Plan – 45 min

• Observe: one of four levels
• Background
• Statistics of mental health related to students
• Why are mental health statistics for students on the rise
• Stress response on the body
• Mindfulness and meditation defined
• Research on mindfulness on the mind and body
• Mindfulness outside the class
• When to refer for professional help
• References
Brett Wade, PhD

- Physiotherapist from UBC in 1995
- Worked in Colorado, Hawaii, Pennsylvania, Kelowna
- Master’s Degree from Andrews University and PhD from Rutgers
- Owned and operated two physiotherapy clinics in Kelowna
- Full-time at Okanagan College in Therapist Assistant Program since 2003
- Author of Ekahi Method: Master the Waves of Life
- Founder of Ekahi Center for Yoga and Mindfulness
- Practice meditation regularly for over 25 years
Expectations of college don’t always meet reality.
The reality of college experience

• 2011 survey of 1,600 University of Alberta students: 51 per cent reported that, within the past 12 months, they’d “felt things were hopeless.” Over half felt “overwhelming anxiety.”

• 2013 was first-ever nationwide health survey of post-secondary students in Canada: 89 per cent of students said they were overwhelmed by all they had to do; nearly 54 per cent reported being hopeless and 64 per cent lonely sometime in the past 12 months; 86.9 per cent said they were exhausted, and 56 percent felt overwhelming anxiety.
Possible reasons for the experiences of stress and anxiety

- Increased competition to get into some programs
- Moved away from home for first time
- Pressure to do well from parents
- Feelings of inadequacy from academic stressors
- Social media creates anticipatory anxiety
- Rising debt: average $26,819 after four-year degree in Canada
- Difficulty finding job prospects in area of training
Acute vs Chronic Stress

Acute

• Sudden or short-lived event
• Causes fight or flight (stress response) reaction in body
• Vital for survival in threatening situations
• May be helpful in situations
• Think about your body’s reaction just before an exam or having to give a presentation in front of a class

Chronic

• Fight or flight reaction in the body remains long after the stressful event has past
• Physiology may remain in chronically elevated state
• Can cause permanent damage to cardiovascular system, digestive system, nervous system, endocrine system, immune system, etc.
Fight or Flight Response to Real or Perceived Threats

"Fight or Flight"

Heart - beat faster; higher blood pressure
Eyes - dilate
Lungs - open air passages
Muscles - more blood; more fat/glucose for energy
Digestion - slows

Acute Stress Response - Public Speaking

Reactions
- Increased alertness
- Increased short-term strength
- Increased ability to handle stress
- Heightened ability to focus
- Increased oxygen to the brain
- Faster, deeper breathing
- Heightened sense of smell
- Body and mind are hyper-alert

Other Responses
- Perspiration increases to cool body
- Muscle tension increases to prepare for "fight or flight"
- Saliva production decreases
- Metabolism speeds up considerably
- Inflammation increases
- Blood flow from skin surface is diverted to larger muscle groups & brain
- Body extremities can change temperature
- Blood pressure increases
After the stress event is gone, return to base levels...ideally
Acute stress can assist test taking

- We know that learning does not happen in stressful situations **but** some stress actually improved performance (test taking)
How does anxiety and mental health affect learning?

• **The Hippocampus and Memory Storage:**
  - acute stress prevents memory storage
  - when cortisol reaches the hippocampus, the structure’s dendritic spines disintegrate rapidly.
  - When dendritic spines degrade, the brain’s ability to identify and store important information is significantly inhibited.
  - Fortunately, dendritic spines can grow back (though in the long term, their loss may actually shrink the hippocampus)

• **Prefrontal Cortex:**
  - stress short circuits other neural pathways in the prefrontal cortex responsible for executive functions like self-control, impulse control, memory, and reasoning — skills that are essential to successful learning.
  - cortisol even has the ability to flip a switch in stem cells so that they actively will inhibit the forming of new connections in the prefrontal cortex
The brain and neurons under CHRONIC stress
We must stop talking about stress as a negative thing – it is stressing everyone out!
Acute Stress is NOT the Problem

• Stress can save your life and some stress actually improves performance!

• A recent study of reported stress in their life found that of the people who died in the last year 43% reported the highest levels of stress. It would seem high levels of stress is correlated with premature death BUT it is only a significant correlation with those who ALSO believed stress was harmful.

• Those who believed stress was not harmful AND reported higher levels of stress actually had lower risks of premature death than those who reported little to no stress!

• Chronic stress and our perception of stress is the problem

• SEE this: https://www.ted.com/talks/kelly_mcgonigal_how_to_make_stress_your_friend#t-132359
What can help with “out of control” acute stress AND chronic stress?

• Practice mindfulness everyday – as much as possible
• Begin a meditation practice – up to twenty minutes per day of quiet contemplation on breathing
Mindfulness vs. Meditation – what is the difference?

- Interrelated words with multiple definitions
- Mindfulness is paying attention to present moment.
- Mindfulness example: at any moment, paying attention to what you are feeling right now. Brushing your teeth is an opportunity for mindfulness. Driving your car, washing floors, walking to work, etc.
- Meditation is dedicating time for self to do an activity. Meditation is to contemplate or concentrate on something. Breathing?
Research on Mindfulness for Mental Health

1. Depression relapsing: Patients who practiced mindfulness therapy were 23 per cent less likely to become depressed again within five months even if they stopped taking their medication, compared to those who continued the pills.

2. Decreased Anxiety and Improved Mood Disorders

3. Decreased social anxiety disorder with MBSR

4. Improved sense of stress management in healthy people

5. Decreasing Frequency of Suicidal Thoughts

6. Increased feelings of Self-Compassion
Physiological Benefits of Mindfulness

1. Decreased blood pressure and cortisol levels
2. Decreased blood glucose levels in Type II diabetes
3. Improvement in weight loss with obese and overweight
How does mindfulness actually work?

• Recent Research has shown that after eight weeks of practicing meditation for twenty minutes a day, there were significant changes in the brain. **In particular, the size of the amygdala shrank and the hippocampus grew.**

• Amygdala is a part of the brain that is responsible for stimulating emotions such as fear, aggression, anxiety, and rage. It is also implicated in anxiety disorders and bipolar disorder.

• Hippocampus is responsible for feelings of well-being and emotional memory. People with Alzheimer’s disease and chronic depression have shrunken hippocampus.
More changes to the brain

- Increased gray matter
- Increased activity in left prefrontal cortex (feelings of happiness)
- Brain scans of experienced meditators (Buddhist monks) show active left prefrontal cortex
FAQ about how to start a meditation practice

• Do I need to sit a certain way?
• Do I need to breathe a certain way?
• Should I use a cushion or chair or can I lie down?
• Can I play music in the background?
• Should I use incense or have some kind statues around me?
• What happens when thoughts enter my mind every few seconds?
• Should I repeat a mantra?
• Is it better to do this alone or with a group?
How to optimally meditate

• Find a place where you won’t be disturbed for 20 minutes. Turn off your phone.
• Sit in an upright posture (chair or on floor) with both extremities symmetrical
• Begin to diminish your senses by focusing just on your breathing
• Feel movements of air at your nose, your chest, your belly
• Notice the quality of each breath
• WHEN thoughts take away your concentration just notice that you have lost focus and then gently return to breathing. You will lose focus very often.
Other ideas for mindfulness

- Breathing 4, 2, 6
- 5, 4, 3, 2, 1
- Zapping people
- Body Scan
- Yoga classes or meditation classes
What’s normal and when to seek help

• Every student feels stressed out at one time or another, especially during midterms and finals. And it’s normal for students to feel blue on occasion, too.

• Cause for concern:
  – when mood state interferes with ability to function at school - can’t get to class, and don’t want to hang out with friends
  – prolonged feelings of sadness or despair, excessive anxiety or panic, isolation or withdrawal from typical daily activities
  – thoughts of self-harm or suicide, giving away possessions,
  – changes in personal hygiene
  – excessive use of alcohol or other drugs
References for research related to mindfulness and mental health


5. Hepburn, Silvia R; Crane, Catherine; Barnhofer, Thorsten; Duggan, Danielle S; Fennell, Melanie J V et al. Mindfulness-based cognitive therapy may reduce thought suppression in previously suicidal participants: findings from a preliminary study. (2009) *The British journal of clinical psychology* vol. 48 (Pt 2) p. 209-15

Research related to mindfulness and physiology


2. Rosenzweig, Steven; Reibel, Diane K; Greeson, Jeffrey M; Edman, Joel S; et al. Alternative Therapies in Health and Medicine; Aliso Viejo13.5 (Sep/Oct 2007): 36-8.