THE APPLICATION OF MENTAL SKILLS TRAINING FOR SUSTAINING EFFORT DURING OPERATIONS

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Throughout history there are examples of Soldiers enduring intense combat, being tested in excruciating crucible events, and bearing continuous strain on their mind and body. Literature recounts instances in which the Soldier endured, but there are the lesser told stories of when they did not. Some people have an innate ability to endure strain, maintain focus, and sustain a tremendous effort while operating. Some, however, cannot do that on their own. Training mental skills directed towards sustaining effort during operations can prepare Soldiers for the scenarios indicated above, and enable a higher level of performance at the individual level thus improving overall teams in the Army's force. This thesis examined the following psychological aspects and training tools: Mental Toughness, Confidence, Self-Talk, Reframing, Concentration and Attention Control (Control Training), Training Concentration, and Mindfulness to define them. The author examined programs within the military and competitive sports to establish common themes and practices that utilize mental skills training, and determine which mental skills support sustaining effort.

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE APPLICATION OF MENTAL SKILLS TRAINING FOR SUSTAINING EFFORT DURING OPERATIONS, by MAJ Nicholas J. LoRusso, 90 pages.

Throughout history there are examples of Soldiers enduring intense combat, being tested in excruciating crucible events, and bearing continuous strain on their mind and body. Literature recounts instances in which the Soldier endured, but there are the lesser told stories of when they did not. Some people have an innate ability to endure strain, maintain focus, and sustain a tremendous effort while operating. Some, however, cannot do that on their own. Training mental skills directed towards sustaining effort during operations can prepare Soldiers for the scenarios indicated above, and enable a higher level of performance at the individual level thus improving overall teams in the Army's force. This thesis examined the following psychological aspects and training tools: Mental Toughness, Confidence, Self-Talk, Reframing, Concentration and Attention Control (Control Training), Training Concentration, and Mindfulness to define them. The author examined programs within the military and competitive sports to establish common themes and practices that utilize mental skills training, and determine which mental skills support sustaining effort.

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TABLE OF CONTENTS

Page

ACRONYMS

ADRP	Army Doctrine Reference Publication
CSF-PREP	Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program
IZOF	Individual Zone of Optimal Functioning
MST	Mental Skills Training
NGB	National Governing Body
OTC	Olympic Training Center
P.A.C.E.	Perception, Activation, Concentration, and Execution
TSET	Total Soldier Enhancement Training
USOC	United States Olympic Committee
WCAP	World Class Athlete Program

ILLUSTRATIONS

Page

TABLES

Page

CHAPTER 1

INTRODUCTION

Overview

> Most men stop when they begin to tire. Good men go until they think they are going to collapse. But, the VERY BEST men know that the mind tires before the body and they push themselves further and further, beyond all limits. Only when their limits are shattered can the unattainable be reached.
>
> —Mark Mysnyk, Great Inspirational Quotes

On a summer night in 2012, a young first lieutenant was awakened by a runner from the company command post sometime after midnight. He learned that he needed to get his platoon of combat engineers (Sappers) up, and ready to execute a route clearance patrol to relieve another engineer platoon that had become combat ineffective after multiple instances of enemy contact and Improvised Explosive Device (IED) strikes. He promptly woke his men, and with his platoon sergeant and the company commander of the infantry company responsible for the area, quickly developed a plan to execute the mission. When he briefed his men, he expected the mission would be of "normal" duration, no longer than twelve hours. He knew they would be heading into a highly contested area, surrounded by restricted terrain that provided the enemy an advantage, but conducting route clearance required them to face these less than ideal conditions. Their job was to clear the route and ensure that no IEDs lay in wait for the combat logistics patrol that would travel behind them. Knowing the risks, his engineer battalion headquarters and the infantry company requested multiple aerial platforms to support the mission. When the platoon left to conduct the mission, they all expected to be back before nightfall that same day.

The events that took place over the next fifty-two hours tested the men's focus, endurance, mental and physical toughness, and dedication to each other in achieving mission success. How did the men of that platoon sustain focus, stay awake, fight, carry their combat load at over 8,000 feet above sea level and traverse several miles of the most rugged terrain on earth? Were there instances that they lost focus, became vulnerable and allowed the enemy an upper hand? How did they train to prepare for the deployment? Is there any other training available that they did not undergo, why?

Background

Sports Psychology and the subsequent of Applied Sports Psychology have been officially recognized as a field of study for the last 45 years.[1] In 1989, the United States Military Academy (USMA) developed the Performance Enhancement Center (PEC) and later merged it with the Academy's Reading and Study Skills Program in 1992 to form the Center for Enhanced Performance (CEP).[2] The CEP began with the intent of training West Point Cadets in performance enhancement techniques to foster their full development as leaders of character.[3] The overall success of the program at West Point, as well as the outreach work performed by its staff led to the development of Army

[1] Jean Williams, *Applied Sport Psychology: Personal Growth to Peak Performance* (New York: McGraw Hill, 2006), 1.

[2] Nathaniel Zinsser, Larry D. Perkins, Pierre D. Gervais, and Gregory A. Burbelo, "Military Application of Performance Enhancement Psychology," *Military Review* (October 2004): 62–65.

[3] Ibid.

Centers for Enhanced Performance (ACEP) standing up at select Army bases in 2006.[4] The ACEP program merged with the Comprehensive Soldier Fitness (CSF) program to form the Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program (CSF-PREP) as the mental skills training concept matured over time, and the Army identified additional needs.[5]

In a parallel line of effort, the Army's World Class Athlete Program (WCAP) serves as a cultivating organization for developing Olympic level athletes within the Army for competition in both the Summer and Winter Olympic Games.[6] This program implemented a supporting effort to CSF-PREP with the Total Soldier Enhancement Training (TSET) initiative, an elite level, peer-based, Soldier-led training specifically tailored to increase performance enhancement and resiliency.[7] Unfortunately, TSET only provided training as a mobile training team (MTT) upon request of a unit for the specific training that it offers to date.[8] As such, TSET was a limited capability and cannot provide some of the tools available at CSF-PREP facilities. Additionally, like physical training,

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[4] Lorin T. Smith, "Army Center for Enhanced Performance Realinged with Comprehensive Soldier Fitness on JBLM," Joint Base Lewis-McChord Public Affairs Office, 2011, https://www.army.mil/article/56823/army-center-for-enhanced-performance-realigned-with-comprehensive-soldier-fitness-on-jblm.

[5] Ibid.

[6] U.S. Army MWR, "About the World Class Athlete Program," U.S. Army, accessed 24 September 2017 https://www.armymwr.com/programs-and-services/world-class-athlete-program/about/.

[7] U.S. Army MWR, "Total Soldier Enhancement Training," U.S. Army, accessed 24 September 2017 https://www.armymwr.com/programs-and-services/world-class-athlete-program/tset/.

[8] Ibid.

mental skills training requires repetition. With the TSET MTT's departure, the capacity to train mental skills diminished given the unit no longer had the properly educated personnel to conduct training, nor the facilities with the capacity to cultivate true growth gained by mental skills training.

The Army acknowledged the utility for training mental skills to enhance the performance of its Soldiers and leaders with the existence of the CSF-PREP as well as WCAP's TSET initiative but, existence does not equate to leveraging the full capability of the programs. The current framework exists to implement mental skills training but, there is more to gain from full-time implementation of mental skills training for Soldiers, leaders, and teams.

Problem Statement

Throughout history there are examples of Soldiers enduring the strain of combat, being tested in excruciating crucible events, and bearing continuous stress on their mind and body. Literature provided instances in which a Soldier endured, but there are the lesser told stories of when and, more importantly, why they didn't. Some people may have an innate ability to endure the strain, maintain focus and sustain a continuous effort while operating. Some, however, may not have the ability do it on their own.

Furthermore, the Army identified a need for performance enhancement for the individual Soldiers and teams by asking how to improve Soldier, Leader and Team performance as a part of the Army Warfighting Challenges.[9] Training mental skills

[9] Army Capabilities Integration Center, "Army Warfighting Challenges," accessed October 29, 2017, http://www.arcic.army.mil/App_Documents/AWFC-Current.pdf.

directed towards sustaining effort during operations can prepare Soldiers for the scenarios indicated above, and enable a higher level of performance at the individual level thus improving overall teams in the Army's force. This research examined the following psychological attributes and training tools: Mental Toughness, Confidence, Self-Talk, Reframing, Concentration and Attention Control (Control Training), Training Concentration, and Mindfulness to define them and describe their use for performance enhancement.

Aims of the Study

The purpose of this study was to identify mental skills training components, programs, and strategies to implement within Army training to enable Soldiers to maintain effort during operations. This study examined programs within the Army as well as in competitive sports to draw parallels and identify best practices for performance enhancement directed towards the sustainment of effort. Small unit leaders and Soldiers do not have common education, training and opportunity to apply Mental Skills Training (MST) directed towards sustaining effort for long durations. Further implementation of the training tools studied in this research addressed the Army Warfighting Challenge of improving Soldier, Leader, and Team performance.

Just as the body requires physical training, the mind can be trained to allow the body to do more. The brain is the human's central governor of fatigue, in other words

when we think we are physically spent, it is not our muscles stopping working, it is our brain telling us to stop.[10]

As a means of improving Soldier, leader, and team performance, this research highlighted key components found in applied sports psychology and associated training methods for improving within them. This research then subsequently examined organizations that implement MST for overall performance enhancement, highlighting instances where MST were specifically applied to sustained effort. The United States Olympic Committee (USOC) has a robust performance psychology program dedicated to improving the performance of its athletes. Due to the nature of training for elite performance on the world stage, the USOC has dedicated time, effort and resources toward developing coaches with strategies for sustaining their athlete's efforts during training and through competition. This study aims to show the utility and replicability of the programs used at the USOC's Olympic Training Centers (OTC) for personnel in the Army. The two, Army related, programs above of CSF-PREP and the WCAP TSET initiative are likely methods to deliver the training assessed as most beneficial for sustaining Soldiers' effort. This study aimed to deduce if the people within both of these organizations had the prerequisite knowledge and capability to train Soldiers in the skills highlighted by the USOC. Lastly, upon completion of this research, this study identified whether both CSF-PREP and WCAP TSET are sufficient in their current state of availability and manning or if the programs should be expanded to achieve the goal of delivering appropriate MST to Soldiers to enable them to sustain effort during operations.

[10] Brad Stulberg and Steve Magness, *Peak Performance* (New York: Rodale Wellness, 2017), 164.

Primary Research Question

What are effective mental skills training that the Army can implement to enable Soldiers and Leaders to sustain effort during operations?

Secondary Research Questions

The researcher determined that answering the following secondary research questions would best facilitate answering the primary research question:

1. What mental skills training aspects relate to sustaining effort?
2. What organizations, business or sport, have performance enhancement focused mental skills training programs?
3. What are the requirements to implement individual MST programs?
4. What types of Soldiers or units can/should be targeted to implement this type of training?
5. What amount of time should be prioritized for this training?

Research Methodology

The researcher utilized a qualitative approach by executing case study research to determine the most effective methods for MST to sustain effort. Case study research involves the study of a case within a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information, and reports a case description and case themes.[11] This research examined the practices used by United States Olympic

[11] John W. Creswell, *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Thousand Oaks, CA: SAGE Publications Inc., 2013), 97.

Committee (USOC), the U.S. Army World Class Athlete Program (WCAP) and Total Soldier Enhancement Training (TSET), and examined the Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program (CSF-PREP) to identify mental skills training aspects, requirements, and best practices to enable Soldiers and leaders to train mental skills for application in real life scenarios that require a sustained effort over time.

Assumptions

The author attempted to base the entirety of the analysis and conclusions on legitimate programs with codified methods currently in practice. Proof of performance enhancement from mental skills training was relative and applicable to the Army. Soldiers and leaders can be trained in MST, and there is potential for measurable improvements. MST methods directly impact the sustainment of effort. There is a desire within the Army to leverage MST directly towards individual and team performance enhancement.

Definitions

Mental Skills Training. Training comes primarily from the field of Applied Sports Psychology. The focus of this training is increasing the mind-body connection enhancing Soldier's performance. Increased confidence, attention, and managing one's emotions and corresponding energy levels are key components in these training programs.[12]

[12] Nancy L. Graber, "Performance Psychology for Tactical Professionals," Association for Applied Sports Psychology, 02 October 2015, accessed September 24, 2017,

Applied Sports Psychology. The identifying and understanding psychological theories and interventions that can be applied to sport and exercise to enhance performance and personal growth in athletes and physical activity participants.[13]

Psychological Interventions. Psychological manipulations judged to be ethical, feasible and accessible to a sports practitioner, coach or athlete.[14]

Limitations (Scope)

A limitation of the study was the pre-existing research that might not have common variables. Comparing conditions from an endurance athlete in a controlled environment to those faced by Soldiers in the field restricted analysis in the thesis. Additional limitations and possible avenues for future studies exist in the inability to collect quantitative data for performance variables associated to sustaining effort in combat as well as in training commonly associated with requiring a form of endurance on behalf of the Soldier, leader, and team. Further limitations exist in the inability to collect bio-feedback to generate measurable data related to the specific effects of MST on the physical state of the individual, linking thoughts (mind) to emotions and performance (body). The analysis in this study focused specifically on the components of MST previously highlighted and the implementation of programs in use in different organizations. This type of analysis required the study to draw inferential data into

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http://www.appliedsportpsych.org/site/assets/files/1119/performance_psychology_for_tactical_operators.pdf.

[13] Williams, 1.

[14] Alister McCormick, Carla Meijen, and Samuele Marcora, "Psychological Determinants of Whole-Body Endurance Performance," *Sports Med* 45 (2015): 998.

conclusions regarding how mental skills training was implemented and what MST practices best-suited performance enhancement within the Army.

This thesis acknowledged studies that showed psychological interventions to impact physical performance but, this is not the purpose of the study. The studies cited during this research serve to enhance the understanding of how MST supports performance enhancement as well as provide an example of what MST techniques best support improvement is sustainment of effort.

Delimitations

This research focused only on a small number of programs given the time available in the Master of Military Arts and Sciences (MMAS) program to complete the study to reduce variance and tailor the focus to programs that bear consequence to the Army. By using three programs for analysis, the author was able to triangulate on MST components and methods to provide a direct correlation to sustaining effort and make recommendations for implementation within the Army. The author's biases were a concern for this study, as in any, and were mitigated through frequent review and feedback from the research committee to ensure that the study's conclusions were based on objective analysis.

Summary

There are presently organizations that train their members to utilize their mind equally to their body when competing in physically straining events. This study explored the idea that, if given the proper mental skills training, it is possible for individuals to overcome the signals that their mind sends to their body when under stress. Endurance

athletes exhibit this ability, as well as many other types of athletes and professionals, enabling them to exert and maintain substantial effort while performing.

This study explored the means utilized to train different kinds of athletes that perform in diverse disciplines and Soldiers within the Army. The author intended to identify similarities between athletes and United States Army Soldiers to explore the utility of mental skills training for sustaining effort within the Army. Further, this study compared the existing programs within the Army to the programs implemented at the United States Olympic Committee (USOC). This comparison helped identify similarities and differences, as well as highlighted the more successful program and find the aspects of that program that make it outperform its peers. Chapter 3 explains the methodology for this research. The overall findings of the correlative case study research are discussed in chapter 4, analysis. The final chapter, chapter 5, states the conclusion and recommendations for future research in the field of performance enhancement and mental skills training for Soldiers.

CHAPTER 2

LITERATURE REVIEW

> Pain is nothing compared to what it feels like to quit. Give everything you got today for tomorrow may never come.
>
> —Dan Gable, AZ Quotes

This chapter identifies the means utilized, and elements and attributes necessary to conduct mental skills training (MST). The MST elements and attributes discussed apply to different kinds of athletes, and translate well from competitive athletes to members in the profession of arms. This chapter explores the utility of mental skills training for sustaining effort within the Army by comparing the existing MST related programs within the Army to the programs of the United States Olympic Committee (USOC). This comparison will help identify similarities and differences, as well as to highlight the most successful program and find the aspects of that program that make it outperform others. Upon completion of this chapter, the most prominent MST aspects and practices will have been discussed and compared as they relate to sustaining effort.

Sustaining Effort

To address the means required for sustaining effort while performing, it is important first to define endurance performance. Endurance performance, defined as a performance during whole-body, dynamic exercise that involves continuous effort and lasts 75 seconds or longer, is a baseline used in studies on athletes.[15] While this is absolutely a short amount of time not typically associated with true tests of endurance, it

[15] McCormick, Meijen, and Marcora, 998.

serves as a starting point for research. Additionally, it is important to note that multiple iterations of the defined endurance performance period are cumulative. For example, one 75 second period followed by little to no rest with subsequent efforts for that 75-second timeframe will have a cumulative effect on the subjects' body and mental capacity. Therefore, applying the time span defined for endurance performance enables the use of psychology performance enhancement methods. Therein lies the utility of training mental skills for professional Soldiers. Soldiers must sustain effort for periods of time that greatly exceed the definition of an endurance event given that combat operations exceed the prescribed time span for endurance performance, and often have cumulative effects on the Solider executing combat operations that span periods of time that vary in duration.

Equipping the individual with the tools necessary to train for and sustain effort should be the first step in establishing a mental skills training program like a physical training program. It is important to recognize that, like physical training, mental training for one aspect requires the development of multiple peripheral aspects or skills. Think of it along the lines of developing the ability to score a heavy weight in an Olympic lift such as the clean and jerk. The athlete will train front squats, clean pull, perform plyometrics such as the box jump, push press, and push jerk.[16] The following psychological attributes and training indicate how developing proficiency in each of them provides an advantage to the Soldier. Identifying how different athletes and professions train in these skills can

[16] Cassie Smith, "Learn The Olympic Lifts: Snatch And Clean And Jerk Progression Lifts," BodyBuilding, February 22, 2017, https://www.bodybuilding.com/fun/learn-olympic-lifts-snatch-and-clean-and-jerk-progression-lifts.html.

allow a correlation to training Soldiers for employment of these skills in sustaining effort to be established. The importance of training these skills is also evident in that mental fatigue undermines endurance performance.[17] If left unattended or untrained in mental skills interventions, individuals will not have the capacity to implement them.

Confidence

Common misconceptions about confidence such as, "you either have it, or you don't," or "success and positive feedback are the only means to building confidence," are contrary to building individuals' confidence in their ability to endure.[18] If the statements above were true, the 2017 Gatorade commercial, "The Secret to Victory," featuring Michael Jordan, Serena Williams, JJ Watt, Peyton and Eli Manning, Matt Ryan and other prominent professional athletes would not be highlighting their biggest failures or challenges as the key to victory.[19] Confidence is an unshakeable belief in one's ability to achieve their goals or a mindset.[20] Training confidence, like training squats to build leg muscles, is to develop a mindset at the onset of a long duration event that one can endure. Pre-Performance Statements have been one method to build confidence. In a pre-performance statement, the athlete describes an action that they will compete in the competition as if they have already accomplished it, also known as performance

[17] McCormick, Meijen, and Marcora, 1006.

[18] Williams, 351-2.

[19] YouTube. "The Secret to Victory," June 27, 2017, https://www.youtube.com/watch?v=hSLV3AjLiZk.

[20] Williams, 352.

expectancy.[21] An example of a pre-performance statement for an endurance event such as a 1500-meter track race is, "I maintain 40-second splits." A 2015 study showed that pre-performance statements improve middle-distance runners' performance.[22] This practice exemplified how thoughts affect feelings and thus dictate behavior, or how thoughts and performance interact.

Using guided imagery is another way to help a performer build confidence. At the United States Military Academy's (USMA) Center for Enhanced Performance (CEP) collegiate athletes worked through goal setting sessions to identify their primary performance goal and then set sub-goals to achieve their primary goal. The athletes are subsequently coached to translate their sub-goals into affirmations, stating the sub-goal as if they had already achieved it. The CEP then produces the athlete's affirmations list synched with a musical playlist for them to listen to as they desire.[23] By affording the athlete the ability to hear their positive personal affirmations regarding their ability to perform they are effectively building positive thoughts. Positive thoughts translate to positive emotions thus increasing confidence or a trusting mindset. The trusting mindset is having confidence in one's abilities, time and effort in practice allowing the individual to free their minds when the intense need arises.[24]

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[21] Williams, 245.

[22] McCormick, Meijen, and Marcora, 1005.

[23] Daniel McGinn, *Psyched Up* (New York: Portfolio Penguin, 2017), 141.

[24] Zinsser et al., 64.

Mental Toughness

Leaders, in any field, likely desire their employees or subordinates to have a level of mental toughness.[25] Whether a job requires long hours for a project, the ability to endure stress or pain, mental toughness is an assessable attribute that bares itself when times are difficult. Dr. Jean Williams described mental toughness as the natural or developed psychological edge that enables you to cope better than others with the demands of performance and to remain more determined, focused, confident and in control.[26] She went on further to state that the most important attribute of mental toughness is that it is an unshakeable belief in your ability to achieve your goals, confidence.[27] The Journal of Performance Psychology further described mental toughness as a characteristic possessed by performers that enable them to perform well under pressure.[28] Confidence and mental toughness mutually support each other, and therefore, training in each are ideal for constructing the base on which sustained effort stands. The U.S. Navy significantly increased the Basic Underwater Demolition School (BUDS) graduation rate not by increasing physical skills, but by improving the cognitive resilience skills of BUDS candidates. Referred to as the "big four," SEAL recruits learn to 1) set positive mental goals; 2) conduct mental rehearsals; 3) control self-doubt; and 4)

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[25] Jon Hammermeister, Michael Pickering, and Andrew Lennox, "Military Applications of Performance Psychology Methods and Techniques: An Overview of Practice and Research," *The Journal of Performance Psychology*, no. 3 (2011): 5.

[26] Williams, 350-1.

[27] Ibid.

[28] Hammermeister, Pickering, and Lennox.

control arousal. These specific cognitive resilience skills permit SEAL recruits to endure and recover quickly from the daily rigorous physical and mental demands of their training.[29] The program utilized for Navy SEALs was an example of MST that enables a performer to recover quickly and reset their mind and body for future physically demanding events. Although this did not specifically target sustaining effort, it was a framework that provided a model for implementation in practice.

Self-Talk and Reframing

The record in your head may be one of the most influential aspects when addressing sustained effort. One study showed that motivational self-talk reduced the perception of effort and increased cycling time for 83% of its non-athlete participants.[30] Self-talk is the key to cognitive control and directly influences the individual's ability to sustain mental toughness and subsequently confidence. Self-talk also had a significant correlation to attention and effort control, which this research will address in more detail in later sub-chapters. The first step to influencing self-talk is to become aware of it.[31] It may sound hokey to mind the voices in your head but, awareness of your thoughts and their impact on feelings and behavior enables one to identify what kind of thinking helps

[29] Bill McCollum and Matthew Broaddus, *Leader-Imposed Stress and Organizational Resilience* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2017).

[30] McCormick, Meijen, and Marcora, 1006.

[31] Williams, 361.

and what doesn't.[32] Once the individual identifies these patterns, they can stop thoughts linked to poor performance and replace them with positive ones.

A method for transforming, or stopping, negative thoughts and replacing them with positive ones is called reframing. Reframing is the process of creating alternative frames of reference or different ways of looking at the world.[33] In an August 2017 *Military Times* article the author offers a simple solution for those who think that physical fitness in the Army needs to change. Army Major Nick Barringer argued that Soldiers, to fix physical fitness in the Army, should approach each physical fitness training session with the mindset that they are making themselves harder to kill.[34] Barringer's argument began with the notion that the overall purpose of the military is to kill the enemy, called the "kill concept."[35] He used the example portrayed in "Saving Private Ryan" during the final battle scene. Private Mellish struggled and ultimately failed to stop the German soldier from slowly plunging a knife into his chest. This scene is an example of reframing perspectives toward physical training for the military. Rather than focusing on the vague idea of fitness, focusing thoughts on becoming harder to kill spawns self-talk that helps sustain effort through a physical training session.

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[32] Williams, 361.

[33] Ibid., 368.

[34] Maj Nick Barringer, "Want to Fix Military Fitness? Start with a Four-Letter Word," *Military Times*, August 10, 2017, https://www.militarytimes.com/opinion/2017/07/09/want-to-fix-military-fitness-start-with-a-four-letter-word/.

[35] Ibid.

Focus Training

Having the ability to focus on a single thought for a period is another key component to maintaining effort. If you let your mind drift to thoughts related to anything other than what you are doing, how can you maintain effort on your task?[36] One way to maintain focus is a routine.[37] Routines increase the consistency of an athlete's thinking, feelings, and pre-sport behavior and thus produce more consistent sports behavior leading to better results.[38] Another refocusing practice is mindfulness. Mindfulness is an exercise in which one can lock in on a single thought, cue word, or action associated with the task they are performing.[39] This practice can be as simple as a Soldier foot marching and simply focusing on each step forward, or while practicing marksmanship starting with the feel of the rifle stock on their check and progressing to sight picture, breathing and so on through firing the shot at the intended target. In a prolonged scenario, when the end of the mission is out of sight, breaking the execution of tasks into smaller chunks helps the Soldier keep effort levels high due to the shorter duration of each "chunk" of attention dedicated to the larger effort.

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[36] Williams, 415.

[37] Sean McCann, "Routines, Rituals, and Performing Under Stress," *Olympic Coach Magazine* (2007): 15.

[38] Ibid., 14.

[39] Williams, 415.

Concentration and Attentional Control

For Soldiers to perform at their best, one of the first things that they should master is concentration.[40] In the twenty-first century, this could be one of the most difficult skills to master given the number of distractions in the palm of one's hand with modern cellular technology but, that is not the focal point here. While concentration is the ability to keep one's attention on the task at hand without being affected by external stimuli, a Soldier, especially one in combat, needs to have the ability to shift attention quickly given the threats to himself and those around him.[41] It is, therefore, more important for Soldiers to be able to bring their concentration from their task to a potentially dangerous stimulus and then back to the task to continue their effort toward achieving it. This skill is known as selective awareness, the skill of selectively paying attention to relevant stimuli and ignoring the irrelevant stimuli.[42] This phenomenon is also referred to as attentional narrowing, or tunnel-vision, where the individual blocks or masks irrelevant cues thus enabling central task achievement.[43] Now, in less precarious situations a Soldier can devote all their concentration to the task they are performing such as a tough, physical training session or technical training event. There are four dimensions to attention

[40] Williams, 404.

[41] Ibid.

[42] Ibid., 405.

[43] Christopher M. Janelle, Robert N. Singer, and A. Mark Williams, "External Distraction and Attentional Narrowing: Visual Search Evidence," *Journal of Sports & Exercise Psychology* 21 (1999): 71.

control: broad, narrow, external, and internal.[44] These dimensions work in conjunction with each other as individuals shift their attention to relevant stimulus throughout an event. The figure below represents how one's attention shifts while firing a rifle in a range environment.

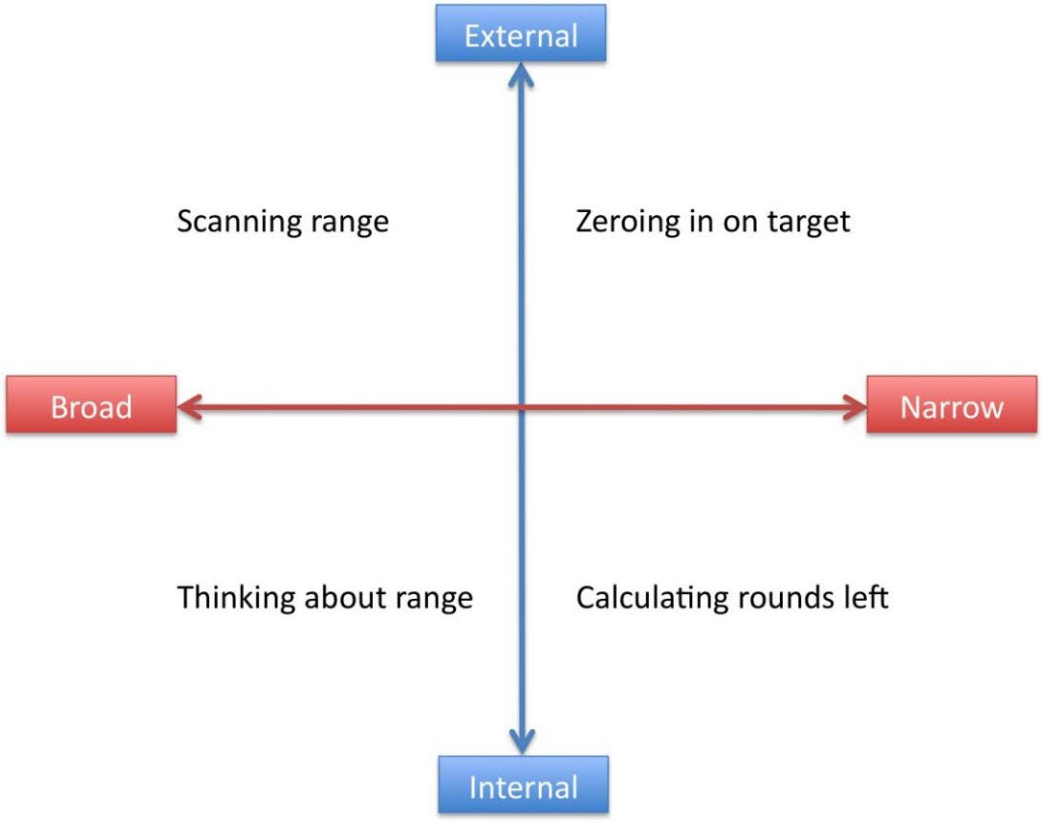

Figure 1. Four Dimensions of Attention

Source: Travis Tilman, *Clear Your Mind to Clear the Way: Mental Skills Manual to Enhance Military Route Clearance Performance* (West Point, NY: Center for Enhanced Performance, U.S. Military Academy, 2012), 22.

[44] Travis Tilman, *Clear Your Mind to Clear the Way: Mental Skills Manual to Enhance Military Route Clearance Performance* (West Point, NY: Center for Enhanced Performance, U.S. Military Academy, 2012), 22.

So far, this chapter provided an understanding of some of the basic attributes and training concepts for applying MST to sustaining effort. The remainder of this chapter will focus on examining three organizations with programs for training MST: The United States Olympic Committee, Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program, the World Class Athlete Program with additional focus on Total Soldier Enhancement Training.

United States Olympic Committee

The United States Olympic Committee (USOC) was founded in 1894, headquartered in Colorado Springs, CO., and serves as both the National Olympic Committee and National Paralympic Committee for the United States.[45] The USOC is responsible for the training, entering and funding of U.S. teams for the Olympic, Paralympic, Youth Olympic, Pan American and Parapan American Games, while serving as a steward of the Olympic Movement throughout the country.[46] As such, the USOC provides a multitude of training across the multiple sports disciplines of its athletes to include regular performance psychology, or mental skills, training. The USOC's sport psychology teams followed a coach-driven, athlete centered approach to preparing athletes for international competition.[47] The USOC believed that exceptional mental

[45] Team USA, "About the USOC | United States Olympic Committee," accessed November 3, 2017, https://www.teamusa.org:443/About-the-USOC.

[46] Ibid.

[47] Team USA, "Psychology," accessed November 3, 2017, https://www.teamusa.org:443/About-the-USOC/Athlete-Development/Sport-Performance/Psychology.

skills are necessary for exceptional Olympic performance, and their psychologists work with the National Governing Bodies (NGB) to help athletes best prepare for competition.[48] The USOC's dedication to both the physical and mental training realms exemplified the necessity of developing both for higher levels of performance. Another important aspect found in the literature produced by their sport psychology teams was the necessity to develop the coaching staffs, the leaders of the athletes, to guide them through training and competition utilizing mental skills training.

In the Olympic Coach Magazine, the article by Dr. Alex Cohen identified four components for integrating sports psychology into training programs for the USOC. Cohen's P.A.C.E Performance Program highlights: Perception, Activation, Concentration, and Execution (P.A.C.E.) as a means to prepare Olympic Athletes for upcoming Olympic Games.[49] The key output of the P.A.C.E Performance Program was to enable athletes to focus on the right things, at the right time, every time.[50] This output allowed athletes to, by improving an athlete's ability to shift focus, maintain effort as required throughout the competition. Each of the P.A.C.E. components could be worked individually, however, for the USOC, training them in sequence provided a framework for coaches to train their athletes towards performance excellence.[51]

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[48] Team USA, "Psychology."

[49] Alex Cohen, "The P.A.C.E. Performance Program: Integrating Sport Psychology into Training Programs," *Olympic Coach Magazine* (2012): 5.

[50] Ibid.

[51] Ibid.

The Perception component of the P.A.C.E Program refers to the athlete's thoughts, feelings, imagery and self-talk about his technical and psychological skills, the performance environment, and the goals that the athlete wants to achieve.[52] This focus addresses the concept discussed earlier regarding how thoughts affect feelings and translate to behaviors regarding confidence, enabling the athlete to cultivate confidence enhances performance.

The thoughts and feelings perceived relate directly then to Activation, the second component of the P.A.C.E Program.[53] Activation, physiological arousal, exists along a continuum of deep sleep to extreme excitation.[54] For this study, activation is managed through, but not limited to, the emotional regulation skill of mindfulness to achieve the desired level of physiological arousal.[55] Emotion-related activation, tracked by assessing the athlete's Individual Zone of Optimal Functioning (IZOF).[56] The IZOF represents the emotional experiences related to successful or poor performance.[57] Managing activation is key to sustaining effort to manage energy levels over prolonged periods of time.

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[52] Cohen, 5.

[53] Ibid.

[54] Stephanie J. Hanrahan and Mark B. Andersen, *Routledge Handbook of Applied Sport Psychology: A Comprehensive Guide for Students and Practitioners*, Routledge International Handbooks (New York: Routledge, 2011).

[55] Cohen, 6.

[56] Ibid., 5.

[57] Yuri L. Hanin, *Emotions in Sport* (Champaign, IL: Human Kinetics, 2000), 66.

Finding the appropriate activation level is essential to both maximum energy availability as well as concentration, another component outlined for successful effort maintenance.[58]

Expanding upon the information previously discussed in this chapter, Dr. Cohen describes concentration as the athlete's ability to exert deliberate mental effort on that is most important in any given situation.[59] This component, and training therein, directly enables an individual to attend to the most relevant stimulus around them and ignore distractions while coordinating several stimulus actions.[60] Each of the three components above of the P.A.C.E. Performance Program directly influences the final component, execution, such is why at the USOC this program has been suggested to be implemented sequentially, allowing for the athlete to develop each component individually. Focusing on each of the P.A.C.E. components separately and sequentially allows for the athletes to develop a strong base in each component and once they understand how each impacts their performance, train them in a complementary manner.

Execution, most simply explained, is the actual performance of the compulsory tasks associated with the athlete's sport of event. At the USOC and its Olympic Training Centers (OTC), the athletes largely automated their technical skills as a result of extensive practice.[61] This automation allows the athlete to devote more of their mental

[58] Cohen, 6.

[59] Ibid.

[60] Ibid.

[61] Ibid.

capacity available to devote to other current tasks thereby increasing distractibility.[62] Therefore, training in concentration is paramount for maintaining effort in execution.

In another Olympic Coach Magazine article, Dr. Jim Afremow discusses his concept of "The Three Ds" as a mental periodization process. He uses the terms debrief, decompress, and dominate to provide a method for recovery and training in the inter-competition period.[63] His description of periodization is most relevant. He describes periodization as how a training program is divided into discrete time periods or phases.[64] The concept of periodization relates to perception and activation components of the P.A.C.E. Program as well as the aspects of focus training, and concentration and attention control. Periodization specifically highlights that recovery is necessary to maximize performance both physically and mentally.

The P.A.C.E. Performance Program is an in-depth model for training in MST and is just one example of a program that the USOC uses to prepare athletes for elite competition on the international scale. This research showed the links between the attributes discussed at the beginning of this chapter accompanied by a method for training and implementing them during preparation for and execution of competition. This program touches on energy management and arousal control; however, it does not specify maintaining effort as a primary focus of the program. Each athlete is different, and managing arousal requires individual measurement. The IZOF requires specific

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[62] Cohen, 6.

[63] Jim Afremow, "The Three Ds: Helping You Excel From One Competition to the Next," *Olympic Coach Magazine* (2012): 15.

[64] Ibid.

measurements gained from biofeedback (heart rate, blood pressure, etc.) to identify where it exists for each properly. Perhaps future research in this area will expand understanding of how best to train understanding this concept for sustained effort.

Comprehensive Soldier Fitness Performance and Resiliency Enhancement Program

In Army Doctrine Reference Publication (ADRP) 7-0, *Training Units and Developing Leaders*, one of the 11 Principles of Unit Training is to Train to Sustain.[65] Training to Sustain means that units train to enhance their capabilities, individual resiliency, and endurance.[66] It is the Commanders' and other leaders' responsibility to first design training to sustain unit proficiency than to build the capability of Soldiers to sustain themselves mentally and physically during long operations.[67] This ADRP has not, however, described specific methods or means for Commanders and leaders to leverage for developing training to target endurance during long operations specifically. Specifically, there are no other subsequent Army manuals (doctrine) that describe methods for training mental capacity while Field Manual (FM) 7-22, *Army Physical Readiness Training* describes methods and guidance for physical training.

The Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program (CSF-PREP) has been the organization that delivers performance psychology

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[65] Headquarters, Department of the Army, Army Doctrine Reference Publication 7-0*, Training Units and Developing Leaders* (Washington, DC: Government Printing Office, 2012), 13(2-1).

[66] Ibid., 15(2-3).

[67] Ibid.

and MST to Soldiers.[68] Although CSF-PREP existed in other forms since 2006, its alignment has been enabling the Army to train its Soldiers as "tactical athletes" enhancing resilience, energy management, and both individual and team performance.[69] Former Army Chief of Staff General George Casey coined this phrase most recently in April of 2011 in an Army Times article.[70] General Casey acknowledged the likeness between sport and military performers and followed that tactical athletes could benefit from the same types of mental techniques and strategies used to enhance athletic performance.[71] General Casey's, and subsequent Army leaders', identification of the need to train MST for the Army helped drive the development and implementation of the CSF-PREP. The breadth of areas covered by CSF-PREP, however, made it difficult to realize the potential of the program for training Soldiers similarly to Olympic caliber athletes.

The CSP-PREP mission is to help Soldiers perform with greater ease and less stress, and enable them to prevail in the face of adversity with a subsequent focus on making Soldiers and their families stronger and more resilient in all that they do.[72] This

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[68] Hammermeister, Pickering, and Lennox.

[69] Christopher M. Gaylord, "Comprehensive Soldier Fitness Aims to Boost Performance, Resilience of Soldiers, Families," U.S. Army, accessed November 6, 2017, https://www.army.mil/article/86141/comprehensive_soldier_fitness_aims_to_boost_performance_resilience_of_soldiers_families.

[70] Hammermeister, Pickering, and Lennox,

[71] Ibid.

[72] Gaylord.

program is covering a wide area for a comparatively small and new organization within the Army to cover and be effective in all that it advertises.

World Class Athlete Program and Total Soldier Enhancement Training

The U.S. Army has been providing Soldiers with the tools and training to represent their country in international competition since 1948.[73] The World Class Athlete Program (WCAP) is the program that provides outstanding Soldier-athletes the support and training to compete and succeed in national and international competitions leading to Olympic and Paralympic Games while maintaining a professional military career and promoting the U.S. Army to the world.[74] All Soldiers assigned to the Army WCAP received continuous training from top experts in maximizing performance, sports psychology, strength and conditioning, nutrition, and wellness.[75] The personnel and training received within the WCAP program provided the Army with a population of Soldiers uniquely qualified to motivate and expose Soldiers and units across the Army to the importance and process for continuously building a culture and attitude of continuous improvement.[76]

[73] U.S. Army, "U.S. Army Athletes," GoArmy, accessed November 9, 2017, http://www.goarmy.com/events/army-athletes.html.

[74] U.S. Army MWR, "About the World Class Athlete Program."

[75] U.S. Army MWR, "Total Soldier Enhancement Training."

[76] Ibid.

Within WCAP Total Soldier Enhancement Training (TSET) was a program established to increase performance enhancement and resiliency.[77] TSET is elite level, peer-based, Soldier-led training intended to increase readiness and resilience of Army units through facilitated, team-based, and learner-centric training events that expose Soldiers to MST that sets the conditions for more consistent and high levels of performance.[78] The WCAP delivered this training in the form of Mobile Training Teams (MTT) that instruct and facilitate scientifically proven mental techniques that integrate CSF-PREP and the Performance Triad.[79] The Performance Triad specifically refers to sleep, activity, and nutrition habits about how they either increase, or decrease physical and mental performance, and subsequently unit performance.[80]

Summary

In this chapter, aspects or elements trained in mental skills training, we defined and applied to the concept of sustaining effort. The five primary performance psychology aspects discussed were confidence, mental toughness, self-talk and reframing, concentration and attention control, and focus training. Then, three organizations with MST focused programs were highlighted to show similarity and highlight training gaps or opportunities for applying MST to training for sustaining effort specifically. The USOC

[77] Ibid.

[78] U.S. Army MWR, " Total Soldier Enhancement Training."

[79] Ibid.

[80] Performance Triad, "Performance Triad," accessed November 7, 2017, https://p3.amedd.army.mil/.

and the P.A.C.E. Program specifically highlighted a method for training mental skills for Olympic Athletes. The CSF-PREP is the Army's method for providing some MST to Soldiers Army-wide. The WCAP and TSET is the Army's sub-set of Olympic caliber athletes and the capability the organization brings to the Army to augment CSF-PREP and provide MST across Army units. In the subsequent chapter, the research methodology utilized for this research will be described to link the aspects, methods, and programs discussed in this chapter.

CHAPTER 3

RESEARCH METHODOLOGY

> Every time you train, train with the motivation and purpose that you will be the hardest person someone ever tries to kill.
>
> —Tim Kennedy, *Military Times*

Overview

This chapter describes the means for collecting and analyzing data to answer the primary and secondary research questions. The primary research question for this study was, "What are effective mental skills training that the Army can implement to enable Soldiers and Leaders to maintain high levels of effort during operations?" The secondary questions were: What MST skills relate to sustaining effort? What organizations, business or sport, have performance enhancement focused mental skills training programs? What are the requirements to implement individual MST programs? What types of Soldiers or units can/should be targeted to implement this type of training? What amount of time should be prioritized for this training?

In the previous chapter, five significant elements of mental skills training (MST) were detailed to provide a framework for training MST to sustain effort. Then, three organizations with MST training programs, or systems, were showcased as examples of methods for delivering MST to individuals and teams. The purpose of this study is to identify what MST elements, programs, and strategies to implement within Army training to enable Soldiers to maintain effort. By training MST for sustaining effort, the Army can expect an improvement in the performance of Soldiers, leaders, and teams during operations.

The concept of sustaining effort during operations is universal within the Army and military occupations specialty (MOS) immaterial. All humans feel the effect of fatigue regardless of the amount of physical strain. However, the Army personnel in combat operations related military occupational specialties experience physical strain similar to that of an athlete where applied sport psychology practices have the most impact on performance.

This chapter is organized into two sections:

1. The method for gathering data related to MST elements and organizations that implement MST to improve the performance of its members.
2. The criteria used to determine the feasibility of the method, suitability and relevance of the examples, and credibility of sources.

Qualitative Inquiry and Case Study Research

This study employed a qualitative approach by executing case study research to determine the most effective methods for MST to sustain effort. A qualitative inquiry is a situated activity that locates the observer in the world consisting of a set of interpretative, material practices that make the world visible.[81] This method for research provided a lens through which the contexts, or settings, of those engaged in an activity address a problem or issue.[82] The researcher selected qualitative inquiry for this study as a means to address limitations discussed in chapter 1, to allow for an effective framing of the problem, and to

[81] Martin Brett Davies, *Doing a Successful Research Project* (New York: Palgrave MacMillan, 2007), 10.

[82] Creswell, 48.

enable a comparison of multiple bounded systems. Due to the time constraint associated to this study, as well as the difficulty in conducting a sufficient quantitative study with human subjects, a qualitative study was appropriate to address the research questions proposed for this research.

The researcher did not select quantitative inquiry for this study primarily due to the time required to generate sufficient quantitative data. Additionally, given the variance in conditions in which Soldiers perform compared to those of athletes, the quantitative results gathered in existing studies have not provided suitable evidence. Furthermore, the researcher could not collect bio-feedback data to identify physiological conditions affected by cognitive intervention techniques, or MST elements.

Case study research, a method of qualitative inquiry, involves the study of a case within a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information, and reports a case description and case themes.[83] In this study, three organizations were chosen to compare to illustrate how MST are delivered to individuals and teams to triangulate the themes that emerge from the cross-case analysis. This approach enabled a description of different MST elements followed by a comparison of the implementation of the elements across three different settings to determine which appeared to indicate success consistently. This study analyzed each of the three cases selected and created patterns identified in organizations implementing MST.[84] The author

[83] Creswell, 97.

[84] Margaret D. LeCompte, "Analyzing Qualitative Data," *Theory Into Practice* 39, no. 3 (2000): 150.

also related the patterns to indicators of success and determine the feasibility of implementing successful practices in the Army.[85] The following table depicted the consolidation of data associated with answering the secondary research questions and enable a cross-case analysis in future chapters.

Table 1. Case Data

	MST	Requirements	Time	Individual	Team
USOC					
CSF-PREP					
WCAP/TSET					

Source: Created by author.

Feasibility-Suitability-Acceptability

The primary criteria used for determining the feasibility of the method was time. Given the timeline for completion of the research, the method had to enable to a collection of data, evidence, and examples in a relatively short amount of time. The method also had to enable the primary and secondary research questions to be answered. The researcher had identified themes common in MST programs and determined which

[85] Jan S. Chenail and Ronald J. Chenail, "Communicating Qualitative Analytical Results Following Grice's Conversational Maxims," *The Qualitative Report* 16, no. 1 (January 1, 2011): 281.

MST elements and programs indicated success by executing a qualitative case study analysis of three organizations.

The researcher determined the suitability and relevance of the examples by assessing the relevance of the example to the problem statement, primary, and secondary research questions. Examples were also selected to illustrate success or failures in MST or reinforce concepts of MST. Lastly, examples were selected based on their relationship to anyone, or more, of the three cases selected for the qualitative case study comparison.

The researcher based source selection for this research on several factors. The criteria for the journal, newspaper, and magazine article source selection was dependent upon if the article came from a professionally reviewed publication. The books selected for this research bore relevance to the material for this study and the author(s) and editor(s) typically had experience in the field of performance psychology. By and large, the books selected for this research were written and edited by terminal degree holders in the field. There were some books selected that did not meet this second criterion but, met the first regarding relevance to the topics of the research.

For sources related to any one of the three organizations selected for the comparative case study, official websites operated by each of the organizations studied in the cases were the primary web-based source. The majority of sources referenced for the USOC came from the USOC official website, and articles were largely sourced from official USOC publications. Articles or official publications generated by the organization or parent organization of the associated program, i.e., official Army websites, articles, and publications were utilized for sources related to the CSF-PREP and WCAP/TSET programs.

Summary

This chapter highlighted the method utilized to address the problem statement for this research. The methods of inquiry and research were defined and described, as well as justified for use in this research. Finally, the criteria used to determine the feasibility of the research were addressed in conjunction with a discussion of the suitability and relevance of the examples, and credibility of the sources used.

Chapter 4, the proceeding chapter, discusses the themes identified in chapter 2. Analysis of the secondary research questions about the three organizations discussed in chapter 2 follows the discussion of the themes present in the literature. chapter 4 addresses answers in the literature to the secondary research questions and lead into conclusions and recommendations discussed in chapter 5.

CHAPTER 4

ANALYSIS

> I know quite certainly that I myself have no special talent; curiosity, obsession, and dogged endurance, combined with self-criticism have brought me to my ideas.
>
> —Albert Einstein, *Think Exist*

Overview

The primary research question driving this research was, "What are effective mental skills training that the Army can implement to enable Soldiers and Leaders to sustain effort during operations?" This chapter will relate the cases observed about the primary and secondary research questions to extract common themes and drive conclusions. In chapter 1, the concept of mental skills training (MST) was described as a means to improve Soldier, leader and team performance in addition to physical and technical training already conducted in Army units. During chapter 2, the researcher highlighted MST concepts and training methods applicable to the primary research question and identified three organizations that implement MST programs or concepts to improve the performance of their members. Lastly, in chapter 3 the research methodology was described, and the method for case study comparison was introduced for application in this chapter.

In this chapter, the researcher tells the story of each of the cases studied individually, teases out the themes identified in each case, and presents the data in a manner that enables the derivation of conclusions and recommendations for future research. The researcher used the table displayed in chapter 3 to highlight the findings

and enable the reader to draw conclusions based on a clear depiction of the data and themes present in the case studies. The researcher also consolidated the reoccurring themes identified in each of the case studies and summarized answers to the primary and secondary research questions before proceeding the conclusion and recommendations in the following chapter, chapter 5.

The USOC

During the review of literature associated with the United States Olympic Commission (USOC), the researcher discovered multiple concepts applied by the USOC for training athletes in MST. The Perception, Activation, Concentration, and Execution (P.A.C.E.) Training Program highlighted how athletes had been coached to prepare for and perform in competition.[86] The P.A.C.E. construct applied to short-term preparation as observed in pre-competition routines for the "day-of" the event used to prime individuals and teams to compete.

Another published program utilized by the USOC was, "The Three D's" used to describe periodization for mental recovery during inter-competition periods.[87] The three D's describe: debrief, decompress, and dominate. During the debrief stage the athlete reflects on their performance about technique, strategy, and mental approach.[88] This practice was also applicable for a coach to work in a team setting where he highlights specific team strategies, individual performances (good and bad), and highlights methods

[86] Cohen, 5.

[87] Afremow, 15.

[88] Ibid.

to improve for the next competition. This practice directly influenced future practice sessions and approaches to future competitions. By highlighting the positive aspects of the individual's or team's performance the athlete or coach will have established what worked and may emphasize continued improvements for future events. To the same effect, athletes and coaches also acknowledged where the performance requires improvement. This concept appears in Tom Rath's "Strengths Finder 2.0" in which he emphasizes the importance of continuously improving strengths and leveraging them toward development in areas where one is weaker.[89] Rath's concept went even further into identifying individual strengths for pairing individuals so that their strengths complement each other's weaknesses but, that concept could be examined in another study possibly related to team improvement.

MST Elements within USOC Programs

The perception aspect of P.A.C.E. highlighted the MST components of self-talk, performance goals, imagery, feelings, and emotion control.[90] Self-talk emerged as one of the primary MST elements associated with sustaining effort during an event. Dr. Jean M. Williams highlighted the reasons and methods for gaining awareness of one's self-talk, controlling self-talk, and developing self-talk scripts for various aspects of performance to include sustaining effort in her book, "Applied Sports Psychology: Personal Growth to Peak Performance." The complexity of self-talk control stems from the various aspects of performance that self-talk can impact. The most vital aspect of self-talk regarding

[89] Tom Rath, *Strengths Finder 2.0* (New York: Gallup Press, 2007), 5.

[90] Ibid.

sustained effort as it applies to both athletes and Soldiers emerged as the ability to reframe situations that can distract the individual performing into thoughts that refocus them on the task at hand. The control of self-talk was presented as the first step in the chain of controlling thoughts (focus), changing emotions (feelings), and translating them into an aroused state (activation) that improves performance.

As aforementioned, activation specifically described the physiological arousal of the individual before and throughout the execution of a task.[91] It is important to understand the concept that thoughts are the trigger to the process that generates this arousal. An additional aspect of MST associated with the awareness of an individual's activation level was mindfulness.[92] Mindfulness, as described in chapter 2, enabled the athlete to stay mentally present during a competition or event, and focused on the tasks they are to complete. This mental skill directly impacted physiological arousal (activation) in that this ability increases awareness. An example of maintaining mindfulness for a Soldier to sustain effort would be focusing on the simple components of conducting a forced march under an approach load. The Soldier, rather than expelling mental energy thinking about the weight of their pack, pain in their feet, or remaining distance to the end of their movement, could focus on the rate of their steps, controlling their breathing and moving toward an interim point along the route instead. Basic Rifle Marksmanship was another example of a military application in mindfulness. The firer, to remain mindful, will focus on the feel of their cheek against the butt-stock of the rifle,

[91] Rath, 8.

[92] Ibid.

their sight picture and breathing, the feel of their finger on the trigger, and the sensation of the action of the rifle as it fires, chambers the next round, and re-sets the trigger for the next shot. Activation, accompanied by mindfulness, managed an individual's energy levels and contributed their focus and attention to the correct aspects of their performance. Understanding and utilizing these tools directly impact the ability to sustain effort during an event.

Just as perception directly related to activation, both aspects of the P.A.C.E. theory affected concentration. Concentration, in conjunction with attention control, was vital to the individual's ability to sustain effort. As previously described, mindfulness and self-talk were the means to concentrate on the individual's performance during a mission or competition and reduce a loss of energy on unnecessary thoughts and distractions. Concentration allowed the individual to selectively attend to the relevant information and ignore potential distractions while coordinating simultaneous actions.[93] The ability to avoid distractions and remain focused on completing necessary actions reserved energy and enabled sustained effort throughout an event.

Implementing the P.A.C.E. philosophy for preparation for and execution of specific events can permit an individual to manage energy levels and sustain effort through the control of their thoughts and emotions. Furthermore, by establishing goals for performance and interim goals throughout a performance, an individual can constantly experience progress and re-energize their efforts as the achieve each interim goal. The P.A.C.E. program encompasses a multitude of MST and performance psychology

[93] Rath, 22.

concepts that build upon each other and provide individuals and the team a framework to establish performance standards and expectations.

Decompress is the second "D" described in Dr. Jim Afremow's article in *Olympic Coach Magazine,* and is especially vital to the recovery of an athlete, Soldier, leader, or team. During decompression the individual(s) allow their mind to relax which, in turn, leads to the body resting and recovering post-event.[94] While this does not pertain to the sustained effort during execution, it directly related to the time required to recover and prepare for the next event. This step is vital to building capacity for future efforts and an important component of one's ability to sustain effort.

Lastly, the "Dominate" step to the "Three D's" was a direct lead into event preparation, setting the stage for success, and sustained effort throughout an event or series of events. As an individual prepared to dominate they sought improvements identified during the debrief stage, adjusting nutrition, physical health and training, and mentally setting the stage for their next event.[95] During the "dominate" phase, the individual built confidence, realized potential yet untapped, and built the mental capacity to sustain effort for the duration of the next event.

The concept of the "Three D's" summarized five components necessary during preparation for future competitions:

1. Set your goals high and clarify what it will take to get there.

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[94] Afremow, 15.

[95] Ibid., 16.

2. Visualize a positive performance and picture the ideal steps for achieving the winning result.
3. Flex your confidence muscles by acknowledging your strengths and recalling past successes.
4. Focus on the task at hand to the exclusion of all else.
5. Stay in love with your sport by always training with purpose and passion.[96]

These components highlighted specific MST aspects pertaining to sustaining effort during competition in addition to the focus on preparation. Goal setting provided specific areas to focus effort and attention during the competition. Confidence provided the individual or team the drive and assertion that they are capable of continuing performance throughout the event. Focus was a specific MST component related to attention control, concentration, and arousal (activation) necessary to control energy and direct it where required.

Requirements and Training Audience

The USOC displayed a large investment in mental skills training. The organization maintained a staff of professionals in performance psychology for training athletes to maximize the power of the mind. Secondly, the organization developed programs that promote coaches learning to implement MST within their team's training. These steps allowed for the time necessary to execute mental skills training to be allocated. The USOC provided experts in the field of performance psychology, trained

[96] Afremow, 16.

leaders (coaches), and allotted time for training athletes setting requirements to establish MST programs.

The USOC performance psychology and mental skills training capabilities were quite vast. The organization could train both coaches and athletes, publish works associated to MST, and influence the competitive sports arena with tested theories and practices for sharpening their competitors' mental capacity to compete. A key attribute of the USOC's mental skills training program was its ability to generate published theories and practices. The USOC was an excellent model for how to leverage applied sports psychology in such a way to bear a positive impact on the members of its organization.

Table 2. USOC Case Data

MST	Requirements	Time	Individual	Team
Perception -Self-Talk -Feelings -Emotional Control -Goals Activation -Physiological Arousal -Mindfulness Concentration - Focus Execution Debrief Decompress Dominate -Confidence -Visualization (Imagery)	-Coach Training -Sports Psychologist one-on-one training	Allotted for a coach, athlete, and team training on a consistent basis.	Olympic Athletes Coaches	Coaches are trained for managing individual and team mental training

Source: Created by author. Note: This table highlights the mental skills training components identified in the case, the requirements to train identified in the case, the time required to execute the training, and the individuals or groups (teams) trained.

CSF-PREP

The Army's Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program (CSF-PREP) was the primary means to deliver MST to Soldiers since 2006, although it existed under different names.[97] As a new program within the Army, the CSF-PREP was still in the midst of building capacity for training mental skills across the Army. As of 2017, there were currently 12 installations across the United States with CSF-PREP training facilities.[98] The CSF-PREP training focused on six specific mental skills training components:

1. Mental Skills Foundations
2. Building Confidence
3. Goal-setting
4. Attention Control
5. Energy Management
6. Imagery[99]

Of note, energy management, confidence, and attention control specifically relate to sustaining effort.

[97] Hammermeister, Pickering, and Lennox.

[98] Ibid.

[99] Ibid.

MST Elements within CSF-PREP

The Army CSF-PREP program described confidence as a result of how one thinks, what one focuses on, and how one reacts to events experienced in life.[100] For comparison, the previous definition used to describe confidence by Dr. Williams in this research was, "an unshakeable belief in your ability to achieve your goals or a mindset." Both definitions acknowledge that confidence is a perception owned by the individual. As it pertained to sustaining effort, confidence was a building block to establishing the perception (belief) that one can accomplish the task, mission, or goal. This belief enabled the individual to reduce distractions and attend to the necessary components of their task to achieve success.

Attention control and Energy management directly interacted with each and enabled one to sustain effort throughout an operation. First, attention control provided individuals with an understanding of how attention works and provide practical techniques for controlling attention to achieve greater focus, concentration, and presence at the moment (mindfulness).[101] The elements of attention control directly impacted energy levels and the ability to sustain effort.

Energy management taught individuals to build, sustain, and restore high levels of personal energy while minimizing the negative effects of stress.[102] Understanding the relationship between thoughts, feelings, and emotions drove physiological states.

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[100] Hammermeister, Pickering, and Lennox.

[101] Ibid.

[102] Ibid.

Awareness and self-regulation mitigated the psychophysiological response created by the effects of the environment. The realized connection between mind and body may have been one of the most important aspects of energy management and required biofeedback to measure the effectiveness of self-regulation techniques such as self-talk, mindfulness, and reframing. Biofeedback was suggested as one of the most powerful techniques for enhancing arousal regulation in athletes.[103] It enables the athlete to increase voluntary control over physiological processes to improve self-regulation and enhance performance.[104]

Requirements and Training Audience

The Army delivered MST to individuals and units on the bases that have CSF-PREP establishments. Fort Hood, TX Soldiers, were able to receive performance enhancement training from CSF-PREP trainers to prepare for team military skills competitions.[105] Soldiers at Joint-Base Lewis-McChord, WA received MST training from CSF-PREP trainers over the course of a couple of days to improve team performance when establishing a fire-point and executing fire missions.[106] CSF-PREP provided units

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[103] Jason Cholewa, "Biofeedback for Improved Performance," *Jason Cholewa - Assistant Professor of Exercise Science at Coastal Carolina University* (blog), April 22, 2013, https://jasoncholewa.com/2013/04/22/biofeedback-for-improved-performance/.

[104] Ibid.

[105] David Hauk, "CSF-PREP Helps Soldiers Mentally Prepare for Their Jobs," *Fort Hood Sentinel,* March 15, 2012, http://www.forthoodsentinel.com/living/csf-prep-helps-soldiers-mentally-prepare-for-their-jobs/article_edd4d4a6-9d0b-554a-bff1-a63161ddc835.html.

[106] Gaylord.

on the installations that CSF-PREP facilities exist with a unique training opportunity not yet available to all units across the United States.

The time and facility requirements varied regarding requirements to train MST in the Army but, the effectiveness of the training remains positive. Valerie Alston, a CSF-PREP performance enhancement specialist, stated, "When they take the skills, and they use them, and they apply them, they almost always see the benefit."[107] Another CSF-PREP performance enhancement specialist, Kelly Jones, stated, "That's not how it works. It has to become a lifestyle," regarding applying mental skills training.[108] This statement implied that consistent training and application of mental skills were essential to successful MST programs.

The Army's CSF-PREP training grew over time dating back to its origins at the United States Military Academy's (USMA) Center for Enhanced Performance (CEP). The program additionally had the support of senior Army leaders as an effective means to improve Soldier performance. An issue that the research identified is that Army Doctrine lacked literature that describes and supports methods for training in mental skills unlike the emphasis and literature to support training in leader development and physical training. Additionally, the program was not yet robust enough to be available across the total force to provide enough access to all units that could benefit, or require, additional training to augment physical and leadership training. The CSF-PREP also seemed to lack a publication capability such as what the USOC can produce. This type of publication

[107] Gaylord.

[108] Ibid.

capability enables the program to highlight programs available as well as provide a mode to publish on-going research and program development. Lastly, the combination of Army Centers for Enhanced Performance (ACEP) with Comprehensive Soldier Fitness (CSF) diluted the program's focus on specific MST to improve performance and, in essence, the improvement of Soldiers' ability to sustain effort during operations.

Table 3. CSP-PREP Case Data

MST	Requirements	Time	Individual	Team
Confidence Goal Setting Attention Control -Mindfulness -Focus -Concentration Energy Management Imagery	12 total sites, at Army bases across the U.S.	10-week training with 3-4 20-minute MST sessions per week.	Available to any Soldier	Fireteam, Artillery Gun Crew

Source: Created by author. Note: This table highlights the mental skills training components identified in the case, the requirements to train identified in the case, the time required to execute the training, and the individuals or groups (teams) trained.

WCAP/TSET

The United States Army has had the good fortune to own an additional organization with mental skills training (MST) capability. The World Class Athlete Program (WCAP) supported Olympic caliber athletes with training, coaching and MST via their Total Soldier Enhancement Training (TSET) program. Given the high level of training that WCAP Soldier-athletes received, they were able to travel to Army units and deliver MST in the form of mobile training teams (MTT). The mobile training teams adhered to CSF-PREP concepts and augmented the CSF-PREP ability to deliver MST to units.

The WCAP funded TSET MTT consisted of 10 WCAP Soldier-athletes and provided a 2.5-hour MST session to an audience of 50-75 Soldiers.[109] The MTT could be requested by any unit that utilizes the WCAP TSET request for online at www.armymwr.com/wcap, or they could email a hard copy to the WCAP Training Noncommissioned Officer (NCO). The unit was also required to liaise with WCAP for arrangements, provide a facility of suitable size for the number of Soldiers to be trained, and a medic.[110]

The TSET MTT delivered their Level 1 training once the unit requested the training. The Level 1 training, nested with the six MST components focused on with CSF-PREP, started with a discussion introducing mental techniques and skills used for

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[109] U.S. Army MWR, "U_S__Army_WCAP_TSET_SOP.Pdf," U.S. Army, accessed January 26, 2018, https://www.armymwr.com/application/files/8915/0429/8502/U_S__Army_WCAP_TSET_SOP.pdf.

[110] Ibid.

achieving high levels of performance, self-awareness, self-regulation, the Growth Mindset (neuroplasticity), control, and the Thought-Performance Connection (thoughts-feelings/emotions-performance).[111] This discussion was followed by individual testimonies from the MTT and Soldiers in the audience to connect Soldier skills/tasks to MST elements such as motivation, attention control, confidence, and energy management.[112] The training session then moved on to a Physical Readiness Training (PRT) Warm-Up demonstration and execution by the group to simulate what a readiness routine looks like before "deep-diving" into each of the MST skills for the course.[113]

MST Elements trained in the WCAP TSET MTT

Mental Toughness encompassed the mind-body connection, effects of self-talk on physiology (activation), and shifting attention quickly between appropriate types of attention (broad/narrow/internal/external).[114] Broad attention is utilized, for example, by a quarterback when he drops back to make a pass and progresses through pass options when he scans for the open receiver, or when he steps under the center and reads the defense before calling a play. Narrow attention is the shift from broad as in when the quarterback selects his receiver and narrows his focus to throw the pass to where the receiver will be. External attention is the concept of attending to the environment around you similar to both of the examples for broad and narrow attention. Internal attention is

[111] U.S. Army MWR, "U_S__Army_WCAP_TSET_SOP.Pdf."

[112] Ibid.

[113] Ibid.

[114] Ibid.

when the individual focuses on themselves such as in controlling breathing, changing self-talk, or paying attention to physiological sensations such as the feel of the football in their hand before releasing the ball in the passing motion.

Attention Control was addressed with a specific focus on Cues and Refocus Techniques.[115] During the block of training, the Soldiers will experience a specified technique called A.I.R.[116] This was an original technique developed to facilitate the use of an MST technique the researcher found through the course of this study. Awareness (A) reflected the concept of recognizing mental, emotional, and physical indicators of a loss of focus.[117] A mental indicator of a loss of focus can be as simple as thinking about what your parents think of your performance while you're still competing. Emotional indicators could be frustration or fear during a competition that distracts you from the task at hand. Lastly, a physical indicator could be something as simple as being hungry.

Once an athlete becomes aware of the loss of focus, they Interrupt (I) by using a cue word or action to refocus themselves.[118] Athletes can be observed using this technique after a breakdown in their performance such as an ice hockey goalie skating out of the crease after allowing a goal. This cueing action is a method for wiping the goal out of their mind to allow the goalie to focus on making the next save. Many athletes use cueing actions in a routine manner throughout an event. For Soldiers, the action of

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[115] U.S. Army MWR, "U_S__Army_WCAP_TSET_SOP.Pdf."

[116] Ibid.

[117] Ibid.

[118] Ibid.

chambering a round as they exit a vehicle while on a combat patrol is an example of a cueing action that raises their alertness and focuses them on the objective on the ground.

After the athlete breaks the loss of focus, they Replace (R) the loss of focus with a cue word or phrase to direct attention back to what is most important at the moment.[119] An example of Replacement occurred in the movie "For the Love of the Game," when Kevin Costner's character, a baseball pitcher, caught himself distracted by the crowd and magnitude of the situation and used the phrase "Clear the Mechanism," to direct his attention back to executing the next pitch. It is important to note that both Interrupt and Replace, while similar given the use of cue words, phrases, or actions, they occur at different instances for different reasons.

The WCAP TSET program also addressed Energy Management and Deliberate Breathing. Soldiers are coached to control breathing using their diaphragm with rhythmic breathing.[120] This technique enabled the Soldier to focus thoughts on controlling a physiological process increasing their control and ability to slow their heart rate and conserve energy. While this drill feels effective, it was best measured using a bio-feedback device such as a heart rate monitor to measure the effectiveness of the controlled breathing.

The Soldiers receiving the Total Soldier Enhancement Training trained in Building Confidence with the use of Selective Interpretation and Readiness Routines.[121]

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[119] U.S. Army MWR, "U_S__Army_WCAP_TSET_SOP.Pdf."

[120] Ibid.

[121] Ibid.

A readiness routine helps maintain confidence by decreasing excessive anxiety.[122] Lacrosse goalies typically experience this in their warm-up sessions that occur before every practice and game. Each goalie is different. However, the shooter for the warm-up will progress through the same sequence of shots during the warm-up. This routine gets the goalie moving as he should and builds his confidence with each save. As the warm-up progresses, the complexity and velocity of shots increase so that by the end of the warm-up session, the goalie is experiencing the game like shooting and building confidence with each save.

During the training, Soldiers were also taught to generate motivation by integrating imagery effectively using Perspective, Vividness, and Control.[123] Perspective, as it applied to MST, was the interrelation in which a subject or its parts are mentally viewed.[124] The Soldier was coached to gain awareness of how they are viewing their performance or a situation and what dialogue is occurring in their mind so they can control it. This technique was also the building block generating powerful imagery. Imagery is the use of all of one's senses to create or re-create an experience in the mind.[125] Imagery may apply in many ways to enhancing performance to include sustaining effort. One can use a phrase or cue to help generate the desired imagery. In the

[122] McGinn, 145.

[123] Ibid.

[124] Merriam-Webster, "Perspective," accessed January 29, 2018, https://www.merriam-webster.com/dictionary/perspective.

[125] Williams, 307.

case of sustaining effort, perhaps, one could use the phrase, “I am a machine,” to defeat the sensation of feeling tired and push through a wall during a long race or event.

The next component covered in the TSET training for motivation was vividness. Vividness is the act of producing a strong or clear impression of the senses.[126] Just as with perspective, vividness was an essential building block to creating imagery that, within the TSET curriculum, was for generating motivation. Finally, controllability, the last building block for creating motivational imagery, trained the Soldier to build their imagery around only the aspects that they can control such as their performance, thoughts, feelings and so on.

Requirements and Training Audience

The WCAP TSET MTT was very clear about the requirements for conducting training and the training audience. First, the unit that wishes to receive the training had the responsibility to seek out the WCAP TSET MTT and submit a formal request for the training. This initiation was unique to the WCAP TSET MTT as it was the only case that required a request for MST. Once the unit submitted the request, it then had to secure a facility of suitable size to host the training. The WCAP TSET MTT required that a unit prioritize 50-75 Soldiers to receive the training. If the unit wanted more Soldiers trained, the MTT would execute up to four 2.5-hour training sessions over the course of a 24-hour period.[127] The WCAP TSET MTT did not address team MST training. However, the

[126] Merriam-Webster, “Vividness,” accessed January 29, 2018, https://www.merriam-webster.com/dictionary/vividness.

[127] U.S. Army MWR, “U_S__Army_WCAP_TSET_SOP.Pdf.”

individual concepts introduced during the training session are transferable to team efforts within the Army. One other requirement for the WCAP TSET MTT was that the unit provided a medic due to the execution of physical readiness training warm-up and some modern army combatives exercises executed during the training.

Over the course of a 2.5-hour training period, the WCAP TSET MTT introduced Soldiers to a great deal of MST elements. The program provided a baseline understanding of MST elements and provided examples and scenarios for their application. The unit receiving the training owned the responsibility for including MST in future unit training to anchor the WCAP TSET MTT curriculum within their unit.

Table 4. WCAP/TSET Case Data

MST	Requirements	Time	Individual	Team
Self-awareness Self-regulation Thought-Performance Connection Mental Toughness Self-talk Attention Energy Management Confidence Motivation Imagery Perspective Vividness Controllability	The organization requests ten-man MTT. Facility (classroom or gym of suitable size) Medic	2.5-hour training session	50-75 Soldiers	None

Source: Created by author. Note: This table highlights the mental skills training components identified in the case, the requirements to train identified in the case, the time required to execute the training, and the individuals or groups (teams) trained.

Cross-Case Analysis

MST Skills Related to Sustaining Effort

The USOC, CSF-PREP, and WCAP/TSET mental skills training programs incorporated a breadth of performance psychology concepts for use in improving the performance of the individuals and teams in their respective organizations. Energy management, or physiological arousal, was a common theme that emerged associated with sustaining effort. The mental skills training elements common to energy management (physiological arousal) discussed in two or more cases were:

1. Control (Control Training), Controllability
2. Self-Talk
3. Confidence
4. Imagery
5. Concentration, Attention, or Focus
6. Goals, Goal-Setting

The above-listed MST elements, or concepts, were all interconnected and facilitated energy management during the execution of an event or leading up to the event.

Control was common to all three cases referenced in this study. This MST component specifically referenced the individual's ability to recognize and alter thoughts and emotions to have a direct impact on their behaviors. Additionally, the implementation of some MST skills such as self-talk, imagery, or focus enabled the individual to control physiological arousal (manage energy). In each of the three cases, control played a significant role in the programs or practices implemented by each organization for training MST and enhancing performance.

Self-Talk was a specifically referenced MST element in both the USOC case and the WCAP TSET case. The WCAP TSET case referenced self-talk regarding its effects on physiology specifically. The recurrence of this reference implied a direct correlation between self-talk and energy management, or one's ability to sustain effort. The USOC specified self-talk in the P.A.C.E. training methodology regarding perception. The perception component of P.A.C.E. similarly referred to the thoughts-feelings-behavior connection enabling control of physiological states. Physiological arousal addressed in the activation component of P.A.C.E. was important to sustaining effort but, it was noteworthy that all components of the P.A.C.E. philosophy enabled each other sequentially.

Confidence was a consistent MST element found in all three cases. It was described in the USOC as a part of the "dominate phase" for the "Three D's. Both the CSF-PREP and WCAP TSET program also discussed confidence as an MST skill associated with readiness, or pre-performance routines as well as enabling performance without analysis or extra thought to maintain energy levels. Confidence, in all three cases, was described as the thought, belief, or trust in one's ability to achieve their goal.

Imagery was a common component in all three cases researched. The WCAP TSET MTT associated imagery practices with motivation as well as building task competency and confidence. The CSF-PREP also referenced imagery as a means to enhance task performance and learning. The USOC referenced visualization, likened to imagery, as a means to see one's performance before execution as a component for a pre-performance routine in "The Three D's." There were multiple ways that imagery could positively affect performance through the thoughts-feelings-behaviors connection.

All three cases referenced training concentration, attention, or focus on their MST programs. The emphasis on these three components directly correlated to energy management regarding ignoring distracting thoughts, or stimulus unrelated to the performance of the individual's task, goal, or skill execution. In each of the cases, MST programs highlighted the importance of controlling these mental components associated with performance to achieve higher levels of performance.

Goals or goal setting emerged common in all three cases as well. All programs studied discussed the implementation of performance goals for training and during execution, or competition to maintain focus, motivation, confidence, or other mental components of an individual's performance. Performance goals had a direct correlation to other MST components and enabled energy management contributing to one's ability to sustain the effort.

Requirements to Implement MST Programs

A staff of trained performance enhancement specialists was common in both the USOC and CSF-PREP cases. A unique aspect of the USOC case was that there was a large focus on training coaches to implement MST within the training programs they develop for their athletes and teams. The WCAP TSET case does not specify the use of a performance enhancement specialist but, the use of Olympic caliber athletes with specialized training to deliver base-line MST by the WCAP TSET standing operating procedures was appropriate.

All programs required some amount of time to execute training. Unfortunately, there was no uniform specified time. The USOC case never detailed a specific amount of time but, rather implied that MST must be a constant component of Olympic athlete

training programs. The CSF-PREP training also did not specify a time requirement for training. Performance enhancement specialists spent an unspecified number of days with Soldiers and units to deliver MST.[128] There was, however, research executed that spanned a 10-week period in which Soldiers received MST for 20-minute sessions 3-4 times per week.[129] This study noted that the Soldiers that received MST performed better on Soldier tasks at the conclusion of the study.[130] The WCAP TSET MTT was the only case that specified a set time for training. This program required one 2.5-hour session for an audience of 50-75 Soldiers.[131] There was no measure of effectiveness published by the WCAP TSET program to quantify the success of the program.

MST Training Audience

In each of the cases, there were different audiences discussed as targets for MST. In the USOC athletes and coaches were trained in applying MST for performance improvement. The emphasis that the USOC places on training coaches to apply MST to their coaching strategies was noteworthy. This focus enabled constant application of MST, to make it a common component of each team and athlete's training regimen.

The Army's CSF-PREP didn't particularly note a focus on training leaders for incorporating MST into daily training. Rather, the performance enhancement specialists in CSF-PREP focused on enabling awareness of MST elements contained in the everyday

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[128] Gaylord.

[129] Hammermeister, Pickering, and Lennox.

[130] Ibid.

[131] U.S. Army MWR, "U_S__Army_WCAP_TSET_SOP.Pdf."

tasks that Soldiers complete. The CSF-PREP seemed to provide more of an MST education rather than specified training. While the performance enhancement specialists could train individuals on MST skills, there was a limited capacity for throughput.

The WCAP TSET initiative followed suit regarding MST skills with the CSF-PREP in its MTTs. The 2.5-hour introductory training provided by the TSET MTT built a launch pad for MST in Army units but, did not provide a focus on unit leadership for developing MST methods for implementation within unit training schedules. The WCAP TSET program provided units with initial training, or a doorway to expand MST within their organization on their own.

What Amount of Time Should Be Prioritized for this Training?

The USOC immersed its coaches and athletes in MST as a significant component of elite training. USOC coaches and athletes were arguably conducting MST as often as physical and technical training in their specific sport. The study conducted by CSF-PREP showed that a routine of MST improved performance. It may be permissible to assume that for the Army to implement effective MST within units, it will require a minimum of leader training to enable inclusion of MST in unit training. If MST were to gain equal favor to other military training required for performance in combat, the doctrine would need to be developed to support MST models within unit training plans.

The WCAP TSET MTT program covered an immense breadth of psychological components to performance in an exceptionally short amount of time. The volume of concepts introduced during the 2.5-hour training period did not seem to allow for significant depth to be covered in the application of the techniques as well the repetitions required to build competence in the application of MST. The brevity of the MTT made it

the unit's responsibility to implement an on-going MST program and consequently, reduced the effectiveness of the training. Units required subject matter experts with a sustainable relationship to the unit to maintain a viable program for the MST concepts introduced by the MTT to bear a significant impact.

Summary

The three individual cases described in this chapter displayed how each organization implements MST programs in support of the enhanced performance of their personnel and teams. Some of the cases proved to have far more robust programs with proven techniques and publications to support the progress they achieved in the realm of MST. Other programs were in their infancy with some empirical proof of success but, a significant lack of capability to deliver sufficient MST.

There was no specified techniques or training dedicated toward specifically sustaining effort and any of the three cases. All cases addressed similar or identical mental skills training (MST) concepts and techniques. Great disparity existed in the amount of time devoted to training; leader focused training, individual training, and team training. Some cases were clearer about requirements to train (TSET) while others did not describe special facilities or specific trainers (CSF-PREP and USOC). Both USOC and CSF-PREP did specifically mention the use of biofeedback as a method necessary for measuring physiological arousal about energy management.

Implementing MST to manage energy or physiological arousal emerged as a common theme closely related to sustaining effort. Some of these concepts were training for understanding while others were training for implementation in the execution of sport,

or another activity. All were common in two to three of the cases studied and bore implications on one's ability to sustain effort during a performance.

In the following final chapter, chapter 5, the researcher will present specific conclusions about the primary research questions, "What are effective MST that the Army can implement to enable Soldiers and Leaders to maintain high levels of effort during operations?" Within chapter 5, the researcher will conclude what MST is effective for sustaining effort and make recommendations for successful implementations of MST programs within the Army. The chapter will also address recommendations for future research related to the sustainment of effort.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

> The mind is the limit. As long as the mind can envision the fact that you can do something, you can do it, as long as you really believe 100 percent.
>
> —Arnold Schwarzenegger, Brainy Quote

Overview

This chapter answers the primary research question, "What is effective mental skills training (MST) that the Army can implement to enable Soldiers and Leaders to sustain effort during operations?" The researcher will discuss what MST is effective for sustaining effort and address the implications for successful implementations of MST programs within the Army. The researcher will also address recommendations for future research related to the sustainment of effort in this chapter. Throughout this study, the researcher outlined the problem to be addressed, conducted a review of literature associated to the problem statement, introduced the research methodology applied, and conducted an analysis of three individual cases in which organizations utilized MST to improve individual and team performance.

When the platoon leader of the route clearance patrol departed his combat outpost with his platoon in July 2012, he could not have known the details of every event that would occur over the next 52 hours. He and his Soldiers were fortunate enough on that mission not to have suffered any significant casualties despite the intense fighting with insurgent fighters and multiple IED strikes encountered during the mission. The platoon was also fortunate to have multiple combat enablers leveraged toward their mission,

enabling them to complete the mission successfully. One enabler that the platoon was unable to leverage, however, was mental skills training.

There were an ebb and flow of intensity and danger throughout the mission. During the low-intensity periods, the highest level of danger occurred. Soldiers gave in to fatigue, allowed their minds to wander, and lost focus on the task. It was not until an IED strike would occur or the enemy initiated direct fire contact that the Soldiers' within the platoon were able to maintain full attention on the mission. A squad leader, at one point, s stated, "found one," over the radio after an IED detonated sending the mine-rollers attached to the front of the vehicle up and over the truck damaging the fifty-caliber machine gun. This instance is an example where an individual did not maintain attention control, focus, or mindfulness during the operation, and in turn, the Soldier lost control of his effort.

The specific route and location of the route clearance patrol were known for how dangerous it was, as well as the ferocity of the enemy fighters in that area. After completing the first half of the patrol to the combat outpost (COP) located near a village district center, the platoon leader requested to rest overnight at the COP. He could not shake his focus on the fatigue and remaining distance he and his platoon would have to travel for the return trip. The platoon leader could not control his self-talk and allowed his fatigue to drive his decisions. The battalion commander had to successfully reframe the situation for him before he could motivate himself and his platoon to continue the mission. While the patrol could be viewed as a success because the platoon accomplished the mission, and suffered no major casualties, there is an opportunity to improve similar platoons' preparation for similar scenarios in the future.

The Soldiers in the platoon did not have techniques in place to maintain their focus for the entire duration of the mission. They did not know how to prevent distracting thoughts from draining their focus and energy levels during the mission. The platoon leadership did not have reframing or cueing phrases to keep the platoon members concentrated where they needed to be. A significant base in MST may have meant the difference between returning to their base with fully functioning equipment or not. Imagine if every Soldier in the platoon knew how to control their self-talk, was aware of their pre-mission routine's importance in their mental focus or were able to set interim goals throughout the mission to keep them motivated and focused for the entirety of the mission.

Conclusions

The mental skills training (MST) that can be implemented within the Army to enable Soldiers to sustain effort are:

1. Control (Control Training), Controllability
2. Self-Talk
3. Confidence
4. Imagery
5. Concentration, Attention, or Focus
6. Goals, Goal-Setting

The mental skills listed above appeared in two or all of the cases studied and had specific references associated with energy management of physiological arousal. Directing these specific skills toward sustaining effort may enable Soldiers and Leaders to perform at a higher level, for a longer duration throughout an event.

The essential requirements for an impactful MST program included trained performance enhancement specialists or sports psychologists to deliver training to Soldiers and leaders. After unit personnel receives training from program subject matter experts, the leaders could implement MST into their unit training plan. A more robust unit training capability would exist in the form of providing biofeedback during MST sessions to re-enforce effect MST skills.

The time required to establish and maintain an effective MST program was indefinite. This research showed that the most successful MST programs exposed individuals to consistent and lasting MST sessions, except the World Class Athlete Program (WCAP) Total Soldier Enhancement Training (TSET) Mobile Training Team (MTT) which only delivered a 2.5-hour block of instruction. The concept of MST as a lifestyle or component as significant as physical training suggested that MST was not a "fire-and-forget" one-time training event. Repetition and consistency emerged as the keystone to successful MST programs. Once a unit receives baseline mental skills training, the art of weaving sustainment training with existing training may provide the appropriate amount of time to keep MST consistent within the unit.

In all three cases, MST was proven to have a positive impact on individual and team performance. However, there was not a specific focus on the singular aspect of sustaining effort. The research showed that MST was a full package type training that required a baseline education for the individual, regarding psychological interventions before launching into an MST program for overall performance enhancement. Drilling down to sustaining effort could be important for personnel in the Army because in most cases, the nature of Army operations tend to last longer than a typical sporting event.

Further implementations and research of mental skills training specific to Army personnel may be required to cement the practice of MST in the Army.

Implications

After completing analysis of three cases for MST programs, the researcher concluded that the Army may consider changes or additions to its current MST programs and practices. First, if mental skills training is going to be an effective component of Solider, leader, and unit performance, it should be a part of the Army's culture. This may require an overall change to the current Army culture for MST to have a widespread impact on performance. Next, if the Army wants to facilitate unit level training in mental skills, there could be a leader training program for company grade officers that facilitates the inclusion of MST in unit training plans. Possible time for junior officer training may be during the Basic Officer Leader Course (BOLC) and/or Captain's Career Course (CCC). Training in MST application for non-commissioned officers can also be considered during the Advanced and Senior Leader Courses (ALC, and SLC) for additional reinforcement and inclusion in platoon and squad level training.

Additionally, similar to physical training, the development of doctrine to support and outline mental skills training implementation at the unit level would support MST throughout the Army. The 2012 publication by MAJ Travis Tilman from the U.S. Military Academy's Center for Enhanced Performance specifically highlighted the importance of controlling physiological arousal, focus, self-talk, concentration, and mental preparation for route clearance units.[132] This publication was a step in the correct

[132] Tilman.

direction for codifying mental skills training concepts, potentially leading to new doctrine. Due to the timing and limited release of this document, the route clearance platoon in Afghanistan did not have access to it. This type of publication, however, could potentially launch unit level MST programs into regularity in unit training plans and applied to the concept of sustaining effort during operations. This document also had potential to be adapted for use in other units across all formation types in the Army as the concepts are universal. The Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program and the Mission Command Center of Excellence (MCCoE) are well suited to act as the proponent for writing this doctrine with the Combined Arms Center (CAC) approving the doctrine for publication. The Mission Command Center of Excellence is the proponent for Army Warfighting Challenge number nine, "Improve Soldier, leader and team performance."[133] Additional input from the CEP at West Point may potentially assist in the development of such doctrine as the personnel from that center initiated the programs that CSF-PREP spawn from.

After conducting this research, the researcher concluded that one avenue for mental skills training would not be appropriate for growing robust MST capabilities within the Army. Self-development may not be a very likely avenue for successful MST programs. Primary in the USOC, the research showed that individual athlete, coach, and the team all required mental skills training to create an environment in which MST could permeate and display success. The implications for the Army in this regard indicate that

[133] Army Capabilities Integration Center, "ArmyWarfightingChallenges - Army Capabilities Integration Center," accessed April 11, 2018, http://www.arcic.army.mil/initiatives/armywarfightingchallenges.

the institutional and operational pillars provide the most likely avenues for success in implementing mental skills training.

Recommendations for Future Research

After completing this research, the researcher found that a study that utilizes bio-feedback to measure the effectiveness of MST on performance, and physiological arousal may be appropriate follow-on research. A study of this type would enable the researcher to compile quantitative data that shows actual measurements associated with physiological arousal. Quantitative research would help to determine the actual effectiveness of psychological interventions (MST) for controlling physiological arousal and, in turn, energy management.

An experimental study that includes a control group and test group of Army units spanning a full training cycle to include a culminating long duration (days-weeks) training event or deployment would also help determine the effectiveness of MST for sustaining effort as well. The experimental study could still include biofeedback data collection in addition to performance measurement of unit tasks, and personal interviews to measure perceptions of performance and physiological state during operations.

Summary

If every Soldier in the route clearance platoon knew how to control their self-talk, was aware of their pre-mission routine's importance in their mental focus, or were able to set interim goals throughout the mission to keep them motivated and focused for the entirety of the mission, there may have been some different outcomes. Vehicle crews could have developed cueing words or phrases to help each other maintain focus.

Individual Soldiers may have been able to develop self-talk dialogues that brought their attention away from fatigue and back to their mission tasks. If the platoon leadership was aware of methods for reframing, they could have tactically addressed the platoon with thought altering cues or information to bring the Soldiers' physiological state to a higher level of activation.

The research conducted in the study found that mental skills training largely had a positive impact on performance. The next step may be to discover the which specific MST components could be used to benefit Soldier, leader, team performance followed by the development of programs to enable platoons such as the route clearance platoon in Afghanistan to complete similarly challenging missions with even better results.

This chapter answered the primary research question of, "What is effective mental skills training (MST) that the Army can implement to enable Soldiers and Leaders to sustain effort during operations?" The researcher highlighted his conclusions from the literature and analysis of three cases in a cross-case analysis and discussed the implications of those conclusions as they relate to the Army. Lastly, the researcher highlighted possible future studies that can potentially further confirm, or deny, the effectiveness of MST of sustaining effort.

Applying MST to the Army Warfighting Challenge of improving Soldier, leader, and team performance has a foothold in the Army evidenced by programs such as West Point's Center for Enhanced Performance (CEP), the Comprehensive Soldier Fitness-Performance and Resilience Enhancement Program (CSF-PREP), and the WCAP TSET program. There have been glimmers of momentum for the application of mental skills training in higher echelon Army leadership as seen in dialogue from leaders like Generals

Casey and Schoomaker but, has not fully progressed to the lower echelons.[134] The incorporation of mental skills training seems to continue to have small wins where CSF-PREP centers are located. A condensed version of mental skills training was implemented for Basic Combat Training Soldiers to train psychological interventions after the completion of a successful mental skills training study at Fort Jackson in 2015.[135] Still, further development of MST programs at the small unit level could occur over time. The application of MST to sustaining effort also requires further development and future research will show how effective it can be in improving performance in the environments that Soldiers endure both in training and combat.

[134] Hammermeister, Pickering, and Lennox.

[135] David Vergun, "Mental Skills Training Improving Soldier Performance," U.S. Army, accessed April 11, 2018, https://www.army.mil/article/153231/mental_skills_training_improving_soldier_performance.

APPENDIX A

AUTHOR BIOGRAPHY

MAJ Nicholas J. LoRusso is an Engineer Officer in the U.S. Army with a Bachelor's of Science degree in Psychology from the United States Military Academy. He received six years of directed mental skills training between four years as an intercollegiate athlete and in preparation for attendance to the U.S. Army Advanced Land Navigation Course.

He served combat deployments in both Iraq and Afghanistan in the roles of platoon leader, company executive officer, battle captain, and company commander. Prior to his attendance to the Command and General Staff Officer's College, he served as an instructor and course director in the Department of Military Instruction at the United States Military Academy.

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