifestyle Modification. 42 healthy participants were randomly assigned to four conditions and three baselines. The conditions were mantra meditation alone, meditation plus physical yoga exercises, meditation plus ethical education, and meditation plus yoga and ethics. Participants enrolled in an eight-week course, starting consecutively according to their baseline. During baseline and treatment phases participants received daily questionnaires measuring a wide range of dependent variables. We analyzed our data using visual inspection, multilevel modeling and effect size estimation (Tau-U) in order to cross-validate our results. Almost all participants showed an increase in well-being, except participants in the meditation only condition. This increase was most prominent in participants who received ethical education. On average, there were no significant improvements in stress, valence or arousal. However, there was a significant reduction in stress for participants in the yoga condition and a significant increase in valence for participants in the ethics condition. These results emphasize the incremental effects of practicing meditation in combination with other practices from the eight-fold yoga path. Whereas supplementary ethical education can enhance well-being, yoga exercises seem to effectively reduce stress.



*Paper #4*

**Presenter:** Hiromitsu Miyata, Waseda University

**Title:** Dispositional Mindfulness, Interoceptive Awareness, and Psychological Health in Practitioners of Japanese Martial Arts

**Authors:** H Miyata, D Kobayashi, A Sonoda, H Motoike, S Akatuska, M Tano, B Kim, Z Dong, M Roah

**Abstract:** Martial arts refer to the physical and mental practices based on the historical combat techniques. The nature of Japan's martial arts is considered to converge with that of Zen Buddhism and mindfulness, although little empirical studies have addressed psychophysiological correlates of martial arts. We thus examined mindfulness tendencies, psychological health, and interoceptive awareness by involving practitioners of martial arts based on Japan's traditions. In Study 1, a questionnaire survey was conducted by including practitioners of martial arts whose practice period ranged from 0.6 to 35.0 years, and non-practitioners as controls. Compared with the non-practitioners, the practitioners self-reported significantly higher scores on mindfulness and subjective well-being and lower scores on depression. Among the practitioners, period of practice was significantly positively correlated with scores of mindfulness and well-being and negatively with scores of depression, even after controlling for demographic/socio-economic variables. These data are consistent with those previously obtained for Japanese yoga practitioners, and support the notion that continued practice of various Eastern traditional practices can yield desirable psychological changes. Study 2 further examined interoceptive awareness associated with martial arts. To assess accuracy of awareness to one's heartbeats and

breath, heartbeat detection task and an original task to estimate breathing rate during a resting period were introduced by using a physiological measurement system NeXus-4. A highly advanced expert of martial arts exhibited higher accuracy scores on these tasks than did non-practitioners, consistent with the notion that enhanced psychological health in these practitioners may be mediated by heightened awareness to one's own bodily status.

---

## Room F: Individual Papers

*Session Title:*

### Methods and constructs in contemplative studies

*Paper #1*

**Presenter:** Gereon Kopf, Luther College

**Title:** Mind and/or/as Body: A Cross-Cultural Philosophy of Consciousness

**Authors:** G Kopf

**Abstract:** In *The Embodied Mind*, Francesco Varela, Evan Thompson, and Eleanor Rosch, promote the belief that a thorough study of mental phenomena requires a method that combines first and third-person approaches. Since then, Thompson has been arguing for the necessity of comparative approaches combining philosophy of mind, neuroscience, and the so-called mind sciences. Unfortunately, the field still lacks a common language that enables scholars from various disciplines to engage each other's work. How is it possible to put into dialogue materialists like Daniel Dennett and advocates of contemplative sciences like Alan Wallace in a meaningful and constructive way that advances our understanding of consciousness? Therefore, I would like to suggest a cross-cultural study that allows us to integrate first-person and third-person ontologies. I call such a study "multi-entry approach." Concretely, I suggest examining and exploring consciousness from multiple perspectives, listening to each perspective, and evaluating their unique contribution to our understanding of consciousness. Such a multi-entry approach is based on the presupposition that mental phenomena are too complex to be understood from one single perspective. It is inspired by the insight of the Japanese Zen Master Dōgen that "when one aspect is illuminated, the other is obscured." This does not mean that all approaches are equal or equally valid – rather, I believe that not any one approach is able to illuminate all mental phenomena. Together these scientific, contemplative, and philosophical studies deepen our knowledge of mental phenomena and reveal a new and inclusive understanding of consciousness.





*Paper #2*

**Presenter:** Natasha Seiter, Colorado State University

**Title:** Mindful Partnering: Introducing a Novel Theoretical Construct and Testing the Psychometric Properties of the Mindful Partnering Measure (MPM)

**Authors:** N.S. Seiter, R. G. Lucas-Thompson, M. A. Prince, K. Quirk, J. D. Coatsworth

**Abstract:** Research suggests many benefits of mindfulness. However, most of this research has focused on intrapersonal rather than interpersonal mindfulness. My purpose is to present the conceptualization of a novel theoretical construct, mindful partnering, defined as interpersonal mindfulness with one's romantic partner. I also present a new measure of this construct, the Mindful Partnering Measure (MPM), as well as initial validation of a new measure of this construct. In a college student sample (N = 335), an exploratory factor analysis (EFA) was conducted, and in a sample of married adults (N = 264), a confirmatory factor analysis (CFA) was conducted. Then, subscales were tested for internal consistency and test-retest reliability. Correlational analyses were used to test construct validity. Consistent with our theoretical conceptualization, results of the EFA and CFA supported a five-factor structure with the subscales of: (1) mindful awareness in attention and action toward one's partner, (2) nonreactivity in conflict, (3) emotional awareness of one's partner, (4) intentional acceptance and compassion of one's partner, and (5) self-compassion in the partnership. Further support was provided by tests of internal consistency and construct validity for the reliability and validity of the total measure and subscales. Whereas test-retest reliability was supported in the total measure and two subscales, reasons for low test-retest reliabilities for three subscales are discussed. Interpersonal mindfulness with one's romantic partner (i.e., mindful partnering) was conceptualized in this study, and the MPM is a valid and reliable measure to assess this novel construct.



*Paper #3*

**Presenter:** Stacey Henderson, Singapore General Hospital

**Title:** Evaluating mindfulness self-report questionnaires for scale development in a Singapore context: A focus group discussion

**Authors:** SL Henderson, L Sugumar, U Leong, K Doshi.

**Abstract:** OBJECTIVES: Reliable and valid measures of mindfulness have become increasingly important as mindfulness practices are being developed and adapted to address a variety of clinical ailments. We first aimed to understand how mindfulness is interpreted by individuals with

varied levels of mindfulness experience within an Asian context for whom English may not be their primary language. Further, we explored the strengths and limitations among available mindfulness scales to inform the development of a comprehensive scale for future research. **METHODS:** Three focus groups discussions, each with a mix, of five naïve (i.e. with no experience or exposure), five amateurs (i.e. with a personal regular practice), and seven professionals to mindfulness (i.e. seasoned practitioners who conduct courses) were conducted. Participants reviewed currently available mindfulness scales for which they shared their perceptions, and provided opinions on how to improve the scales use with a naïve audience in an Asian setting. **RESULTS:** Improvements in the clarity, specificity and structure of the language used to capture qualitative change in mindfulness was discussed. Naïve and amateur participants preferred scenario-based items for ease of understanding the larger concepts within mindfulness attitudes. Professionals of mindfulness highlighted the use of first-person accounts, which more accurately captures experiences of gratitude and compassion among Asians. **CONCLUSIONS:** The development of a comprehensive scale that is more understandable to novices of mindfulness, and uses language that is more readily translatable in an Asian context, is recommended to capture meaningful therapeutic change after attending a mindfulness intervention.

» » » « « «

*Paper #4*

**Presenter:** Jonathan Davies, The University of Queensland

**Title:** Active Controls in Contemplative Research: Are We Measuring What We Think We Are?

**Authors:** JN Davies, NT Van Dam, MA Day, L Sharpe, B Colagiuri

**Abstract:** Contemplative practices are increasingly coming under the microscope using rigorous scientific methodologies that incorporate active or sham controls. However, the haphazard implementation of active controls can lead to unintended outcomes, undermining the 'efficacy' of contemplative interventions and obscuring their mechanisms of action. Here we present a brief review of active controls that have been developed and used in contemplative research, and their effects – intended or otherwise – on the current state of the field. Then, building on lessons learned from psychotherapy, placebo studies and elsewhere, we present a framework for conceptualising and skilfully integrating active controls. As the field of contemplative studies matures, the strategic use of active controls will be needed if we are to gain deeper insight into the effects and mechanisms of contemplative practices.

Sunday, Nov 8

## Room D: Individual Papers

*Session Title:*

### Compassion, self-compassion, and prosociality, Part II

*Paper #1*

**Presenter:** Shirley Martin, Texas Christian University

**Title:** Creating a University Flourishing Initiative

**Authors:** Shirley Martin

**Abstract:** Texas Christian University has been creating a multidisciplinary Contemplative Studies program over the last decade, with a recent focus on transforming student stress and anxiety to student flourishing. Nursing students are at risk for higher levels of stress, depression, and anxiety with decreased positive psychological outcomes that comprise flourishing. Resilience training programs for nursing students are rare. Resilience is a positive and trainable attribute defined by the ability to bounce back in the face of adversity. Mindfulness meditation and self-compassion training are proposed as components of resiliency training for nursing students. Our team is currently conducting multi-site cross-sectional and longitudinal research studies examining mindfulness and flourishing-related measures in nursing students. We recently completed a cross-sectional analysis of 417 nursing students across three schools in N. Texas, examining mindfulness behaviors, self-reported health, and positive and negative psychosocial measures. We found significant differences in outcomes based on the amount of time spent meditating. These results inform us as we establish training programs to improve resilience and flourishing in nursing students. We hope to provide them with flourishing-enhancing tools to protect them in their future careers. We are already in next phases of this research which include a short self-compassion focused training workshop at all three sites with long-term follow-up of students. Flourishing is something that multiplies with positive collaboration and combined efforts from diverse individuals and groups. Networking with colleagues and students at TCU and beyond has contributed to the development of resources for students, faculty, staff, and the community.

» » » « « «

*Paper #2*

**Presenter:** Taylor West, University of North Carolina at Chapel Hill

**Title:** For Whom are Meditation Interventions Effective in Enhancing Affect? Exploring the Role of Trait Differences in Relational Experiences in a Randomized Intervention Study Among Adults Raised in Low SES Households

**Authors:** TN West, BP Don, BL Fredrickson

**Abstract:** Both loving-kindness and mindfulness meditation produce beneficial outcomes, including benefits to affective experiences. Notably, little research has examined the moderators of these meditation interventions, or whether the affective benefits of mindfulness or loving-kindness depend on third variables. Because of its overt emphasis on relations with other people, we suspected that the influence of loving-kindness meditation on daily positive and negative emotions would be moderated by trait differences in views toward and experiences with significant others, particularly attachment style, cynical distrust of others, and childhood maternal warmth. To test these hypotheses, we drew on a randomized intervention study conducted among a diverse community sample of mid-life adults raised in low-SES homes (N = 113). Participants were randomized to receive either 6-weeks of loving-kindness or mindfulness meditation and completed daily emotion reports. Results from growth curve analyses revealed that individuals high in attachment anxiety or cynical distrust were particularly likely to benefit from either meditation intervention. Specifically, those with either of these two cautious interpersonal traits were especially likely to report increases over time in positive emotions alongside decreases in negative emotions. On the daily level, however, within-person dose-response analyses revealed that mindfulness was most effective for individuals high in attachment anxiety. Specifically, they showed the largest dose-response relations between duration of meditation practice and increases in positive emotions and reductions in negative emotions in a given day. These results elucidate how and for whom particular meditation styles improve affect in an at-risk population.

» » » « « «

*Paper #3*

**Presenter:** Nava Levit-Binnun, Interdisciplinary Center (IDC) Herzliya, Israel

**Title:** Promoting Teachers' and Youth' Beneficial Engagement in Controversial Discussions – a Pilot Randomized Controlled Study in Four Arab Schools in Israel

**Authors:** N Levit-Binnun, S Barr, R Tarrasch, N Dolev, S Shenhav, G Dayan, H Hasan, L Arar, L Bilan, L Yunes, N Aweida and M Reifen-Tagar

**Abstract:** In the current reality, characterized by great divides and conflicts within and between societies world-wide, facilitating cross-partisan communication is a critical goal toward protecting democracy and the wellbeing of societies. "Mind the Conflict (MtC)" is a school intervention designed to alleviate the effects of the perceptions, emotions, and biases that perpetuate conflict

through integrating contemplative skills with basic conflict resolution tools. To assess the MtC program, N=112 teachers from four Arab schools in Israel were randomized to either receiving MtC or a treatment-as-usual program. Both interventions included a dissemination stage that encouraged teachers to initiate several controversial discussions with their students. A battery of self-report measures assessing motivations, efficacy, attitudes, perceptions and emotions related to controversial discussions were administered to teachers and students before and after the interventions. Controversial discussions in classes were recorded and coded for quality and effects of discussion. Importantly, the study's team included female Arab instructors and research students. Main results suggest that both students and teachers demonstrated an increase in willingness to engage in controversial discussion, and a decline in the fear to discuss controversial issues in the classroom. The students also experienced an increase in self-capacity to participate in controversial discussions. Importantly, there was a significant increase in mindfulness in conflict among teachers, and a significant decline among the students in negative emotions towards the other side in controversial discussions. The study can advance understandings how reconciliation between communities can be promoted through mindfulness-informed educational programs.

» » » « « «

*Paper #4*

**Presenter:** Debbie Ling, Monash University

**Title:** Investigating How Viewing Common Humanity Scenarios Impacts Compassion: A Novel Approach

**Authors:** D Ling, J Olver, M Petrakis

**Abstract:** Compassion is a core value in healthcare. It enables healthcare workers to respond with care and kindness to all patients. The perception of common humanity has been proposed as the central mechanism of compassion. There have been no empirical studies examining the connection between common humanity and compassion. The present study aimed to investigate the impact of viewing common humanity scenarios on compassion. A randomised sample of 75 healthcare workers participated in the study. The healthcare workers viewed a common humanity scenario and completed pre- and post-test validated scales on perspective taking, common humanity and compassion. The authors investigated whether compassion increased after viewing the common humanity scenarios. A mediation analysis was performed to examine if perspective taking influences compassion, mediated by common humanity. Some new common humanity items were also trialled to help develop a common humanity scale. The results demonstrated that healthcare workers' level of compassion increased after viewing the common humanity scenarios. There was some evidence that perspective taking influences compassion mediated by common humanity. Common humanity appears to be a collection of constructs captured by a number of subscales. This study has important implications for supporting healthcare workers to develop and sustain compassion.

---

## Room E: Individual Papers

Session Title:

### Studies using contemplative sciences methods

Paper #1

**Presenter:** Rachel Lucas-Thompson, Colorado State University

**Title:** Within-Person Associations between Mindfulness and Sleep in Adolescence

**Authors:** R Lucas-Thompson, T Crain

**Abstract:** There is a growing evidence base supporting the benefits of dispositional mindfulness for adolescent physical and mental health. There is some evidence that these benefits extend to better sleep. However, studies documenting the link between dispositional mindfulness and sleep have relied on self-reports of sleep, and examinations of between-person associations. Our goal was to examine associations between daily levels of mindfulness and objectively measured sleep, within-person. Between-person associations are particularly vulnerable to ambiguous directionality. There are theoretical arguments supporting mindfulness as a predictor or outcome of better sleep, and within-person designs can better elucidate directionality. Each adolescent ( $n=138$ ,  $Mage=17.86$ ,  $SD=2.14$  years) reported mindfulness every day for a week, and also wore an actigraph to assess sleep quality and quantity. Mixed effects models were used to examine between-and within-person effects. There were 851 days of observations across the 138 participants. Consistent with past research, there were between-person links between mindfulness and sleep: on average, adolescents who woke more at night and had lower sleep efficiency were less mindful. There were also within-person effects from sleep to mindfulness: although mindfulness during the day did not predict sleep that night, sleep quality was a significant predictor of mindfulness the next day. On nights when adolescents woke more frequently, they reported significantly less mindfulness on the next day, relative to their own average. These results provide critical new evidence that in adolescence the capacity to be mindful is increased by higher quality sleep, rather than greater mindfulness promoting sleep health.

» » » « « «

Paper #2

**Presenter:** Shahar Lev-Ari, Tel-Aviv University

**Title:** The effect of "Inquiry Based Stress reduction" (IBSR) on the overall stuttering experience, quality of life and psychological indicators among adults who stutter - a randomized controlled clinical trial

**Authors:** Omrit Feldman, Eran Goldstein, Shahar Lev-Ari

**Abstract:** Introduction: Stuttering is a speech disorder that can cause disturbances in the timing and flow of speech. It is often accompanied not only by communication disorders, but also by decline in the quality of life of adults who stutter and has impacts on social status, mental well-being, self-acceptance and the chances of integration into the labour market. One of the latest emerging meditation methods is Inquiry Based Stress Reduction (IBSR), developed in the United States by Byron Katie in 1986. IBSR technique is the clinical application of "The Work" method (Thework.com). Purpose: Our primary aim was to evaluate the effect of IBSR on the overall stuttering experience. Our Secondary aims were to evaluate the effect of IBSR on psychological indicators of anxiety, psychological flexibility and life satisfaction. Methods: The study was a randomized controlled clinical trial. Participants were randomized to IBSR (n=28) and control (n=28) groups. Validated questionnaires of stuttering(OASES-A), anxiety(STAI), psychological flexibility(PFQ) and satisfaction with life(SWLS) were given before, after and one month after the intervention. Intention-to-treat analysis approach was implemented for analysis. Results and Conclusion: We found that participants in the IBSR intervention group reported a significant improvement of overall stuttering experience, as well as its components (general information on stuttering awareness and perception, reactions to stuttering, communication in daily situations and quality of life), reduced anxiety levels and increased satisfaction with life compared to the control group. This study implements that practice of IBSR is a significant beneficial tool for improving overall stuttering experience.

» » » « « «

*Paper #3*

**Presenter:** Na Zhang, University of Connecticut

**Title:** Surviving Caregivers' Self-Compassion May Reduce Their Own Grief and Their Children's Behavioral Problems after Parental Death

**Authors:** N Zhang, I Sandler, JY Tein, S Wolchik

**Abstract:** Self-compassion has recently been studied in psychology and is conceptualized as being aware of one's suffering, bringing kindness to the self, and understanding that all humans experience adversities in life. Research has demonstrated that self-compassion affects mental and physical health as well as wellbeing during stressful times, however, little is known about the multivariate associations among parental self-compassion, parenting, and parents' and children's adjustment for families experiencing major adverse events. This study examined whether

surviving caregivers' self-compassion was related to children's emotional and behavioral problems after one of the most significant adverse events, parental death. We examined whether effective parenting or parental grief mediated the relation of surviving caregivers' self-compassion to bereaved children's emotional and behavioral problems. Longitudinal survey data was collected at baseline (20.5 months post-death on average) and 20 weeks later from a sample of 74 surviving parents (78.4% female) who had at least one parentally bereaved child (aged 3 to 17 years). Mediation analyses showed that the inverse association between parental self-compassion and child behavioral problems was mediated by effective parenting. While there was no mediation effect of parental grief, we found that higher levels of parental self-compassion were prospectively associated with lower levels of grief. This study is the first to use longitudinal data to reveal the multivariate relations of parental self-compassion, parenting, and parents' and children's mental health. These findings have implications for the design of preventive interventions to reduce parents' grief and children's behavioral problems in bereaved families.

» » » « « «

*Paper #4*

**Presenter:** Aljoscha Dreisoerner, Goethe University Frankfurt am Main

**Title:** Effects of self-soothing touch, receiving hugs, and social identity on cortisol, heart rate, and subjective-emotional responses to stress

**Authors:** A Dreisoerner, N M Junker, W Schlotz, J Heimrich, S Bloemeke, B Ditzen, R van Dick

**Abstract:** Receiving physical hugs has been shown to improve stress coping. However, when touch from others is unavailable, feels uncomfortable, or is not considered safe (as in the current COVID-19 pandemic), self-touch gestures, like placing a hand on the heart, may provide an alternative way to experience less strain. In this study, 159 healthy participants, aged 18-35 years, were exposed to a standardized stressor (Trier Social Stress Test) to investigate whether self-soothing touch or receiving a hug from others has a buffering effect on their stress responses. In addition, the study explored whether the effectiveness of these interventions would be moderated by participants' personal or social identification. Participants provided salivary cortisol samples, wore an ECG to capture their heart rate, and completed self-report measures of stress during the study. For cortisol, mixed-effects regression models with touch and identity as between-subject factors and time as the within-subject factor in a 2x3 design yielded a significant main effect for touch and a significant interaction of touch x time indicating that cortisol stress responses differed between the experimental touch interventions. Post-hoc contrast tests showed that participants in both touch conditions had lower cortisol levels after the stressor than those in the control conditions. Heart rates and self-reported measures of stress neither differed across touch nor identity conditions. The three-way interaction for touch x identity x time was non-significant for all outcome measures. These results suggest that self-soothing touch and receiving hugs are simple and yet potentially powerful means for buffering individuals' resilience against stress.



---

## Room F: Individual Papers

*Session Title:*

### Clinical trials of mindfulness-based interventions, Part II

*Paper #1*

**Presenter:** Kate Williams, University of Manchester, UK

**Title:** “The process is still ongoing, but it has started”. A longitudinal qualitative study of participants’ experiences of taking part in MBCT for recurrent depression.

**Authors:** K Williams, IM Anderson, K Birtwell, M Dowson, R Elliott, S Hartley, P Taylor

**Abstract:** Mindfulness-based Cognitive Therapy (MBCT) is a relapse-prevention program designed for people currently in remission from depression. This study gathered participants’ views both immediately after MBCT and at regular intervals during a 12 month follow-up period, to investigate participants’ experiences of MBCT over time. As part of a preference choice controlled trial design, participants took part in either 8 week MBCT or treatment as usual (TAU). Interviews were carried out immediately following participation in MBCT (post-MBCT) and at three individual timepoints across a 12 month follow-up period (3, 6, and 12 months). Thirty-six participants completed interviews post-MBCT, with 29, 35, and 36 participants completing further interviews at 3, 6, and 12 months follow-up respectively. Interviews were analysed using Thematic Analysis. Due to repetition across themes, the follow-up data was collapsed and analysed as one group. Across post-MBCT and follow-up sessions, five emerging themes were identified: “Awareness”, “Relationship with the self”, “Perspective”, “Connection”, and the “Process of MBCT”. Specifically, participants reported increases in awareness of and changes in how they relate to themselves and their experience, an enhanced sense of connection with others, and reflections on the process of MBCT. Participants also discussed barriers and facilitators to taking part in MBCT and with regards to ongoing mindfulness practice during follow-up. Our findings add to the growing evidence base around understanding how MBCT works and how participants experience MBCT, whilst encompassing themes not solely limited to the acute experience of taking part in MBCT, but encompassing themes up to 12 months post-MBCT.

» » » « « «

*Paper #2*

**Presenter:** Sebastian Medeiros, Millennium Institute for Depression and Personality Research

**Title:** Acknowledging Vulnerability in Contemplative Research: Clinical and Phenomenological Perspectives

**Authors:** Sebastián Medeiros, Alejandra Vasquez-Rosati, Carla Crempien, Nicole Kohen, Carola Pérez, Pía Nitsche, Manuela Pacheco, Alex Behn

**Abstract:** Early life adversity can disrupt the development of personality functioning (PF) in terms of vulnerability to stress and emotion dysregulation. The relationship between PF -structural capacities- and inherent contemplative skills and their enhancement through mindfulness practices has been partially addressed. Furthermore, there is a gap in understanding subjective experience occurring in contemplative learning. In this paper presentation we discuss results from two studies that assess the impact of personality functioning in contemplative skills and practice while acknowledging individual vulnerability and strength. First, in a cross sectional study of subjects seeking psychotherapy or a Mindfulness based Intervention (MBI), we observe negative correlations between PF and dispositional mindfulness (DM). Regression analyses show PF explains 39% of dispositional mindfulness. Secondly, results from a mixed methodology longitudinal study show enhancement of PF and contemplative skills (DM, self compassion and interoceptive awareness) after an MBI. The moderating effect of PF in the cultivation of self-compassion is discussed from a clinical perspective. Data from Micro-phenomenological interviews pre-post intervention are presented to give voice to participants' new forms of relating with emotional difficulty. Qualitative analysis suggests participants develop accurateness in recognizing and differentiating emotions and bodily sensations, allowing them to connect with their own needs and to communicate feelings. We explore how contemplative studies are nourished from mixed methodology research, including first person perspectives and early trauma sensitive approaches towards understanding mechanisms of change and transformation.



*Paper #3*

**Presenter:** David Black, University of Southern California

**Title:** Mindfulness-based intervention (Moment-by-Moment in Women's Recovery) effects on substance use among women in long-term residential SUD treatment: a randomized controlled trial with 8.5 month follow

**Authors:** David Black, Hortensia Amaro

**Abstract:** Objective: We tested the efficacy of Moment-by-Moment in Women's Recovery (MMWR), a mindfulness training program adapted for ethnoculturally diverse women with

complex social and clinical histories in residential treatment for substance use disorder (SUD), on substance use and relapse. Methods: Participants were randomized to MMWR (n=100; 60% Hispanic/Latina, 18% non-Hispanic Black) or the attention control condition, Neurobiology of Addiction (NA; n=100; 56% Hispanic/Latina, 21% non-Hispanic Black). Substance use outcomes were obtained from timeline followback for a 8.5 month follow period spanning intervention and 7-months after intervention end. Results: Intent-to-treat survival analyses showed time delay to first marijuana use favored MMWR (HR=0.44, CI: 0.20-0.98, p=.049) with a medium-to-large effect size. In negative binomial hurdle models, MMWR showed fewer days of marijuana use at 3.5 months (B=-1.71, SE=0.79, IRR=0.18, p=.030) and a trend at 7 months post-intervention (B=-0.90, SE=0.55, IRR=.41, p=.10). For marijuana, mindfulness practice time during the intervention predicted time delay to first use (B=0.28, p=.006) and total absence days (B=-0.34, p=.002) across the 7 months following MMWR. No other substance use outcomes showed differential response to MMWR. Only in MMWR, number of study intervention sessions attended (dose) correlated with greater length of time to alcohol intoxication (r=.48, p<.001), fewer days of alcohol intoxication (r=-.24, p=.020) and greater improvement in mindfulness skills (r=.61, p<.01). Conclusions: MMWR added to an ongoing intensive residential treatment program serving vulnerable women is protective against marijuana use but no other substance use outcomes. MMWR class attendance appears protective of alcohol intoxication.

» » » « « «

*Paper #4*

**Presenter:** Francesca Perini, National University of Singapore

**Title:** Improving Subjective Sleep Quality Measures through Mindfulness Training in the Elderly: Preliminary Data from the Mindfulness Sleep Therapy (MIST) Study

**Authors:** F Perini, KF Wong, J Teng, Z Hassirim, L Jia, Z Leow, SL Henderson, Q Fan, J Lo, J Ong, K Doshi and J Lim

**Abstract:** Poor sleep is a modifiable risk factor for multiple chronic disorders.

Mindfulness-based therapies potentially improve sleep by enhancing awareness and acceptance of internal and external experiences, thus reducing pre-sleep hyper-arousal. In this pre-registered, randomized controlled trial, we tested the effect of mindfulness-based treatment for insomnia (MBTI) on subjective sleep quality measures (Pittsburgh Sleep Quality Index, PSQI). Participants above 50 years old with sleep difficulties (PSQI  $\geq$  5) attended either an 8-week MBTI (N=55) or sleep hygiene education program (SHE; N=58). Before and after the interventions, we measured sleep quality (PSQI), insomnia symptoms and features (Pre-Sleep Arousal Scale, PSAS; Insomnia Severity Index, ISI; Dysfunctional Beliefs and Attitudes about Sleep, DBAS-30), mindfulness (Five-Facets Mindfulness Questionnaire, FFMQ), and mood and anxiety (Beck Depression Inventory, BDI; State-Trait Anxiety Inventory, STAI). Data were analysed with ANCOVA with baseline as covariate and group as a between-subject variable, and bootstrap analysis to estimate effect size of each intervention. We observed significant improvement across both interventions

in sleep measures (PSQI, PSAS, DBAS) and mood (BDI and STAI). Participants in MBTI showed a significantly greater reduction in ISI than SHE. FFMQ change did not significantly differ between groups, but bootstrap analysis showed a significant increase in mindfulness in MBTI but not SHE. We also observed a correlation between both PSQI/ISI decreases and FFMQ increases in MBTI, but not in SHE. Results support MBTI as an accessible but effective behavioural intervention with potential long-term benefits for improving sleep and mood, and reducing cognitive-emotional arousal in the elderly.