

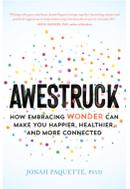
Fostering Well-Being and Meaning During COVID-19

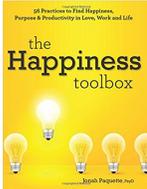
Practical Strategies For Coping During Difficult Times

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About Me

- Author of *Real Happiness*, *The Happiness Toolbox*, and *Awestruck* (coming June 2020)
- International speaker and workshop trainer
- Assistant Director of Mental Health Training at Kaiser Permanente in Northern California

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What we'll cover

- Impact of current COVID-19 crisis on psychological health
 - How COVID-19 may be manifesting in our patients and in ourselves
 - Explore implications for treatment in our "new normal"
- Keys for fostering well-being during the COVID-19 crisis
 - 15 Principles for fostering resilience and wellness during uncertain times
 - Practical strategies to enhance well-being despite the challenges we face
 - Easy to implement skills for clients (and ourselves)

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COVID-19 Impact on Daily Life

- Social Distancing
- Testing and Isolation
- Increased personal hygiene
- Closing of schools, restaurants, businesses
- Limited travel
- Shelter-in-place orders

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Psychological Effects of COVID-19

- Anxiety, Fear, and Uncertainty
- Increased Social Isolation and Loneliness
- Financial Concerns
- Sleep Disturbances: Insomnia or Hypersomnia
- Increased Rates of Depression
- Increased Rates of Chronic Stress
- Over or Under-Eating
- Overconsumption of News and Social Media
- Increased Substance Use

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Anxiety & COVID-19

- Anxiety often exacerbated by novel threat, uncertainty, and fear of the unknown
- Our mind fills in the gaps with worst-case scenario thinking
- Human beings struggle with lack of certainty → leads to assuming the worst

Anxiety Sources specific to COVID-19:

- Fear of exposure, Fear for the Future, Fear for Loved Ones, Fear for Society at-large, Economic Uncertainty, and much more

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Common Anxiety Reactions

- Increased Heart Rate
- Racing Thoughts
- Increased Blood Pressure
- Sleep Disturbances
- Muscle Tension
- Increased Sweating
- Irritability
- Dizziness
- Trembling
- GI upset

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Preconditions for Trauma

- Lack of Predictability
- Immobility/Paralysis
- Loss of Connection
- Numbing/Detachment
- No sense of time/foreshortened future
- Lack of Safety

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Common reactions to pandemics (Douglas, 2009; Gardner, 2015)

- PTSD
 - Especially in medical providers and those directly impacted
- Depression
- Anxiety
- Sleep Disorders
- Fear
- Loneliness
- Substance use issues

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Impact of Media/Social Media

- Highest level of media consumption following Boston marathon bombing linked to even higher levels of acute stress than those who directly experienced it (Holman, 2014)
- Post 9/11 research: increased consumption of news coverage led to increased risk of both PTSD and physical health problems (Silver, 2013)

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“An abnormal reaction to
an abnormal situation is normal behavior.”

-Viktor Frankl

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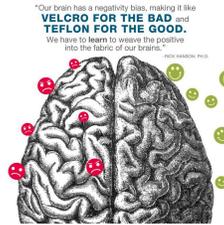
Normalizing Experiences

- During a time like this, fear/anxiety/sadness = NORMAL
 - Even those without serious mental health issues will be suffering during these times
- Those with underlying MH issues will be especially vulnerable
- Some struggles will be in direct response to COVID-19, others will be a result of the mitigation strategies (e.g. social distancing, changes in patterns)
- Some of the very best and most critical healthcare interventions can be very deleterious psychologically

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A "Negative" Brain

- Greater focus on negative experiences
- Learn faster from pain than pleasure
- Hard to "undo" these effects
- Negative experiences stored longer in memory
- Great for survival, but...



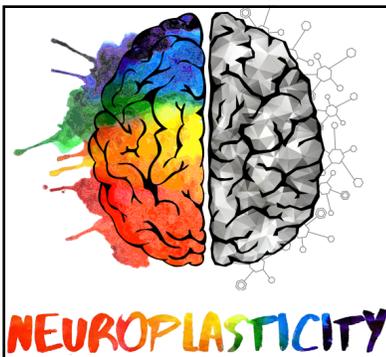
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Negativity on Overdrive

- In a time like this, our brain's negativity bias is working overtime
- Uncertainty activates our brain's fear response
- Fight or flight activated and remains on
- Fear/Anxiety are signs that our systems are working – but less helpful in the long run when they're chronic and not in direct problem-solving mode

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Using the Mind to Change the Brain



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Positive Neuroplasticity

- Habits, Skills, Behaviors lead to *state* changes in the brain
- Repeated over time, short-term *states* become long-term *traits*
- A bidirectional process
 - Experiences change our brain, which in turn make those positive experience more accessible and likely to be repeated
- A "superpower" that can be used towards health or misery

Take-home point for clients: "Positive actions (thoughts and behaviors) repeated over time changes your brain. This, in turn, makes us more likely to experience them again."

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"The brain is shaped by experience. And because we have a choice about what experiences we want to use to shape our brain, we have a responsibility to choose the experiences that will shape the brain toward the wise and the wholesome."

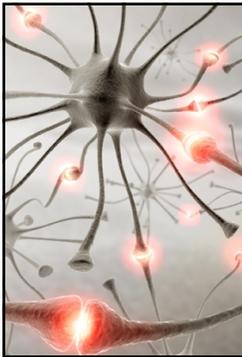
– Richard Davidson, Ph.D.

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Neuroplasticity in Action

- The brain changes through experience – this occurs automatically
- The more we repeat a thought/behavior/action, the stronger the associated neuronal connections become
- Our brain is *soft-wired*, not hard-wired: conscious actions can change our brain for the better
- The key is practice...and then more practice
- Brain changes can appear on fMRI scans in as little as 2-3 months

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Creating Brain-Based Changes

- *Strengthening (LTP) or weakening* of synaptic connections
- *New synaptic connections*
- Increased *thickening* of glial cells
- *Dendritogenesis*: growth of new dendrites
- *Neurogenesis*: growth of new neurons
- Increased synaptic efficacy
- Increased blood cell density

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Examples of Neuroplasticity

- **Cab Drivers** (McGuire, 2000)
 - Hippocampus
- **Meditating Monks**
 - Left PFC (positive emotions)
 - Anterior Cingulate Gyrus (attention)
 - Insula (peace & safety)
- **Pianists**
 - Motor Cortex
 - Posterior Precentral Gyrus
- **Jugglers** (Draginski, 2003)
 - Increased gray matter in mid-temporal lobes
- **String instrument musicians**
 - Enlarged areas of specific somatosensory strips
- **Trauma Survivors**
 - Amygdala
 - Hippocampus (decreased volume)

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The Good News...

- Through conscious and deliberate effort, we can foster resilience and well-being even during challenging times
- Doesn't mean the pain goes away → rather, how do we face difficulties from a place of strength
- By practicing healthy behaviors, attitudes, and skills, we can become more "wired" for resilience, peace, and well-being

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Keys to Resiliency during the COVID-19 crisis

- Cultivating Connection
- Appreciate the Good
- Savoring Life's Joys
- Kindness Towards Others
- Compassion Towards Ourselves
- Living in the Present
- Caring For Our Bodies
- Peace Through Our Breath
- Minding Our Thoughts
- Accept and Let In
- What's in My Control?
- Healthy Boundaries
- Making Meaning
- Leveraging Technology
- Awe & Wonder

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Key #1: Cultivating Connection

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Benefits of Connection

- | <u>Psychological</u> | <u>Physical</u> |
|---|--|
| <ul style="list-style-type: none"> • Happiness and Well-Being (King & Diener, 2005) • Bi-directional relationship • Lower levels of depression and anxiety (Lyubomirsky, 2007) • Decreased anxiety (Cohen, 2004) • Improved sleep (Cohen, 2004) | <ul style="list-style-type: none"> • Improved physical health/immune systems (Pressman, 2005) • Longevity (House, 1988) <ul style="list-style-type: none"> • On par with smoking, substance, exercise • "Blue Zone" findings (Beuttner, 2010) <ul style="list-style-type: none"> • Sardinia, Okinawa, Loma Linda, Icaria, Nicoya |

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Our Brain and Body on Connection

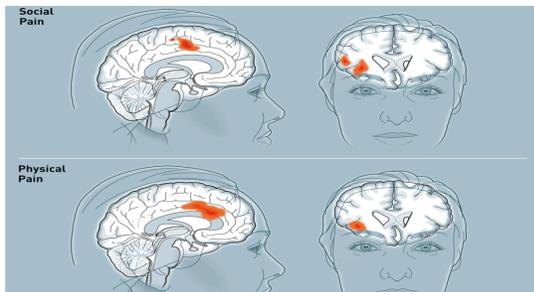
- Poor Social Support linked to:
 - Activation of the pain centers of our brain
 - Cingulate gyrus activation in social pain experiences
 - Increased activation of amygdala
 - Telomere shrinkage (Epel, 2009)
 - Cortisol dysregulation
 - Seeing others' pain activates our own pain centers (Botvinick, 2005)
- Good Social Support linked to:
 - Decreased cardiovascular reactivity (Leopore, 1993)
 - Decreased blood pressure (Spitzer, 1992)
 - Decreased cortisol (Kiecolt-Glaser, 1984)
 - Improved immune system functioning (Cohen, 2003)
 - Slows cognitive decline (Bassuk, 1999)
 - Vagus nerve stimulation
 - Increased release of oxytocin
 - Increased serotonin, dopamine

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Lessons from "Cyberball"



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Opportunities During COVID-19

- Shifting from "Social Distancing" to "Physical Distancing"
- Leveraging technology to maintain social contact
 - Facetime, Skype, Zoom
 - Social Media
- Reminder that *feeling* connected matters more to health and well-being than amount of contact
- Fostering Loving-Kindness
- Expressions of Appreciation
- Who can I get support from?
- Who do I need to take space from?
- Who can I reach out and connect with?

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gratitude:

Key #2: Appreciating
The Good

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Gratitude

"A sense of wonder, thankfulness, and appreciation for life."
– Robert Emmons

"An antidote to negative emotions, a neutralizer of envy, avarice, hostility, worry, and irritation."
– Sonya Lyubomirsky

"Gratitude is an attitude, but it is much more. Gratitude has also been depicted as an emotion, a mood, a moral virtue, a habit, a motive, a personality trait, a coping response, and even a way of life."
– Robert Emmons

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Benefits of Gratitude

- | | |
|---|--|
| <p><u>Psychological</u></p> <ul style="list-style-type: none"> Lower Depression, Anxiety, Stress (Seligman, 2005) Joy, enthusiasm, happiness, love, optimism (Emmons, 2007) Increased well-being, life satisfaction (Wood, 2010) Recovery from PTSD (Kashdan, 2005) More able to forgive (Luskin, 2010) Improved perception of social support | <p><u>Other Benefits</u></p> <ul style="list-style-type: none"> Overall health improved (Emmons, 2007) Better sleep (Wood, 2009) Increased immune system functioning Exercise (Emmons, 2007) Decreased physical pain Romantic relationships (Algoe, 2010) Social Bonds (McCullough, 2002) More forgiving (Rye, 2012) |
|---|--|

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The Grateful Brain

- Left Prefrontal Cortex (Zahn, 2009)
- Anterior Cingulate Cortex (Fox, 2015)
 - Interpersonal bonding
- Pregenual Anterior Cingulate Cortex (pgACC) (Wong, 2016)
 - Links emotional and cognitive centers of brain
 - Lasting differences months later
- Hypothalamus
 - Sleep, Stress, Metabolism
- Increased gray matter functioning
- Ventromedial Prefrontal Cortex (reward circuitry)
- Serotonin, Dopamine (Zahn, 2008)

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Opportunities During COVID-19

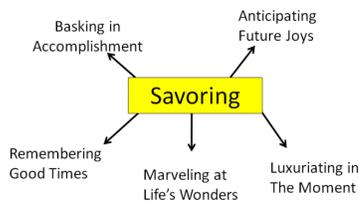
- Three Good Things/Three Blessings
- Gratitude Letter
- Gratitude for those who support us
- Remembering the Bad
- Grateful Reminiscence
- Mental Subtraction of Positive Events

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5 Paths to Savoring



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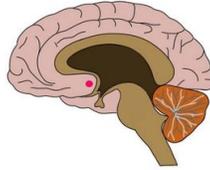
Savoring

- | | |
|---|--|
| <p><u>Why</u></p> <ul style="list-style-type: none"> • Negativity Bias • Positive experiences come and go • Using the mind to change the brain <ul style="list-style-type: none"> • Increased neural firing • Long-term changes | <p><u>How</u></p> <ul style="list-style-type: none"> • 3 A's <ul style="list-style-type: none"> • Attend • Notice or Create • Amplify* <ul style="list-style-type: none"> • Enrich the experience • 5-10 seconds or more • Absorb • Let it sink in |
|---|--|

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Savoring and the Brain

- Ventral Striatum
 - Linked to sustaining positive emotions and reward
- Left Prefrontal Cortex
- Dorsolateral Prefrontal Cortex
- Decreased Cortisol
- Increased serotonin, dopamine



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Tips for Savoring (Fred Bryant)

- Share the Experience with others (“Capitalizing”)
- Memory Building
 - Mental Notes, Photos/Souvenirs
- Self-Congratulate
- Pay attention to our senses
- Avoid multitasking
- Absorption
- Ruminates on the Good

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Opportunities During COVID-19

- What are some small pleasures I can engage in even in the midst of current circumstances?
- What are some past experiences I can reminisce about, or future experiences I can anticipate?
- Taking a walk, getting outside, and fully absorbing my surroundings for at least a few minutes each day
- Reflect on parts of life I may have previously taken for granted but that now feel special
- Enjoying the small joys in life – warm showers, home-cooked meals, time with loved ones

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Benefits of Kindness

<u>Psychological</u>	<u>Other</u>
Depression (Musick, 2003)	Increased longevity (Oman, 1999)
Anxiety (Post, 2008)	44% reduced mortality
Addiction (Pagano, 2009)	Improved physical health (Post, 2008; Borgonovi, 2008)
Meaning/Purpose (Schwartz, 2003)	Helps with multiple sclerosis, HIV (Post, 2008)
<u>Causal</u> factor (Lyubomirsky, 2007)	Work place success (Grant, 2013)
	Blue Zone Findings (Buettner, 2011)
	Closer relationships (Lyubomirsky, 2007)
	Romantic Relationships (Buss, 1989)

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Your Brain and Body on Compassion

- Activation of pleasure centers in brain (Moll, 2006)
- Inferior Parietal Cortex (Weng, 2013)
- Anterior cingulate cortex
- Dorsolateral prefrontal cortex (Weng, 2013)
- Medial orbitofrontal cortex and ventral tegmental region (Klimecki, 2013)
- Vagus nerve stimulation (Keltner, 2010)
- Release of endorphins, dopamine, oxytocin
- 23% cortisol decrease
- Decreased stress hormones, strengthened immune response (Pace, 2009)
- Increased vagal tone (Kok, 2010)

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Opportunities During COVID-19

- Checking in with those we love
- Random acts of (remote) kindness
- Donating if you can
- Fostering Loving-Kindness
- Stepping out from our own fears by being there for others
- Reflecting on moments of connection with others

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Self-Kindness + Common Humanity + Mindfulness

Key #5: Compassion Towards Ourselves

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Self-Compassion

Key Concepts:

- 3 components (Neff, 2011)
 - Mindfulness
 - Shared Humanity
 - Self-Kindness
- Self-Compassion vs. Self-Esteem
 - “Contingent self-worth”
 - Unstable concept

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Benefits of Self-Compassion

<u>Psychological</u>	<u>Other</u>
Lower rates of depression & anxiety (Neff, 2011)	Alleviates chronic pain
Recovery from PTSD (Thompson & Waltz, 2008)	Improved lower back pain (Carson, 2005)
Eating Disorders (Leary & Adams, 2007)	Chronic Acne (Kelly, 2009)
Cigarette Smoking (Kelly, 2010)	Closer relationships (Germer, 2009)
Greater compassion towards others	Increased altruism (Crocker & Canavello, 2008)
	Romantic Relationships (Neff, 2011)
	School & Work (Neff, 2011)

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The Physiology of Self-Compassion

Self-Criticism

- Increased amygdala response
- R Prefrontal Cortex
- Cortisol increases
- Adrenaline released

Self-Compassion

- L Prefrontal Cortex
- Increased PNS activation
- Breathing slows
- Insula activation
- Decreased cortisol
- Increased oxytocin

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Opportunities During COVID-19

- Small acts of self-care
- What would I say to a friend?
- A letter of self-compassion
- Self-Appreciation
- Self-Compassion journal

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Benefits of Mindfulness

<p><u>Psychological</u></p> <ul style="list-style-type: none"> • Depression (Keng, 2011) • Reduced stress & anxiety (Hofmann et al., 2010; Bowden, 2010) • Buffers against future depressive episodes (Williams & Penman, 2011) • Happiness, Well-Being (Shapiro, 2008) • Problem-solving, attention & focus (Moore, 2012) • Enhanced cognitive ability (Xion & Doraiswamy, 2009) • Disordered Eating • Decreased negative emotions (Erisman, 2010) 	<p><u>Physical</u></p> <ul style="list-style-type: none"> • Fewer doctor's visits, fewer hospital days (Williams & Penman, 2011) • Immune system (Davidson & Kabat-Zinn, 2003) • HIV (Creswell, 2009) • Chronic Pain • Reduced insomnia (Bowden, 2012) • Improved heart rate variability (Miu, 2009)
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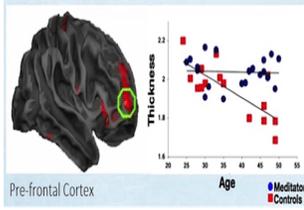
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Benefits of Mindfulness



- Life/Relationships
- Improved job performance & retention (Dane, 2013)
- Less aggression, improved behavior in schools for students
- Lower BP for teachers (Flook, 2013)
- Increased altruism (Condon, 2013)
- Increased empathy (Fulton, 2005; Shapiro & Izett, 2006)
- Increased compassion for others' suffering (Weng, 2013)

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Pre-frontal Cortex

Thickness

Age

Legend: Meditators (blue squares), Controls (red squares)

- Left PFC (Davidson, 2003)
- Activation of memory and learning centers (Holzel, 2011)
- Decreased amygdala response (Davis, 2008; Lieberman, 2007)
- Increased left hippocampal volume
- Offsets cortical thinning (Lazar, 2005)
- Structural changes can occur in as little as 12-16 weeks

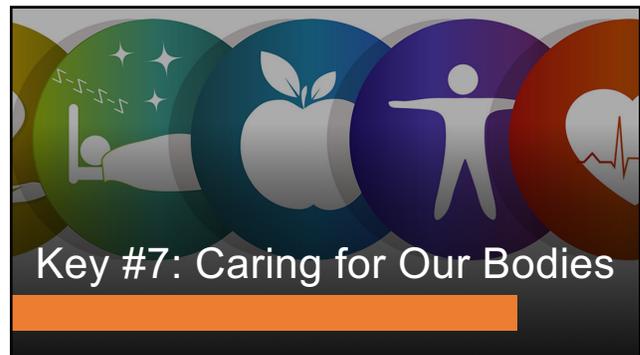
Mindfulness and the Brain

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Opportunities During COVID-19

- Mindfulness of the breath
- Mindfulness through our senses
- Everyday mindfulness
- Coloring books
- Grounding in the present moment
- Am I OK right now?

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The Importance of Good Sleep

- **Poor Sleep Quality:**
 - Linked to depression, anxiety, stress, and risk of mania/hypomania
 - Decreases impulse control and affect regulation
 - Increases risk of numerous health conditions
 - Decreases cognitive function
 - Greater sensitivity to pain
 - Decreases prefrontal activity (Atena, 2008)
- **Good Sleep Quality:**
 - Cleans away metabolic waste via cerebrospinal fluid (Xie, 2013)
 - Improves cognitive functioning
 - Decreases depression and anxiety
 - Reduces reward response to unhealthy behaviors
 - Reduces feelings of loneliness
 - Increases empathy
 - Improves emotion regulation

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Healthy Sleep Tips

- **Do's**
 - Keep a regular schedule
 - Exercise regularly—but not within 3 hours of bedtime
 - Keep a comfortable sleep environment—consider temperature, bedding, lighting, etc.
 - Shut off all bright screens—including phones and televisions—at least 1 hour before bedtime
 - Establish a relaxing pre-bedtime routine—this can include things like taking a warm bath, listening to soft music, or drinking chamomile tea
 - Use your bed only for sleep or sex
- **Don'ts**
 - Take daytime naps—these can interfere with your ability to sleep well at night
 - Use stimulants such as caffeine or nicotine (especially within 6 hours of bedtime)
 - Go to bed too hungry or too full
 - Exercise vigorously within 3 hours of bedtime
 - Drink alcohol—especially within 3 hours of bedtime
 - Stay in bed when you can't sleep—if you cannot fall asleep within 30 minutes, get out of bed and try a low-stimulation activity
 - Watch TV in bed, eat in bed, talk on the phone in bed—these can make it harder to sleep at night
 - Watch the clock

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Exercise

- Mood benefits after 20 minutes can last 12 hours
- Reduces cortisol and adrenaline
- Improves sleep quality and quantity
- Increases blood flow to PFC
- Improved memory, concentration, and focus
- Release of BDNF
 - Low levels linked to depression, memory and learning impairment
 - Critical for brain health
- Increases Serotonin, Norepinephrine, Dopamine, and endocannabinoids
- Similar effect sizes as medication and psychotherapy for low/moderate depression
- Countless benefits for physical and mental health

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Exercise Keys & Tips

- **Make it aerobic; 55-90% max heart-rate** (Max HR=220 minus your age)
- **Make it sustainable** (Choose activities that fit with your lifestyle and that you enjoy)
- **It's OK to keep it short** (20 minutes can go a long way)
- **Make it a habit**

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First the bad news...

Excess belly fat:

- Increases chronic inflammation
- Decreases BDNF
- Increases risk of dementia
- Increases risk of depression

Excess glucose:

- Slows neural communication
- Interferes with synaptic transmission
- Increases chronic inflammation

Trans fats:

- Increases inflammation
- Decreases blood supply to brain
- Increases LDL and decreases HDL

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Nutrients for Mental Wellness

- **Omega 3's**
 - Combats Depression, fatigue, mood swings
 - Salmon, Spinach, Herring
- **Magnesium**
 - Improves fatigue, stress, irritability, TRD
 - Spinach, Edamame, Cashews, Almonds
- **Vitamin D**
 - Improves depression, enhances cell generation
 - Eggs, Salmon, Swordfish, Milk
- **Zinc**
 - Low levels linked to depression
 - Beef, Pumpkin seeds, Peanuts, Kidney Beans
- **Chromium**
 - Increased serotonin & norepinephrine
 - Broccoli, Grapefruit, Turkey
- **Folate**
 - Serotonin regulation & brain cell regeneration
 - Spinach, Avocado, Brussels sprouts

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Opportunities During COVID-19

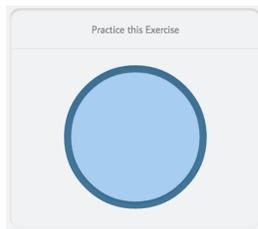
- Sleep Habits
- Healthy and nourishing foods
- Movement & Activity
- Connect to Nature
- Scheduling daily walks
- Progressive Muscle Relaxation (PMR)

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Slow Exhale Breathing



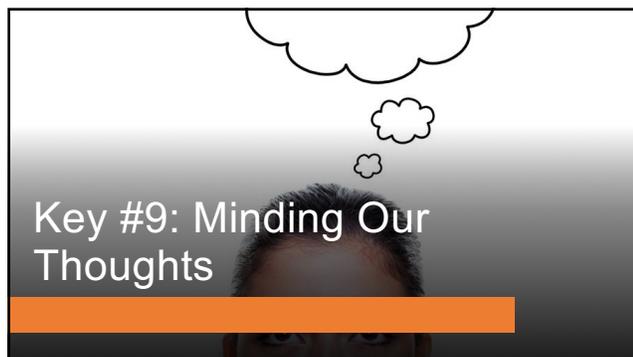
- Activates the vagus nerve, helping to activate our PNS
- Aim for 5-6 breaths per minute (versus 10-15)
- Elongate the exhale
- Breathe through nose

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Opportunities During COVID-19

- Slow Exhale Breathing
- Controlled Breathing
- Square Breathing
- Deep breathing with sigh
- 4-2-6 Breathing
- 4-7-8 Breathing
- Practice several times per day
- Noticing when anxiety hits, and calming through our breath

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The Role of Thoughts

- How we think influences how we feel
- When we change the way we think, we change the way we feel

"Everything can be taken from us but one thing: the last of the human freedoms—to choose one's attitude in any given set of circumstances."
 – Viktor Frankl

"It's not what happens to you, but how you react to it that matters."
 – Epictetus

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10 Core Cognitive Distortions

- All-or-Nothing Thinking
- Magnification or Minimization
- Overgeneralizations
- Emotional Reasoning
- Mental Filter
- Should Statements
- Discounting the Positives
- Labeling Blame
- Jumping to Conclusions

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Where were you?	Emotion or feeling	Negative automatic thought	Evidence that supports the thought	Evidence that does not support the thought	Alternative thought	Emotion or feeling

What experiences indicate that this thought is not completely true and therefore?

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2 Pathways to Change

Thought Disputation

- Double Standard
- Examine the Evidence
- Survey Technique
- Thinking in Shades of Gray
- Downward Arrow Technique
- What-if...

Cognitive Defusion

- I'm having the thought that...
- Observing thoughts
- Appreciate our mind
- Accepting thoughts
- Say it slowly
- Sing it out
- Make it silly

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Opportunities During COVID-19

- Notice when your mind starts taking you down a rabbit hole, and try using either thought defusion or disputation
- Try writing down your worries and asking yourself whether the problem is solvable or can be let go of for right now
- Spend time getting to know your mental patterns, and explore which of the 10 distortions you struggle with the most (hint: we all do all of them!)

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Opportunities During COVID-19

- Notice, let the experiences in, and let go of judgments
- Acknowledge your feelings and sit with them
- Honor your experience
- Resist resisting reality as it is
- Find the opportunities in the struggle
- Notice when the second arrow is at hand

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Opportunities During COVID-19

- What small steps can I take to help myself or those around me?
- Is there information I can share that can help make a difference?
- Is there someone I can offer comfort to who might need it?
- What do I have power over in my own corner of the world?
- Can I find any opportunities to be task-oriented versus passive?
- Can I use proactive problem-solving rather than fall into anxious rumination?

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Opportunities During COVID-19

- Can I the amount of news/social media I consume?
 - Excessive social media linked to worse psychological outcomes even in good times – in a time like this, how can I have a healthy relationship with it?
- "If it bleeds it leads" – since most news will focus on the bad stuff how can I find some alternative viewpoints?
- Can I limit myself to perhaps 30-60 minutes per day to catch up on things without falling deeper into that rabbit hole?
- Check sources: in a time like this, misinformation can run rampant – how can I ensure that I'm getting the real facts?
- Scheduled worry time

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Creating Meaning

Key #13: Making Meaning

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Opportunities During COVID-19

- How have I grown from this?
- Can I find times when I've handled things better than I might have in the past?
- Are there any lessons I can draw from this about myself, my priorities, my strengths?
- Have my perspectives around what matters or my values shifted at all from this?
- Can I use this difficult time to connect to something bigger than myself?
- Can I see these current changes through a lens of opportunity – to stretch myself, to grow?

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Key #14: Leveraging Technology

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Opportunities During COVID-19

- Using remote technology with our clients
- Facetime/Skype meet-ups with friends
- Virtual connections
- Putting the "social" in social media
- Helpful apps:
 - Calm, Headspace, Insight Timer, Happify, Moodkit



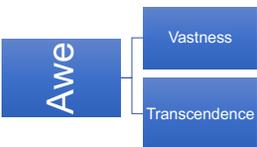
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Key #15: Connecting to Awe & Wonder

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Defining Awe



- **Vastness**
 - Perceptual Vastness
 - Conceptual Vastness
- **Transcendence**
 - Challenges our Assumptions
 - Accommodation of new information

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Why do we experience awe?

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Psychological Benefits of Awe

- Enhances Positive Emotions (Joye, 2015)
- Increases Life Satisfaction (Rudd, 2012)
- Lastingly Boosts our Mood (Stellar, 2017)
- The "Small Self" Effect (Bai, 2017)
- Decreases Materialism (Jiang, 2018; Rudd, 2012)
- Lowers Stress (Anderson, 2018)
- Decreases PTSD symptoms (Anderson, 2018)
- Expands our sense of time (Rudd, 2012)
- Increases Humility (Stellar, 2018)

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Your Brain and Body on Awe

- Activation in areas linked to interpersonal bonding and release of oxytocin
- Decreased activation of Default Mode Network (DMN)
- Decreased chronic inflammation
- Simultaneous activation of PNS & SNS
- Decreased activation in the parietal lobe
 - Contributes to sense of self, orients us to world around us
 - May explain the "out of body" experience many report during moments of awe
- Decreased activation of subgenual prefrontal cortex
 - Linked to anxious rumination
- Distinct "signatures" found on EEG readings during moments of awe

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Opportunities During COVID-19

- Connecting with nature when able to
- Noticing the small wonders in daily life
- Reading inspiring stories of courage/resilience
- Learning topics that expand our mind
- Watching awe-inspiring clips, movies, documentaries
- Experiencing the arts
- Awe through gratitude
- Awe in the present moment

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Countering the Preconditions for Trauma

Preconditions

1. Lack of Predictability
2. Immobility/Paralysis
3. Loss of Connection
4. Numbing/Detachment
5. No sense of time/foreshortened future
6. Lack of Safety

Alternatives

1. Creating routines, rituals, and consistency
2. Movement, release of stress hormones
3. Fostering connection and belonging
4. Grounding, Mindful Awareness
5. Connecting to the here and now, fostering optimism/hope
6. Ensuring safety and security

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