# **Cognitive Performance**

# LEVEL 1

# **Training Manual**

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# INTRODUCTION TO COGNITIVE PERFORMANCE

Introduction: This cognitive performance training manual was developed to educate and train individuals on the essential underlying mental mechanisms that, when conditioned and applied correctly, can enhance human performance in a variety of domains (i.e. technical, tactical, physical, cognitive). As the Level 1 Cognitive Performance Program, it establishes the foundation for future, more advanced, cognitive performance training programs, and is ideally used as preparation for assessment and selection and before entering OTC (or other training courses).

**Defining Performance and Cognitive Performance**: Successful performances require "the development and mastery of KSAs (knowledge, skills, abilities) and the capability to consistently and reliably deliver (i.e. perform) KSAs at the time of performance" (Aoyagi & Portenga, 2010). Cognitive performance concerns the underlying cognitive abilities or mental processes necessary to perform consistently at the highest level. High cognitive performance includes effectively processing and using information from the environment, making fast and accurate decisions, remembering and recalling information, solving complex problems, adapting to changes in environmental demands, acquiring advanced motor/cognitive skills at an accelerated rate, and sustaining high levels of cognitive and physical effort for known and unknown periods of time.

**Performance Enhancement**: The primary goal of the Level 1 training is to improve the individual's capability to perform at his highest level by helping him further develop his habits, mindset, and the mental skills essential for improving and/or executing task-specific (technical/tactical/physical/cognitive) knowledge, skills, and abilities (Division 47). This training manual provides a 5-phased model (pictured below) for educating and training individuals to improve the underlying cognitive performance abilities associated with high performance.

**Theoretical and Applied Foundations**: This program was designed using a combination of applied experiences (i.e. direct training support, work conducted with individuals going through the assessment and selection process and/or OTC) and psychological theories related to improving human performance. Throughout the manual, the applied experiences and theories will be used to solidify why and how to apply specific concepts.

5-PHASED COGNITIVE PERFORMANCE TRAINING				
	<ul> <li><u>Phase 1: Understanding and Building High Performance Habits</u></li> <li>Assessing, establishing, and actioning values</li> <li>Building Effective Mindsets</li> <li>Enhancing Sleep</li> </ul>			
focus	<ul> <li><u>Phase 2: Mastering Attention</u></li> <li>Self- and Task-Focused Attention</li> <li>Mindfulness/Meditation</li> <li>Attention Strength Training</li> </ul>			
	<ul> <li><u>Phase 3: Conditioning the Nervous System</u></li> <li>Understanding the interaction between the brain, body, and performance</li> <li>Understanding Stress and Performance</li> <li>Breathing Techniques to Enhance Recovery and Performance</li> </ul>			
GOAL-ORIENTED	<ul> <li><u>Phase 4: Understanding, and Improving Strengths and Weaknesses</u></li> <li>Soliciting, filtering, and applying feedback</li> <li>Setting effective short and long-term goals</li> <li>Understanding, improving, and integrating visualization effectively</li> </ul>			
	<ul> <li>Phase 5: Sustaining High Levels of Cognitive and Physical Performance</li> <li>2 Models of Burnout</li> <li>Acute Readiness Measurement</li> <li>Planning for long-term energy management</li> </ul>			



**Recommendations for Using this Manual**: An 8-week, 6-week, and 4-week plan for moving through this manual is included below. Use the plan that fits your train-up/time restrictions. It's always recommended you use the 8-week plan as this will allow you time to read the necessary information, integrate the training exercises, and use the resources (i.e. podcasts, books, videos) to solidify concepts. Although the phases are numbered (1-5), depending on the plan you choose, you may integrate the phases in a different sequence. Each phase begins with a checklist to follow. As you move through the phase, use the checklist to direct your attention to the key tasks. There are several exercises and reflections to complete as you move through each phase. To get the most out of each section, complete all tasks. Each phase concludes with a "Phase Summary: Learning and Application" sheet. Use this sheet to consolidate what you learned, how you plan to apply concepts/skills moving forward, and pre-planning how you will handle obstacles/challenges that derail your ability to implement these concepts/skills. It is highly recommended that you print the manual off. It's also highly recommended that you complete each exercise using pen/pencil (rather than typing or simply not engaging in the written prompts). <u>\*\*If you'd prefer to have a straight checklist of all</u> readings/exercises/tasks, flip to pages 65-66 and use this to guide your progress through the entire manual.

8-, 6-, 4-Week Planned Progressions						
	8–Week	6-Week	4-Week			
WEEK 1	Phase 1	Phase 1	Phases 2,3 4-Week Mental Conditioning Program			
WEEK 2	Phase 2	Phases 2,3	Phase 1,4 4-Week Mental Conditioning Program			
WEEK 3	Phase 3	Phase 4 4-Week Mental Conditioning Program	Phase 5 4-Week Mental Conditioning Program			
WEEK 4	4-Week Mental Conditioning Program 4-Week Mental Conditioning Program		4-Week Mental Conditioning Program			
WEEK 5	4-Week Mental Conditioning Program	Phase 5 4-Week Mental Conditioning Program				
WEEK 6	Phase 4 4-Week Mental Conditioning Program	4-Week Mental Conditioning Program				
WEEK 7	4-Week Mental Conditioning Program					
WEEK 8	Phase 5					

# Phase 1



# Setting the Foundations: Establishing Values, Building and Developing Mindset, Enhancing Sleep

Image from: https://www.theladders.com/career-advice/the-iceberg-illusion-the-hidden-logic-of-success



# PHASE 1 CHECKLIST

Task
<ul> <li>Complete "Introduction to Values" (page 6) and "Values Identification" (page 7).</li> </ul>
<ul> <li>Complete "Values Development" (page 8) and "Values and Your Why" (page 9).</li> </ul>
<ul> <li>Read "Understanding and Harnessing the Power of Mindsets" (page 10) and "Mindsets from the Past" (page 11)</li> <li>Complete the "Checking Your Mindsets" Reflection (page 12)</li> </ul>
<ul> <li>Listen to the recommended podcasts (page 13). At minimum, watch/listen to the last two on this list.</li> <li>Answer the questions associated with these podcasts/videos (page 13)</li> </ul>
<ul> <li>Complete the "SWOT Analysis of Your Mindset" exercise (page 14).</li> </ul>
<ul> <li>Read pages 15, 16, and 17 to learn more about how you can perfect/leverage sleep for performance enhancement.</li> </ul>
Complete the "Phase 1 Summary: Learning and Application" (page 18).

#### **RECOMMENDED READING/PODCAST LIST**





Mental toughness has been defined many times. The adopted definition for this manual is: "the ability to act in a purposeful manner, systematically and consistently, in the pursuit of the values hat underlie performance activities, even (and especially) when faced with strong emotions that we as humans naturally want to control, eliminate, or reduce (Gardner & Moore, 2007, p. 108)." Values drive motivations, mindsets, and ultimately performance and your daily approach to life. Many authors have pointed to the importance of establishing a well-grounded and solidified "WHY" (see Victor Frankl's book and Simon Sinek's "Start with Why"). Multiple candidates attending A&S have self-selected out of the process and clearly identified the reason "Because I lost my why". In this section of the training manual, you will explore deeper level questions designed to help you tease out the intricacies of your own values which will form the foundation of your "why". Done well, your values and why statement will provide the foundation for your mindset moving forward. Begin by answering this question:

How do you want your performance/work career (how you go through A&S/OTC) and you as a teammate, leader, and future Operator to be remembered?

#### Complete the following unfinished sentences:

1.) I am proud because I am
2.) I can
3.) I learned
4.) I made a difficult decision to
5.) I refused to
6.) I admire the kind of person
7.) The main driving force in my life
8.) The best measure of personal success
9.) My greatest ambition in life
10.) More than anything else I want



# Values Identification

Cultural Values	Core Values		
List the principles you feel you received from parents, siblings, friends, teachers, coaches,	Listed below are personal values. Put a checkmark (or add additional ones) beside up to the 20 most important to you.		
previous training courses, units, etc. representing your cultural values. (Examples: believe in God/attend church, skepticism towards things not empirically proven, use common sense, family comes first, treat others with respect, etc.).	Achievement Accomplishment Loyalty Morality Morality Autonomy Creativity Health Skill Honesty/Integrity Recognition Physical appearance Physically fit Wisdom Love Challenge Balance Adventure Adventure Adventure Selence Expertise Humility Flexibility Excellence Expertise Humility Independence Humor Innovation Intelligence Joy/Happiness Leadership Learning Making a difference Power Preparedness Proactivity Self-Control Reliability	Cleverness Spirituality Compassion Cooperation Credibility Daring Dedication Commitment Expressiveness Growth Intuition Mindfulness Optimism Risk-Taking Safety Stability Quality Service Perfection Responsibility Perfection Responsibility Resilience Mental Toughness Encouragement Trustworthy Vision Understanding Self-less Resourcefulness Teamwork Relationships Professionalism Personal Development Empathy Simplicity Appreciation Advocacy Live Devotion Freedom Write in any others not included:	
	Acceptance		



## **Values Development**

In this section, you will create up to five separate groups using the values you identified on the previous page. For "Cultural Values" in column one, review what you wrote on the previous page and summarize your cultural values using <u>no more than five</u> values (1-3 words). For the remaining columns, review the "Core Values" you checked on the previous page, and list these values into groups. You may group the values however you choose. Review the values you listed in groups 1-4. Circle the value within each of these columns that best represents or labels that group. Review your list of cultural values. Do any of the values in groups 1-4 overlap with your cultural values? If so, combine these values. In the table below, identify up to your top 5 values.

<b>Cultural Values</b>	Gr	oup 1	Group 2	Group 3	Group 4
Respect to others Someone else's shoes Humílíty Mínd/Body Health Commítment	Apprecía Encouras Understa Empathy	tion gement anding J	Learning Excellence Expertise Knowledge Challenge Make a difference	Balance Spírítualíty Humílíty Optímísm Physically fit	Security Reliability Trustworthy Commitment Self-Control
Top 5 Values		Turn your v by adding a	alue into an action a verb to it.	In the next week, wh action this value?	en/how will you
Challenge		Seek challe	enges daily	Set one daily objectiv current level of expert	e that challenges my íse.
1.)					
2.)					
3.)					
4.)					
5.)					



The goal with this task is to ask yourself why you're going through A&S five times to deepen your own understanding of your why.
Why do you want to go through A&S?
Why do you want to?
Well, why do you want to do?
That makes sense, but why do you want to?
Last one, so why do you really want to ?
If anyone asks why you want to do this, what are you going to tell them in one sentence?



<u>Mindsets</u> "are the core assumptions about the nature of many different things and processes in the world, which orient people to a particular set of expectations, attributions, and goals (Smith, Young, & Crum, 2020, p. 2). The graphic above displays mindsets influencing attitude, effort, thoughts, focus, and energy levels. Ultimately, mindsets influence performance and learning – specifically when stress/activation states are heightened (i.e. A&S, OTC, but more specifically when briefing, receiving feedback, learning new skills, performing in unknown situations with new teammates, etc.). For example, research conducted with the Navy SEALs Special Warfare Training demonstrated candidates reporting a greater "stress-is-enhancing mindset" persisted longer in training (12% longer), finished the Obstacle Course faster (27 seconds/4.2% faster), and were perceived more positively by peers (60% fewer negative evaluations) and Cadre (30% fewer negative comments per week compared to average candidate) when compared to candidates with an "average stress mindset". In the same study, candidates with "failure-is-enhancing mindsets" persisted less (10% shorter), had a lower chance to complete phase 1 of training (52% fewer candidates), and were slower on the obstacle course (28 seconds slower), but were not viewed differently from their instructors/peers. KEY POINT: stress-enhancing mindsets typically lead to more optimal physiological responses and can positively influence performance, learning, health, and overall well-being.

- Believe effort matters regardless of previous performances
- Focus on what they can control, the process, the present moment, and their progress
- Engage effective thinking and establish process and mastery goals
- Use pre-event anxiety to their advantage
- Understand failure can ultimately lead to success
- View events or other candidates' good performances as challenges



- Preoccupation with results or performing perfectly
- Overly negative/self-critical after failure or perceived failure
- Do not learn/improve following failure
   Excessive concern with how other
   students/teammates are performing
- View other teammates' good
   performances as threatening to you
   View training iterations or Cadre as
  - threats
- Stuck on past performances (good or bad)

10

KEP POINT: A fixed mindset is not bad and can be an asset for you in certain situations. It can even drive higher levels of performance when a fear of failure or a competitive drive to outperform other teammates is used properly. However, a growth mindset has been associated with more adaptive behaviors, enhanced performance, and greater overall enjoyment of the process. The key is to understand when you're operating with a fixed mindset and whether it's benefitting you at that moment. If not, shifting your mindset may be the best thing for you.



I always used mini goals and only thought ahead one mini goal at a time. Selection for me was thousands of very small events broken into pieces I could chew. I used a lot of self-talk mostly reminding myself to stay present. I used diaphragmatic breathing as soon as I felt anxiety for an upcoming event. <u>I also thought of</u> assessment less as me vs. assessment and more as assessment as a positive challenge that would make me better.

<u>I think I had an effective mindset during selection. I came into selection with the idea that I would</u> <u>compete and thrive rather than just survive the events. Also, I had the mindset throughout that I</u> <u>would focus only on what I could control, which proved difficult at times especially following failures</u>.

I knew you guys only had a week to test me. I knew effort is more highly regarded here than physical fitness. My focus was on performing each task in the moment. I constantly reevaluated what my techniques/form/hydration/nutrition were doing. I tried to keep my "why's" in the back of my mind during all physical events. I focused on helping my team to stop self-pity. I know nothing requires super-human ability. I'm confident with what my abilities are and my goal was to demonstrate those.

Worried about performing well. Worried about performing commensurate with my rank. Anxiety about how well/poor I was leading in regards to my position in the troop.

I had high standards for myself throughout and when I would make mistakes, it would start to slowly chip away at my confidence. I started getting stressed and nervous more and more as the mistakes added up. A huge factor also was the fact that I had not slept, rested, eaten well in the week prior (loose stool, nausea, jet lag). I began to get frustrated and upset that all the hard work and prep I did was taking a huge hit because I did not show up on my A-game.

Calm, confident, prepared to be challenged and perform at a high level. I understood I would fail, make mistakes, and compare myself to others. But I also was ready to test myself and trust my preparation. Relied heavily on positive self-talk, open-mindedness, and goal setting to grow and maintain a positive edge throughout during of selection.

The opportunity is a humbling experience and I felt blessed to be invited. My convictions are strong in regards to the mission and team of this unit. It was easy to stay positive, hungry and continue to drive. I will never quit and I focused on what I could control. Take critical feedback, learn from an event and dial into the next.

I think it took a lot of my emotional energy to bounce back from setbacks of performance, which I felt able to do, but was challenging, especially when my body/legs didn't seem to respond to how I was visualizing. I still could move but hadn't figured out why I wasn't moving as fast, which was tough. So I tried a different technique each time to address the same problem (e.g. food, hydration, stretch, breathing, hype up, etc.).

Taking a more formal leadership approach was difficult in the initial phase. I had to balance the informal road, making sure the guys knew I was there for them and when it is time crank up the intensity. During exfil, I saw some doubt, nervousness in their faces and I used my fiery motivation to take lead. This helped overcome doubt, that I can be that leader.



# **Checking Your Mindsets**

MINDSET CHECK UP		Stress Mindset Measure (Crum, et al., 2013)			
Take a minute or two to answer these questions. There are no right or wrong answers here. Just circle the button that you think works best for you!		1 =Strongly Disagree 6=Strongly Agree			
1. You can always change your talent a good amount, no matter how much you have.       5. You can always learn things, but you can't really change how smartly you are.         1. You can always change your talent a good amount, no matter how much you have.       6. You can always learn things, but you can't really change how smartly you are.         1. You can always change would have.       1. You can always learn things, but you can't really change how smartly you are.         1. You can always change would have.       1. You can always learn the would have.         1. You can always change would have.       1. You can always learn things, but you can't really change how smartly you are.         1. You can always change would have tale the state of	1*	The effects of stress are negative and should be avoided	1 2 3 4 5 6		
2. 1 like work the best when it makes me think hard.       6. I like work the best when I can do well without putting a tot of effort in. <b>1</b> without putting a that it libarn from even if I make a tot of efforts. <b>2 1</b> without putting a that it libarn from even if I make a tot of efforts.	2	Experiencing stress facilitates my learning and growth.	1 2 3 4 5 6		
Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q       Q	3*	Experiencing stress depletes my health and vitality.	1 2 3 4 5 6		
disagree     disag	4	Experiencing stress enhances my performance and productivity.	1 2 3 4 5 6		
GRAND TOTAL		Experiencing stress inhibits my learning and growth.	1 2 3 4 5 6		
WHAT IT MEANS 5-16 You firmly believe that your talents, skills, and abilities are set traits. These things can't be changed very much. If you can't perform really well and look good on a test or project you would enther list to be good.		Experiencing stress improves my health and vitality.	1 2 3 4 5 6		
<ul> <li>You 7 inits that your skills and intelligence probably don't change much. You 8 like situations where you perform well, are less likely to make mistakes, and don't have to put in too much effort. You believe that learning and getting better at things should be relatively easy.</li> <li>25-32</li> <li>You're not too sure whether or not you can change your skills and intelligence. Your grades and performances are important to you and so is learning. You're not the biggest fan of putting in too much effort hough.</li> </ul>	7*	Experiencing stress debilitates my performance and productivity.	1 2 3 4 5 6		
<ul> <li>33-40</li> <li>You believe that you can develop your skills and intelligence. You really care about learning and don't mind having to put in some effort to make it happen. Performing well matters to you but you think that learning is actually more important than always scoring well and looking good.</li> <li>41-8</li> <li>You totally believe that you can grow and improve your skills and intelligence. You love total the believe tway to learn is by working really hard. You</li> </ul>		The effects of stress are positive and should be utilized.	1 2 3 4 5 6		
don't mind making mistakes or looking bad in order to get better.           Image: State of the		erse score the items with a star "*". Add the es for a total score.	Score:		

#### Mindset Check-Up Questions

In performance domains (i.e. current job, previous courses you've been to, etc.) what <u>sources of stress</u> have you experienced?

Describe a time when you experienced a reasonable amount of stress that led to you learning faster and/or performing at a higher level.

Describe a time when a fixed mindset prohibited you from acquiring a new skill, prevented you from developing a current skill, perform at your optimal level, or hurt your team's dynamics.

Describe a time when a growth mindset facilitated your ability to acquire a new skill, further develop your current skills, perform at your optimal level, or aided your team's success.



Listen to the following podcast and YouTube videos focused on understanding and optimizing mindset. Reflect on these resources using the boxes provided. In addition, find a teammate and ask this question: Based on what you've observed, how would you describe my mindset to someone else?



1,



Use this SWOT Analysis to create a plan for actively training your mindsets prior to A&S. SWOT is comprised of Strengths, Weaknesses, Opportunities, and Threats.

STRENGTHS: What strengths did you uncover after engaging in the self-assessments and listening to the resources provided? Label one or two examples where you displayed the strengths.	WEAKNESSES: What weaknesses did you uncover after engaging in the self-assessments and listening to the resources provided? Label one or two examples of how these weaknesses prevented you from performing at your highest level and what you would do differently (from a mindset standpoint).
OPPORTUNITIES: Describe the mindset you want to have? What opportunities do you to further develop this mindset? What opportunities do you have throughout A&S to do a quick check-in with your mindset?	THREATS: What situations might you <u>perceive</u> as "threatening" during A&S? How can/will you shift your perception to challenge?



# UNDERSTAND YOUR SLEEP







MIDNIGHT . 24.00 21.00 02.00 19.00 04.30 -1-CIRCADIAN 18.30 18.00 06.00 RHYTHM HIGHEST 06.45 3 17.00 BEST MUSCLE ST D CARD ASCULAR 07.30 1 NOON 12.00 10.0 s://www.news-medical.net/health/Circadian-Rhythm.a

Sleep is the "single most effective thing you can do to reset your brain and body health (Matt Walker on the Andrew Huberman Podcast)." Generally speaking, there are two main types of sleep (Non-Rapid Eye Movement Sleep and Rapid Eye Movement Sleep) occurring in 90-minute sleep cycles. The ratio of non-REM to REM sleep changes throughout the night. During the first half of the night, we typically get more non-REM sleep which helps with physical recovery and motor learning. The second half of the night is comprised of more REM sleep which helps us deal with the emotional content of our previous day(s) and in linking together our memories. If you go to bed at a normal time (~2100 – 2300) and get the first four hours of sleep (because you have to wake up early for whatever reason), you predominantly get non-rem sleep. Because of this, you may be more emotional-less settled with life experiences because REM sleep was restricted. Alternatively, if you go to bed late for whatever reason (i.e. 0300) and miss out on the first four-ish hours of sleep, you get more REM sleep while missing out on the non-REM sleep. If you are deprived of nonrem deep sleep, this can lead to physical decrements and autonomic dysfunction (i.e. abnormalities in your heart rate, blood pressure, etc). To get the necessary amount of both types of sleep, you should aim for 7-9 hours of sleep (~5-6 full sleep cycles) and 85% efficiency (i.e. sleep vs. time in bed).

The suprachiasmatic nucleus (SCN) in the hypothalamus of the brain drives the 24-hour circadian rhythm. Light and temperature have profound effects on our Circadian Rhythms and ultimately our sleep. Light and increases in body temperature trigger wakefulness. Getting light early in the day "is the most powerful stimulus for wakefulness throughout the day and it has a powerful, positive impact on your ability to fall, and stay asleep at night (Huberman, 2022 – Podcast episode below)." Alternatively, too much artificial light in the evening/night can disrupt our 24-hour circadian rhythm and hurt our sleep. Average core body temperature is 98.6 degrees Fahrenheit, but it fluctuates throughout the day. When waking, body temperature is going to increase. Increases in body temperature triggers the release of cortisol and while much has been written about cortisol and stress, it's important to understand that the release of cortisol in the morning increases metabolism, focus, and your ability to move (Huberman Lab – Master Your Sleep).

The graphic to the left displays what typically happens throughout a normal circadian rhythm. Generally, humans experience peak alertness levels earlier in the day suggesting this may be a good time to do our heavy cognitive work. Alternatively, later in the day/early evening is when we reach peak athletic/physical levels (speed, power, strength) – coinciding with peak core body temperatures. There are individual differences in our predispositions towards mornings and evenings – commonly referred to as chronotypes (early chronotypes (ECT), late chronotypes (LCT), or intermediate chronotypes (ICT)). Early chronotypes prefer waking up earlier and going to bed a bit earlier, while late chronotypes prefer the opposite. If you're interested in learning more about your chronotype, a useful quiz may be found at: <u>https://thesleepdoctor.com/sleep-</u> guizzes/chronotype-quiz/.



# ENHANCE SLEEP: SET YOUR CIRCADIAN RHYTHM

Based on the resources below, start viewing your sleep hygiene approach from the time you wake up in the morning as opposed to 30-minutes before going to bed. While all of these are important, do not get overwhelmed with trying to apply everything at once and attempt to incorporate these things most days of the week (ideally 80% of the time). If you're having a hard time falling asleep, staying asleep, and/or waking up in the morning the following tools can help you set your circadian clock and provide your autonomic system (i.e. Parasympathetic/sympathetic nervous system) with predictable timing mechanisms.

<u>LIGHT</u>



https://www.drschack.com/blog/2019/7/4 /sun-moon-day-night-how-naturalcycles-help-you-sleep

#### **TEMPERATURE**



#### <u>CAFFEINE</u>



https://sites.psu.edu/siowfa12/2012/09/20/caffei ne-and-sleep-a-good-mix-not/





Get outside within the first 30-60 minutes of waking up. If it's a bright, sunny day, get at least 5minutes of sunlight; partly cloudy, get ~10-minutes; and dark and cloudy, aim to get 20-30 mins of sunlight. This triggers the release of cortisol and adrenaline early. If it's dark when you wake up, use brighter (overhead) artificial lighting and then get the natural sunlight when the sun rises. If you are inside most of the day, be sure to get between 5-30 minutes in the late afternoon/evening when the sun begins going down – this signals your brain and body that nighttime is coming. Sunlight through a windshield does not accomplish the same thing as direct natural sunlight. In the evening hours, avoid bright artificial lights of any color. In your internal environment: dim the lights and try to avoid using overhead lights; use as little light as necessary to carry out your required activities; substitute moonlight and candlelight if it makes sense (and is safe) to do so as both of these put out very low light intensity. Substituting table lamps for light can decrease the intensity of light as well. When going to bed, avoid any light as much as possible – light can eliminate melatonin from your brain and this can decrease sleep quantity and quality.

Increase your core body temperature using two methods: cold water exposure (i.e. shower, bath, ice bath, etc.) for 1-3 minutes and/or exercise/workout. Cold water exposure on the surface triggers increases in core body temperature. Both of these strategies trigger the release of dopamine (good for motivation, focus, etc.). To leverage temperature in the evening to help you sleep better, reverse the suggestions for the morning hours. You want to decrease your core body temperature by taking a warm/hot bath/shower or using a sauna for no longer than 20-30 minutes (body temperature can drop 1-3 degrees following the use of higher temperatures). Your bedroom or wherever you sleep should be cool/cold (~65 degrees). If you find that you get too warm at night, put your hand or foot outside the covers. There are "portals" on the palms of your hands, the bottoms of your feet, your face/forehead where heat and cold can pass in and out of your body. Moving a foot or hand outside the covers can allow your core temperature to decrease. Unless you tend to get cold at night, avoid wearing socks.

CAFFEINE/ALCOHOL: Ideally, delay caffeine intake 90-120 minutes after you wake up. This can help you avoid the "afternoon crash" many of us experience. It can also decrease the likelihood you'll feel the need to supplement with caffeine later in the day which can affect sleep at night. You should avoid ingesting too much caffeine throughout the middle of the day and should not consume more than 100 mg of caffeine after 1600 (depending on what time you're able to sleep that night). Contrary to popular belief, alcohol does not help your sleep (Walker with Huberman). Alcohol fragments your sleep – causing you to wake up throughout the night. While you may not think you are waking up, many of these awakenings will go un-noticed. In addition, alcohol blocks your REM sleep (important for learning, memory, emotional regulation, mental health etc.). Even a single glass of wine at dinner has an affect on REM sleep (less REM sleep). "There was well over a 50% drop in growth hormone release during alcohol-laced sleep at night." (See the Huberman Podcast with Matt Walker for more information, time stamp: 1 hr 9 minutes – 1 hr 20 minutes).

NAPS: Naps are not a replacement for nightly sleep and should not be used if they prevent you from good sleep quantity and quality. If you struggle with sleeping at night, it's recommended you avoid naps because they could further prevent you from sleeping long enough, and well enough, at night. In addition, naps should not be taken after 1500 because sleep at night can be disrupted. Matt Walker (podcast below), says that naps of 20-90 minutes have positive benefits on cardiovascular health (blood pressure), cortisol levels, learning and memory, and emotional regulation. In his lab, even a 17-minute nap benefitted learning. In addition, research conducted on NASA pilots in the 1990s found that naps (averaging ~26 minutes) led to a 36% improvement in mission performance and 50% increase in daytime alertness. Limiting naps to 20-25 minutes can be less disruptive to nightly sleep, and can prevent feeling groggy following the nap, because you are not able to get into the deeper sleep stages. Naps should not exceed one full sleep cycle (~90-minutes).



# ENHANCEYOUR SLEEP: ADDITIONAL STRATEGIES

Land the Plane – Make a Routine	Sleep is a physiological process "much like landing a plane (Walker with Huberman). Incorporating a <b>wind-down routine</b> prior to bed helps further trigger your parasympathetic nervous system and readies your body for sleep. Use the strategies from the previous page and the ones below to build a routine that works for you. You may also choose to incorporate some light stretching or reading before bed. The key is to keep your routine simple and repeatable (keeping in mind the law of averages – you're shooting to maintain your sleep routine approximately 80% of the time).			
5-Minute Journal	Use a journal to write down things that are on your mind at least 1-2 hours before bed (not right before bed) so you are not thinking or worrying about them – consider this closing down the mental/emotional tabs you have running in your mind. In addition, consider using a to-do list that accounts for tasks you need to do tomorrow and in the upcoming days. Instead of being generic with your to-do list, write specific details for five minutes (this strategy led individuals fall asleep ~37% faster (Schullin, et al, 2018)). Writing is the key to the task because it's meant to transfer thoughts/worries to paper so you can get to sleep faster.			
Gratitude Journal	Gratitude has been shown to predict lower sleep latency times (i.e. individuals get to sleep faster), sleep duration, and sleep quality (Wood, et al., 2009). Practicing gratitude can be done in a very simple way: write down three things that bring you gratitude. Go for depth: elaborate on each of the three things but keep your practice to about 5-10 minutes so it's sustainable. Make it routine: once a week, every other day, every weekday, or everyday.			
Mental Strategies	Visualization: Go for a mental walk where you visualize something peaceful such as a walk through nature or the beach (Walker with Huberman - citing Allison Harvey's work at UC Berkeley). Progressive Muscle Relaxation is the tightening of muscle groups for 5-7 seconds followed by a 20-30 second relaxation phases. Example: (1) make a fist and tighten your forearms and upper arms, shrug your shoulders and hold for 5-7 seconds followed by relaxing these muscles for 20-30 seconds. (2) straighten/squeeze the muscles in your legs/abs/glutes and pull your toes towards your ankles for 5-7 seconds followed by the 20-30 second relaxation phase. If you prefer separating these groups into smaller groups of muscles, feel free to do so. Try doing this 1-2 hours prior to bed.			
Non-Sleep Deep Rest (NSDR) (Huberman) + Breathing Protocols	<ul> <li>Try either, or both, of the listed NSDR (Huberman) protocols. NSDR is meant to help you increase the relaxation state of your nervous system – slowing your heart rate down and enabling you to better understand/control your activation levels.</li> <li><u>https://www.youtube.com/watch?v=pLo2HRFk2vo</u></li> <li><u>https://www.youtube.com/watch?v=AKGrmY8OSHM</u></li> <li>Use 4-7-8 Breathing: (1) exhale all air; (2) inhale silently through your nose for ~4 seconds; (3) hold this breath for ~7-seconds; (3) exhale from the mouth making a whooshing sound (or simply exhale through your nose) for ~8 seconds. Complete six cycles of this breathing, rest one-minute (complete three sets of this sequence). This protocol has demonstrated enhanced parasympathetic (i.e. rest/digest, through decreased heart rate, increased HRV) activity (Vierra, et al., 2022). If the 4-7-8 is too long, consider using a similar ratio: 3-6-7 or 2-5-6. The ratio of inhale to exhale seems to be key.</li> </ul>			
MASTER YOUR SLEEP IVUERMAN LAB	Resources to Deepen Your Understanding PERFECT YOUR SLEEP WITH DR. MATT WALKER WUERMALLED WITH DR. MATT WALKER WUERMALLED WITH DR. MATT WALKER WITH DR. WALKER WITH DR			



# PHASE 1 SUMMARY: LEARNING AND APPLICATION

The purpose of this form is to allow you to reflect on the strategies you applied to improve your cognitive performance. This will allow you to better understand if you're developing the necessary performance enhancement skills included in this training manual. Having completed Phase 2, what did you learn and apply?

1.)			
2.)			
3.)	 		

SWOT SUMMARY			
STRENGTHS: Coming out of this phase, what were your strengths?	WEAKNESSES: Coming out of this phase, what were your weaknesses?		
1.)	1.)		
2.)	2.)		
3.)	3.)		
OPPORTUNITIES: Moving forward, what opportunities do you have (will you create) to sustain the use of the topics/skills in this phase?	THREATS: What obstacles/challenges will you face in implementing these topics/skills in the future.		
1.)	1.)		
2.)	2.)		
3.)	3.)		

# Phase 2



# **Mastering Attention**



# PHASE 2 CHECKLIST

Task							
• Read pages 21 and 22.							
<ul> <li>Complete the "Listen and Apply" task on page 21</li> <li>Watch Amishi Jha's TED brief (~15-minutes) on mindfulness-based attention training (page 22)</li> </ul>							
Read "Attention Awareness Task Descriptions" (page 23).							
<ul> <li>Complete "Attention Strength Training" (pages 24 and 25). This should take ~4-8 days, but you may continue working through the packet as you build in the Attention Training repetitions.</li> </ul>							
<ul> <li>Read "Shifting from Self- to Task-Focused Attention" (page 26).</li> <li>At the bottom of this page, complete the "3X3X3" exercise a minimum of 3X per day as you continue to complete the "Attention Strength Training" repetitions.</li> <li>Complete the "respond to these questions" at the bottom of page 26.</li> </ul>							
• Use the concentration grid exercises (pages 27 and 28) to practice integrating a reset/refocus routine							
• Complete the "Phase 2: Learning and Application" on page 29 to create a plan moving forward							
 RECOMMENDED READING/PODCAST LIST							





"Concentration is the ability to direct attention to appropriate cues in the present task instead of being controlled by irrelevant external or internal stimuli (Williams, et al., 2015, p. 322).

#### **Attention and Optimal Human Performance**

<u>Self-Focused Attention</u>: Appropriate when you are reviewing, critiquing, and analyzing your performance with the goal of identifying strengths and weaknesses. Inappropriate and potentially detrimental to performing at your optimal level during a performance.

**Task-Focused Attention**: "...optimal human performance can be seen as requiring minimal self-judgment, minimal attention to external or internal threat, and minimal futureoriented focus on possible performance consequences and ramifications. This can be summarized as active absorption in the task as opposed to active absorption in the self (Gardner & Moore, 2007, p. 29)."

Self-Focused	Attention	Т	ask-Focused Attention
<ul> <li>Internal tho processes</li> <li>Self-judgme</li> <li>Focused on future</li> <li>Uncontrolla of the perfo</li> </ul>	ughts and nt past or ple aspects rmance	-	Focused on external stimuli, options, contingencies Process-focused Present-moment What can be controlled Gardner & Moore, 2007

I was determined to make it through selection. I think the constant negative feedback started to get in my head and make me over-think the events and how I should respond. My mindset was to come here and be myself and trust the process. Over the course of the week, though, the constant internal focus driven by the emphasis on feedback started making me question myself.

This quote emphasizes how one candidate remained selffocused as a result of the constant feedback he was receiving. Self-focused attention, when adopted at the right points in time, is effective for reflecting on your performances, analyzing feedback to make quick adjustments or to simply decide there's nothing you can do about it at that point in time. Remaining self-focused (i.e. constantly judging yourself, focusing on future/past performances, uncontrollable aspects, etc.) during performance can be detrimental: "in your own head", slow decision making, poor/lack of leadership, miss key aspects of the TCS, freezing up, not coming out of your comfort zone, etc. "My greatest obstacle was self-doubt. I'm never going to be the physical stud on a team, but those early performances in front of everyone with the constant negative feedback from Cadre about my leadership put me into a mental place with a lot of self-doubt ."

Attentional Errors						
Internal Distractions	External Distractions					
<ul> <li>Focused on past failures or successes or the unknown/unpredictable</li> <li>Overanalyzing feedback</li> <li>Mental/physical fatigue</li> <li>Comparing yourself to other candidates</li> </ul>	<ul> <li>Other candidates</li> <li>Cadre/Assessment</li> <li>Personnel</li> <li>The environment         (weather/living         conditions, etc.)</li> <li>Equipment/Gear</li> </ul>					

#### Attentional Errors at A&S

- Failing to focus on the most relevant cues/parts of the TCS
- Maintaining effective concentration over increasing periods of time due to limitations of attentional resources.
- Failing to bounce back quickly from early setbacks
- Failing to manage energy effectively throughout A&S causing increases on attentional resources and ultimately driving more self-focused attention at inappropriate times.
- Failing to transition or shift between roles and responsibilities between events demanding different activation levels: individual vs. team; leading vs. following; interviews vs. physical events; "coming out of your shell" vs. being the "gray man".
- Overall, viewing events, assessors, other candidates, etc. as threats instead of challenges.

"The greatest obstacle was fear of the unknown. I never knew what was coming next and this led to overthinking and anxiety. To overcome this I would take long deep breaths and remind myself to just focus on the present until selection was completed."

#### Listen and Apply

Debrief Questions:

- Use the terms self-/task- focused attention, internal/external distractions, etc. to describe how Don Cerrone's attention changes from the beginning of the video to the end.
- Compare/contrast when Cerrone is self-focused vs. tasked-focused.
- What is the upside to being selffocused?
- When are two are three good times to be self-focused?



https://www.you tube.com/watch ?v=vFXobfaEvsQ





## Mindfulness/Meditation

#### Goals of a Mindfulness/Meditation Practice

Mindfulness is defined as a mental state where attention is focused on the present moment without judging or further elaborating on the current state of that moment, and without emotional reactivity (Zanesco, et al., 2019). One major goal of mindfulness/meditation practices is to enhance performance by conditioning attentional processes that help you: (1) direct your attentional focus to task-relevant/presentmoment information in your current environment; (2) maintain focus; (3) recognize when your focus is in the wrong area and effectively redirect your attention to the present moment/task as quickly as possible. Increased workloads (physical/ cognitive) and long work periods where individuals are required to maintain high levels of focus can lead to lapses in attention, increased mental effort and rate of perceived exertion, as well as issues with remembering information. Ultimately, conditioning the attentional system using a mindfulness/meditation practice (similar to conditioning other physiological systems such as cardiovascular endurance, strength, power, etc.) can increase your overall mental strength, agility, and endurance.

#### Benefits of Including Mindfulness/Meditation Conditioning

Attention and working memory are limited capacity systems. Mindfulness/ meditation training "may bolster a range of cognitive control-related functions such as attention and working memory" (Zanesco, et al. 2019, pq. 3). Short-term mindfulness training (~4-weeks at 12-15 minutes daily) has been shown to improve measures of attention (i.e. sustained attention and the ability to target discriminate more effectively) and working memory while reducing mind-wandering (See Zanesco, et al, 2019 for a brief review). In another lab, short-term meditation training sessions (8weeks at ~13-minutes daily) led to decreased negative mood states and state anxiety while attention, working memory, and recognition memory were enhanced. Even extremely short (3-minutes and 5-minutes) practices have led to enhanced focus and decreased stress (Huberman Lab Podcast) and critical incident decision making (Shortland, et al., 2021). The potential benefits of including 4-8-weeks of mindfulness/meditation conditioning include: (1) overall, more effective at remaining task-focused when you need to be locked on; (2) identify when you are self-focused and shift to the current task more quickly (i.e. the ability to reset after failures and/or poor performances); (3) enhanced memory performance because your attention is allowing the most important information to come in; (4) the ability to sustain focus for longer periods of time; (5) discriminate between relevant and irrelevant information in your environment; (6) decreased stress/anxiety and enhanced mood because you're focused on the present moment non-judgmentally; (7) increased ability to seamlessly shift focus from one task to another task; (8) greater consistency/balance with emotions; (9) reduced mind-wandering; (10) enhanced mindset because you are challenge-focused rather than threat-focused.

#### Resources to View/Listen To



https://www.ted.com/talks/amishi\_jha\_h ow to tame\_your\_wandering\_mind?lang uage=en



https://www.tenpercent.com/podcastepisode/amishi-jha-388



https://hubermanlab.com/howmeditation-works-and-science-basedeffective-meditations/

#### Free Apps with Guided Mindfulness Sessions



UCLA Mindful

**Healthy Minds** 



#### Task: Attention Strength Training

How: Wherever you are, identify an object in your environment (doorknob, light switch, rock, spot on the wall, etc.). Focus your attention on the object for the specified amount of time. This object is the anchor for your attention. Every time your attention wanders, simply refocus it on the identified object.

#### Task: Focus on the Breath or the "Minds-Eye"

How: Sit in a comfortable position. Close your eyes. Focus on your breath (without attempting to control it) <u>or</u> the "minds eye" (when you close your eyes this is the area just inside/behind your forehead). Do not worry about controlling your breath during this task – simply focus your attention on your breath for the specified amount of time.

#### Task: Body Awareness

How: Sit in a comfortable position and direct your attention to monitoring your body (close your eyes if you want). Notice how various parts of your body are feeling – tightness, strength, fatigue, tension, relaxation, etc. Notice the various body parts as they come to your awareness, but simply notice how they feel – avoid judging, thinking about, trying to change how they feel, or rationalizing why they might feel a certain way. You're simply attempting to notice the sensations and then letting them go.

#### **Task: Situational Awareness**

How: Sit/Stand and allow your attention to broadly take in the external environment (use all of your senses to do this(. If your attention wanders internal (thoughts) or gets too focused on one or two items in the room/outside, simply open your situational awareness up to the entire environment. Allow external objects/actions to come into focus, but them let them go without focusing on them for too long as there are other things you could be taking in.

#### **Task: Attentional Shifting**

How: Sit/Stand. Begin with eyes closed focused on the "minds-eye" or your breath (~1-minute). Shift your focus to body awareness (~1-minute). Open your eyes and focus on a single object in your environment (~1-minute). While maintaining a soft focus on the same object, allow your attention to become situationally aware of the rest of your surroundings (~1-minute). Finish with one-minute of breathing at a slower rate (inhale for 3-5 seconds/exhale for 6-8 seconds).

#### Task: Breathing Practice for Relaxation or Alertness

How: Sit/Stand. Close your eyes if you want. If you want to relax: inhale ~3-5 seconds and then exhale ~6-8 seconds. If you want to increase your alertness level, inhale for a longer period of time (~4-6 seconds) (or shorten the inhale but do it "vigorously") and exhale quickly.

#### **Task: Centering Exercise**

How: Sit in a comfortable position. Close your eyes if it feels comfortable. Take six breaths (inhale ~4-seconds/exhale ~8-secs. Now focus your attention on your surroundings by noticing any sounds that are occurring inside and outside the room. Next, focus your attention to where your body is touching the chair. Notice the physical sensations where your body is touching the chair. Notice the physical sensations where your body is touching the chair. Notice the physical sensations where your body is touching the chair. Next notice any other physical sensations in your body without changing them – just realize they are there. Now, focus on what's on your mind. Don't try to change your thoughts – just realize what they are. Now, identify what is the most important thing you should be doing right now and focus on it for a few seconds. Identify what do you need to do to accomplish this thing. Focus on this for a few seconds and then take 3-6 diaphragmatic breaths.

#### Task: Task-Focused Attention Exercise (Gardner & Moore, 2007)

How: Turn around with your back to the person with whom you are speaking (no eye contact). Have the person tell a twominute story about a recent life event (tell them to try to incorporate an event that uses multiple names, location(s) – provide dates/times, etc). Concentrate on the story. Afterwards, recount the story in as much detail as possible. Following the description, write down any other stimuli (internal thoughts or external noises for example) you were aware of during the story telling. The goal is for you to be able to accurately recount well over 50% of the story. Answer the following questions: 1.) What information can you recall from the story – record as much of it here as possible. Check information recalled with your partner.

2.) Besides the story, where else did your attention go during this task? What distracted your attention?



## Attention Strength Training #1

Use these tasks to improve awareness of, and strengthen, your attention. Later in this manual, a 4-week program combining these tasks and breath control techniques is provided. Complete each task below for a <u>minimum of 3-minutes (ideally no</u> <u>more than 1-2 tasks per day)</u>. The description for each task can be found on page 22. Record the date, time of day, and how long you spent on each task in the left column. Complete the reflection after each exercise. After the four tasks, complete the summary review at the bottom of this page.

Task/Time	Reflect			1=Rarely/Not at all 2=Sometimes 3=Often 4=Almost Always			
Attention Strength Training	It was easy for me to allow my attention to focus on today's task.	1	2	3	4		
Date:	I was easily distracted during today's practice.	1	2	3	4		
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4		
Length:	Where did you notice your attention going when it wandered from the task?						
Focus on the breath or the "Minds-Eye"	It was easy for me to allow my attention to focus on today's task.	1	2	3	4		
Date:	I was easily distracted during today's practice.	1	2	3	4		
	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4		
Length:	Where did you notice your attention going when it wandered from the task?						
Body Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4		
Date:	I was easily distracted during today's practice.	1	2	3	4		
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4		
Length:	Where did you notice your attention going when it wandered from the task?						
Situational Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4		
Date:	I was easily distracted during today's practice.	1	2	3	4		
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4		
Length:	Where did you notice your attention going when it wandered from the task?						

Review: What trends (if any) did you notice in where your attention wandered during this set of tasks? More specifically, during the tasks, did your attention tend to wander internal (i.e. your thoughts) or external (i.e. distractions outside your body)? What "attention thieves" (i.e. specific things that took your attention away from the task at hand) did you notice?



## Attention Strength Training #2

Use these tasks to improve awareness of, and strengthen, your attention. Later in this manual, a 4-week program combining these tasks and breath control techniques is provided. Complete each task below for a <u>minimum of 3-minutes (ideally, no</u> <u>more than 1-2 tasks per day)</u>. The description for each task can be found on page 22. Record the date, time of day, and how long you spent on each task in the left column. Complete the reflection after each exercise. After the four tasks, complete the summary review at the bottom of this page.

Task/Time	Reflect	1=Rarely/Not at all 2=Sometimes 3=Often 4=Almost Always			
Attentional Shifting	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
Date:	I was easily distracted during today's practice.	1	2	3	4
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
Length:	Where did you notice your attention going when it wandered from the task?				
Breathing Practice for Relaxation and Alertness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
Date:	I was easily distracted during today's practice.	1	2	3	4
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
Length:	Where did you notice your attention going when it wandered from the task?				
<u>Centering Exercise</u>	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
Date:	I was easily distracted during today's practice.	1	2	3	4
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
Length:	Where did you notice your attention going when it wandered from the task?				
Task-Focused Attention Exercise	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
Date:	I was easily distracted during today's practice.	1	2	3	4
TIME of Day:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
Length:	Where did you notice your attention going when it wandered from the task?				

Review: What trends (if any) did you notice in where your attention wandered during this set of tasks? More specifically, during the tasks, did your attention tend to wander internal (i.e. your thoughts) or external (i.e. distractions outside your body)? What "attention thieves" (i.e. specific things that took your attention away from the task at hand) did you notice?



# Shifting from Self- to Task-Focused Attention

"I think I physically prepared pretty well to maintain for a long time. With that, I mentally prepared to try to not think if/when it will end, but to be present in the moment because I knew what the end goal was and what is required is for me to be present/forward thinking only when given the chance/respite from the past event. I also would only allow a little/certain amount of time to "dwell". I would allow, once in a while, time to dwell/process. I remember thinking/saying "you are allowed to feel like this for one minute. Soak it in, bask in it, now move on. What's next?" And what can you do right now to improve? Is anyone else hurting? Does someone look like they need help? Help them, you are fine, now get out of your head and move on. And other things, such as "Go" or "How is everyone/someone else?" If I didn't have time to dwell." (A&S Candidate)

This quote represents one candidate's way of shifting from self- to task-focused attention efficiently and effectively. Sometimes what the "present" moment looks like is difficult to identify. Here the candidate clearly shifts to controllable factors (i.e. task-focused attention) after allowing himself a brief period of self-focused attention to deal with his previous performance and feedback. The key point is to have a simple mental game plan for dealing with setbacks, successes, previous performances, feedback, etc. that will allow you to recognize when your attention is in the wrong place for too long, to reset mentally, and refocus on the task at hand. Practice your mental game plan before A&S so you make it automatic.



#### EXAMPLE

**Recognition**: I get nervous, overthink what I want to say, and talk too much (or too little) when conducting an interview or brief in front of a group of people I don't know.

<u>Reset</u>: Take 1 diaphragmatic breath. Focus on a value that shifts your focus back to your "why". <u>Refocus</u>: The most important thing for me to do next is to provide a short, confident introduction of myself and clearly identify my mission and purpose.

"There were times when my mental preparation for each event was automatic, but when tired, I noticed my mind wandering or starting to spiral. I would reset by saying that 'it doesn't matter/I will think about that later'. What matters is now. I asked/answered three questions if I was really down. (1) Where are you? Here (2) When is it? Now (3) What are you? This moment." (A&S Candidate)

The quote above from a previous A&S candidate clearly demonstrates one way to incorporate a recognize, reset, refocus routine. This process of recognizing, resetting and refocusing is critical to producing consistent performances, but requires practice and conditioning (much like your physical fitness areas – aerobic capacity, strength, power, etc.).

#### APPLICATION

<u>Use the 3 X 3 X 3 technique throughout the day to re-engage your attention</u>. At least three times during your day (or anytime your attention is self-focused when it shouldn't be) identify three things in your current environment, three bodily sensations. thoughts or emotions you are currently experiencing and take three diaphragmatic breaths. Finish by clearly identifying where your attention should be at this given moment.

#### Respond to these Questions:

1.) During your training, when would it be beneficial to use a reset/refocus routine (consider the range, PJ or JTAC-specific training)?

2.) How can you apply a reset/refocus routine during your strength training workouts (i.e. between sets for deadlift, squat, etc.)?

3.) How might you use a reset/refocus routine during A&S (OTC) or another important upcoming event?



Task #1: Start with oo, cross it off, then cross of o1, o2, o3, etc. working your way up to 99. Time how long it takes you to complete all 100 numbers. For more concentration grids or to complete on your phone, go to concentrationgrids.com. Complete this exercise 1X per week and see if you can decrease the amount of time it takes you to complete it.

91	54	34	08	16	61	48	92	81	44
04	05	33	89	72	45	73	83	77	<mark>6</mark> 4
06	78	27	14	28	09	39	32	<mark>9</mark> 5	23
07	<mark>6</mark> 5	37	93	99	<mark>8</mark> 7	29	19	96	20
24	31	30	49	70	01	55	43	22	75
50	80	12	58	46	82	76	<mark>5</mark> 9	26	57
90	10	52	15	17	21	35	18	79	03
56	38	60	51	85	02	42	00	88	62
<mark>66</mark>	40	69	13	63	74	53	<mark>68</mark>	71	25
11	86	84	97	67	94	41	98	47	36



## Concentration Grid Exercise #2

Task #2: Find three numbers you've pre-identified (ex. 71, 32, 58), but do not strike them off. Close your eyes, count to 10, drop down do 10 burpees (or another exercise), and then cross them off as quickly as possible based on your memory for where they are. Complete 10-20 rounds using different numbers.

58	74	52	70	83	54	34	46	77	20
84	71	94	98	22	81	16	76	95	12
<mark>68</mark>	37	64	31	44	02	05	39	60	<mark>0</mark> 8
11	26	59	90	19	57	13	29	42	33
21	27	45	87	92	80	09	62	88	48
56	32	97	28	00	78	01	55	07	14
99	25	15	49	38	96	72	36	17	73
<mark>6</mark> 1	30	<mark>6</mark> 3	85	67	35	53	18	23	47
41	40	50	03	93	91	24	<mark>6</mark> 9	10	<mark>6</mark> 5
89	04	75	43	79	06	51	86	66	82

For more concentration grids or to complete on your phone, go to concentrationgrids.com



# PHASE 2 SUMMARY: LEARNING AND APPLICATION

The purpose of this form is to allow you to reflect on the strategies you applied to improve your cognitive performance. This will allow you to better understand if you're developing the necessary performance enhancement skills included in this training manual. Having completed Phase 2, what did you learn and apply?

1.)			
2.)			
3.)	 		

SWOT SUMMARY						
STRENGTHS: Coming out of this phase, what were your strengths?	WEAKNESSES: Coming out of this phase, what were your weaknesses?					
1.)	1.)					
2.)	2.)					
3.)	3.)					
OPPORTUNITIES: Moving forward, what opportunities do you have (will you create) to sustain the use of the topics/skills in this phase?	THREATS: What obstacles/challenges will you face in implementing these topics/skills in the future.					
1.)	1.)					
2.)	2.)					
3.)	3.)					

# Phase 3



Conditioning the Nervous System



# PHASE 3 CHECKLIST

Task
<ul> <li>Read pages 32, 33, and 34.</li> <li>Complete the "Listen and Apply" task on page 33</li> </ul>
Complete "Think About It and Pre-Plan" (page 35
<ul> <li>Read "Breath Control Techniques and Tactics (page 36)</li> <li>Complete practice repetitions of each breath control technique (page 36)</li> </ul>
<ul> <li>Read "Wholistic Training Approaches" (page 37).</li> <li>Integrate 1-2 of these approaches each week throughout your training.</li> </ul>
<ul> <li>Read "Progressive Muscle Relaxation" (page 38)</li> <li>Integrate Progressive Muscle Relaxation 3 times each week of your training</li> </ul>
• Complete the "Phase 3: Summary and Learning" (page 39) to create a plan moving forward.
Read "8-Minute Mental Conditioning Program" (page 41)
<ul> <li>Complete week 1 of the "Mental Conditioning Program" (Page 42)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
<ul> <li>Complete week 2 of the "Mental Conditioning Program" (Page 43)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
<ul> <li>Complete week 3 of the "Mental Conditioning Program" (Page 44)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
<ul> <li>Complete week 4 of the "Mental Conditioning Program" (Page 45)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>

#### **RECOMMENDED READING/PODCAST LIST**





# **Understanding Psychophysiology**

The psychophysiological principle suggests there is a bi-directional relationship between psychological and physiological mechanisms. Green, Green, & Walters' (1970) describe the principle: "Every change in the physiological state is accompanied by an appropriate change in the mental emotional state, conscious or unconscious, and conversely, every change in the mental emotional state, conscious or unconscious, and conversely, every change in the mental emotional state, conscious or unconscious, and physiological state." A simple example of this concept is when you are worried about something or have thoughts of self-doubt/failure and it triggers a sense of anxiousness, muscle tightness, dry mouth, sweating, etc. Alternatively, something as simple as a smile (physiological) can lead to more energetic activation levels (psychological). The interaction of psychological and physiological mechanisms can influence your ability to perform consistently at the highest level and your ability to acquire skills quickly and effectively. In addition, your performance on a given task can influence your psycho-physiology (depicted below).



#### Quick Overview of Two Physiological Performance Systems

#### The Autonomic Nervous System (ANS)

The peripheral nervous system consists of the somatic nervous system (responsible for muscle contraction and transmitting information from our body to the brain and spinal cord) and the autonomic nervous system (ANS) - comprised of the parasympathetic and sympathetic branches. The sympathetic nervous system (SNS) (referred to as the fight/flight/freeze system) is triggered when activation is needed (i.e. there's a threat, you're working out, you're trying to study to remember information, etc.). The SNS is responsible for increasing breathing rate, blood pressure, heart rate, and pupil dilation, and responds in as quickly as ~5 seconds (Nunan, et al. 2010). The parasympathetic nervous system (i.e. rest and digest) helps increase the body's energy reserves (i.e. increased salivation, gastric/intestinal motility, increased blood flow to the gastrointestinal system, as well as self-regulation and social engagement (Schaeffer, 2022 - Biofeedback Tutor). The PNS aids in slowing breath rate, decreases heart rate and blood pressure, and can be triggered or respond in <1-second – a faster response time than the SNS. The image to the right displays various actions controlled by each of the branches of the ANS. When the SNS and PNS are balanced, it's referred to as homeostasis. This system will remain balanced until one of the systems needs to dominate. The primary goal of this phase of training is to provide you with techniques and strategies that will allow you to apply your physiological brakes (i.e. triggering effective parasympathetic responses - the ability to relax and regulate your energy) so that you can hit the gas and accelerate fast (i.e. optimal physical/tactical performance/increase focus, etc.) when it's required. The better your ability to manage the interplay of these two systems, the more likely you are to sustain high levels of physical and psychological performance (as opposed to running out of gas when you need it).





### **Stress and Performance**

#### Yerkes/Dodson Curve

Activation refers to physical and mental states needed by an individual to perform or be ready to perform a specific task or activity. When viewed on a continuum deep sleep (parasympathetic activation) might be positioned on one end and extreme excitement (sympathetic activation) on the other (Hardy, et al., 1996). Generally, optimal performance occurs when an individual has the necessary/optimal activation levels. If activation is too low or too high for the given task lower levels of performance may occur (Yerkes & Dodson, 1908).

#### Individual Zone of Optimal Functioning (IZOF) (Hanin, 2000)

IZOF suggests each individual has an optimal level of activation needed in order to perform at his highest level. This optimal level of activation is dependent on (1) the task being completed and (2) the individual's unique characteristics and preferences. Tasks requiring larger amounts of attention, complex thinking/problem solving, and fine motor movement typically require lower levels of activation while tasks requiring speed, power, and strength require higher levels of activation. In addition, some individuals like to use higher (or lower) amounts of activation to execute tasks. For example, one individual may get "hyped" up while another wants to remain "calm and centered" for the same task.



The key to leveraging these two graphs is to (1) understand the task demands; (2) have good self-awareness regarding yourself and whether you're too activated or not activated enough to carry it out to your highest level; and (3) incorporate self-regulation strategies to increase or decrease your level of physical/emotional activation if needed.



#### Understanding Threat and Challenge States

How you perceive the A&S process interacts, and influences, how you think, where you direct your attention, your activation levels, and how you act. Generally, when perceiving the various experiences at A&S as threats performance will suffer. Threat-based perceptions may lead to negative thinking, loss or lack of confidence, decreased motivation, lack of focus on the right things at the right time, and a host of detrimental emotions (i.e. frustration) and physiological reactions (i.e tight muscles, increased heart rate, rapid/shallow breathing, etc.). Alternatively, a challenge-based attitude can lead to better, and more sustainable and consistent, performances. At the heart of a challenge attitude is an individual's desire to see what he's capable of and the actual enjoyment of the experience. The challenge-focused approach can lead to a total commitment to the process, trust, enhanced and sustainable motivation, increased confidence, well-directed attention, and facilitative activation levels. Physiologically, the challenge-based approach may lead to the same increased heart rate, greater muscle activity, and rapid breathing as with a threat-based approach, but it's more intentionally directed and controlled. In addition, these individuals may react with a physiologically calming effect through the use of: deep breathing, lower heart rates, and slower respiration rates. Meijen, et al., 2020



https://www.podcastone.com/epi sode/374-Kelly-McGonigal--The-Upside-of-Stress

#### Listen and Apply

Listen to Jordan Harbinger's interview with Kelly McGonigal (author of The Upside of Stress). Identify three key takeaways: define them, elaborate on them, and clearly identify how you can apply them.

# Deepening Your Knowledge: Brain-Based Underpinnings

The amygdala – also known as the alarm system for the brain and body - is responsible for producing fear, anxiety, and aggression. Specifically, the amygdala activates more readily during times of ambiguity, social uncertainty, instability, and plays a major role in threat detection. Threats can be real and/or perceived and are triggered by all senses. For example, music or smells associated with previous threats or bad experiences trigger the amygdala to action. When triggered, the amygdala forces the sympathetic nervous system to action a response. This action is fast - usually a trained or learned/habituated response from a previous experience. If the threat is detected correctly, the action of the amygdala helps increases the likelihood of success or survival in a given situation. If the threat detection is inaccurate or perceived (not real in this case), the same responses can occur, but may lack accuracy and precision, or the desired outcome. Should the amygdala determine the stimulus is not a threat (real or perceived), the processed information will be routed through additional structures in the brain. In the A&S environment, perceived threats include but are not limited to: constant assessment, competition, not fitting in, skillchallenge imbalance, briefing/interviewing etc. The frontal cortex, responsible for focusing on a task, working memory, executive function (organizing knowledge and initiating actions based on decisions), long-term planning, and self-regulation, self-discipline, self-control "makes you do the harder thing when it's the right thing to do (Sapolsky, 2017, p. 45)." This portion of the brain does not fully mature in a person until he is in his mid-twenties. Included within the frontal cortex is the pre-frontal cortex (PFC). The PFC is responsible for making decisions – often during times of conflict between emotions and cognition within the brain. For example, deciding whether to shoot or not, reading a room, prioritizing patients in a mass casualty situation, and communicating with multiple air/ground assets at once are tasks governed by the PFC. Due to these responsibilities, the PFC will get fatigued due to the amount of cognitive load it is constantly under. Perform one task requiring the PFC, and performance on a task performed immediately after it, if it requires the PFC, will most likely decline. Under normal conditions or when an individual is able to self-regulate effectively, he is able to utilize high-road processing: sensory information comes into the brain, is analyzed by the amygdala for threats, but then proceeds to the pre-frontal cortex. Alternatively, when the amygdala registers incoming information as a real or perceived threat, alarm signals go off and immediate responses are initiated. While this may be very useful at times (i.e. when the threat is real or perceived and automated responses from training are activated), other times may require the use of the prefrontal cortex to make more accurate decisions given the conditions. If information that needs further evaluation by the prefrontal cortex does not make it to the prefrontal cortex, it is as if the individual is performing without the use of his mind. In other words, his mind is not even in the fight! In the upcoming pages of this manual, a variety of self-regulation tools will be provided to help you appraise situations as challenges, increase/decrease the level of activation you're experiencing, and improve the conditioning of your nervous system.

#### **SUMMARY**

- Psychophysiology suggests that psychological factors impact physiology and physiological responses impact psychological factors. Psychological and physiological factors work together to produce optimal performance and skill acquisition.
- The parasympathetic and sympathetic nervous systems are working together to drive performance and recovery. The sympathetic system can be viewed as the gas (allowing for large amounts of physical activation and focused attention) and the parasympathetic system can be viewed as the brake (allowing you to deactivate, rest, relax, recovery). The key is to ensure each of these systems is well trained and that you know how to throttle up and throttle down effectively.
- Whether you view a task/situation as a threat or challenge may lead to similar psychophysiological responses. However, shifting to a challenge mindset can lead to a total commitment to the process, trust, enhanced and sustainable motivation, increased confidence, well-directed attention, and facilitative activation levels.
- The first three bullets have a brain-based effect. A threat (real or perceived) can lead to low-road processing (meaning there's little to no processing of the information). This can be a great thing when you respond with a well-conditioned response. However, this can lead to decreased performance when you need to slow things down and process information before acting with an immediate response (i.e. perceived threats that are not really threatening your safety.



During tasks, focusing on uncontrollable factors sucks your energy and leaves you feeling defeated. Below is one candidate's response to the question: What was your greatest obstacle during A&S?

I think it took a lot of my emotional energy to bounce back from setbacks of performance, which I felt able to do, but was challenging, especially when my body/legs didn't seem to respond to how I was visualizing. I still could move but hadn't figured out why I wasn't moving as fast, which was tough. So I tried a different technique each time to address the A&S Candidate).

Make a flexible plan that allows you to focus on controlling the controllables:		<u>Controllables</u> In relation to A&S, OTC, or another event, what can you control?	<u>Uncontrollables</u> In relation to A&S, OTC, or another event, what can you not control?			
•	Knowing what you can and cannot control Accepting what you					
<ul> <li>Taking action to</li> <li>influence the things you</li> <li>can control</li> </ul>		Putting it into practice: This needs to become an automatic thing so practice focusing on controllable factors in everyday life and key situations at work or training: mindset, attitude, effort, thoughts, energy/activation, attention.				

Taking a more formal leadership approach was difficult in the initial phase. I had to balance the informal road, making sure the guys knew I was there for them and when it is time crank up the intensity. During exfil, I saw some doubt, nervousness in their faces and I used my fiery motivation to take lead. This helped overcome doubt, that I can be that leader.(A&S Candidate)

#### On the graphs below, draw the type of activation curve you want for each performance.





Choose a past training setting/A&S setting. Describe when you experienced a threat-based mindset. What factors led to this mindset and what did you experience (i.e. where was your attention, what thoughts did you have, what was your physiology/activation like)?

What factors might lead to a threat-based mindset during A&S/OTC/other event? Use the recognize/reset/refocus routine (page 26) to make a plan for shifting to a challenge mindset and shifting from self- to task-focused attention.



<u>Slow breathing (~5-7 breaths per minute)</u> can lead to multiple psychophysiological (i.e. mind/body) benefits including increased relaxation, vigor, and alertness, and decreased activation, anxiety, frustration, and confusion (Zaccaro, et al., 2018) as well as <u>improve cognitive performance</u> (Chaitanya, et al., 2022). <u>Even one 5-minute deliberate/slow breathing</u> <u>session led to decreases in immediate subjective anxiety and physiological stress</u> (measured by heart rate variability) (Magnon, et al., 2021). Another study found that one month of controlled breath practice led to greater changes in physiological functioning (i.e. decreased sympathetic tone) (Balban, et al., 2022). *Overall, integrating a daily slowed/controlled breath practice can lead to increases in overall well-being (through enhanced mood, and decreased activation/stress) while conditioning the underlying mental/physiological factors (i.e. heart rate, respiration rate, heart rate variability) associated with high levels of performance and recovery.* 

BREATH CONTROL TECHNIQUES DESIGNED TO CONDITION THE PARASYMPATHETIC SYSTEM					
	<b>Slow diaphragmatic breathing with extended exhale:</b> Breathe, diaphragmatically for 5-7 breaths per minute. Breathe in for ~4-seconds (if you need to increase or decrease this number that's fine), and exhale for ~8-seconds or until you feel like you need to breathe in again. Maintain this inhale/exhale ratio for 5-mintues.				
4.7-8 BREATHING TECHNIQUE	<b>4-7-8 Breathing:</b> (1) exhale all air; (2) inhale silently through your nose for ~4 seconds; (3) hold this breath for ~7-seconds; (3) exhale from the mouth ~8 seconds . Complete six cycles of this breathing, rest one-minute (complete 3-5 sets of this sequence). If the 4-7-8 is too long, consider using a similar ration: 3-6-7 or 2-5-6. The ratio of inhale to exhale seems to be key.				
Short Inhale Long Inhale Long Exhale	<b>Double Inhale with an Exhale:</b> Inhale slowly, expanding your lungs. At the top of this inhale, take a shorter inhale once more to maximally fill your lungs. Follow this by slowly exhaling all the air from your lungs. Use your nose to inhale and exhale. If you need to exhale through your mouth, feel free to do so. Repeat this for five minutes.				

<u>Practice</u> each technique above for 5-minutes. Preferably, separate the practice sessions across 1-3 days before using the 4-Week Mental Conditioning Program on pages 41-45. Check off the practice session once complete.

#### **INSTRUCTIONS FOR USING ANY OF THESE BREATH CONTROL TECHNIQUES**

For each of these techniques, begin by sitting or lying (progress to standing so you begin transferring it to training environments when needed). Use good posture when sitting (back straight, feet flat on the floor). Until you feel comfortable breathing diaphragmatically, place one hand on your chest and the other on your stomach. Begin breathing comfortably – notice which hand moves. The goal is to make the hand on your stomach move in and out. This means you are breathing diaphragmatically from the lower portion of your lungs. If you notice your chest is moving in and out and/or your shoulders move up, continue to relax your diaphragm, allowing you to shift your breath to come from that area. If you get light-headed stop, reset, and change the amount of time you inhale or exhale to be comfortable. The primary goal: slow your breathing rate and extend your exhale to trigger your parasympathetic nervous system and to reduce heart rate. To begin, it might be useful for you to use one of the apps below. Each one contains a breath pacer allowing you to manipulate the number of seconds you inhale/exhale.



#### **EFFECTIVE APPLICATIONS**

- Use one of the techniques at least 5 minutes per day. Use the 4-week mental conditioning program on pages 41-45..
- Make it routine: find a time that works best for your schedule. Keep in mind these techniques are designed to trigger the parasympathetic response, so it will not be a good idea to practice it when you need activation.
- Good times to consider: as part of your morning routine, after your workout, as a pre-performance routine prior to training, or prior to sleeping.
- Incorporate shorter (1-3 minutes of one of the techniques) every 90-120 minutes throughout your day. The goal here is to provide intermittent bouts of parasympathetic conditioning.
- Use 1-3 repetitions (breaths) as part of a reset/refocus routine when you need to deactivate immediately.



#### Integrating Breath Control with S&C or other PT

- Pick one of the breath pacing apps.
- Set the inhale/exhale to one of the techniques already identified (or modify the inhale/exhale to be comfortable).
- Complete 5-10 minutes of breath control practice post workout

#### **Increasing Physiological Activation**

- Most of this section has focused on deactivation, but there are times when you may want/need to use breathing for increasing activation. During inhalation, heart rate increases, so the goal is to increase the length and/or how "vigorously" you take in the breath.
- Use one of the apps or complete this on your own. Complete a few cycles (~30-seconds – 1-minute) of longer inhales with short exhales to increase physiological activation. Rest 30seconds to 1-minute, and then repeat.
- Practice using this technique when you want/need activation (i.e. middle of the day, before checking emails if you need to increase activation/focus, before a workout (if you are lacking energy), etc.

#### Conditioning a Refocus Routine

- From a wholistic perspective, shifting attention and physiological activation is critical to your success at shifting between tasks (at A&S or otherwise).
- Use a combination of breath control and mindfulness/attention exercises throughout your day to help you make these transitions.
- Example 1: complete 1-3 minutes of one breath control technique every 90-120 minutes through your day. Another way to view this is to complete the 1-3 minutes at every transition during your day: when you get to work, in your car, before your workout, after your workout, before you shift focus to training, before you get home, etc.
- Example 2: Before your workout, use one breathing/mindfulness practice (~5 minutes total). Finish with 1-2 minutes where you visualize your workout and the physiological activation you want for each section. Visualize your transition between exercises, the technique you want, etc. During the workout, use a 1-2 minute reset/refocus routine between sets/reps/bouts, etc. For this, you need to build a repeatable routine (emphasize recognizing where your attention and/or your activation levels current are, resetting your system with 30 seconds-1-minute of the necessary breathing technique, refocusing your attention on the next most important thing in your workout.
- Example 3: Repeat example 2, but extend it to your tactical training environment.
- The more you condition this routine, the more automatic it becomes – the goal is for this routine to occur naturally during all of your performances and simply throughout your day.

#### **Breath Control with Physical Conditioning**

- Based on your current fitness level, complete 10-20 rounds (i.e. 60-yard repeats, 300-yard shuttles, , 1minute on/1-minute off on the Versa, Jacobs Ladder, Assault Bike, etc.) where higher levels of intensity are being used with equal (or almost equal) rest time.
- Use a heart rate monitor and get a 2-5 minute baseline of your heart rate, prior to the workout.
- During the rest periods, you need access to an accurate heart rate measurement (use a chest strap). Set a heart rate (~120-130) as your threshold for recovery during each rest period (meaning you can't complete the next rep until you reach the pre-identified heart rate.
- Following the physical conditioning session, integrate your breathing technique and record how long it takes to return to the pre-workout baseline.

#### Mindfulness/Meditation with Rucking (or a longer run)

- Complete your normal ruck/run without listening to music, podcasts, books, etc.
- Practice identifying where your attention wanders during these exercises. Practice shifting between "situational awareness" to recognizing any thoughts you might be having. If you notice your attention tends to wander internally (to your thoughts) during the ruck/run, shift external by identifying things you see, hear, and/or smell. When your attention wanders internal, continue to refocus your attention external.
- Run/Ruck/Stationary Bike and listen to a podcast or non-fiction book. The podcast/book is the anchor for your attention so the ruck/run should be on a wellknown/safe route so you can direct your attention to it while you complete the physical task. At the end of the conditioning session, recall as much of the information as possible by writing it down (go back and check your accuracy and the percentage of information you were able to collect (compared to what you did not attend to during the conditioning session).



# **Progressive Muscle Relaxation**

Objective: Teach and train your awareness of what muscular tension and relaxation feels like.

Instructions: Practice while sitting or lying down to begin with, and then progress to standing.

- If you are lying down, ensure your head, neck and trunk are aligned, legs are straight and approximately 6-12 inches apart with your heels inward and toes pointing outward; arms should be at the side with palms up and fingers bent comfortably.
- If sitting, do-so in an upright position without crossing your legs and arms. Hands should be on the thighs palms down and feet should be flat on the floor.

For each muscle group below, tense the muscle group for approximately 5-7 seconds and then relax the muscle group for 20-30 seconds. Follow all instructions passively - especially on the relaxation phase. When relaxing your muscles, do not strain. Relaxing should naturally happen throughout this process. Put another way, relaxation should be no more than the absence of tension.

- Tense the muscles in the dominant hand, lower arm, and upper arm by making a tight fist, bending your hand back at the wrist, and 1) pushing your elbow down so you can feel tightness in your biceps (5-7 seconds). Release the tension and relax the muscles (20-30 seconds). Notice the difference between tension and relaxation. \*\*Repeat this for the non-dominant hand, lower arm, and upper arm.
- 2) Tense the muscles in your face by squinting your eyes and slightly gritting your teeth (not too tight, just enough to understand the feel of relaxation) (5-7 seconds). Feel the tension in your forehead, jaws, and scalp. Release the tension and relax the muscles (20-30 seconds). Notice the difference between tension and relaxation.
- 3) Tense the muscles in the neck and shoulders by raising your shoulders upward as high as possible and pulling your neck down into your shoulders (5-7 seconds). Feel the tension in your neck, throat, and shoulders. Release the tension and relax by allowing your shoulders to drop back down (20-30-seconds). Notice the difference between tension and relaxation.
- Tighten your abdomen as if you are expecting a punch and squeeze your buttocks together at the same time (5-7 seconds). Feel the 4) tightness in your stomach and glutes. Release the tension and relax (20-30 seconds).
- Tighten your dominant leg by tightening the muscles in your thighs (straighten your leg), flexing your toes towards your ankle and 5) then pointing your toes away from your ankle (5-7 seconds). Release the tension and relax (20-30 seconds). \*\*Repeat this for the non-dominant leg
- Take 12-15 diaphragmatic breaths 6)

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Momentary Muscle Relaxation	Practice and Application
	Individual Practice: Initially, practice daily. Once you
Takes approximately 10-30 secs and can be incorporated into	understand the differences between tension and relaxation,
pre-mission/training routines and during the mission/training	shorter sessions may be used. Performing modified sessions
to decrease tension	when distractions are present will help with the transfer to
	key performances.
1.) <u><b>Ouick Body Scan</b></u> : Head to toe scan – stop where muscle	Application: Incorporate PMR into your strength and
tension is too high for the performance and release the	conditioning warm-ups and a routine before you conduct
tension.	any type of training/mission. During performances, transfer
2.) Neck and Shoulder Check: too much tension is common	skills gained from PMR. Notice when your body is too tight
in these areas. Scan these areas – if they are tight, tense	to perform at the most efficient level. Do your movements
them, then release the tension. "Releasing excessive tension	feel tight and constrained – do certain movements require
in these two areas tends to spread relaxation to the rest of	too much effort? If so, use momentary muscle relaxation
the body; it may also have a calming effect on the mind	exercises to promote a more relaxed state (i.e. notice where
(Hanton, et al, 2015, p. 225)."	the tightness is, and simply perform a quick release of the
3.) <u>Training/Mission-specific muscle check</u> : same as neck	tension – as it was practiced during PMR sessions). Use PMR
and shoulder check, but focus on specific muscles that are	to target a single muscle group that is important for a
most important to training/mission performance (i.e. wrist,	specific performance. For example, you may target the
forearms, shoulders for shooting).	hand and arm muscles before shooting practice.

hand and arm muscles before shooting practice.





# PHASE 3 SUMMARY: LEARNING AND APPLICATION

The purpose of this form is to allow you to reflect on the strategies you applied to improve your cognitive performance. This will allow you to better understand if you're developing the necessary performance enhancement skills included in this training manual. Having completed Phase 2, what did you learn and apply?

1.)			
2.)		 	
3.)		 	

SWOT SU	JMMARY
STRENGTHS: Coming out of this phase, what were your strengths?	WEAKNESSES: Coming out of this phase, what were your weaknesses?
1.)	1.)
2.)	2.)
3.)	3.)
OPPORTUNITIES: Moving forward, what opportunities do you have (will you create) to sustain the use of the topics/skills in this phase?	THREATS: What obstacles/challenges will you face in implementing these topics/skills in the future.
1.)	1.)
2.)	2.)
3.)	3.)

# Integrating Phases 2 and 3

# 4-Week Mental Conditioning Program



# 8-Minute (Minimum) Mental Conditioning Program

This, and the following pages, provides a 4-week guide for a mental conditioning program that combines breath control and mindfulness/meditation practices. They are viewed as distinct because the intent of the breath control practice is to trigger the parasympathetic response (see previous slides for a discussion on this) and the mindfulness/meditation practice is focused on improving focus. The goal of the program, driven by the research already provided, is meant to: (1) allow you practice opportunities to better understand your attention; (2) engage you in practice sessions where you sustain attention either internally or externally; (3) engage you in practice sessions designed to challenge your ability to shift your focus along the internal/external continuum; (4) provide you with practice repetitions that require you to notice when your attention is not on target and then refocus your attention; (5) condition your attention to be flexible and adaptable; (6) condition your rest/digest system with extended breath control practices. When conditioned like other physiological systems, your psychophysiological system is more likely to respond automatically, without conscious thought, when your focus needs to be on the task at-hand. This program requires mental effort and will not always be the most attractive thing for you to be doing. This is part of the point because our attention is easy to manage when we are doing something we like doing or simply when it's "easy" to maintain focus. During A&S (or in other areas) there will be many times when you have to shift between various energy levels (i.e. high, medium, low levels of activation). There will be times where your mind can wander and lead you into traps that inhibit your ability to focus your attention on aspects allowing you to perform at your optimal level. Similar to strength and conditioning, you don't always know when you'll need physical strength, endurance, power, agility, etc., but it's there when you need it because you've effectively trained it. The same can be done for your psychophysiological system. When implementing this program, consider these recommendations: (1) make it routine by setting aside a specific time slot each day; (2) treat this conditioning program with the same respect you would any other physical training program; (3) aim for a minimum of 3-minutes and up to ~15-minutes of the identified mindfulness/meditation exercises and 5-minutes of the breath control exercises; (4) take time to complete the weekly worksheets as this will help you track your improvements and identify your weaker areas; (5) stick with it (even if it's only 8-minutes a day).

- There are three breath control exercises described on page 28. Choose one and complete five minutes of this breath control technique per day.
- There are mindfulness/meditation exercises described on page 29. Read through each of these before you complete the program.
- Pages 29-32 contain the four week plan (1 week per page). Complete the identified mindfulness/meditation exercise for a minimum of 3-minutes and the breath control exercise (your choice) for five minutes. You may complete these exercises together or at separate times of the day (i.e. you may choose to use the breath control practice prior to bed, after a workout, or another time when you want to practice deactivation or when you are not tired).
- Recommendation: integrate the 8-minutes following your workout. Complete five minutes of breath control followed by the mindfulness/meditation exercise.
- Write down the time of day and the length of your practice sessions each day. Complete the reflections questions each day. At the end of each week, complete a summary assessment of your practice sessions.
- Each Friday asks for a longer time commitment (~15-minutes) and shifts your focus between the various exercises from that week.

"One of the key elements of any meditative practice is that it's really a refocusing practice. The more times you have to yank yourself back into attending or perceiving one specific thing...in other words, the more times your mind wanders and you bring it back, actually the more effective that practice is. If you can focus on one location with laser precision, and your mind never darts away from that and you don't have to bring your mind back, well, then there's no neuroplasticity, nothing needs to change because your nervous system will effectively know it's performing perfectly. So, if you're someone who tries to do meditation and you find that your mind just wanders, just remember every time you scruff yourself, and pull yourself back to focusing on some location externally, or focus back on your breath or your third eye center, each one of those aren't just opportunities to do better, they are essential to the improvement process. Think about as ascending a staircase of refocusing. Every time you refocus, you're going up one more level, another stair, another stair, another stair, and I think that will move you away from the kind of judgmental process of thinking, "Ugh, like, I can't focus on anything." Pretty soon what you'll notice is that the refocusing process will happen so quickly that you don't even perceive it. A lot of people think they can focus with laser precision but actually what they are doing is refocusing more quickly and consistently over time. (~1:05-1:06.40).

"Rather than think about your ability to focus, think about your ability to refocus, and the more number of times you have to refocus, the better training you're getting (Andrew Huberman on the Huberman Podcast, How and Why We Meditate, ~1 hr 5 min – 1:06.40).



# WEEK 1: Mental Conditioning Worksheet

	Task/Time	Reflect 4=A			1=Rarely/Not at all 2=Sometimes 3=Often 4=Almost Always		
	Attention Strength Training	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
М	<b>4-7-8, 4-8, or Double Inhale Breathing</b>	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
	Where did you notice your attention going when it wander					sk?	
	Focus on the breath or the "Minds-Eye"	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day:Length:	I was easily distracted during today's practice.	1	2	3	4	
Τυ	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	Body Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day:Length:	I was easily distracted during today's practice.	1	2	3	4	
W	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
Length		Where did you notice your attention going when it wandered from the task?					
	Situational Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
Th	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	15-minutes Complete three minutes of: Breathing practice	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
F	for relaxation or alertness, attention strength training, focus on the breath, body awareness,	I was easily distracted during today's practice.	1	2	3	4	
	situational awareness	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	

Weekly Summary: Look back over your daily reflections. What did you learn about your attention this week? When was it easy to maintain focus? When was it harder for you to do so? When your attention wandered, was it primarily internal or external?

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Q <sup>Q</sup> .	

# WEEK 2: Mental Conditioning Worksheet

	Task/Time	reflect Reflect 3=0 4=A			1=Rarely/Not at all 2=Sometimes 3=Often 4=Almost Always		
	Centering Exercise	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	IIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
М	<b>4-7-8, 4-8, or Double Inhale Breathing</b>	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
	2019	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	Attentional Shifting	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day:Length:	I was easily distracted during today's practice.	1	2	3	4	
Τυ	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
	, ,	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	Centering Exercise	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
W	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
Length.		Where did you notice your attention going when it wandered from the task?					
	Attentional Shifting	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
Th	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	15-minutes Complete three minutes of: Breathing practice	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
F	for relaxation or alertness, attention strength training, focus on the breath, body awareness,	I was easily distracted during today's practice.	1	2	3	4	
	situational awareness	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	

Weekly Summary: Look back over your daily reflections. What did you learn about your attention this week? When was it easy to maintain focus? When was it harder for you to do so? When your attention wandered, was it primarily internal or external?



# WEEK 3: Mental Conditioning Worksheet

	Task/Time	Reflect		1=Rarely/Not at a 2=Sometimes 3=Often 4=Almost Always		
	Attention Strength Training	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4
М	<u>4-7-8, 4-8, or Double Inhale Breathing</u>	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
	·····- ···	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?
	Focus on the breath or the "Minds-Eye"	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4
Τυ	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?
	Body Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
	TIME of Day:Length:	I was easily distracted during today's practice.	1	2	3	4
TIME of Day: Length:	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
	, ,	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?
	Situational Awareness	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4
Th	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?
	15-minutes Complete three minutes of: Breathing practice	It was easy for me to allow my attention to focus on today's task.	1	2	3	4
	for relaxation or alertness, attention strength training, focus on the breath, body awareness,	I was easily distracted during today's practice.	1	2	3	4
F	situational awareness	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?

Weekly Summary: Look back over your daily reflections. What did you learn about your attention this week? When was it easy to maintain focus? When was it harder for you to do so? When your attention wandered, was it primarily internal or external?



# WEEK 4: Mental Conditioning Practice

	Task/Time	reflect Reflect 3=0 4=A			1=Rarely/Not at all 2=Sometimes 3=Often 4=Almost Always		
	Centering Exercise	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	IIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
М	<b>4-7-8, 4-8, or Double Inhale Breathing</b>	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
	2019	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	Attentional Shifting	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day:Length:	I was easily distracted during today's practice.	1	2	3	4	
Τυ	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
	, ,	Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	Centering Exercise	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
W	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
Length.		Where did you notice your attention going when it wandered from the task?					
	Attentional Shifting	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
	TIME of Day: Length:	I was easily distracted during today's practice.	1	2	3	4	
Th	<b>4-7-8, 4-8, or Double Inhale Breathing</b> TIME of Day: Length:	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	
	15-minutes Complete three minutes of: Breathing practice	It was easy for me to allow my attention to focus on today's task.	1	2	3	4	
F	for relaxation or alertness, attention strength training, focus on the breath, body awareness,	I was easily distracted during today's practice.	1	2	3	4	
	situational awareness	I was able to re-direct my attention when it wandered during today's task.	1	2	3	4	
		Where did you notice your attention going when it wa	nderec	l from	the ta	sk?	

Weekly Summary: Look back over your daily reflections. What did you learn about your attention this week? When was it easy to maintain focus? When was it harder for you to do so? When your attention wandered, was it primarily internal or external?



# Collecting Feedback, Setting Effective Goals, Visualization for Performance



# PHASE 4 CHECKLIST

Task
Complete the "Collecting Performance Feedback" exercise (page 48).
<ul> <li>Read "Goal Setting Basics" (page 49)</li> <li>Use the feedback collected from "Collecting Performance Feedback" to complete the "Using Performance Feedback to Establish Goals" form (page 50).</li> </ul>
• Read "Understanding and Improving Visualization/Imagery" (page 51).
Complete the "Assess Your Imagery/Visualization Ability" exercise (page 52).
Complete the "Practice to Improve Your Visualization" exercises (page 53).
Complete the "Pre-Mortem" exercise (page 54)
• Complete the "Phase 3 Summary" (page 55).



https://www.youtube.com/watc h?v=X9KP8uiGZTs

#### RECOMMENDED READING/PODCAST LIST

DAN HEATH





## **Collecting Performance Feedback**

Instructions: Use this form to provide yourself with feedback and to obtain feedback from one superior and at least 3 peers. Preferably, schedule face-to-face time with superior/peers and ask them to prepare a start, stop, continue. So that you get the most honest feedback, be sure to tell them you're using this strictly for your own preparation – specifically to identify strengths and weaknesses.

CHARTYOUR FEEDBACK				
	My performance would improve if I START doing	My performance would improve if I STOP doing	My performance would improve if I CONTINUE doing	
Self Rating				
Superior				
Peer 1				
Peer 2				
Peer 3				

For each category, identify the key trend(s):

Is there a gap in your perception of your performance and how others see you? If so, identify/describe the gap:



# **Goal Setting Basics**

GENERAL GUIDELINES	
<b>Objectively Establish Present Ability</b> – identifying strengths and weaknesses allows you to establish meaningful goals by directing you to key performance areas that need improving.	
<b>Specific and Measureable</b> – explicit, specific, measureable goals are more effective than general goals (i.e. "do my best"; don't quit; "improve my shooting", etc.).	<b>GOAL-ORIENTED</b>
<b>Challenging and Achievable</b> – moderately difficult or challenging goals lead to better performance (Kyllo & Landers, 1995).	<ul> <li>HASTY (IN THE MOMENT) GOAL SETTING</li> <li>Mentally define your goal/end-state</li> </ul>
<b>Set Short- and Long-Range Goals</b> – short range goals can lead to greater motivation while providing performance feedback about your progress towards	<ul> <li>Mentally identify obstacles or triggers to adapt (the that should force you to modify/change your end-state).</li> <li>Montally establish if then plans to produce goal</li> </ul>
the long-range goal.	directed responses

Set Training and A&S Goals – it's not all about the \*\*Ultimate goal: pre-plan a series of responses to A&S. Improvements in performance are typically made in practice – setting practice goals can help with this and becomes the cornerstone for deliberate practice (Ericsson, et al., 1993) and ultimately becoming an expert.

Identify Obstacles or Challenges to Goal Atta pre-identify obstacles that may get in the way goal achievement and specific strategies for overcoming each obstacle.

Establish Dates for Goal Attainment - impro motivation and allows for on-going feedback can adjust your goals up or down.

Get Feedback – if your goal is specific and measureable, it sets you up for feedback so yo how you're progressing towards your goals. Immediate feedback is necessary so you can fe your weak areas in effort to improve overall performance.

#### SET OUTCOME, PERFORMANCE, AND PR GOALS

Outcome Goals: a standard of proficiency fo on the end result of a contest, win-loss record Performance Goals: a standard of proficiency focused on improving one's own past perform relation to the task/activity. Process Goals: a standard of proficiency aim

the procedures engaged in during the perform

Gould, D. (2015). Goal Setting for Peak Performance. In J.M. Williams & V. Krance (I Sport Psychology: Personal Growth to Peak Performance (7th ed.). New York, NY: (pp. 188-206)



to adapt (things

#### SAMPLE APPLICATIONS

ainment ay of oves so you ou know ocus on	<ul> <li>Improving performance in general domains that support operational performance (e.g. strength and conditioning, speed and agility, mental performance, nutrition, etc.)</li> <li>Improving operational-specific performances (e.g. shooting accuracy/speed, mission planning, AFSC- specific skill sets, etc.).</li> <li>Acquiring new skills in an accelerated format (e.g. using concepts of deliberate practice to accelerate skill acquisition and performance)</li> <li>Making your work-week, work-day, work-hour as efficient and productive as possible.</li> </ul>
OCESS cused l, etc. / nance in ed at nance. Eds.) Applied	<ul> <li>I always used mini goals and only thought ahead one mini goal at a time. Selection for me was thousands of very small events broken into pieces I could chew.</li> <li>Goal setting - once I knew what the event was (the one on the tower) I set the goals of clear/concise direction as well as easy to follow communication.</li> <li>Used goal setting for each event on where exactly I wanted to place; visualized finishing every event before starting, and held image throughout event. Continually told myself to stop being such a bitch.</li> <li>I would set broad goals for myself such as: be deliberate with words/guidance, stay calm, use your teammates as</li> </ul>





# FORM: Using Performance Feedback to Establish Goals

Using your Start/Stop/Continue Data, identify no more than three areas you want to improve. As you write these statements, <u>label specific observable</u>	What are 1-3 potential obstacles/challenges that will prevent you from improving each of these areas? How will you overcome these obstacles?						
<u>behaviors</u> that can be improved.	Obstacles/Challenges	Strategies to Overcome the Obstacle					
1.)							
2.)							
3.)							
Why is it important for you to improve these areas? For each area, write one statement related to why it's important for you to improve it and what differences in your performance you expect to see. How does improving these areas relate to your personal ethos and values? Attach a minimum of one value to each statement.	Weekly assessment of your Effort (E), Success (S), Progress (P) (ESP) (Adapted from Zinsser, 2022) This week which goal(s) did you put <u>EFFORT</u> into improving?						
1.)	What <u>SUCCESS(ES)</u> did you	experience as a result of					
2.)	working towards your goals:	?					
3.)	What <u>PROGRESS</u> did you m goals?	ake toward your identified					



# Understand and Improving Imagery/Visualization

Imagery Defined	Using Imagery Effectively
"using the senses to create or recreate an experience in one's mind" (Vealey & Forlenza, 2015; Vealey & Greenleaf, 2010).	<ul> <li>Enhance Your Use of Imagery</li> <li>Use imagery in a variety of places and positions.</li> <li>Timing is important – Overall, try to make your imagery as</li> </ul>
How Imagery Works	realistic as possible in timing. Slow motion imagery may be
<ul> <li>Images are the fundamental language of the brain and nervous system.</li> <li>The brain and body process vividly imagined events as though they actually happened (Jeannerod, 1994, 2001).</li> <li><u>Functional Equivalence</u>: imagery results in a similar mental outcome as the actual movement. Imagery that is more functionally equivalent resulted in better sports performance (Smith, et al. 2007).</li> </ul>	<ul> <li>used to enhance the learning of new skills, breaking down complex movements, correcting bad habits or mistakes, and focusing on one part of a larger task. When time is limited or you simply need to remind yourself of an already-mastered task, use fast-paced imagery to enhance focus and/or confidence.</li> <li>Image vivid mental, physiological and emotional responses to situations. For example, what mental, physiological, and emotional responses might you have when there is added pressure?</li> </ul>
<ul> <li>How to increase <u>functional equivalence</u>:         <ul> <li>Include important senses and emotions associated with the performance</li> </ul> </li> </ul>	<ul> <li>Image the performance and outcomes.</li> <li>Individualize, and be specific, with your use of imagery.</li> </ul>
<ul> <li>Mentally practice in a posture similar to the actual posture, wearing the clothes you perform in, holding the weapons/tools/etc. you typically hold, and when performed in a similar environment as the physical action</li> <li>Timed at the same pace as the physical performance/skill</li> <li>Using an internal perspective (Go-Pro View)</li> </ul>	<ul> <li>Recommended Ways to use Imagery:</li> <li>Learning and practicing skills, techniques and performance strategies (i.e. techniques, tactics, decision-making, etc.)</li> <li>Preparing a mental focus for training, missions, etc.</li> <li>Building and enhancing cognitive/mental skills (i.e. self-confidence, energy management, stress management, increasing self-awareness).</li> <li>Using verbal triggers and symbolic images (cues)</li> <li>Automating pre-performance routines</li> </ul>
Strengthening Your Imagery	<ul> <li>Practicing your refocus/reset routine</li> <li>Directing attentional focus – developing an individual plan</li> </ul>
<b>Vividness</b> : Refers to the clarity of the image and how detailed it is. Imagery is a polysensory experience - Use as many senses as possible to bring the imagery to life (visual, auditory (sound), olfactory (smell), gustatory (taste), tactile (touch), kinesthetic (feel or sensation of the body as it moves)). Imagery will be more effective if it is more vivid. Vividness also refers to the emotions associated with practice and performance (Vealey & Forlenza, 2015).	<ul> <li>designed to direct your attention to critical features of the current task</li> <li>Training/conducting missions with confidence – completing your roles and responsibilities as efficiently as possible.</li> <li>Goal programming for upcoming performances.</li> <li>Re-creating past successful performances</li> <li>Decision-making, leading and directing, being adaptable and/or flexible in the moment.</li> <li>Managing stressful situations before they happen</li> </ul>
Controllability: Refers to imagining exactly what is intended and the ability to manipulate and/or change various aspects of the images (Vealey & Forlenza, 2015). Rehearse effective images. Imagery could hurt skill development and performance if you picture yourself failing.	<ul> <li><u>Times to Use Imagery:</u></li> <li>Daily Mental Practice:</li> <li>~10-20 minutes per day</li> <li>Focus on key areas you want to enhance (see above for a variety of suggestions).</li> <li>Pre-performance Routine</li> <li>~5-10 minutes</li> <li>Before every physical performance (training/mission) and focused on techniques, tactics, goal programming, etc.</li> </ul>

**Post-performance Review** 

- ~10-20 minutes
- To increase awareness of what actually happened during the • training/assessment.
- To correct errors made during the physical training session. •
- ٠ To get additional mental repetitions of the skill in a variety of
  - environments/conditions. Vealey & Forlenza, 2015

https://jesicagreenblog.wordpress.com/2017/06/15/our-current-understanding-of-aphantasia/

Perspective: External perspective for learning techniques/tactics, ensuring proper mechanics, error detection and correction and strengthening motivation/confidence. Internal perspective for executing techniques/tactics, proper feel and timing, strengthening muscle memory.





# Assess Your Imagery/Visualization Ability

Once we heard the TCS I would go over visually what I thought was a good goal and ran with it until I needed to adjust. I would take deep breaths to try and slow my heart rate. If I felt it speeding up, so I could think more clearly (20-01).

Use this form as a self-assessment of your current imagery ability level and to strengthen your use and application of imagery. For each item, bring the image to your mind with your eyes CLOSED. Then rate how easy it is for you to form this image (1=very hard, 4=not easy or hard, 7 = very easy). Circle the appropriate rating based on the scale provided. For example, some Soldiers may find imaging themselves completing an IV neither easy nor hard and therefore select 4. After completing the 15items, use the subscales at the bottom of the page to determine your strengths and weaknesses in relation to your use of imagery. Any subscale or specific item number receiving a 5 or below could be improved using the strategies on the previous page (i.e. vividness, controllability, perspective). As you conduct your train-up combining mental reps with your physical reps will be the best way to strengthen your use of imagery and to improve your overall performance.

In relation to your operational-specific skill-sets, how easy is it for me to image	Very hard to image	Hard to image	Somewhat hard to image	Neutral (not easy or hard)	Somewhat easy to image	Easy to image	Very easy to image
1.) Making up new plans/strategies in my head							
2.) Giving 100% effort even when things are not going well							
3.) Refining a particular skill							
4.) Effective mental and physical activation needed to complete tasks/skills							
5.) Completing the task successfully during A&S or another time when pressure is increased.							
6.) Alternative plans/strategies							
7.) The anticipation and activation associated with completing tasks							
8.) Improving a particular skill							
9.) Being an effective and efficient Operator/performer							
10.) Staying positive after a setback							
11.) The mental and physiological activation associated with performing							
12.) Making corrections to physical skills							
13.) Creating a new event/action plan							
14.) Myself completing tasks successfully							
15.) Remaining confident in a difficult situation							
Scoring: Skill Imagery Ability: Item 2 + Item 8 + Item 12 / 2 - Iused imagery and goal setting the most. I							

Skill Imagery Ability:	Item 3 + Item 8 + Item 12 / 3 =	I used imagery and goal setting the most. I
Strategy Imagery Ability:	Item 1 + Item 6 + Item 13 / 3 =	envisioned winning and doing well on the physical
Goal Imagery Ability:	Item $\varepsilon$ + Item $\circ$ + Item 1// $2 =$	events for goal setting I would choose something I
Affect Imagery Ability:	1  tem  / + 1  tem  7 + 1  tem  11 / 2 =	did last time and aim to surpass that initial
Mastery Imagery Ability:	ltem 2 + ltem 10 + ltem 15 / 2 =	performance. I also rested in my abilities to speak
Mastery magery Ability.	item 2 + item 10 + item 15/3	and answer questions during interviews (20-01).

Modified and Adapted from:

Williams, S.E., & Cumming, J. (2014). The Sport Imagery Ability Questionnaire Manual. Birmingham, UK: Author.



# Practice to Improve Your Visualization

Completed	TASK	GUIDELINES
	<u>10-Word List</u> Apple Table Hot Dog Tree Rug Bottle Sun Knife	Choose 3-5 words. Close your eyes and visualize one object at a time. Your goal with this task is to focus on improving the concept of vividness. For example, when you visualize the apple, be sure to include what the apple looks like, the taste of it, the type of apple it is, what it smells like, the sound it makes when you bite it, etc. Practice making each item as real as possible so you can improve this ability.
	Problem Solving	For this task, practice improving the concept of controllability (i.e. the images in your mind). This is a class problem: you have a 3 and 5-gallon jug. You need to measure out exactly 4-gallons. Without pen/paper, visualize a solution to this problem and then describe it to someone else. If you've completed this problem previously, you can still use it as a tool to strengthen your imagery ability.
	Deadlift (or another lift)	Apply the three components discussed to mentally practicing your deadlift. Use imagery to get a mental repetition of the set prior to doing repetitions in the physical session. Each mental repetition should mimic as closely as possible exactly how you do your physical repetitions. For example, if you are about to do a three- rep max, your mental practice should include three vividly imagined repetitions. For this task, be sure to include in your imagery the level of physical activation you want for your reps.
	M4(or other Weapon)	Use imagery to practice disassembling and assembling your M4, any other weapon system you'd prefer, or to put an IV in someone's arm. The goal here is to ensure your mental repetitions are exactly like the physical. Ideally, before completing this task, you will complete the physical repetition first. Set a timer and see how long it takes you to complete the physical assembly/disassembly or IV. When you complete your imagery repetition, include the physical movements. Take a video of yourself doing the physical rep and mental rep – they should look almost identical except for the lack of equipment in the imagery repetition. Upon completion, your imagery repetitions should improve and provide you with a valuable tool to continue mentally practicing when you can't always physically practice.
	Briefing/Interviewing	Harder skills (deadlift/physical skill practice) are sometimes easier to visualize. This task is designed to hone your ability to apply imagery to softer skill sets (i.e. briefing/interviewing). The goal is for you to explore how you can flexibly apply imagery skills to improve communication skills, answering/asking questions, practicing the level of activation you want to have prior to/during the interview/brief, etc. As you practice, consider if you are imaging controllable or uncontrollable aspects of your environment. To improve your ability, practice the controllable aspects so you can flex more readily in the moment to changes in your environment.
	Rucking #1	You've physically prepared to ruck, run, and perform other physically grueling tasks. How can you apply imagery to your physical endurance preparation? In the top example, you are separated from the group. What mental/physical factors can you visualize? What obstacles can you visualize? When you face these obstacles, visualize how you will overcome those obstacles. Visualize your preparation routine prior to rucking (i.e. how you prepare your gear, the fuel you put in your body, etc.). Where is your attention? Are you focused on how others are performing or on your own process/performance? Visualize where you want your attention to be and your process for resetting and refocusing your attention when it gets distracted (i.e. you're overly concerned about how you compare to everyone else, your physical pace is off for whatever reason, etc.). The primary goal here is to use visualization as a tool to pre-plan how you will respond to obstacles you know will exist and/or to ready your mindset to be able to adapt to the unknown situations you will face.
		53



#### Pre-Mortem Exercise (Klein, 2007)

Explanation: The Pre-Mortem exercise allows you to identify potential vulnerabilities that might side-track you, or prevent you from performing at your highest level, during A&S/OTC, or another performance. The goal is to uncover flaws, areas of concern, blind spots, etc. that you may be unaware of now, but could potentially foresee when faced with challenging tasks, decreased sleep, large amounts of physical and mental demands, increased physical and mental fatigue, constant evaluation, etc. Good planners can identify these vulnerabilities and develop strategies for overcoming them. While you cannot possibly identify everything that can go wrong, going through this process can allow you to adapt more easily and faster when you're faced with the identified vulnerabilities, and this in turn, can provide you with greater mental bandwidth and flexibility to adapt to unforeseen situations/vulnerabilities.

Step 1: Envision you attended A&S and you were either not selected or attended OTC and did not make it through. You are back home talking to a trusted teammate about your experience. Make a list of all possible reasons for why you didn't get selected or make it through OTC. Step 2: For each vulnerability identified, how can you effectively deal with it? This could be as simple as increasing self-awareness or identifying a strategy you can use when the vulnerability presents itself (i.e. when I get too nervous to effectively brief a Commander my plan, I will \_\_\_\_\_\_).



# PHASE 4 SUMMARY: LEARNING AND APPLICATION

The purpose of this form is to allow you to reflect on the strategies you applied to improve your cognitive performance. This will allow you to better understand if you're developing the necessary performance enhancement skills included in this training manual. Having completed Phase 2, what did you learn and apply?

1.)			
2.)	 	 	
3.)			

SWOT SU	SWOT SUMMARY					
STRENGTHS: Coming out of this phase, what were your strengths?	WEAKNESSES: Coming out of this phase, what were your weaknesses?					
1.)	1.)					
2.)	2.)					
3.)	3.)					
OPPORTUNITIES: Moving forward, what opportunities do you have (will you create) to sustain the use of the topics/skills in this phase?	THREATS: What obstacles/challenges will you face in implementing these topics/skills in the future.					
1.)	1.)					
2.)	2.)					
3.)	3.)					

# Phase 5



# Sustaining High Levels of Cognitive and Physical Performance

Image from: https://scitechdaily.com/key-protein-identified-that-could-be-harnessed-to-extend-healthy-lifespan-in-humans/



# PHASE 5 CHECKLIST

Task
<ul> <li>Read "2 Frameworks for Understanding Burnout" (page 58).</li> </ul>
Complete the "Acute Readiness Measurement Scale" (page 59)
Complete "Summarizing the Acute Readiness Measurement Scale" (page 6o)
Complete "Planning for Long-Term Energy Management" (page 61)
Complete "Mastery Your Time and Energy" (page 62)
Complete the "Phase 5 Summary: Learning and Application" (page 63)

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RECOMMENDED BOOKS AND PODCASTS





#4 Residue & the Hard Path w/ Dr. Preston Cline							
MCTI TFAMCAST	#4 Residue & the Hard Path w/ Dr. Preston Cline Episode 4 - 7h May 2020 - Teamcost - Mission Critical Team Institute						
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	Performance, Recovery, Survival, Burnout
Performance Zone	High energy states that are also productive. Engaged, challenged, optimistic, etc. typically accompany this zone. This is zone is where you want to be when performing tasks/activities, training, etc. "The key to sustainable high performance and well-being is to move regularly and deliberately between the performance zone and the recovery (renewal) zone (Schwartz, 2022).
Recovery Zone	Lower levels of productive energy describe this zone. This zone allows you to recharge your system so you can re-enter the performance zone in the most effective way possible. If you do not allow time in this zone, you're more likely to enter the survival/burnout zones when you'd rather be in the performance zone.
Survival Zone	Unproductive and high energy states are typical in the survival zone. In this zone, too much stress and activation from overactivation of the sympathetic nervous system can lead to a threat-based mindset, anxiousness, fear, self-judgment, etc.
Burnout Zone	Unproductive and decreased energy states lead to feelings of exhaustion, helplessness, and the desire to completely stop what one is doing.

Modified from: Schwartz, T. (2022). What to do when you're stuck in the survival zone. Harvard Business Review. Obtained from: https://hbr.org/2022/01/what-to-do-when-youre-stuck-in-the-survival zone?utm\_medium=email&utm\_source=tgr\_regengagement&utm\_campaign= articleabandoned\_notactsub&utm\_content=articleabandoned\_notactsub&tpcc=email.tgr\_regengagement.articleabandoned\_notactsub

	Symptoms	Consequences	Interventions
Under-recovery	Physiological: Physical complaints; increased muscle soreness	Short-Term: Tiredness; exhaustion; lethargy; decreased motivation; negative cognitions	Short-Term: Systematic application of relaxation/ recovery techniques in early stages of under-recovery
	Psychological: Reduced stress tolerance; sleep disturbances; lack of energy; phases of emotional disturbances	Long-Term: Performance decrements; health issues; overtraining; burnout	Long-Term: Rest periods (days to weeks); periods of lower training intensity; individualized, proactive recovery activities
Overtraining	Physiological: Chronic muscle or joint pain; elevated resting heart rate; increased physical fatigue	Short-Term: Tiredness; exhaustion; concentration deficits; apathy towards training	Short-Term: Lack of effective short-term interventions
	Psychological: Increased cognitive fatigue; irritability; lack of enthusiasm/ambition; personality/mood changes	Long-Term: Hormonal changes; injuries, illnesses and infections; performance collapse	Long-Term: Acquisition of coping strategies; restoration of energy reserves; rest periods (weeks to months)
Burnout	Physiological: Physical exhaustion; immunodeficiency	Short-Term: Injuries, illnesses, and infections; break from domain	Short-Term: Lack of effective short-term interventions
	Psychological: Emotional exhaustion; reduced sense of personal accomplishment; domain devaluation	Long-Term: Withdrawal from domain participation	Long-Term: Consultation of specialist (e.g., psychologist) extensive break from domain-related activities

Table from: Heidari, J., Kolling, S., Pelka, M., & Kellmann, M. (2018). Monitoring the recovery-stress state in athletes. In M. Kellmann & J. Beckmann (Eds), Sport, Recovery and Performance: Interdisciplinary Insights (pp. 3-18). Abingdon: Routledge.



# Acute Readiness Measurement Scale (Keegan, et al., 2021)

Use this scale to self-assess your level of fatigue and readiness on the factors below. Consider each item carefully and answer as accurately as possible. This is an "acute" scale meaning how you feel about these items right now. If you were to take this scale again tomorrow, some of your responses may change (I.e. physical fatigue or cognitive fatigue may fluctuate day to day or even hour-to-hour). Managing these areas effectively on a day-to-day/week-to-week level can lead to greater levels of readiness and decreased fatigue long-term.

EACTOR	Does not			Fully					
FACTOR	#		apply at all					ар	plies
	1	I feel ready to deal with serious threats	0	1	2	3	4	5	6
Overall	2	My skills and experiences make me capable of meeting any	0	1	2	3	4	5	6
Deadinass		challenge							
Reduitiess	3	I feel ready to deal with uncertainty	0	1	2	3	4	5	6
	4	I feel confident in taking control of situations	0	1	2	3	4	5	6
Physical	5	I am physically fit	0	1	2	3	4	5	6
Readiness	6	I am physically prepared	0	1	2	3	4	5	6
Readiness	7	I am physically fresh	0	1	2	3	4	5	6
	8	I am physically tired	0	1	2	3	4	5	6
Physical Fatigue	9	My muscles are sore	0	1	2	3	4	5	6
i nysicari acigoc	10	I am fatigued	0	1	2	3	4	5	6
	11	I am physically spent	0	1	2	3	4	5	6
Cognitive	12	I can focus well	0	1	2	3	4	5	6
Readiness	13	I am mentally prepared	0	1	2	3	4	5	6
Readiness	14	I am thinking clearly	0	1	2	3	4	5	6
Cognitive	15	I am mentally tired	0	1	2	3	4	5	6
Eatique	16	My mind is fuzzy today	0	1	2	3	4	5	6
Tatigue	17	I cannot focus today	0	1	2	3	4	5	6
Threat-	18	I am ready to process significant problems	0	1	2	3	4	5	6
Challenge	19	No matter the challenge, I am ready for it	0	1	2	3	4	5	6
Peadiness	20	I have things under control today	0	1	2	3	4	5	6
Keaumess	21	I can handle unpleasant feelings	0	1	2	3	4	5	6
	22	My team is ready	0	1	2	3	4	5	6
Group-Team	23	My team has strong systems and processes	0	1	2	3	4	5	6
Readiness	24	My team works well together	0	1	2	3	4	5	6
	25	I have confidence in my team	0	1	2	3	4	5	6
Skills-Training	26	I offer significant value to my role/unit	0	1	2	3	4	5	6
Readiness	27	I am capable of delivering my role	0	1	2	3	4	5	6
Reduiness	28	I feel confident in my abilities to perform my role	0	1	2	3	4	5	6
	29	I have all the equipment I need	0	1	2	3	4	5	6
Equipment	30	My equipment is well-maintained	0	1	2	3	4	5	6
Readiness	31	My equipment is fit-for-purpose	0	1	2	3	4	5	6
	32	My equipment is world-leading	0	1	2	3	4	5	6
		SUMMARY							
For each factor be	low, ad	dd the item responses and write down your score. Max score	for an	y fact	or is 2	4. Hig	her sco	ores a	re
better for all facto	rs exce	ept PHYSICAL FATIGUE and COGNITIVE FATIGUE where lower	score	s are b	etter.				
OVERALL READINE	SS:	PHYSICAL READINESS:PHYSICAL FATIG	JE:						
COGNITIVE READI	NESS:	COGNITIVE FATIGUE: THREAT/CHALLE	NGE:						

GROUP/TEAM:\_\_\_\_\_\_SKILLS-TRAINING:\_\_\_\_\_EQUIPMENT READINESS:\_



# Summarizing the Acute Readiness Measurement Scale

FACTOR	Overall Score	Strengths: What are you doing that increases readiness or decreases fatigue? (per factor)	Weaknesses: What are you doing that decreases readiness or increases fatigue? (per factor)
Overall Readiness			
Physical Readiness			
Physical Fatigue			
Cognitive Readiness			
Cognitive Fatigue			
Threat- Challenge Readiness			
Group-Team Readiness			
Skills-Training Readiness			
Equipment Readiness			



# Planning for Long-Term Energy Management

	List 5 things you do that require energy/effort, and lead to decreased overall energy states.	List 5 things you do that require energy/effort, and lead to increases in overall energy states.	List 5 things you do that enhance your overall recovery state.
1			
2			
3			
4			
5			

Multi-Disciplinary Energy-Management/Recovery Options to Incorporate during your Train-Up					
Natural Strategies	Physical Strategies	Psychosociological Strategies			
Sleep	Cryotherapy/Ice/Ice Bags	Progressive Muscle Relaxation			
Nutrition	Cold water immersion	Imagery			
Active Recovery	Whirlpool/Sauna	Meditation/Mindfulness			
Stretching	Light Bed	Music/Sound			
Spending time in nature	Massage/Foam rolling	Breathing Exercises/Biofeedback			
Alone time	Flotation (Float Pod)	Communication with			
Time with Friends and Family	Compression therapy	significant others			
		Plan and Prioritize/Goal Setting			

Venter, R., & Grobbelaar, R. (2018). Perceptions and practices of recovery modalities in elite team athletes. In M. Kellmann & J. Beckmann (Eds), Sport, Recovery, and Performance: Interdisciplinary Insights (pp. 33-48). Abingdon: Routledge.

Plan it Out: Use the table below to pre-identify daily, weekly, and monthly strategies for each of the focus areas above (Natural, Physical, Psychosociological). Do not feel confined to the strategies above – if there are others you like to use, please include them as well.

Daily/Weekly/Monthly Plan to Incorporate Specific Strategies				
Focus Area (Natural, Physical, Physical)	Daily Strategy	Weekly Strategy	Monthly Strategy	
1.)				
2.)				
3.)				



This task provides a way for you to analyze your weekly time commitment to a series of activities. For this task, you have 10 total points. You may not use more than 10-points to distribute in the categories below (i.e. Working Out/Physical Preparation, Mental Training/Recovery, Work, Family/Social). You may use .5 increments. So, for example, you might assign working out a 3, Mental Training/Recovery a 1.5, Work/Technical/Tactical Training a 2.5, Family/Social a 2, and Sleep a 1 (this would be a total of 10 points). After assigning points, estimate the number of hours/week your allot to each of these categories. There are 168 hours in one week, so account for every hour. Complete both sections: "How are these numbers currently distributed?" and "How do you want to distribute these numbers to maximize your preparation or current situation?". Keep in mind that these "points" and the number of hours committed per week to each category can and should shift based on your training goals, personal situation, upcoming events requiring specific preparation, etc. The primary goal is for you to (1) analyze your time to determine where it's going; (2) determine if this is the best use of your energy and time to maximize your current performance/preparation; and (3) to establish a plan that allows for a balanced approach (because all of the areas below are important for your preparation).

Categories	How are these numbers	s currently distributed?	How do you want to distribute these numbers to maximize your preparation or current situation?	
	Points Assigned (10 Total Points are allowed to distribute across all categories)	Hours per Week	Points Assigned (How do you want to prioritize your points?)	How many hours per week do you want to commit to each category?
Working Out/ Physical Prep				
Mental Training/ Recovery				
Work/Technical/ Tactical Training				
Family/Social				
Sleep				
Other				
TOTAL				

#### REFLECT

1.) Which area(s) are you currently distributing the proper amount of energy and time?

2.) Which area(s) can you improve?

3.) What specific actions can you take on a daily or weekly basis to increase the points (or at least the value you're adding to a smaller number of points) allotted to one of your weaker areas?



# PHASE 5 SUMMARY: LEARNING AND APPLICATION

The purpose of this form is to allow you to reflect on the strategies you applied to improve your cognitive performance. This will allow you to better understand if you're developing the necessary performance enhancement skills included in this training manual. Having completed Phase 2, what did you learn and apply?

1.)			
2.)	 	 	 
3.)			

SWOT SUMMARY				
STRENGTHS: Coming out of this phase, what were your strengths?	WEAKNESSES: Coming out of this phase, what were your weaknesses?			
1.)	1.)			
2.)	2.)			
3.)	3.)			
OPPORTUNITIES: Moving forward, what opportunities do you have (will you create) to sustain the use of the topics/skills in this phase?	THREATS: What obstacles/challenges will you face in implementing these topics/skills in the future.			
1.)	1.)			
2.)	2.)			
3.)	3.)			

Full Checklist and Supplements





# FULL CHECKLIST

Date Complete	Page	PHASE 1 TASKS
	6-7	Complete "Introduction to Values" (page 6) and "Values Identification" (page 7).
	8-9	Complete "Values Development" (page 8) and "Values and Your Why" (page 9).
	10-12	<ul> <li>Read "Understanding and Harnessing the Power of Mindsets" and "Mindsets from the Past"</li> <li>Complete the "Checking Your Mindsets" Reflection</li> </ul>
	13	<ul> <li>Listen to the recommended podcasts. At minimum, watch/listen to the last two on this list.</li> <li>Answer the questions associated with these podcasts/videos.</li> </ul>
	14	Complete the "SWOT Analysis of Your Mindset" exercise.
	15-17	Sleep Education and Tools
	18	Complete the "Phase 1 Summary: Learning and Application"
Date Complete	Page	PHASE 2 TASKS
	21-22	<ul> <li>Understanding Attention and Mindfulness/Meditation</li> <li>Complete the "Listen and Apply"</li> <li>Watch Amishi Jha's TED brief (~15-minutes) on mindfulness-based attention training</li> </ul>
	23	"Attention Awareness Task Descriptions"
	24-25	<ul> <li>Complete "Attention Strength Training" (pages 24 and 25). This should take ~4-8 days, but you may continue working through the packet as you build in the Attention Training repetitions.</li> </ul>
	26	<ul> <li>Read "Shifting from Self- to Task-Focused Attention"</li> <li>Complete the "3X3X3" exercise a minimum of 3X per day as you continue to complete the "Attention Strength Training" repetitions.</li> <li>Complete the "respond to these questions"</li> </ul>
	27-28	Use the concentration grid exercises to practice integrating a reset/refocus routine
	29	Complete the "Phase 2: Learning and Application"
Date Complete	Page	PHASE 3 TASKS
	32-24 33	<ul> <li>Read "Understanding Psychophysiology", "Stress and Performance", and "Brain-Based Underpinnings</li> <li>Complete the "Listen and Apply" task</li> </ul>
	35	Complete "Think About It and Pre-Plan"
	36	<ul> <li>Read "Breath Control Techniques and Tactics</li> <li>Complete practice repetitions of each breath control technique</li> </ul>
	37	<ul> <li>Read "Wholistic Training Approaches"</li> <li>Integrate 1-2 of these approaches each week throughout your training.</li> </ul>
	38	<ul> <li>Read "Progressive Muscle Relaxation"</li> <li>Integrate Progressive Muscle Relaxation 3 times each week of your training</li> </ul>
	39	Complete the "Phase 3: Summary and Learning"
	41	Read "8-Minute Mental Conditioning Program" (page 41)
	42	<ul> <li>Complete week 1 of the "Mental Conditioning Program" (Page 42)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
	43	<ul> <li>Complete week 2 of the "Mental Conditioning Program" (Page 43)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
	44	<ul> <li>Complete week 3 of the "Mental Conditioning Program" (Page 44)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>
	45	<ul> <li>Complete week 4 of the "Mental Conditioning Program" (Page 45)</li> <li>Pick 1 or 2 of the "Wholistic Training Approaches to PT and MC" on page 34 to integrate this week.</li> </ul>



# FULL CHECKLIST

Date Complete	Page	PHASE 4TASKS
	48	Complete the "Collecting Performance Feedback" exercise.
	49-50	<ul> <li>Read "Goal Setting Basics".</li> <li>Use the feedback collected from "Collecting Performance Feedback" to complete the "Using Performance Feedback to Establish Goals" form.</li> </ul>
	51	Read "Understanding and Improving Visualization/Imagery".
	52	Complete the "Assess Your Imagery/Visualization Ability" exercise.
	53	Complete the "Practice to Improve Your Visualization" exercises.
	54	Complete the "Pre-Mortem" exercise.
	55	Complete the "Phase 3 Summary".
Date Complete	Page	PHASE 5 TASKS
	58	Read "2 Frameworks for Understanding Burnout".
	59	Complete the "Acute Readiness Measurement Scale".
	60	Complete "Summarizing the Acute Readiness Measurement Scale".
	61	Complete "Planning for Long-Term Energy Management".
	62	Complete "Mastery Your Time and Energy".
	63	Complete the "Phase 5 Summary: Learning and Application".



## REFERENCES

Balban, M.Y., Neri, E., Kogon, M.M., Weed, L., Nouriana, B., Jo, B., Holl, G., Zeitzer, J.M., Spiegel, D., & Huberman, A.D. (2022). Brief structured respiration practices enhance mood and reduce physiological arousal. Cell Reports Medicine, 4, 100895.

Basso, J.C. McHale, A., Ende, V., Oberlin, D.J., & Suzuki, W.A. (2019). Brief, daily meditation enhances attention, memory, mood, and emotional regulation in non-experienced meditators. Behavioural Brain Research, 356, 208-220, doi: <u>https://doi.org/10.1016/j.bbr.2018.08.023</u>.

Brown, T.M., Brainard, G.C., Cajochen, C., Czeisler, C.A., Hanifin, J.P. Lockley, S.W., et al. (2022). Recommendations for daytime, evening, and nighttime indoor light exposure to best support physiology, sleep, and wakefulness in healthy adults. PLoS Biol 20(3): e3001571. https://doi.org/10.1371/journal.pbio.3001571.

Crum, A.J. Salovey, P., & Achor, S. (2013). Rethinking stress: The role of mindsets in determining the stress response. Journal of Personality and Social Psychology, 104 (4), pp 716-733.

Chaitanya, S., Datta, A., Bhandari, B., & Sharma, V.K. Effect of resonance breathing on heart rate variability and cognitive function in young adults: A randomized controlled study. Cureus, 14 (2), doi: 10.7759/cureus.22187.

Crum, A.J. Akinola, M., Martin, A., & Fath, S. (2017). The role of stress mindset in shaping cognitive, emotional, and physiological responses to challenging and threatening stress. Anxiety Stress Coping, 30, 379-395. doi: 10.1080/10615806.2016.1275585.

Facer-Childs, E.R., Boiling, S. & Balanos, G.M. (2018). The effects of time of day and chronotype on cognitive and physical performance in healthy volunteers. Sports Medicine, 47, 1-12.

Gardner, F. & Moore, Z. (2007). The Psychology of Enhancing Human Performance. Springer Publishing Company, New York, NY.

Gould, D. (2015). Goal Setting for Peak Performance. In J.M. Williams & V. Krance (Eds.) Applied Sport Psychology: Personal Growth to Peak Performance (7<sup>th</sup> ed.). New York, NY: McGraw-Hill, (pp. 188-206).

Hardy, L, Jones, G., & Gould, D. (1996). Understanding psychological preparation for sport: Theory and practice of elite performers. Chichester, England: Wiley.

Heidari, J., Kolling, S., Pelka, M., & Kellmann, M. (2018). Monitoring the recovery-stress state in athletes. In M. Kellmann & J. Beckmann (Eds), Sport, Recovery and Performance: Interdisciplinary Insights (pp. 3-18). Abingdon: Routledge.

Jha, A.P., Zanesco, A.P., Denkova, E., MacNulty, W.K., & Rogers, S.L. (2022). The effects of mindfulness training on working memory performance in high-demand cohorts: a multi-study investigation. Journal of Cognitive Enhancement, 6, 192-204. DOI: https://doi.org/10.1007/s41465-021-00228-1.

Jha, A.P., Morrison, A.B., Dainer-Best, J., Parker, S., Rostrup, N, & Stanley, E.A. (2015). PLoS One, 10 (2), doi: 10.1371/journal.pone.0116889 8-weeks of MT may improve attentional performance more than didactic-focused programs.

Keegan, J.R., Flood, A., Niyonsenga, T. Welvaert, M., Melberzs, L, & Crone, D. (2021). Development and initial validation of an acute readiness monitoring scale in military personnel. Frontiers in Psychology, 12, <u>doi.org/10.3389/fpsyg.2021.738609</u>.

Klein, G. (September 2007). Performing a project premortem. Harvard Business Review: 18–19

Lally, Phillippa & Jaarsveld, Cornelia & Potts, Henry & Wardle, Jane. (2010). How are habits formed: Modeling habit formation in the real world. European Journal of Social Psychology. 40. 10.1002/ejsp.674.

Lehrer, P., Karenjot, K., Sharma, A. Shah, K., Bhavsar, J., & Zhang, Y. (2020). Heart rate variability biofeedback improves emotional and physical health and performance: A systematic review and meta analysis. Applied Psychophysiology and Biofeedback, doi: 10.1007/s10484-020-09466-z.

Lehrer, P.M. & Gevirtz, R. (2014). Heart rate variability biofeedback: how and why does it work? Frontiers in Psychology, 5, (756), pp. 1-9.

Magnon, V., Dutheil, F., Vallet, G.T. (2021). Benefits from one session of deep and slow breathing on vagal tone and anxiety in young and older adults. Nature Scientific Reports, doi: 10.1038/s41598-021-98736-9.

## REFERENCES



Meijen, C., Turner, M., Jones, M.V., Sheffield, D., & McCarthy, P. (2020). A theory of challenge and threat states in athletes: A revised conceptualization. Frontiers of Psychology: <u>https://doi.org/10.3389/fp-syg.2020.00126</u>.

Nunan, D., Sandercock, G. R. H., & Brodie, D. A. (2010). <u>A quantitative systematic review of normal values for short-term heart rate</u> variability in healthy adults. *Pacing and Clinical Electrophysiology*, 33(11), 1407-1417. https://doi.org/10.1111/j.1540-8159.2010.02841.x

Schullin, M.K., Krueger, M.L., Ballard, H.K., Pruett, N. & Bilwise, D.L. (2018). The effects of bedtime writing on difficulty falling asleep: A polysomnographic study comparing to-do lists and completed activity lists. Journal of Experimental Psychology, 147 (1) 139-146.

Schwartz, T. (2022). What to do when you're stuck in the survival zone. Harvard Business Review. Obtained from: https://hbr.org/2022/01/what-to-do-when-youre-stuck-in-the-survival zone?utm\_medium=email&utm\_source=tgr\_regengagement&utm\_campaign= articleabandoned\_notactsub&utm\_content=articleabandoned\_notactsub&tpcc=email.tgr\_regengagement.articleabandoned\_notactsub

Shortland, N.D., McGarry, P., Thompson, L., Stevens, C. & Alison, L.J. (2021). The effect of a 3-minute mindfulness intervention, and the meditating role of maximization, on critical incident decision-making. Frontiers in Psychology, doi: 10.3389/fpsyg.2021.674694.

Smith, E.N., Young, M.D., Crum, A.J. (2020). Stress, mindsets, and success in Navy Seals Special Warfare Training. Frontiers in Psychology, 10, pp. 1-11.

Vierra, J., Boonla, O., & Prasertsri, P. (2022). Effects of sleep deprivation and 4-7-8 breathing control on heart rate variability, blood pressure, blood glucose, and endothelial function in healthy young adults. Physiological Reports, 10 (13). Doi: 10.14814/phy2.15389.

Venter, R., & Grobbelaar, R. (2018). Perceptions and practices of recovery modalities in elite team athletes. In M. Kellmann & J. Beckmann (Eds), Sport, Recovery, and Performance: Interdisciplinary Insights (pp. 33-48). Abingdon: Routledge.

Yerkes, R.M. and Dodson, J.D. (1908), The relation of strength of stimulus to rapidity of habit-formation. J. Comp. Neurol. Psychol., 18: 459-482. doi:10.1002/cne.920180503

Wood, A.M., Joseph, S. Lloyd, J., Atkins, S. (2009). Gratitude influences sleep through the mechanism of pre-sleep cognitions. Journal of Psychosomatic Research, 66, 43-48.

Zaccaro A, Piarulli A, Laurino M, Garbella E, Menicucci D, Neri B and Gemignani A (2018) How Breath-Control Can Change Your Life: A Systematic Review on Psycho-Physiological Correlates of Slow Breathing. Front. Hum. Neurosci. 12:353. doi: 10.3389/fnhum.2018.00353.

Zanesco, A.P., Denkova, E., Rogers, S.L., MacNulty, W.K., & Jha, A.P. (2019). Mindfulness training as cognitive training in high-demand cohorts: An initial study in elite military servicemembers. Porgress in Brain Research, Volume 244, doi: https://doi.org/10.1016/bs.pbr.2018.10.001.