mPEAK

Mindful

Performance Enhancement, Awareness & Knowledge

Participant's Workbook and Journal

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Introduction

mPEAK (Mindful Performance Enhancement, Awareness & Knowledge) is an intensive course in mindfulness training for those who seek a more balanced way to achieve their goals, both personal and professional, as well as attain new levels of performance and success. This cutting-edge training program is built around the latest brain research related to peak performance, resilience, focus, and "flow". The mPEAK program enhances the human capacity of mindfulness through established and empirically supported practices and exercises. Mindfulness is effective precisely because it is a way of being and relating to all aspects of life, rather than a specific technique or tool for a particular goal. As with physical training, this brain-training program is based on the understanding that optimal outcomes occur most often when participants continue to engage in the practices and exercises on a daily basis as a part of their training regimen. The foundation of this program is drawn from the highly respected and empirically-supported Mindfulness-Based Stress Reduction (MBSR) program, developed by Jon Kabat-Zinn,PhD. Additionally, the program incorporates specific practices and exercises formulated to correspond to recent neuroscientific findings, competitive advances, and related research regarding optimal performance.

How to Use This Workbook

This workbook is a companion to the mPEAK 3-day intensive or 8-week course. It organizes the informational material about mindfulness and performance into one resource to streamline the didactic portions of mPEAK. In the pages provided, you can also record insights and reflections on the various experiences you'll have along this journey. Your time in the mPEAK course will be distributed over the following categories:

Formal Mindfulness Meditation Practices Meditation is a specific period of practice often done in stillness and silence. Meditation training re-wires the brain through neuroplasticity to increase your capacity for presence, discernment and flow in your life, work and sport. The formal practices introduced in mPEAK are: The Body Scan, Awareness of Breath, Mental Noting, Mindful Movement and Self-Compassion.

Experiential Exercises These exercises are like a mirror to more clearly see the way you relate to various aspects of performance. By observing your own conditioned thoughts, habits and identities in the face of these challenges, you recognize what is serving your performance and what might be holding you back.

Didactic Topics Each section of this course offers just enough science and information to help you build a conceptual framework around mindfulness and ideally inspire you to practice. The emphasis of mPEAK is less on learning about mindfulness and more on actually being mindful.

Journal Exercises The workbook provides dedicated pages to reflect on your past experiences with various performance related topics. Journaling itself can be a mindfulness practice of observing and recording thoughts and feelings onto paper.

Dyads/ Triads Sharing your experience is an important part of deepening your awareness of yourself in relation to others. You are encouraged to connect with authenticity and vulnerability with as many other participants as possible. Participants often say they learn as much from the others sharing as from the course content.

Group Coaching and Discussion After each experiential exercise or formal practice, an invitation is offered for discussion and coaching around challenges or insights that may have come up. Coaching is a process of inquiry intended to deepen self-awareness and personalize strategies to integrate mindfulness into areas of life and performance. Even though only a few participants are coached after each activity, everyone can benefit from these interactions.

Operationalized Mindfulness Practices Sometimes referred to as "Informal Mindfulness Practices", these are short, on the spot practices intended to integrate mindfulness into everyday life and performance activities. These are offered as home practices at the end of each section.

Interoceptive Resilience

The physical stress reaction caused by performance anxiety can be crippling even for seasoned performers. The downward spiral starts with sweat soaking through the shirt. The fear of letting others see you sweat triggers the heart to pound. The mind goes blank and your words come out slurred. It can easily get worse from here, or you can move through it mindfully. In this module we'll be focusing on practicing mindfulness to self-regulate the "interoceptive" experience of performance anxiety as well as the brain changes that correspond to mindfulness and stress resilience.

Topic: Mental Training

Even though it's widely agreed that performance at an elite level comes down to the "mental game", most are devoted only to physical training, skills acquisition and other technical aspects of their work or sport rather than training their brains for greater self regulation and emotional intelligence.

Most athletic coaches and business managers will suggest the importance of mindset and encourage resilience but have no real understanding of how to actually help their teams train for it. Instructions such as "relax, don't worry about it" or "get out of your head and just play!" Don't translate into an actual shift in experience. Although well intentioned, the empty advice can add another layer of pressure and expectation to an already stressful moment. Telling someone to get out of their head without training them on how to do so is no different than expecting someone to do a handstand or translate an email into Japanese upon command.

The faculty of voluntarily bringing back a wandering attention, over and over again, is the very root of judgment, character, and will. No one is compos sui if he have it not. An education which should improve this faculty would be the education par excellence. But it is easier to define this ideal than to give practical directions for bringing it about.

–William James, The Principles of Psychology

The mindfulness practices in mPEAK are exactly this kind of mental training that will train the brain to become more focused, resilient and have easier access to flow states. The mechanism by which the brain changes is called neuroplasticity which refers to the "plastic" property of the brain or it's ability to structurally change with new experiences, behaviors or thought patterns. When you constantly worry, the brain wires itself to worry more often. When you repetitively shift toward a more present mindset that aligns with the "foundational attitudes of mPEAK", the brain creates more pathways for optimal performance.

Baseball is 90% mental. The other half is physical
-Yogi Berra

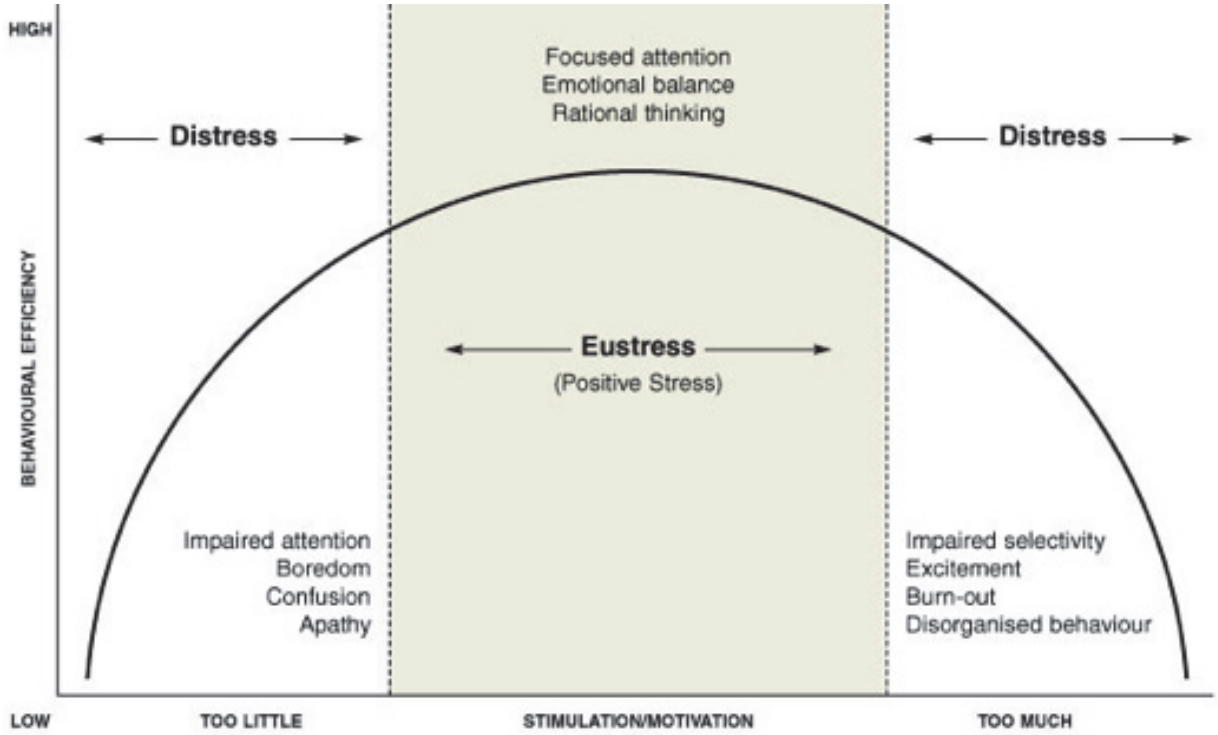
Topic: The Impact of Stress On Performance

Stress has been defined by Hans Selye as the response of the human organism to any change or demand. This demand is experienced as a kind of pressure, tension or strain but is not inherently bad. Stress is actually part of the bodies protection system that keeps us safe and ensures survival. When there is an internal or external perceived threat, the Hypothalamus- Pituitary Adrenal Axis (HPA Axis) unleashes a cascade of chemical reactions that trigger the autonomic nervous system that prepares you to either fight or take flight. During this "stress reaction", our systems get flooded with cortisol and adrenaline to speed up your heart, increase breathing rate, shut off digestion and shift blood to your muscles of your arms and legs to help you deal with a dangerous situation.

It's not stress itself that is harmful; it's the amount and perception of the stress, the length of exposure and the way one responds to the stress that makes the difference between optimal performance and total breakdown.

Consider strength training as an example. The physical load of the barbell is a kind of physical stressor. The great effort required to lift the load is what breaks down muscle fibers to be rebuilt even stronger to better handle future loads. No stress, no strength gains. But if one attempts to lift a weight that far exceeds their current capacity, the strain results in injury rather than a positive adaptation. Too much stress, no strength gain. The barbell can be a metaphor for any stressors in life: time stress, relational stress, or mental, emotional or spiritual stress. As shown in the graph below, when there is too little stimulation there is boredom. When there is too much stimulation, there is burnout or injury.

Interoceptive Resilience



When you have just the right amount of growth promoting positive stress, it's referred to as "Eustress". It can jump-start your adrenalin and motivate you to perform your tasks more quickly and take important actions in alignment with your goals. Eustress can lead to focused attention, emotional balance, rational thinking and flow states.

Distress, on the other hand, can cause impaired attention, boredom, confusion, apathy, anxiety, burnout, overwhelm and disorganized behavior. Your autonomic nervous system is only meant to turn on for brief periods, not an entire career, which is what's happening when you're under "chronic stress". Your body doesn't know the difference between stressful thoughts and emotions and real physical danger. Your mind and body reacts the same way to both so when you perceive the demands of your work environment, financial situation or relationship to be threatening, you can become stuck in a chronic stress response. Your body literally thinks it's fighting for it's life. Over time this state of stress will inevitably lead to a collapse in health, well-being and performance.

Journal

How do you know the difference between "good stress" and "bad stress" in your life? Give some examples of both.

Good Stress	*Bad Stress*
1.	*1.*
2.	*2.*
3.	*3.*

Topic: Performance Anxiety

Any situation where you want to perform at your best but feel stressed about your ability to do so can create performance anxiety. Sports, music, public speaking, job interviews and test taking are common examples but even something as harmless as throwing an apple across the room while others are watching can cause performance anxiety. Going back to the strength-training metaphor, the above examples only trigger anxiety when the perceived "weight" of the performance is greater than your perceived ability to lift it.

Even weeks before an event, the anticipation of a future performance can activate the insular cortex of the brain creating the unpleasant physical sensations of anxiety. In sports, people often "choke" under pressure when become preoccupied on their routine in ways that are worrisome and unproductive. Normally, during a highly practiced performance, brain activity in the prefrontal cortex, which is important for decision-making, problem solving and attention, becomes quiet. This allows the brain circuits responsible for a routine located in the cerebellum and motor cortex to carry out their tasks without unhelpful thoughts getting in the way (more on this in section 4 on Flow). When performance anxiety becomes overwhelming, the prefrontal cortex kicks into high gear and interferes with activity in these brain circuits, leading a person to "get in their own way" of a good performance.

Journal: Performance Anxiety

When have you experienced performance anxiety?

What did your body feel like during that experience?

How did you manage the sensations?

What was the impact of your anxiety on your performance?

Topic: Mindfulness and Resilience

The greatest glory in living lies not in never falling, but in rising every time we fall.
Nelson Mandela

Resilience can be simply defined as performing well under pressure and recovering quickly from difficulties. There are several physical and relational factors that contribute to ones level of resilience such robust health and fitness and the presence of supportive relationships, communities and role models. There is also a long list of internal factors such as:

- Cognitive and emotional flexibility
- Maintaining optimistic perspectives
- Finding a sense of purpose
- Living in alignment with values
- Courageously facing your fears
- Accepting that challenges are a part of life
- Taking actions toward self determined goals

All of these internal factors will be either implicitly or explicitly covered in the mPEAK program. The mechanisms by which mindfulness improves resilience are found in both the body and mind. In this module 2 we'll cover "Interoceptive Resilience" which is working mindfully with the direct experience of difficult physical sensations associated with performance anxiety. In the next module 3 we'll focus on the mental aspects of resilience by working with our "Performance Stories" and the meaning we make of challenges. In module 5 you'll learn how to mindfully monitor, accept and respond wisely to stressful moments rather than react in ways that make problems worse. Then in module 7 we'll explore the use of "Self Compassion" as a way to bounce back effectively from failure, loss or mistakes.

Exercise: Straw Breathing

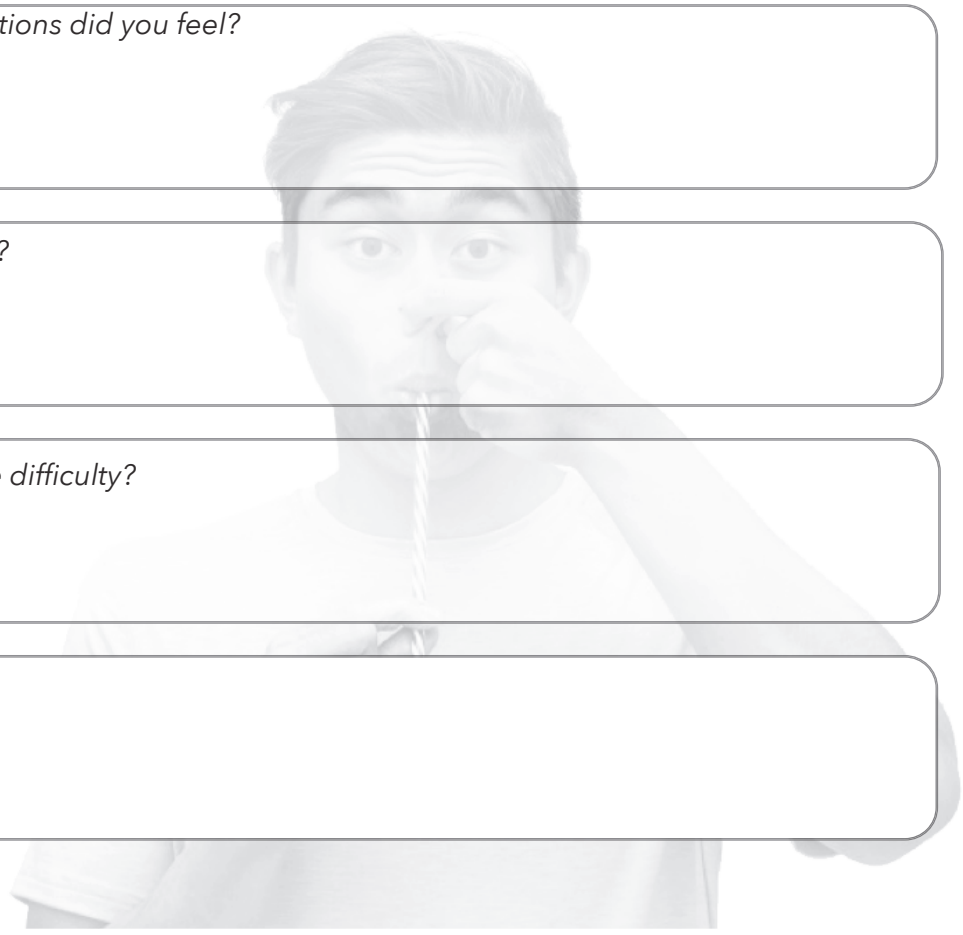
The intention of this exercise is to observe your relationship to an "interoceptive stressor". Some participants will notice the sensations of panic and react by quitting the exercise prematurely. Other participants will strive to win the exercise, vowing to pass out before quitting. And some may experiment with mindfulness – noticing that they can accept the unpleasant sensations and respond by experimenting with various breathing strategies and conscious relaxation, even in the presence of anxiety. How long one can stay with the exercise is ultimately not the point. Lung capacity and tolerance to discomfort will very from person to person. The main point is for participants to notice their sensations, thoughts and reactions in the face of an inherently panic inducing challenge. Regardless of the experience you have in this exercise, there is room for growth. Mindfulness, when practiced over time has been shown to help self-regulate the response to unpleasant interceptive sensations.

What sensations, thoughts and emotions did you feel?

In what ways did you "self-regulate"?

How did you respond or react to the difficulty?

What else did you notice?



Topic: Interoceptive Awareness

Interoceptive awareness is the awareness of inner body sensations, involving the sensory process of receiving, accessing and appraising internal bodily signals. Interoceptive awareness (IA) literally means "perceiving within". Examples of these kinds of subtle interior sensations include butterflies in the stomach, hunger, tickle, itch, perception of heart rate, being choked up with sadness or getting flushing with embarrassment. IA is caused by nerves that travel from our internal organs to the insula cortex of our brain, where a dynamic representation of our inner physiology is created.

According to a study by Professor and Mindfulness Teacher, Zindel Segal in collaboration with Adam Anderson at the University of Toronto, Interoception relies on brain regions that link the cortex to the limbic system, an evolutionarily older brain system that we share in common with many other animals. These limbic connections may support more direct access to emotions and physical sensations while the neocortex is more responsible for a conceptual sense of self. By recruiting "limbic-bridge" areas like the insula and posterior cingulate, a person using interoceptive attention may bypass the pre-frontal neocortex, directly tapping into bodily awareness that is free from judgment or conceptual self-evaluation.

By doing MRI scans of military elite and elite adventure racers, it has been found that resilient people all have an increased insula and Anterior Cingulate Cortex (ACC) activation in response to in interoceptive stress test (breath restriction or electric shock). The conclusion of these experiments was that the efficiency of the way the insula and ACC prepare, react and recover from an interoceptive stress may be the signature of resilience and optimal performance. What has also been found in that eight weeks of mindfulness training makes the brains of "normal" people look more like those of the elite performers. The findings of the mPEAK BMX Study is that mindfulness can train an already elite looking brain to become even more resilient.

Topic: The BMX Study

Research on the impact of the mPEAK course on the US Olympic BMX team suggest that after mindfulness training, these top athletes "were better able to appropriately anticipate challenges and to remain focused and aware of their performance in the midst of the split-second stressors that arise in a BMX race that can be intense and often lasts for fewer than two minutes with multiple competitors vying for a place at the finish line."
Reporting in a recent issue of Frontiers in Behavioral Neuroscience researchers show that the mPEAK course altered the cyclists' brain activity patterns in two performance-relevant ways:

1. As measured by fMRI activity in the anterior cingulate cortex (ACC) and insula were enhanced during the anticipatory and recovery phases of a stress-provoking exercise. The ACC and insula are believed to play a strong role in interoception, the ability to sense bodily sensations such a heart rate and integrate them with external stimulation and emotional overlay. "Prior to the test, their brains were ramping up for activity," said first author and mPEAK Director Lori Haase. "We interpret this as meaning the athletes are anticipating the stress and getting ready for it."

2. The second measurable change was an apparent reduction in the level of connectivity between posterior cingulate cortex (PCC) and both the right medial frontal cortex and ACC, during the stress-evoking test, in which athletes were asked to breathe through a narrow straw that restricted air flow. The PCC is implicated in self-awareness and self-referential thoughts. A reduction in connectivity to this brain area is consistent with the idea that mindfulness training heightens a person's awareness of bodily sensations, with less of their "Performance Story" being added to what is being experienced physically.

Topic: Mindfulness and Self-Regulation

Emotional experiences are not the enemy of performance. Humans evolved to have emotional responses to certain situations that actually help us in our everyday lives. Anger in response to injustice can indicate that the situation needs to change. Feeling fear when you see a bear in the woods signals that you should stay away. Feeling affection for your family and friends promotes behaviors that foster close relationships. It's when emotional responses are exaggerated, inappropriate or maladaptive that they decrease performance. The same feeling of fear that can help you escape from a bear, if felt while presenting in front of your company can derail your career. The same feelings of affection that brings about healthy connection with family may need to be regulated if felt inappropriately for a co-worker.

Emotions are experienced as a type of sensation in the body, although less tangible and more difficult to describe than the solid sensation or your buttocks on the chair. The greater ones capacity for interoceptive awareness, the greater ones ability is to feel and know an emotion in real time. But regulation of the emotion or the behavior that follows, most likely comes from the prefrontal cortex –the "executive control center of the brain".

Most emotional regulation strategies include reevaluating the situation that elicited the emotion, or suppressing the emotion altogether through distraction or some other means. This will be covered in greater detail in section 5. Mindfulness, on the other hand, encourages people to observe and accept the sensations of their emotional experiences without judging them or trying to change them.

The feeling of doubt before a competition can trigger the physical sensations of performance anxiety, resulting in a decrease in performance. Mindfulness allows you to "ride the waves of emotion" rather than being anxious about being anxious. The challenging sensations may or may not diminish with mindful attention but your ability to make skillful choices (self-regulate) will improve.

Journal: Mindfulness and Self-Regulation

What is your relationship to emotions?

How do you typically respond or react to emotions when they arise?

Formal Practice: Mindful Movement

This practice will guide you through a full range of movements at various speeds and levels of complexity and difficulty. You'll be asked to observe and let go of any preconceived notions or expectations about "Yoga" or "exercise" so you can show up with a "beginners mind". Benefits such as burning calories, strengthening muscles, gaining flexibility or relaxing might be a result of a movement practice like this but is not goal of this practice. The intention of this practice is to be present to the body moving for movements sake. In this practice you'll observe your relationship to your body in motion and the way you self-regulate in moments of physical intensity.

You may also notice judgments, and comparisons to others in the class, as well as comparisons of how you used to be in the past or expectations of how you should be now. Finally you can also recognize your habits around effort –either striving to push past limitations or letting the emotion of fear hold yourself back from your potential.

Journal: Mindful Movement

How mindful attention make this different compared to how you would normally move?

What new sensations did you notice?

How did you self-regulate around intense body sensations?