Mindfulness in higher education

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Mind wandering and happiness

- “In conclusion, a human mind is a wandering mind, and a wandering mind is an unhappy mind. The ability to think about what is not happening is a cognitive achievement that comes at an emotional cost.”

History of Mindfulness@Monash

- Personal experience and commitment to meditation and mind-body link
- Began teaching in medical faculty at Monash in 1989 with the intention of introducing such content into medical education and practice
- 2 years finding language and rationale that was appropriate
- 1990-1 – optional lunchtime meditation-based stress management sessions for medical students
- Coincidentally, faculty performed student wellbeing survey
  - High levels of stress and poor mental health
- 1991 invitation to run 2-hour stress management workshops in core curriculum
  - positive evaluations
  - also developed mindfulness-based stress management program for training GPs through RACGP
History of Mindfulness@Monash

- 1991-2001 limited core mindfulness content
  - 2hr workshop year 1, 1hr lecture year 2, 1hr workshop year 6
  - 12-week electives in mindfulness and MBM
- 2000: New 5-year medical curriculum under development
- 2002: New curriculum begins including Health Enhancement Program
  - Curriculum theme-based: Theme 1: Personal and Professional Development
    - First semester first year 5% of curriculum time for HEP
    - Second semester: seminars on performance, mental health enhancement and positive psych
  - Reinforcement in 2nd year Health Promotion and 3rd year HEP, 4th year mindful practice and General Practice Psychiatry, 4th year ‘Mindful Child’ lecture in paediatrics term
- 2005 Harvard started using Monash program as mindfulness elective for their medical students
History of Mindfulness@Monash

- Increasing invitations to speak on mindfulness within and outside of Monash
- Support of Health, Wellbeing and Development
- 2007 Offering free Train-The-Trainer programs for Monash staff including counselling and medical staff and key stakeholders
- Profile and interest raised within the wider university
  - HW&D
  - Development of programs such as MAS and M@W
  - OH&S, HR, Leadership – Academic Heads induction, MRS
  - 2010 other faculties start including mindfulness in core curriculum
History of Mindfulness@Monash

- 2010 Academic heads meeting – growing staff stress and demands
- 2011 A letter to the Vice Chancellor and consequences:
  - A review of mental health services
  - Funding approval for secondment to central services
  - Key supporters
  - Mindfulness spreads further throughout Monash
- 2012 Mental Health @ Monash Review and recommendations
  - Monash Mental Health Strategy
  - Whole of university approach to mental health and wellbeing
  - 2013 Funding expanded: Mindfulness Consultant x 2 (Richard Chambers)
The 4 Fs

- Faithful to the philosophy
- But
- Flexible with the form
- In terms of fidelity in teaching mindfulness, form and philosophy are often confused
Faithful to the philosophy

- People can become very loose in what they teach
- It shouldn’t be called mindfulness if it’s not mindfulness-based
- Challenges
  - Do the people who are developing and delivering the course have an in-depth understanding of it?
  - How aligned with a philosophical tradition does it need to be?
  - Mindfulness is hard to define – different people come from different backgrounds and experiences and have different views of it
Flexible with the form

- It is easy to become rigid in delivering mindfulness teaching
- “There is only one to teach mindfulness…”
- A particular program may not fit the context, level of commitment or needs of participants
- Mindfulness can be contextualised, delivered and applied in an infinite number of ways
- Flexibility means it can reach a far larger audience
Theory vs. experience

- Theory and evidence – ‘gets the horse to the water’
- Experience – where the real learning takes place, i.e. ‘drinking’
- Trying to engage skeptical audiences with the latter without adequately doing the former is destined to falter or fail
Highlights of Mindfulness@Monash

- Embedded mindfulness curriculum in 16 degree courses including:
  - Medicine, Physiotherapy, Nursing, Dietetics, OT, Pharmacy, Psychology, IT, MBA, Education, Architecture, Art and Design, Law...
- Delivered mindfulness training to over 5,200 students and 870 staff in 2016
- Supervision / co-supervision of 18 research projects (PhD, Masters, BMedSci, course evaluation…)
- Collaborations with other universities e.g. Leicester, Warwick, ANU, Deakin, Notre Dame, Harvard, Auckland, Montreal, McGill…
- HR / OHS / CCD staff programs
- Academic head induction
- Mindfulness 4 Academic Success
- Staff stress management
- Mindfulness at Work
- Drop-in sessions
- TTT
- Student leadership
- Within units and faculties
- Counselling services
- CEED
- MOOC (FutureLearn)
Free 6-week online mindfulness course

- https://www.futurelearn.com/courses/mindfulness-wellbeing-performance
- Collaboration between Monash University and FutureLearn (UK)
- As of June 2017 over 220,000 participants
Four phases of integrating mindfulness

1. Acceptance
2. Development
3. Delivery
4. Revision
Acceptance

- Making the case to university / faculty / students
- Introductory evidence-based presentations / workshops help to inform and reduce resistance
Case for inclusion of mindfulness in Monash medical curriculum

- Student wellbeing
- Building resilience and preventing carer burnout
- Enhancing clinical performance and reducing error
- Enhancing empathy, compassion and communication
- Integrating biomedical, psychological and social sciences
- Laying foundations for future clinical skills i.e.
  - Lifestyle management
  - Behaviour change
  - Mindfulness-based stress management / mental health
- Building peer support
- Experiential, deep and reflective learning model
- Patients going to CAM practitioners for wellbeing advice they should be receiving from their doctors
Case for non-inclusion of mindfulness?

- Rather than struggling to make the case for inclusion of mindfulness into curriculum the challenge is to make a rational, evidence-based case as to why it should not be included.

- Time? – inattention consumes an enormous amount of time – mindfulness improves time management in packed curricula.

- Unscientific? – evidence-base too substantial to be ignored.

- Merely about relaxation? – misunderstand the importance of focus for performance (e.g. zone, flow states).

- Need to harden up students? – ‘hard’ students become brittle or less caring doctors – resilience requires flexibility.

- Not clinically relevant? – many clinical applications (mental health, lifestyle change, resilience, immunity, genetics...).
Medical student health

- Medical students similar to general student population prior to commencement of medical course
- Pattern manifests itself from first year with stress, depression and burnout being common
- Compared with other academic disciplines, medical students demonstrate more significant reductions in psychological wellbeing as the course proceeds
- Anxiety higher in the pre-exam period and depression doubles after commencement of course
Burnout and mental health in new medical graduates

- Mid-final year: 28% of medical students had burnout
- 8 months into internship: 75% interns had burnout
- 73% (of interns) met criteria for psychiatric morbidity on at least one occasion
Student wellbeing

- Health Enhancement Program (HEP) at Monash comprises mindfulness and ESSENCE lifestyle programs
- Study of 2006 cohort found that 90.5% of students personally applied strategies
- Improved student wellbeing noted at time 2 (post-course / pre-exam) compared to time 1 (pre-course / mid-semester) on all measures
  - Reduced depression, hostility and anxiety subscale
  - Improved psychological and physical quality of life
Mindfulness and student wellbeing

- Study investigated relationships among engagement in self-care behaviours, dispositional mindfulness, and psychological distress
  - 207 Australian medical students aged across the 5 years of the Monash University medical course
  - Online survey: demographics, the Five Facet Mindfulness Questionnaire, the Health-Promoting Lifestyle Profile II, and the DASS
- Dispositional mindfulness a significant moderator of the relationship between self-care and psychological distress – i.e. greater mindfulness meant less distress and greater self-care
- “The present study points to the potential of self-care and mindfulness to decrease medical student distress and enhance well-being.”
Mindfulness in medical curricula

“Two medical schools stand out because they have integrated mindfulness into their curricula: the University of Rochester School … (USA) and Monash Medical School (Australia). Studies show that students who follow these programmes experience decreased psychological distress and an improved quality of life.”

Mindfulness and practitioner wellbeing

- An 8-week mindfulness program: improvements on all measures of wellbeing including:
  - Mindfulness
  - Burnout (emotional exhaustion; depersonalization; personal accomplishment)
  - Empathy and responsiveness to psychosocial aspects
  - Total mood disturbance
  - Personality (conscientiousness; emotional stability)

- Improvements in mindfulness correlated with improvements on other scales
Mindfulness and communication

- Comparing clinicians with highest and lowest mindfulness scores: high-mindfulness clinician consultations:
  - Patient-centered pattern of communication (OR 4.14)
  - Both patients and clinicians engaged in more rapport building and discussion of psychosocial issues
  - Displayed more positive emotional tone with patients
  - Patients more likely to give high ratings on clinician communication and to report high overall satisfaction

Management: Pharmacological

- Evidence questionable for the use of antidepressants in adult mild-moderate depression (largely a placebo, strong publication bias) and for children and adolescents

MBCT and depression

- RCT investigated the effects of Mindfulness-based cognitive therapy (MBCT) on the relapse in depression, time to first relapse and the quality of life
  - 106 recovered depressed patients with a history of at least 3 depressive episodes
  - Treatment as usual (TAU) vs MBCT plus TAU 1 year f/up
- Relapse/recurrence significantly reduced and the time until first relapse increased in the MBCT plus TAU c/w TAU
- MBCT plus TAU group also showed a significant reduction in both short and longer-term depressive mood, better mood states and quality of the life
Bias: the root of diagnostic errors

- **Confirmation bias:** the pursuit of data that support a diagnosis over data that refute it

- **Anchoring bias:** a resistance to adapting appropriately to subsequent data that suggest alternative diagnoses


- Cancer: 585k
- Medical error: 251k
- Heart disease: 611k
- COPD: 149k
- Suicide: 41k
- Motor vehicles: 34k
- Firearms: 34k

All causes: 2,597k

However, we’re not even counting this - medical error is not recorded on US death certificates

Data source:
http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

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Doctor health and medical errors

- Study determined prevalence of depression and burnout among residents medical staff in 3 US hospitals
- 20% of residents met criteria for depression
- 74% met the criteria for burnout
- Depressed residents made 6.2 times as many medication errors as residents who were not depressed
  
Albert Einstein on multitasking

- “Any man who can drive safely while kissing a pretty girl is simply not giving the kiss the attention it deserves.”
Falling attention spans

- According to a Microsoft Canada report, the average human’s attention span is below that of a goldfish (8 sec vs. 9 sec)
- “We are moving from a world where computing power was scarce to a place where it now is almost limitless, and where the true scarce commodity is increasingly human attention”
  - Satya Nadella
    - [file:///microsoft-attention-spans-research-report.pdf](file:///microsoft-attention-spans-research-report.pdf)
Mobile phones and motor vehicle accidents

- Driver's use of a mobile phone within 5 min before a crash associated with fourfold increased likelihood of crashing (OR 4.1)

- Texting / emailing / internet while driving increased the risk 164-fold
Applications of mindfulness

- **Mental health:** E.g. therapeutic application for depression, anxiety, panic disorder, stress, emotional regulation, addiction, sleep problems, eating disorders, psychosis, ADHD, autism, reduced burnout, greater resilience…

- **Neuroscience:** E.g. structural and functional changes in the brain, stimulation of neurogenesis, possible prevention of dementia and cognitive decline, down-regulating the amygdala, improved executive functioning and working memory, reduced default mental activity, improved self-monitoring and cognitive control, improved perception of sensory input…

- **Clinical:** E.g. therapeutic applications for pain management, symptom control, coping with chronic illness (e.g. cancer and MS), metabolic and hormonal benefits (e.g. reduced allostatic load, cortisol), facilitating lifestyle change (e.g. weight management, smoking cessation), improved immunity (e.g. improved resistance, reduced inflammation), improved genetic function and repair, slower ageing as measured by telomeres…

- **Performance:** E.g. sport, academic, leadership qualities, mental flexibility and problem solving, decision-making, sunk-cost bias…

- **Education:** E.g. improved problem-solving, executive functioning and working memory, better focus, less behavioural problems, fostering growth mindsets…

- **Relationships:** E.g. greater emotional intelligence and empathy, improved communication, reduced vicarious stress and carer burnout…

- **Spiritual:** E.g. transcendence, unity, deep peace, connectedness…
Mindfulness and cellular ageing

- Meditation may slow genetic ageing and enhance genetic repair
- “...we propose that some forms of meditation may have salutary effects on telomere length by reducing cognitive stress and stress arousal and increasing positive states of mind and hormonal factors that may promote telomere maintenance.”

Mindfulness and the brain

- Mindfulness training improves functioning in areas related to executive functioning, attentional control, self-regulation, sensory processing, memory and regulation of the stress response
  - Thickening of cortex in regions associated with attention, self-awareness and sensory processing thicker in meditators
  - “The regular practice of meditation may have neuroprotective effects and reduce the cognitive decline associated with normal aging.”
The Default Brain

- **Active tasks**
  - Tasks associated with paying attention
  - Brain efficient and quiet

- **Default state (mode)**
  - The default-mode network (DMN) is a major resting-state network that supports most of the baseline brain activity
  - Mind is inattentive, distracted, idle, recalling past, daydreaming
The Default Brain associated with:

- **Stress** (Brewer et al., 2011)
- **Anxiety** (Zhao et al., 2007)
- **Depression** (Greicius et al., 2007)
- **ADHD** (Uddin et al., 2008a)
- **Schizophrenia** (Pomarol-Clotet et al., 2008)
- **Autism** (Kennedy & Courchesne, 2008)
- **Alzheimer’s disease** (Firbank et al., 2007)
- **Criminal recidivism** (Aharoni et al., 2013)
- **Reduced performance** (Brewer et al., 2011)
Executive functioning

- Frontal lobes (prefrontal cortex) centre for executive functioning
  - Attention regulation
  - Working memory
  - Self-awareness
  - Reasoning
  - Decision making
  - Emotional regulation
  - Appetite regulation
  - Impulse control
Course development

- Need to have a rationale – personal and professional
- Emphasis on informal practice of mindfulness and cognitive aspects, not just formal practice (meditation)
- Starting with short formal practice more appropriate for non-self-selected students
- Attendance required
- Make core knowledge and skills assessable (written and OSCE)
- Voluntary personal application
- Weekly rather than episodic
- Extra resources – notes, texts, guided practices, links, articles…
- Mindfulness-based ‘experiments’ and ‘role plays’
- Weekly journal (hurdle)
- Underpinned by lecture series based on science and clinical applications
- Integration with other curricular content
- Appropriate language and delivery
- Tutor selection and training
  - Health practitioners
  - Commitment personally and professionally
  - Tutors trained in delivery of program
  - Mentoring and weekly briefings and debriefings
The ESSENCE of Health

Health Enhancement Program is based on Essence model

- Education
- Stress management
- Spirituality
- Exercise
- Nutrition
- Connectedness
- Environment
Communicating the message

1. Start with evidence
2. Relevant to students – address recognised needs
3. Join the dots between practice and application
4. Simple, secular language
5. Humour
6. Understatement rather than big statements
7. Experiential – practical / pragmatic application to academic work, clinical practice and everyday life
8. Avoid imposing agenda on students
9. Socratic method of teaching – inquiry, exploration, experimentation…
Revision

- Likely to take a few years for programs to establish and settle e.g.
  - Student attitudes
  - Becomes part of the culture
  - Tutors gaining experience
  - Timetabling / structure
  - Fine tune delivery
- Evaluation valuable
  - Holding up a mirror to course leaders
  - Valuable for faculty to respect it
- Give everyone your ear (but few your voice)
- Welcome and attend to resistance and address underlying issues
1. Why Teach Mindfulness to Clinicians?
2. Scientific Underpinnings and Evidence Pertaining to Mindfulness
3. Applied Mindfulness in Medicine
4. How Mindfulness Has Been Integrated into Three Medical School Curriculums
5. Steps for Starting and Sustaining Programs
6. Program Delivery
7. Educating Teachers
8. Future Directions, Culture and Caveats for Mindfulness in Medical Settings