

.....
THE JOURNAL OF PERFORMANCE PSYCHOLOGY
.....

CENTER FOR PERFORMANCE PSYCHOLOGY
THE NATIONAL UNIVERSITY SYSTEM



ISSUE THREE

**MILITARY APPLICATIONS OF PERFORMANCE
PSYCHOLOGY METHODS AND TECHNIQUES:**
AN OVERVIEW OF PRACTICE AND RESEARCH

MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH

Jon Hammermeister, Ph.D.^{1,2}

Michael Pickering, Ph.D.¹

MAJOR Andrew Lennox, MEd¹

*Comprehensive Soldier Fitness:
Performance and Resilience Enhancement Program
United States Military Academy, West Point, NY¹*

Eastern Washington University²

Corresponding Author:

Jon Hammermeister
Eastern Washington University, PEC 200, Cheney, WA 99004
Jon.Hammermeister@us.army.mil



MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

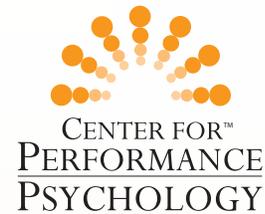
AN OVERVIEW OF PRACTICE AND RESEARCH



ABSTRACT

This manuscript provides examples of military applications of performance psychology, with special emphasis placed on current and historical methods within the U.S. Army. The physical and psychological demands on Soldiers and athletes is compared and highlighted providing the rationale for why performance psychology techniques typically used in athletic populations may generalize to the military. The U.S. Army's Comprehensive Soldier Fitness Performance and Resilience Enhancement Program (CSF-PREP) is an organization which currently delivers these methods and techniques to Soldiers. Examples of the CSF-PREP curriculum and research initiatives are provided and discussed.





MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH

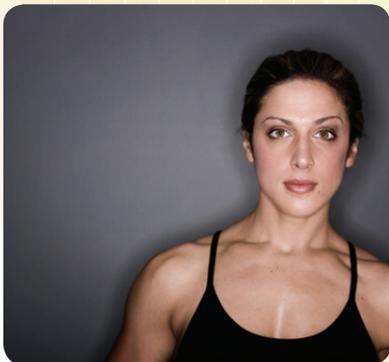
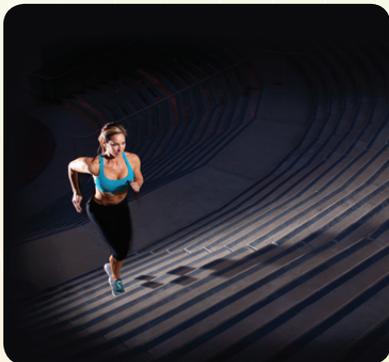


MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES: EXAMPLES OF PRACTICE AND RESEARCH FROM THE U.S.ARMY

Mental toughness is a term that is used widely in performance psychology contexts, is highly sought after, is usually apparent to those who see it in action, and yet has been very difficult to validate. It has its roots in the sport psychology literature, and is typically used to identify performers who possess a broad constellation of psychological skills which allow them to perform well under pressure. Some of the skills associated with mental toughness include the ability to be self-motivated, maintain confidence and focus under pressure, be in control of emotions, and consistently perform close to one's potential (Jones, Hanton & Connaughton, 2007; Jones, Hanton & Connaughton, 2002;). This definition can take on very different meanings dependent on the context. Consider the following quotes:

"Currently, my dream is to play on the senior (PGA) tour. Golf is a passion of mine and true test of mental toughness" (USA Today, October 15, 2010). Retired baseball pitcher John Smoltz.

"To me, mental toughness is gearing yourself up to go on a patrol in Afghanistan, outside the wire, the day after you lost a member of your squad to a sniper....and you know the sniper is still out there." Lieutenant Colonel Greg Burbelo (personal communication).





MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



If we utilize the definition provided by Jones and colleagues (2007; 2002) both of these examples fit the bill. The consequences for failure are clearly much higher for LTC Burbelo than for John Smoltz, however, if you have ever stood over a 4-foot putt with a *LOT* of money on the line it may have *FELT* like a life and death situation. In fact, pro golfer Lee Trevino once said that the definition of pressure is when you have bet 10 dollars of your own money on a match – and you only have 5 in your wallet.

As we all know, performance psychology techniques are widely used in sport settings - like golf – and their influence on performance is well known. However, an important question remains for both practitioners and researchers in performance psychology: that is, are these techniques generalizable to *VERY* high stakes performance situations that are found in the military, even the highest stakes possible as described by Lieutenant Colonel Burbelo?



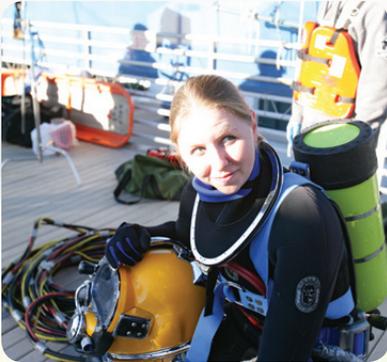
Let's begin this exploration by examining what sport and military performers have in common: First, you may be surprised to learn that many of our Olympic sports evolved from basic military tasks (Goodman, 2008). Indeed, the ancient Olympic Games were modeled after the skills of the ideal Soldier of that time. In the modern era of the Olympics, some of the fundamental aspects of warfare are still found in sport competitions such as marksmanship (e.g., rifle, pistol, archery), events that require overcoming physical defenses (e.g., pole vault, high jump, steeplechase), competitions where navigation is key (e.g., orienteering, sailing), and in hand-to-hand combat (e.g., boxing, wrestling, judo). The modern pentathlon consists of an equestrian event, pistol shooting, a 200 meter swim, fencing, and finishes with a cross-country run. Baron Pierre de Coubertin (the founder of the modern Olympic Games), created the modern pentathlon to simulate the experience of a 19th century cavalry Soldier behind enemy lines: the pentathlete must ride an unfamiliar horse, fight with a pistol and sword, swim, and run.





MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



Likewise, one can find similarities between team sports (e.g., rugby and American football) and small unit-combat operations including the need for individuals to perform in a complex and dynamic environment, utilize a combination of perceptual, cognitive, and motor skills, obtain a tactical advantage over opponents, act upon partial or incomplete information that evolves over time, operate under stressful circumstances, and work effectively both independently and as a team (Ward, 2008).



While some may view sport and athletic competition as trivial domains when compared to the life-and-death situations faced by the modern-day Soldier, it seems clear that Soldiers and sport performers do share some performance-related psychological challenges. Indeed, the acknowledgment of these similarities led former Chief of Staff of the Army George Casey to define Soldiers as “tactical athletes” (Army Times, April 2, 2011). Given the likeness between sport and military performers it follows that “tactical athletes” could benefit from the same types of mental techniques and strategies used to enhance athletic performance (Tennenbaum, Edmonds & Eccles, 2008).



The Army has acknowledged the potential benefits of Mental Skills Training (MST) with Soldiers and has taught these skills on a small scale since the early 1990’s. The Center for Enhanced Performance (CEP) was established in 1993 at the United States Military Academy (USMA) at West Point, NY by merging the Performance Enhancement Center, created in 1989, and the Reading and Study Skills program, created in the 1940s. The CEP focused on developing Cadets to achieve excellence in the classroom, on the athletic field, and in military training by combining the principles of sport and performance psychology with academic performance strategies. Subsequently, graduates who assumed leadership positions within the Army began reaching back to request CEP training for their current units. Between 1999 and 2004, the CEP responded by sending out Mobile Training Teams (MTT) to meet the demand in the field. An immediate increase in the demand proved this strategy to be effective, but quickly outstripped the available resources



MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



at USMA and thus became unsustainable. In 2004, GEN Peter Schoomaker, then Chief of Staff of the Army (CSA), recognizing the demand and need for mental skills education, directed the CEP to develop an Army-wide program capable of meeting the evident training gap within the Army.

In 2006, the first Army Center for Enhanced Performance (ACEP) site opened at Ft. Bragg, NC. As the initial ACEP program made a positive impact, eight additional sites were established at Ft. Jackson, SC, Walter Reed Army Medical Center, Washington, D.C., Joint Base Lewis-McChord, WA, Ft. Sam Houston, TX, Ft. Gordon, GA, Ft. Hood, TX, Ft. Knox, KY, Ft. Bliss, TX. In 2010, ACEP established an 11th site at Redstone Arsenal, AL at the U.S. Army Explosive Ordnance Disposal (EOD) School. In October of 2010, ACEP became part of the Comprehensive Soldier Fitness (CSF) initiative aimed at holistically improving Soldier health and performance across the entire force. ACEP was rebranded as CSF Performance and Resilience Enhancement Program (CSF-PREP) with headquarters located at the Pentagon. In late 2011 a 12th site was added at Ft. Benning, GA.



So how does CSF-PREP train Soldiers in performance enhancement? The specific MST tenants making up the CSF-PREP curriculum are: (a) Mental Skills Foundations, (b) Building Confidence, (c) Goal-setting, (d) Attention Control, (e) Energy Management, and (f) Imagery. Following is a brief description of each of the six tenants.

Mental Skills Foundations is the base upon which the other mental skills in the curriculum are built. This component involves qualifying and quantifying individual and/or unit performance excellence, understanding the nature of high performance, the interrelationship between the training and trusting mindset, and identifying the unique relationship between thoughts, emotions, physiological states, and performance (Csikszentmihalyi, 1990; Ellis & Dryden, 1987; Ravizza, 1977). This component of the CSF-PREP program emphasizes the notion that a “flow-frame of mind” can be systematically practiced and ultimately developed to be a powerful dominant response under extreme pressure.



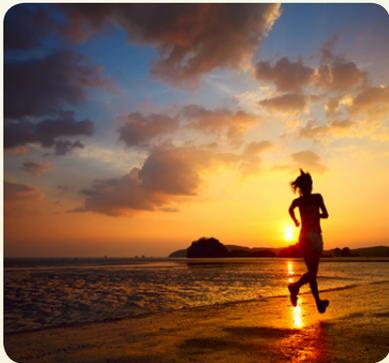


MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



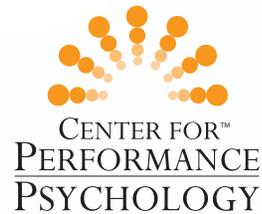
Confidence is cited as a critical performance attribute and mentioned over 60 times in the Army Field Manual (AF-66, Department of the Army, 2006). CSF-PREP works towards educating individuals in understanding how confidence is a result of how one thinks, what one focuses on and how one reacts to the events in life (Bandura, 1977; Seligman, 1991). Some of the benefits of self-confidence are emphasized in this component of the CSF-PREP curriculum, especially the idea that a confident Soldier is more mentally agile and makes better decisions in the face of adversity and pressure (Zinsser, Bunker, & Williams, 2010).



The CSF-PREP goal setting process begins by defining the core values that are critical to determining purpose and direction in ones' life. These core values lay the foundation that Soldiers can use to establish goals that are personally and professionally meaningful and, thereby, develop the tangible steps used to create a well-documented path to success. This goes well beyond the traditional list-making, becoming instead a personal action plan and involving a great level of commitment from the individual. Once a goal has been set in place, the individual goes through the process of creating priorities, actions, and belief statements. An individual's attitudes, beliefs, and behaviors are crucial in the accomplishment of priorities that contribute directly to their overarching goals. The component of the CSF-PREP curriculum assists individuals in pursuing and achieving excellence and promotes a culture that moves well beyond norms and minimum standards (Burton, Naylor & Holliday, 2001; Locke & Latham, 1990).



The CSF-PREP attention control model provides individuals with a broader theoretical understanding of how attention works, and provides practical techniques for controlling attention in order to achieve greater focus, concentration and presence "in the moment." The intent of this process is to leverage the skills necessary for identifying what is relevant and bringing a greater awareness to the most important task worthy of our attention at any given time (Nideffer, 1976). Improving attention control also plays a key factor in practicing appropriate and rapid shifting of attention (mental agility) as well as learning techniques for refocusing after losing concentration (Schmid & Peper, 1993).



MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



In the energy management competency, individuals are taught the practical skills used to build, sustain, and restore high levels of personal energy while minimizing the negative effects of stress (Benson & Proctor, 1984). Individuals may then be able to self-regulate their psycho-physiological responses under pressure by learning to effectively process experiences, thoughts, and emotions, which are critical to developing the leader attribute of composure. (Kerr, 1985; 1997). The use of bio-feedback technology, knowledge about the science of sleep, and relaxation techniques is also used to demonstrate self-regulation between mind and body.



Using focused imagery strategies individuals learn to use all of their senses to either create or recreate a powerful, vivid experience in their mind (Vealey & Greenleaf, 2010). Practical imagery techniques are utilized to improve all aspects of performance including training, preparing, performing, recovering, and healing (Holmes & Collins, 2001). The CSF-PREP model also incorporates advanced imagery scripts which allow Soldiers to envision success and can enhance confidence in their preparation.



So, do these performance enhancement techniques advocated in the CSF-PREP program actually work with Soldiers? After all, most of the evidence behind the CSF-PREP curriculum comes from the sport psychology literature. So what can we say about current research with performance psychology in the military? The empirical evidence that supports this type of curriculum is still in its infancy with much more anecdotal and correlational evidence than experimental. For example, in one of our own studies (Hammermeister, Pickering, McGraw & Ohlson, 2010a) we observed that distinguishing Soldier subgroups based on self-reported psychological skill profiles also differentiated average performance on the Army Physical Fitness Test. We also found that differential mental skill profiles discriminated between indicators of psychosocial health, with more “mentally tough” profiles being associated with higher



MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



self-esteem scores and lower self-report depression, anxiety, anger, hopelessness, and loneliness scores (McGraw, Pickering, Ohlson, & Hammermeister, in press). Finally, for Stryker Brigade Soldiers who had at least one combat deployment, we found that that perceived psychological resilience appeared to mediate the relationship between three sport-related psychological skill factors (i.e., planning, energy management, and fear of failure) and indicators of post traumatic stress (Hammermeister, Pickering, McGraw & Ohlson, in press). These results suggest that sport-related psychological skills may play a role in the development of perceived psychological resilience, which in turn, may influence post traumatic stress. In another study we (Pickering, Hammermeister, Ohlson, Holliday & Ulmer, 2010) observed that self-reported Soldier use of mental practice and of purposeful focusing strategies not only exhibited a positive relationship with self-reported resilience; but that the data was also consistent with a model suggesting this relationship may be mediated by self-reported emotion management.



In 2008, we attempted to address the lack of true experimental performance psychology studies in the military by engaging in a Randomized Group Trial (RGT) conducted at Fort Jackson, S.C. This RGT, called the Mental Fitness Study (MFS), was delivered over a 10-week period to over 2500 Basic Combat Training (BCT) Soldiers who were randomly assigned to either a mental skills training (MST) group or a control group. The MST curriculum was woven into the Soldiers daily duties and delivered in 20-minute sessions 3-4 times per week. The results of this RGT showed that the MST group had better knowledge and use of mental tools (e.g., goal-setting, self-talk, and relaxation), better knowledge and use of mental skills (e.g., self-confidence, attention control, and the ability to perform more “automatically”), health-related cognitions (e.g., psychological resilience), and outperformed the control group on several physical Soldier performance tasks such as confidence course events and the Army Physical Fitness Test. This large-scale study was the first of its kind to show a true link between “sport” psychological tools and skills with military performers (Hammermeister et al, 2010b).





MILITARY APPLICATIONS OF PERFORMANCE PSYCHOLOGY METHODS AND TECHNIQUES:

AN OVERVIEW OF PRACTICE AND RESEARCH



In summary, it appears that Soldiers and athletes do indeed share many of the same mental challenges, although military performers clearly must execute in higher stakes situations. The U.S. Army has recognized the link between the military and athletics and through its CSF CSF-PREP program has begun teaching some of the methods and techniques of sport psychology across the force. The research literature supporting these techniques is still lagging behind the evidence-base present in sport, however, newer studies using rigorous methods are starting to appear in the military psychology field which will help address the literature gap which currently exists.



REFERENCES

Benson, H., & Proctor, H. (1984). *Beyond the relaxation response*. New York: Berkley.

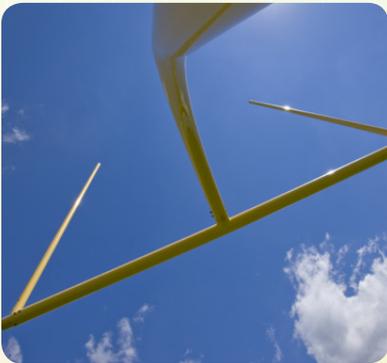
Burton, D., Naylor, S., & Holliday, B. (2001). Goal setting in sport. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd Ed., pp. 497-528). New York: John Wiley & Sons.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experiences*. New York: Harper and Row.

Department of the Army. (2006). *Army leadership: Competent, confident, and agile*. (FM 6-22). Washington, DC: Author. Retrieved from http://usacac.army.mil/CAC2/repository/materials/FM6_22.pdf

Ellis, A., & Dryden, W. (1987). *The practice of rational emotive therapy*. New York: Springer.





Fiore, S.M. & Salas, E. (2008). Cognition, competition, and coordination: The “why” and the “how” of the relevance of the sports sciences to learning and performance in the military. *Military Psychology, 20* (Supplement), S1- S9.

Goodwin, G. (2008) Psychology in sports and the military: Building understanding and collaboration across disciplines. *Military Psychology, 20* (Supplement), S147-S154.

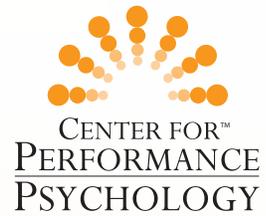
Hammermeister, J.J., Pickering, M.A., McGraw, L. & Ohlson, C.J. (In press). The relationship between sport related psychological skills and indicators of PTSD among Stryker Brigade Soldiers: The mediating effects of perceived psychological resilience. *Journal of Sport Behavior, 35*(1).

Hammermeister, J.J., Pickering, M., McGraw, L. & Ohlson, C.J. (2010a). Relationship between psychological skill profiles and Soldier physical fitness performance. *Military Psychology, 22*(4), 399-411.

Hammermeister, J.J., Pickering, T., Holliday, B., Williams, J., Harada, C., Ohlson, C.J., Csoka, L., & Adler, A. (2010b). Mental Skills Training Influence on Soldier Psychological Fitness and Performance: A Randomized Trial. Paper presented at American Psychological Association Annual Conference, San Diego, CA. August 2010.

Holmes, P. S., & Collins, D. J. (2001). The PETTLEP approach to motor imagery: A functional equivalence model for sport psychologists. *Journal of Applied Sport Psychology, 13*, 60-83.

Jones, G., Hanton, S., & Connaughton, D. (2002). What is this thing called mental toughness? An investigation with elite performers. *Journal of Applied Sport Psychology, 14*, 211-224.

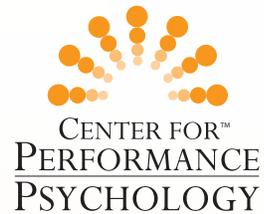


Jones, G., Hanton, S., & Connaughton, D. (2007). A framework of mental toughness in the world's best performers. *The Sport Psychologist*, 21, 243 – 264.

Kerr, J. H. (1985). The experience of arousal: A new basis for studying arousal effects in sport. *Journal of Sport Sciences*, 3, 169-179.

Kerr, J. H. (1997). *Motivation and emotion in sport: Reversal theory*. East Sussex, UK: Psychology Press.

McGraw, L., Hammermeister, J.J., Pickering, M.A., & Ohlson, C.J. (In press). Influence of mental skills on psychosocial characteristics of Stryker Brigade Soldiers. *Military Medicine*.



EDITOR-IN-CHIEF

Charles “Mac” Powell, Ph.D.
Center for Performance Psychology

MANAGING EDITOR

Sarah Castillo, Ph.D.
Associate Professor
Department of Psychology
National University

REVIEW PANEL

Doug Barba, Ph.D.
Associate Faculty
Department of Psychology
National University

Pierre Beauchamp, Ph.D.
Peak Sport Performance Mindroom

Shane G. Frehlich, Ph.D.
Associate Professor & Chair
Department of Kinesiology
California State University-Northridge

Charles H. Hillman, Ph.D.
Associate Professor
Departments of Kinesiology & Community
Health, Psychology, and Internal Medicine
University of Illinois at Urbana-Champaign

David Ricciuti, Ed.D.
Performance Enhancement Specialist
Army Center for Enhanced Performance

Wes Sime, Ph.D.
Professor Emeritus
Department of Health and Human Performance
University of Nebraska-Lincoln