



*Mindfulness Based  
Cognitive Therapy and  
Addictions Treatment*

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# *What is mindfulness?*

- Mindfulness is an ancient eastern practice which is very relevant for our lives today. Mindfulness is a very simple concept. Mindfulness means paying attention in a particular way: on purpose, in the present moment, and non-judgmentally.
- Key: Intention and attention.

# *Concepts on mindfulness*

- Mindfulness is the miracle by which we can call back our dispersed mind and restore it to wholeness so that we can live each moment of life.

Thich Nhat Hanh

*The Miracle of Mindfulness*

*Fralich, T. (2013). Advanced mindfulness: Integrating mindfulness, meditation, & cutting-edge neuroscience in the treatment of anxiety, anger, & depression.*

# *Automatic pilot*

- Sometimes we can drive for miles like this without thinking, it is adaptive
- However, in this state we are more likely to have our buttons pressed (events around us, thoughts, feelings, can trigger old habits of negative thinking
- Conscientious mindfulness practice makes us more able to respond to situations and circumstances with choice, rather than repeating old patterns or habits

*Fralich, T. (2013). Advanced mindfulness: Integrating mindfulness, meditation, & cutting-edge neuroscience in the treatment of anxiety, anger, & depression.*

# *Present reality*

- Tendency to judge our experience as being “not quite right” which takes us away from being “fully present”
- We can regain freedom if we acknowledge the reality of our situation without being hooked into automatic tendencies to judge, fix, or want something different
- Old patterns of judgment are deeply ingrained
- Practicing mindfulness brings awareness that we are hooked, step back, and loosen from the old pattern.
- We learn that our first reaction is not constructive or healthy. Opportunity to make a healthy, intentional choice.
- Repetition of this helps create new, healthy patterns.

*Fralich, T. (2013). Advanced mindfulness: Integrating mindfulness, meditation, & cutting-edge neuroscience in the treatment of anxiety, anger, & depression.*

# *Thoughts are not facts*

- Thoughts have power to affect how we feel and act
- Often thoughts are triggered and run off automatically
- Through meditation we become aware, over and over again of the thoughts and images passing through the mind
- Being able to witness our thoughts with more mindfulness allows us to see that there may be other ways to think about situations
- We come to realize that all thoughts are only mental events and that thoughts are not facts
- This awareness strengthens us to realize no single thought, no first reaction has to dominate our experience for very long (i.e. urges/impulses are temporary)

*Fralich, T. (2013). Advanced mindfulness: Integrating mindfulness, meditation, & cutting-edge neuroscience in the treatment of anxiety, anger, & depression.*

# Core skills of mindfulness

- **Clarifying, setting, and reaffirming intention**
  - For an event, a quality, a relationship, etc.
  - Answering the question, “What am I practicing?”
- **Cultivating a witnessing awareness**
  - Developing meta-cognition: awareness of the state of your awareness
  - Practicing outer non-reactivity: witnessing your inner landscape without autopilot reactions
- **Stabilizing attention**
  - Strengthening the ability to hold your focus
  - Nurturing the harmony of intention and attention “What is it I want to remember in this moment?”
- **Strengthening Self-Regulation**
  - Settling negative energies intentionally: shortening the time that difficult emotions keep you “hooked
  - Avoiding (or recovering from) emotional hijackings: bringing your whole brain back on line
- **Practicing loving-kindness**
  - Calming the inner critic and self-judgment
  - Practicing non-judgmental awareness leading to kindness and compassion for yourself and others

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# *Function of mindfulness*

for the Client:

1. Manage Triggers- physical and emotional
2. Reality check-value actual present moment
3. Hope and trust-savor small moments
4. Calmness- reduce impulsive behavior
5. Clear mind-better judgment
6. Self- compassion forgiveness

for the Practitioner:

1. Build tolerance and resilience
2. Model calmness-create safety
3. Pause- reset mind, body, emotions
4. Focus on present- empathy, genuineness
5. Savor the good-build happiness
6. Trust the process-release over-responsibility

# *How addiction impacts the brain*

1. Cravings (physical or emotional) tap into “fight or flight” response- lead to impulsive reactions
2. Addictive substances “hijack” the part of the brain that is wired for protection and survival- reactions become more urgent and extreme
3. “Habit loops” (for protection or relief) get stored in long-term memory- become triggers for using
4. Addiction enhances mind wandering, a “dangerous place to go”

# *Monkey Mind - Sticky Thoughts*

- \* Rick Hanson- *Buddha's Brain, Just One Thing, Hardwiring Happiness, Foundations of Well-Being*
- \* Monkey Mind- thoughts naturally jump from branch to branch- made worse by addiction, ADHD, anxiety, depression
- \* Sticky Thoughts- Velcro for negative thoughts (default to primitive brain) and Teflon for positive thoughts (adapt to rewards)

## *Pre-Frontal Lobe Brain Functions Strengthened*

- 1-Regulation of the nervous system- off red alert to clearer thinking
- 2-Ability to respond instead of react observation without judgment, more options
- 3-Emotional balance-smaller emotional peaks and valleys
- 4-Management of stress-reduces symptoms, builds resilience

## *Pre-Frontal lobe continued*

5-Development of insight-without stress, answers appear

6-Empathy and compassion-less urgency makes room for caring

7-Intuition-quiet mind allows listening to "gut" feelings

# *Research on the brain*

- \* Oxytocin-the “cuddle hormone”- naturally reduces cortisol and increases caring feelings
- \* Vagus nerve- the “love nerve”- stimulates empathy, connection, lovingkindness
- \* The Rat Park experiment- Hari and Alexander self acceptance and social connection aid recovery

# *Research on the brain*

- \* HALT and the pre-frontal cortex-Brewer-"riding out" urges and cravings relieves prefrontal fatigue
- \* Relapse Prevention-mindfulness more effective than cognitive therapy or treatment as usual
- \* The 17 second rule-overrides negative mind set and builds positive expectation

# *Mindfulness and stages of change*

- \* Pre-contemplation- move from mindlessness and mind clutter to clarity in order to see the problem more realistically
- \* Contemplation- use with MI to replace guilt and shame with acceptance, responsibility, and lovingkindness
- \* Preparation- strengthen self-management, inspires creative solutions, and build self-efficacy
- \* Action-form new neural pathways, increase positive emotions, improve ability to think before acting, develop pro-social behaviors
- \* Maintenance- increase resilience and flexibility, develop personal strength, encourage self discipline, and increase overall well-being
- \* Relapse prevention-compassionate approach to relapse, distress tolerance skills to deal with triggers

# *Potential client complaints*

- 1- It will shut off my strong thoughts and feelings
- 2- I can't sit still to meditate
- 3- It's too serious
- 4- I want to change my feelings and thoughts, not just look at them

# *Actual benefits to clients*

- 1-It teaches attention, acceptance, and choice
- 2-Slow the mind and practice anywhere, any time
- 3-Most effective approach is play relieves suffering
- 4- Awareness and gentle re-wiring

# *MBCT and addictions Tx*

- Several laboratory, preclinical, and clinical studies have provided evidence that craving and negative affect are strong predictors of the relapse process.
- These states, as well as the desire to avoid them, have been described as primary motives for substance use.
- A recent efficacy trial found that those randomized to MBRP, as compared with those in a control group, demonstrated significantly lower rates of substance use and greater decreases in craving following treatment.
- Furthermore, individuals in MBRP did not report increased craving or substance use in response to negative affect.
- It is important to note, areas of the brain that have been associated with craving, negative affect, and relapse have also been shown to be affected by mindfulness training.

Witkiewitz, K., Lustyk, M. K. B., & Bowen, S. (2012). Retraining the addicted brain: A review of hypothesized neurobiological mechanisms of mindfulness-based relapse prevention. *Psychology of Addictive Behaviors*, doi: 10.1037/a0029258

# *5 minute mindfulness exercise*

- Mindful breathing technique
- The goal is not perfection
- Focus attention on your breath
- Be aware of your reactions to breathing (full or empty)
- Welcome any thought into consciousness, and be in harmony with it
- Gently bring focus back to the breath and allow yourself

# *Teaching mindfulness*

- \* Sit in a relaxed position with back straight but not stiff, feet on floor, arms supported
- \* Soft meditative music helps- always practice in a quiet private place
- \* Use a calm, low, peaceful voice for instructions
- \* Read instructions slowly, pausing wherever you see three dots... to allow the client to notice and feel
- \* The ending is like the beginning, with steps reversed, but more brief
- \* Practice during every client session and practice on your own- notice the effects

## *Basic Practice - Follow the breath*

1-Sit quietly...relax naturally without force...close eyes or pick one spot to focus on

2-Notice sounds around you...inside and outside the room or building...

3-Notice your body on the chair...feel the support...

4-Now bring your attention to breathing...don't try to change it...just notice breath coming in...going out...

# *Basic practice*

5-Your mind will wander...it's ok...part of the practice...when you notice, bring your attention back to the breath...breathing in and out...

6- Continue for a few more breaths...just noticing breathing...coming back to the breath when your mind wanders

7-Now notice your body on chair...sounds around you... open your eyes... notice the effects of your practice...share what you noticed when you are ready

# *Practical exercises*

- \* Eat a raisin
- \* Wake up or fall asleep
- \* Take a walk-
- \* Wash a dish or fold a shirt
- \* Make a call or send a text
- \* Take a shower or bath
- \* Brush your teeth
- \* Wait in line

# *Tracking progress?*

- Have the client practice this 2-3x daily for a week.
- Client utilizes thought logs 1x daily to journal on reactions to problem situations.
- Review and notice the change in reactivity based on logs.
- Model form:  
<http://www.therapistaid.com/therapy-worksheet/thought-record/cbt/none>

# *MBCT and addictions Tx*

- Researchers hypothesized that MBRP may affect numerous brain systems and may reverse, repair, or compensate for the neuroadaptive changes associated with addiction and addictive-behavior relapse.

Witkiewitz, K., Lustyk, M. K. B., & Bowen, S. (2012). Retraining the addicted brain: A review of hypothesized neurobiological mechanisms of mindfulness-based relapse prevention. *Psychology of Addictive Behaviors*, doi: 10.1037/a0029258

# *MBCT and addictions Tx*

- Goldapple et al. (2004) found that MBCT technique assisted with elsewhere documented significant metabolic changes:
- Increases in hippocampus (connect emotions and senses to memory, memory formation) and dorsal cingulate (reward based decision-making, attention, monitor emotional meaning)
- Decreases in dorsal, ventral, and medial frontal cortex (working memory, self-referential processing, cognitive ruminations).

Goldapple, K., Segal, Z., Garson, C., Lau, M., Bieling, P., Kennedy, S., & Mayberg, H. (2004). Modulation of cortical-limbic pathways in major depression: Treatment specific effects of cognitive behavior therapy. *Archives of General Psychiatry*, 61, 34-41.

# *MBCT and addictions Tx*

- One study investigated effects of a brief mindfulness-based instruction based on Marlatt's "urge surfing" technique (Marlatt & Gordon, 1985), on smoking-related urges and behavior.
- Population - Undergraduate smokers (*N* 123) who were interested in changing their smoking, but not currently involved in a cessation program
- Cue exposure paradigm designed to elicit urges to smoke. Audio recordings instructed participants to first open a pack of cigarettes (stage 1), place a cigarette on the table in front of them (stage 2), place cigarette in their mouth (stage 3), and bring a lighter to the cigarette without igniting the cigarette (stage 4).

Bowen, S., & Marlatt, A. (2009). Surfing the urge: Brief mindfulness-based intervention for college student smokers. *Psychology of Addictive Behaviors, 23*(4), 666-671. doi: 10.1037/a0017127

Marlatt, G. A., & Gordon, J. R. (1985). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*. New York: Guilford Press.

# *MBCT and addictions Tx*

- Randomly assigned either to a group receiving brief mindfulness-based instructions or to a no-instruction control group.
- Results suggest that groups did not differ significantly on measures of urges.
- However, those in the mindfulness group smoked significantly fewer cigarettes over a 7-day follow-up period as compared to those in the control group.
- These findings suggest that the mindfulness techniques may not initially reduce urges to smoke but may change the response to urges.
- Together with the current study, an emerging body of evidence supports use of mindfulness and acceptance techniques to lessen reactive responses (e.g. substance use) to unwanted or uncomfortable experiences (e.g., urges).

Bowen, S., & Marlatt, A. (2009). Surfing the urge: Brief mindfulness-based intervention for college student smokers. *Psychology of Addictive Behaviors, 23*(4), 666-671. doi: 10.1037/a0017127

# *Neurological effects of addiction*

- Addiction is a chronic and progressive physical disease that attacks the brain, damaging key parts of the limbic system and cerebral cortex causing lasting changes in the brain...to where the individual truly cannot stop his or her addictive behavior, even though the desire to do so might be high.

– Dr. H. C. Urschel III, MD, MMA

Urschel, H. C. (2013, March).  
Healing the addicted brain part  
1. *Advances in Addiction &  
Recovery*, 24-27.

# *Neurological effects of addiction*

- Recall that many of the new DSM-5 changes in Gambling Disorder and Substance Use Disorder issues have to do with their well documented similarity in regard to effects on the human brain.
- The effects of addiction on the brain don't stop with brain size. Research over the last decade reveals that addictive drugs also alter the function of the brain--the very way that cells work.
- Human beings are "wired" with nerve cells (neurons) that extend from the brain and spinal cord throughout the body. Neurons with the same function group themselves into strands up to four feet long. However, the strands are not continuous. Between neurons is a small space called a synapse.

# *Neurological effects of addiction*

- Today we know that what crosses the synapse are not "sparks" but chemicals (neurotransmitters). The constant exchange of neurotransmitters makes it possible for the brain to send messages through vast chains of neurons and direct our thoughts, feelings and behavior.
- Addictive drugs wreak havoc with this normal exchange of neurotransmitters in countless ways. For example, drugs can:
  - Flood the brain with excess neurotransmitters.
  - Stop the brain from making neurotransmitters.
  - Bind to receptors in place of neurotransmitters (Block neurotransmitters from entering or leaving neurons)

# *Neurological effects of addiction*

- Empty neurotransmitters from parts of the cells where they're normally stored, causing the neurotransmitters to be destroyed.
- Increase the number of receptors for certain neurotransmitters.
- Make some receptors more sensitive to certain neurotransmitters.
- Make other receptors less to neurotransmitters (leading to tolerance).
- Interfere with the reuptake system by preventing neurotransmitters from returning to the sending neuron.

# *Neurological effects of addiction*

- The reward circuit extends from the mid-brain to another section called the nucleus accumbens where drugs of abuse create their effect by masquerading as natural chemicals.
- Addicts use chemicals to repeatedly stimulate the reward circuit. An overpowering drive to drink or use other drugs compromises the user's will, changing what was once a voluntary behavior into an involuntary one.

# *Neurological effects of addiction*

- As we will see in a few minutes, MBCT can assist with reverse, repair, or compensate for the neuroadaptive changes associated with addiction and addictive-behavior relapse.
- Also of note is the physical damage done to the brain in many cases by substance use and abuse. This cannot be reversed.

# *Tangible effects on the brain*

**SPECT imaging** regarding substance use.

**Amen Clinics** SPECT imaging of the brain.

# *Healing the brain/neuroplasticity*

- Refers to changes in neural pathways and synapses which are due to changes in behavior, environment and neural processes, as well as changes resulting from bodily injury.
- Neuroplasticity has replaced the formerly-held position that the brain is a physiologically static organ, and explores how - and in which ways - the brain changes throughout life.

Pascual-Leone, A., Freitas, C., Oberman, L., Horvath, J. C., Halko, M., Eldaief, M. et al. (2011). Characterizing brain cortical plasticity and network dynamics across the age-span in health and disease with TMS-EEG and TMS-fMRI. *Brain Topography*, 24, 302-315. doi 10.1007/s10548-011-0196-8

Pascual-Leone, A., Amedi, A., Fregni, F., & Merabet, L. B. (2005). The plastic human brain cortex. *Annual Review of Neuroscience*, 28, 377-401. doi 10.1146/annurev.neuro.27.070203.144216

# *Neuroplasticity and mindfulness*

Volitional effort is effort of attention...Effort of attention is thus the essential phenomenon of will.

- *William James Writings 1878-1898 (1992) pp. 417-418*

Intention governs attention and attention exerts real, physical effects on the dynamics of the brain.

- Jeffrey Schwartz & Sharon Begley, *The Mind & The Brain: Neuroplasticity & the Power of Mental Force (2002)*, p. 361
- Where attention goes, neurons fire. And where neurons fire, they can re-wire.
  - Daniel Siegel, *The Mindful Brain: Reflection and Attunement in the Cultivation of Well-Being (2007)*, p. 291
- Attention is the 'scalpel' that helps us to remold neural pathways...Attention is the driving force of change and growth.
  - Dan Siegel, *Pocket Guide to Interpersonal Neurobiology (2012) p.4-7*

# Mindfulness and the brain

- With mindfulness practice:
  - we are cultivating an awareness that some emotion, thought or old pattern of reactivity has already changed things in our body/mind and has captured our attention.
  - The witnessing awareness enables us to notice that we are triggered, contracted or stuck in the old pattern.
  - This gives us the opportunity to use our self-regulation practice to settle the arising energy and loosen even a little from the pattern so that we can make an intentional decision about our speech and behavior, rather than being driven by the old pattern.
  - When we do this repetitively it is a healing experience that taps into the brain's natural method of learning, which stimulates "re-wiring" in key brain areas.

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# *5 minute mindfulness exercise*

- Mindful breathing technique
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# *Engaging the client with MBCT*

- Mindfulness is foreign to many addictions clinicians. It is crucial to be aware of our own reluctance based on values.
- Are we developing treatment plans based on evidence based practices that will benefit the client, what they are interested in, or only practices that we are comfortable with?
- Mindfulness may clash with your values (hocus pocus, religious values, too abstract)
- May not match client needs or values

# *Suggestions from experts*

1. Psychoeducation (e.g. worksheets)

2. Try it

3. Process/discuss

4. Repeat

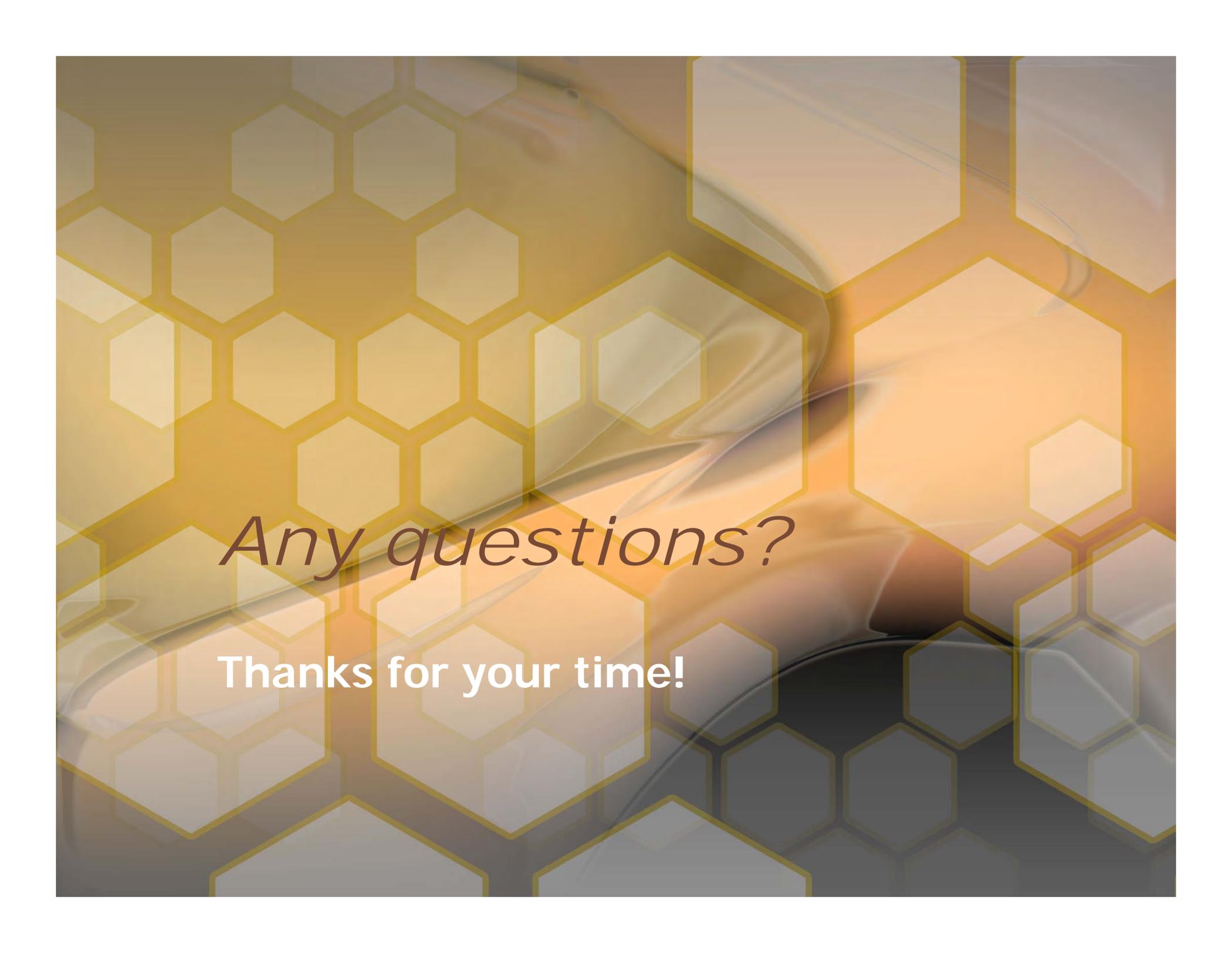
After this becomes an easier, and acceptable process:

1. Mindfulness exercise

2. Process/discuss in session

3. Explore core beliefs/schema

4. Apply to client's reality

The background features a repeating pattern of hexagons in shades of gold, brown, and grey. A piece of light-colored, possibly white or cream, fabric is draped across the center, creating soft folds and highlights. The overall lighting is warm and directional, coming from the upper right, which creates a gradient from light to dark across the scene.

*Any questions?*

**Thanks for your time!**