

HUMAN PERFORMANCE OPTIMIZATION

An Ongoing Series

Advancing the Practice of Contemporary Military Performance Psychology

A Full-Spectrum Approach to Psychological Health and Readiness

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ABSTRACT

The Department of Defense (DoD) continues to emphasize operational readiness, lethality, and optimal performance. Performance psychology is a critical aspect of and central dimension to human performance optimization in support of Preservation of the Force and Family (POTFF) and Total Force Fitness (TFF). The delivery of performance psychology services must continue to evolve to maximize its potential for enhancing combat performance and supporting psychological readiness in warfighters across all branches of service. The authors (1) provide a brief history of the evolution of military psychology; (2) explore how performance psychology complements and broadens approaches to support warfighter health and readiness; and (3) present a set of strategies to advance performance psychology services toward an aspirational model. Such strategies will more effectively promote best practices to better target operational performance, complement existing health and medical service delivery, and encompass a systems approach to sustainable training. Moreover, these strategies aim to increase return on investment of psychological readiness efforts for warfighters across all branches of service.

KEYWORDS: *military; psychology; performance optimization; performance psychology; psychological health; readiness*

Introduction

Contemporary military performance psychology is a capabilities-based application that builds human performance optimization (HPO) in support of operational effectiveness. POTFF

and TFF are essential components of the strategic framework of Special Operations and operational medicine within the US Department of Defense's Military Health System (MHS).¹⁻³ Whereas the Special Operations Command utilizes POTFF as a performance enhancement resourcing tool, the DoD uses the HPO concept and the TFF framework to identify MHS gaps across health and performance domains, and guide realignment efforts in policy, structures, and practices.⁴ In contrast to other TFF domains, such as physical fitness, consideration of psychological well-being and optimal psychological functioning with respect to performance in the operational environment is relatively recent.⁵⁻⁷ The psychological and cognitive fitness domains are critical components of POTFF. The framework suggests that when psychological and cognitive performance are optimized, warfighter capabilities show sustainment or improvement.⁸ Psychological fitness is broadly construed as the integration and optimization of mental, emotional, and behavioral abilities and capacities to optimize mission critical performance and sustained resilience of warfighters.⁹

Applications of psychology remain a focal point of supporting operational readiness, well-being, and health of warfighters and their families. Military-focused psychology research has illuminated the demands of military operations and corresponding impacts on mental health, sleep and cognitive functioning, as well as the role of morale, team cohesion, and emotional culture, and their impact on successful performance of military duties.^{10,11} The formalization of performance psychology services within the military complements the existing health and medically focused service delivery model, and has

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important implications for practitioners and the DoD. The DoD priorities focus on strengthening operational readiness, modernizing for a more lethal force, and facilitating optimal performance. These priorities all require the effective training of elite performance psychological factors at both individual and organizational levels.

This article begins by providing historical context on traditional approaches to psychological service delivery and its evolution to applying performance psychology within volatile, high-pressure competitive environments. We then define performance psychology and broaden the perspective on psychological health and readiness to encompass the growing utility of psychological approaches in military environments. Finally, we present an aspirational model for performance psychology service delivery aimed to minimize burden and maximize impact on warfighter readiness, psychological health, and capabilities.

Evolution of Military Psychology Programs

The application of American psychology in the military emerged as a direct result of the nation's need to address the impact of World Wars I and II, and to effectively train and deploy resources to help warfighters cope with the hardships of war and their reintegration into the civilian population.¹² Addressing mental illness and returning warfighters to a psychologically healthy state have been important concerns in the military for ages.¹³ Specifically, psychology in the military has focused on remediation of illness and alleviation of psychological trauma, distress, and negative outcomes associated with military-related stressors, exposures, and wartime sequelae.¹³ Programs to enhance psychological support for warfighters in need began with a clinical emphasis, while subsequent efforts focused on early intervention or more timely identification of symptoms and treatment of psychological issues. The next focus was on prevention: programs such as the Navy and Marine Corps' Combat Operational Stress Control (COSC) emerged as preventive educational measures to attempt to buffer against posttraumatic stress disorder (PTSD), depression, and alcohol abuse, and used the stress continuum model as their framework.¹⁴ Current efforts acknowledge the value of Servicemember talents, consider work and life well-being, and provide proactive and skill-based training.¹⁵ Such trainings are offered to attempt to decrease the incidence of depression and suicide, and mitigate the negative impact of persistent stress exposure.¹⁶ They are also intended to aid spouses and family members in navigating transitions, trauma, and the stressors of military family life.¹⁵ Each service has various psychological health programs, but most were developed in response to clinical issues rather than being proactive to mitigate future potential mental health issues.

To close this gap, the military has steadily increased their investment in mental fitness programs for Servicemembers and their families. The first program was derived from the Army Center for Enhanced Performance (ACEP) in the early 1990s. Later, components of ACEP were adapted and integrated with resilience and performance training efforts for the Comprehensive Soldier Fitness (CSF) and subsequently Comprehensive Soldier and Family Fitness (CSF2) programs. CSF2 is now named the Army's Resiliency Directorate (ARD) and comprised of Ready and Resilient [informed by positive and performance psychology], Sexual Harassment/Assault Response and Prevention Program, the Army Suicide Prevention Program, and

the Army Substance Abuse Program.¹⁷ The ARD's resiliency training component uses a psycho-educational model to teach soldiers "evidence-based protective factors that contribute to the ability to endure adversity and challenge or bounce back from hardship" to navigate daily personal and professional life.⁷ In addition, sport psychology professionals who train positive and performance psychology concepts and skills were primarily installation assets but more recently, began embedding in brigades.

Other examples of service programs for mental health and performance include the US Air Force Task Force True North (TFTN), a collection of five initiatives chartered by the US Air Force.¹⁸ The various TFTN initiatives included Welcome Centers, New Orientation for Reducing Threats to Health from Secretive Problems that Affect Readiness (NORTH STAR), Religious Support Teams (RSTs), Embedded Mental Health Teams (EMHTs), and Operational Support Teams (OSTs).¹⁸ All were designed to improve airmen resilience and well-being.¹⁸

Similarly, the POTFF emerged as a multidomain model to maximize human performance through increasing access to services for those in need and to attempt to minimize potential stigma associated with seeking care. The integrated and holistic POTFF program is built on five domains: physical, psychological, cognitive, social and family, and spiritual.¹ Service delivery within POTFF emphasizes embedded assets and domain experts who have the ability to tailor programs based on unit and individual functional demands. Assets included social workers, clinical psychologists, chaplains, and other enablers.

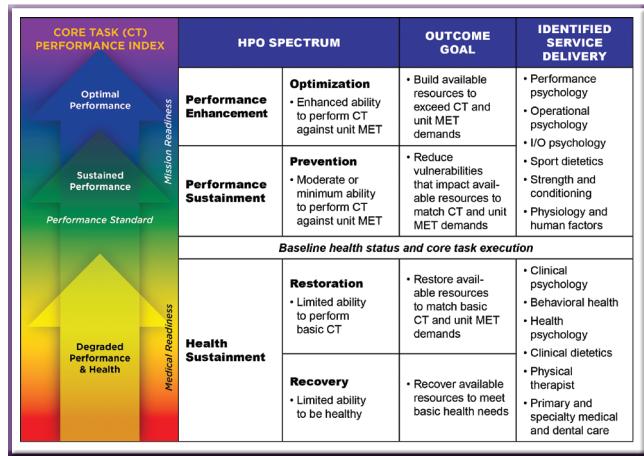
The most recent initiative – the Army's Holistic Health and Fitness (H2F) – aspires to build and sustain combat readiness through a comprehensive and integrated plan comparable to POTFF.¹⁹ Growing emphasis on holistic fitness across all branches of service and throughout the DoD offers unique opportunities to normalize the acquisition and deployment of performance-enhancing capabilities, including mental skills. The proliferation of holistic fitness programs provides openings to design and execute physical training programs that elicit beneficial adaptations across physical, neurocognitive, psychological and emotional, physiological, behavioral, and emotional domains, all of which underlie performance.

Embracing a Full-Spectrum Approach to Psychological Health and Readiness

Modern day psychological service delivery in the military includes a full range of approaches, to include identifying and ameliorating psychological disorders at one end of the spectrum to optimizing warfighter health and performance of their mission essential core tasks (CT) and preserving the unit's mission essential tasks (MET) at the other end.^{20,21} The CT and MET help individuals and teams define performance-based and occupation-specific metrics. Figure 1 depicts a conceptual model to help visualize and foster understanding for the applications of psychology across the spectrum of HPO capabilities for military readiness.

Health and performance services aim to move warfighters upward along the HPO spectrum. When warfighters are struggling, health services work to restore baseline functionality and stability. Once above baseline status, performance teams can work to enable increasingly proficient CT execution under

FIGURE 1 Conceptual depiction of psychological services across HPO capability spectrum.



HPO = human performance optimization, CT = core task, MET = mission essential tasks.

high stress, prevent or mitigate psychological and physical injury, and reduce vulnerabilities and risk to performance capabilities under operational extremes. Despite advances in psychological service delivery, psychological status and functioning are still largely determined by the absence of pathology. This paradigm assumes that if Servicemembers remain free of diagnosable illnesses and problematic behavioral issues, they are psychologically fit. However, fitness for duty only reflects a state of modal readiness to participate in the fight.

Optimal functioning should be defined by capabilities that exceed baseline performance standards, measured by performance-based, non-clinical metrics, and related to job performance metrics.²¹ In practice, performance psychology focuses on bolstering psychological aspects of achievement in a social environment that values normative comparisons of success and in which failure to perform to standard is detrimental to their professional and personal lifestyle.²² The specific role of performance psychology is to enhance an individual's ability and maintain a baseline of competence, efficiency, and repeatability of the CT associated with their OS. It should also improve their ability to navigate the complex and dynamic social environments of a specific team. Attendees at the 2018 Consortium for Health and Military Performance and Walter Reed Army Institute of Research Performance Psychology Summit collectively defined performance psychology as: "the contribution of psychological factors to the execution of physical and cognitive actions by the human body to the greatest degree attainable under specified conditions and objectives." Applications of performance psychology have the potential to increase Servicemember capabilities.

Performance optimization approaches center around the training of mental skills, including goal-setting, emotion regulation, and mental rehearsal and imagery. These mental skills, grounded in cognitive-behavioral approaches, not only enhance, sustain, or restore performance, but also bolster overall psychological resilience and build on protective factors.⁸ Performance psychology, with its emphasis on optimizing performance of occupation CTs, encourages discussion and introspection about the role of psychological factors in every stage of a Servicemember's lifecycle. Performance psychology can be applied to enhance capabilities throughout a Servicemember's career, including during initial military training,

preparation for deployment, lethal confrontation with adversaries, strategy-oriented peacekeeping operations directed at global health and environmental threats to US national security interests, and redeployment back home. It provides a contextualized way to teach mental skills to facilitate acquisition in high-risk occupations in which new tasks must be learned and executed under demanding conditions.²³ The impact of mental and resiliency skill training components on performance and behavioral health issues, respectively, has been studied to date, and more rigorous randomized and controlled studies are needed to show direct benefits to performance and well-being outcomes.^{23,24} Additionally, although the core cognitive mental skills support optimal functioning in uniform, those same skills can also be translated to help sustain an optimal state of well-being for life outside and beyond the uniform.

Finally, the inclusion of performance psychology practice offers a culturally appropriate and occupationally grounded approach to shifting illness-oriented paradigms around mental health. Despite efforts to broaden and socialize mental health supports in the military, stigma remains a significant issue. Whereas direct empirical links between stigma and outcomes such as treatment-seeking attitudes and intentions remain unclear, the DoD remains committed to seeking effective ways to reduce mental health stigma.²⁵ Reducing stigma at the individual level is one of many important approaches to understanding and subsequently breaking down barriers to mental health care, but environmental and contextual approaches must also be explored to enable systematic change and address stigma more comprehensively. Performance psychology delivery models can play a role in reducing stigma and counteracting misleading perceptions about seeking assistance only when managing overwhelming problems.⁸ Contemporary performance psychology exists at the crossroads of sport and human performance science and "warfighter ideology." Although sport and consulting psychology practitioners apply psychology to improve performance, warfighter ideology reflects a spirit to fight and win against an adversary. It thus promotes operational support of warfighters and those working in concerted efforts in defense of US national interests.²⁶

Advancing Performance Psychology Service Delivery

The broader field of applied sport and performance psychology is still striving toward definitional clarity and a shared understanding of the profession.²⁷ Despite the well-intentioned and promising goals of applied performance psychology in the military setting, lessons learned from past efforts need to be applied to evolve service delivery to meet the modern demands of the military. In this section, we offer a set of recommendations grounded in existing best practices that may help meet this goal: (1) integrating a holistic performance framework; (2) shifting toward embedded and precision applications of performance psychology; (3) evolving training beyond the classroom setting to more relevant operational contexts; and (4) broadening focus to a systems emphasis.

Integrating a Holistic Performance Framework

The DoD continues to emphasize TFF framework and HPO model (CJCSI 3405.01) as a "methodology for understanding, assessing, and maintaining warfighter well-being and sustaining their ability to carry out missions" and applied performance psychology should be viewed as one component of

many that can support fitness goals and initiatives.²⁸ Preserving health, reducing occupational risk, and enhancing performance require efforts that span across multiple domains of the TFF model. These efforts encompass comprehensive lifestyle considerations and embody a biopsychosocial model.²⁹ Issues that impact performance are often complex. And yet service delivery often happens in silos for each domain of TFF. For example, the anxiety a pilot reports feeling when landing a helicopter could reflect clinical issues or trauma, or nonclinical, performance-based anxiety, which can be managed through teaching mental skills. However, the overuse of caffeine, exacerbated by sleep difficulties, or triggered by causes rooted in physical health may also spur anxiety.³⁰ Without a holistic paradigm, an accurate and thorough root cause analysis remains limited.

Further, psychological services are available across the HPO spectrum and many opportunities exist to support health and performance (Figure 1). Applied to all TFF domains, the model outlines how individual HPO assets can offer resources as well as aid Servicemembers' understanding of the support available based on their current condition and needs. The HPO spectrum also helps break down the false dichotomy that efforts to remediate illness exclude opportunities to enhance performance or build on competencies: both can be pursued concurrently and cooperatively. Similarities, differences, and overlaps between resilience and performance efforts should guide coordination and collaboration of performance services with clinical and behavioral health services.¹⁶ Conceptualizing HPO through this holistic lens punctuates the need to enable better collaboration and communication among medical and performance professionals serving the military.³¹ Embedded assets must work together to promote a continuum of excellent holistic care rather than operate in silos. In other words, this means facilitating referrals and working collaboratively to strive towards meaningful goals for Servicemembers.

Shifting Toward Embedded and Precision Applications

Providing education and training in mental skills or resilience protective factors began as the focus of performance psychology applications. Psychoeducational approaches were commonplace and offered by practitioners who were not necessarily embedded with specific units. Although these efforts contribute to the development of generalized psychological skills and capabilities, such approaches could be burdensome for units with high operational tempo and scarce discretionary training time. To better understand the impact of performance psychology, its delivery should move toward services focused on enhancements of occupation-based CT and unit MET and delivered by embedded practitioners who have intimate knowledge of the contextual and cultural dimensions of a specific unit.³²

Applied performance psychology in the military should follow tenets of evidence-based practice of psychology which include three components relevant to the competence of performance psychology professionals: (1) research related to the psychological field (e.g., psychological aspects of optimal performance), (2) practitioners' knowledge and skills of this research, and (3) practitioners' abilities to apply research for clients based on the individual, group and organization.³³ Embedded experts bring a significant knowledge base on human performance, and are informed by theories derived from formal research. Performance psychology practitioner competence can be described as encompassing three tiers: 1) foundational knowledge, skills,

and abilities (KSA), 2) domain-specific knowledge (e.g., military in general), and 3) contextual intelligence (e.g., microculture, history and philosophy of the unit, formal and informal structures).³⁴ Cultivating contextual and cultural understanding afforded through the embedded approach would allow performance psychology professionals to have a clear understanding of their unit's training goals and performance expectations. A model of embedding performance psychology assets with units and the impact of tier 2 and 3 knowledge, skills, and abilities is currently being evaluated by the Walter Reed Army Institute of Research.

Evolving Training Beyond the Classroom to the Field

Within the broader field of performance psychology, performance is defined as: "Performance involves the development of context-specific KSA over time and then the recollection and use of these KSA during a discrete event."²⁷ Performance entails working toward some accomplishment, which is usually measured against some standard of success. There is an expectation for how the KSA are put into action; thus, the execution of the KSA is evaluated by the performer and others." Within this model of performance development, the acquisition of knowledge can take place in a classroom setting, but recent research in applied sports psychology highlights the need for performers to practice the application of mental skills in scenarios that accurately reflect the demands of the specific performance context and environment.³⁵

Thus, traditional psychoeducational approaches of classroom style lectures and presentations should be used less, in favor of integrating applied mental skills into existing military training. Embedded practitioners have many opportunities to effectively integrate performance concepts directly into the unit's established military training without interrupting or adding to their schedule. Meshing the evidence-based practice within the contextual and cultural norms of the military unit sets the conditions for maximizing skill transfer to a performance context.^{36,37} Due to the variety of job tasks within and across units, the embedded practitioner has the unique responsibility to shape services to meet the functional demands of the warfighter. Loney provided a thorough example of how an embedded practitioner approached integration into a unit as part of a human performance team.³⁸ This paper also highlighted the importance of developing training applications through collaboration with experienced professionals.

The efficacy of performance psychology training can be further bolstered by using a Constraints-Led Approach (CLA).³⁹ CLA is a sports-oriented model for learning new skills. It leverages the deliberate manipulation of constraints involved in learning the skill (individual, task) and the environment to provide the performer with opportunities to weigh perceptual information provided by a particular performance context.³⁵ By using CLA, CT and MET, goals can be clarified, which are often executed in volatile and dynamic situations requiring constant assessments and re-assessments of interactions and observations across the individual, task, and environment. The CLA helps deconstruct the task, environment, and individual factors that can impact performance. For example, applying CLA to train an individual shooting task could include changing the size of targets (environment), time limits to engage them (task) and/or visual occlusion of the shooter (individual). In this instance, the benefit of the CLA is that it enables the practitioner to

provide individualized feedback and create opportunities for manipulating one or more of those constraints to train, test, and evaluate performance.

Broadening Focus to a Systems Emphasis

Systems theory provides a conceptual framework for sustainable performance psychology service delivery within a HPO team embedded in a military unit. The basic premise of systems theory is that the relative quality of a system is more closely represented by how the internal and external forces interact with system elements. This is in contrast to the needs of the system identified by using a simple needs analysis.⁴⁰ Considering both functional and mechanistic explanations, as well as organic and developmental differences,⁴¹ provides a comprehensive perspective and framework for understanding how each aspect of a system can be improved to fit, develop, and thrive.

For example, individual HPO assets need to understand their role on the HPO team and how the HPO team fits within their assigned military unit. Specifically, they need to understand and appreciate the purpose and/or specialty of the assigned military unit, the origins and history of the warfighters assigned to that unit, their expected growth and development. They also need to ultimately know how both the HPO team and military unit fit within progressively larger military command structures. Understanding how those structures are interrelated organizes the efforts of embedded assets within their own teams, military unit, and their interactions with each other.

The Lines of Effort (LOE) organizational approach uses common military language to mirror the organizational structure of the specific unit to better understand how the people, tasks, and environments interact.³⁹ It also encourages them to organize and direct their efforts when only one embedded professional is assigned to serve in military units with thousands of personnel. Although performance psychology professionals represent a broad set of capabilities, a relatively small number of embedded assets are expected to serve a large number of warfighters, which matches the organizational model of the military unit. Table 1 outlines the standardized organization of the LOE approach.

The LOE approach can prompt a mutually inclusive environment between the HPO team and warfighters within the HPO service delivery model. The LOE approach provides a

common language for the embedded asset to understand the immediate goals specific to the LOE requesting support. Separating the training into the constraints of performer, task, and environment organizes the request for support into mutually understood concepts between the embedded professional and the Servicemember.⁴² The LOE approach, conceptually framed in systems theory and pragmatically guided by using CLA, provides the embedded asset with valuable, culturally sensitive insights into the HPO team, military unit, and specific LOE. This approach brings awareness to social acceptance through an enhanced understanding of the activity, the people who participate in the activity, and what people expect from each other during that activity.⁴³

Conclusion and Future Directions

Interest in the relevance of the psychological and cognitive domain within POTFF and across the DoD continues to increase alongside emphasis on operational readiness, lethality, and optimal performance. Applications of psychology and respective programs designed to support warfighters continue to evolve to include the full spectrum of health and performance needs. Integration of performance psychology services should evolve to better meet warfighter training demands and fit within the specifics of each individual military unit and their respective career fields. This article has provided a brief overview of the many strategies available to enhance performance psychology services across the DoD. Future discussions should explore complex issues related to manning, including how to improve position descriptions to better match practitioner capabilities with individual and unit needs. These conversations should also include better defining optimal ratios of professionals to warfighter. More research needs to be done on how to enhance practitioner competence to serve in embedded performance asset roles, enhance shared understanding among HPO and medical assets, and establish limits based on clearly defining individual asset capabilities. These changes would foster more collaborative, holistic, and impactful delivery of performance psychology services (as well as services across all domains of TFF). They could provide the warfighter with full spectrum support across all domains of POTFF and TFF throughout their lifespan.

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TABLE 1 Lines of Effort (LOE) Categories for Performance Psychology Service Delivery

Lines of Effort (LOE)			
Individual	Team	Institutional (formal professional development)	Organizational
<ul style="list-style-type: none"> Understanding individual personality and self-improvement goals 	<ul style="list-style-type: none"> Understanding group dynamics and team goals 	<ul style="list-style-type: none"> Teaching and coaching performance strategies Advising Cadre on feedback approach and training design 	<ul style="list-style-type: none"> Teaching and transferring leadership concepts and approaches
<ul style="list-style-type: none"> Discovering individual behavioral tendencies Self-referenced and, or self-selected performance goals 	<ul style="list-style-type: none"> Discovering group behavioral tendencies Professional leadership development 	<ul style="list-style-type: none"> Developing motivational climates Maximizing training value 	<ul style="list-style-type: none"> Developing a sustainable culture of behavior and values
<ul style="list-style-type: none"> Focus on integration of skills under varying stress levels 	<ul style="list-style-type: none"> Focus on influencing group and social dynamics 	<ul style="list-style-type: none"> Focus on education and training 	<ul style="list-style-type: none"> Focus on systems change
<ul style="list-style-type: none"> Advising, consulting, and tailoring training to meet the specific demands of the individual or team 			
<ul style="list-style-type: none"> Applications of concepts like goal-setting, self-talk, self-regulation, imagery, motivation, confidence, and decision making 			

Disclosures

The opinions and assertions expressed herein are those of the author(s) and do not necessarily reflect the official policy or position of the Uniformed Services University or the Department of Defense, Department of the Army, and Navy.

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References

1. United States Special Operations Command (USSOCOM). Preservation of the Force and Family (POTFF). <https://www.socom.mil/potff/Pages/default.aspx>. Accessed 24 January 2022.
2. Chairman of the Joint Chiefs of Staff Instruction. Chairman's total force fitness framework. September 2013. https://www.jcs.mil/Portals/36/Documents/Library/Instructions/3405_01.pdf?ver=2016-02-05-175032-517. Accessed 24 January 2022.
3. Deuster PA, O'Connor FG, eds. Human performance optimization. In: Kellermann AL, Elster E, eds. *Out of the crucible: How the US military transformed combat casualty care in Iraq and Afghanistan*. Borden Institute; 2017.
4. Defense Health Agency Total Force Fitness. February 2020. <https://www.health.mil/Military-Health-Topics/Total-Force-Fitness>. Accessed 24 January 2022.
5. Cornum R, Matthews MD, Seligman ME. Comprehensive soldier fitness: building resilience in a challenging institutional context. *Am Psychol*. 2011;66(1):4-9.
6. Griffith J, West C. Master resilience training and its relationship to individual well-being and stress buffering among army national guard soldiers. *J Behav Health Serv Res*. 2013;40(2):140-155.
7. Reivich KJ, Seligman ME, McBride S. Master resilience training in the U.S. Army. *Am Psychol*. 2011;66(1):25-34.
8. Herzog TP, Deuster PA. Performance psychology as a key component of human performance optimization. *J Spec Oper Med*. 2014;14(4):99-105.
9. Bates MJ, Bowles S, Hammermeister J, et al. Psychological Fitness. *Mil Med*. 2010;175(suppl_8):21-38.
10. Adler AB, Bliese PD, Barsade SG, Sowden WJ. Hitting the mark: The influence of emotional culture on resilient performance [published online ahead of print, 2021 Apr 15]. *J Appl Psychol*. 2021; 10.1037/apl0000897.
11. Britt TW, Adler AB, Castro CA. *Military life: The psychology of serving in peace and combat (volume 1)*. Praeger; 2005.
12. Seligman ME, Fowler RD. Comprehensive Soldier Fitness and the future of psychology. *Am Psychol*. 2011;66(1):82-88.
13. Johnston SL, Robinson C, Earles JE, et al. State of psychology in the US armed forces. *Handbook of Military Psychology*. Springer; 2017:1-15.
14. Nash WP, Krantz L, Stein N, et al. Comprehensive soldier fitness, battlemind, and the stress continuum model: Military organizational approaches to prevention. In Ruzek JI, Schnurr PP, Vasterling JJ, Friedman MJ (Eds.) *Caring for veterans with deployment-related stress disorders* (pp. 193-214). American Psychological Association.
15. Bowles SV, Bartone PT, Ross D, et al. Well-being in the military. *Handbook of Military Psychology*. Springer; 2017:213-238.
16. Park GH, Messina LA, Deuster PA. A shift From resilience to human performance Optimization in Special Operations Training: Advancements in theory and practice. *J Spec Oper Med*. Fall 2017;17(3):109-113.
17. Army's Resilience Directorate [ARD]. <https://www.armyresilience.army.mil>. Accessed 24 January 2022.
18. DiNicola SE, Ross SM, Crosby B, et al. An evaluation of task force true north initiatives for the promotion of resilience and well-being

- within the Air Force. *RAND Corporation*. 2020. https://www.rand.org/pubs/research_reports/RR3190.html. Accessed 24 January 2022.
19. The U.S. Army Holistic Health and Fitness Operating Concept. The U.S. Army's system for enhancing soldier readiness and lethality in the 21st Century. 1 October 2020). https://www.army.mil/e2/downloads/rv7/acft/h2f_operating_concept.pdf. Accessed 24 January 2022.
 20. Myatt C. USSOCOM Psychology: Commentary on information requirements and rapid response planning. *J Spec Oper Med*. 2011;11(1):60-67.
 21. Lunasco T, Chamberlin RA, Deuster PA. Human performance optimization: an operational and operator-centric approach. *J Spec Oper Med*. 2019;19(3):101-106.
 22. Greene CH III. Coaching military special-operations forces. *Consulting Psychology Journal: Practice and Research*. 2019;71(2):107.
 23. Adler AB, Bliese PD, Pickering MA, et al. Mental skills training with basic combat training soldiers: a group-randomized trial. *J Appl Psychol*. 2015;100(6):1752-1764.
 24. Harms PD, Herian M, Krasikova DV, et al. The comprehensive soldier and family fitness program evaluation. *University of Nebraska-Lincoln*. April 2013. <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1009&context=pdharms>. Accessed 24 January 2022.
 25. Acosta JD, Becker A, Cerully JL, et al. Mental health stigma in the military. *Rand Corporation*. 2014. https://www.rand.org/content/dam/rand/pubs/research_reports/RR400/RR426/RAND_RR426.pdf. Accessed 24 January 2022.
 26. Doctrine for the Armed Forces of the United States – Joint Publication 1 (Chapters 1, 4, 6, & Appendix B-1). 12 July 2017. https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp1_ch1.pdf. Accessed 24 January 2022.
 27. Portenga ST, Aoyagi MW, Cohen AB. Helping to build a profession: A working definition of sport and performance psychology. *J Sport Psych Action*. 2017;8(1):47-59.
 28. CJCS Guide to the Chairman's Readiness System. 2013. <https://www.jcs.mil/Portals/36/Documents/Library/Handbooks/g3401.pdf?ver=phvTQAtfGR2dEqXaad3A%3d%3d>. Accessed 24 January 2022.
 29. Jonas WB, O'Connor FG, Deuster P, et al. Why total force fitness? *Mil Med*. 2010;175(suppl_8):6-13.
 30. Hruby A, Lieberman HR, Smith TJ. Symptoms of depression, anxiety, and post-traumatic stress disorder and their relationship to health-related behaviors in over 12,000 US military personnel: Bi-directional associations. *J Affect Disord*. 2021;283:84-93.
 31. Park GH, Lunasco T, Chamberlin RA, Deuster PA. Optimizing teamwork for human performance teams: Strategies for enhancing team effectiveness. *J Spec Oper Med*. 2020;20(4):115-120.
 32. Chamberlin RA, Lunasco T, Deuster PA. Optimizing Special Operations Forces operator talents and mission capabilities: Human performance optimization and total force fitness capability-based blueprint and targeting system. *J Spec Oper Med*. 2020;20(1):113-119.
 33. APA Presidential Task Force. Evidence-based practice in psychology. *Am Psychol*. 2006;61(4):271-285.
 34. Hays KE, Brown C. Performance consulting competence: A description and checklist. 2019.
 35. Hamilton L, Smith CA, Brandon ZE. Representing the psychological demands of sport: A constraints-led approach to mental skills training. *J Sport Psych in Action*. 2020;11(2):129-137.
 36. Chiaburu DS, Marinova SV. What predicts skill transfer? An exploratory study of goal orientation, training self-efficacy and organizational supports. *Int J Training Development*. 2005;9(2):110-123.
 37. Williams AM, Grant A. Training perceptual skill in sport. *Int J Sport Psychol*. 1999;30(2), 194-220.
 38. Loney B. Initiating mental performance programming with United States Army Special Forces Operators. In: Cremades JG, Tashman LM, eds. *Global practices and training in applied sport, exercise, and performance psychology* Routledge; 2016: 128-137.
 39. Newell KM, ed. Constraints on the Development of Coordination. In: Wade MG, Whiting HTA, eds. *Motor Development in Children: Aspects of Coordination and Control*. The Netherlands: Martinus Nijhoff, Dordrecht; 1986.
 40. Beer RD. Dynamical approaches to cognitive science. *Trends Cogn Sci*. 2000;4(3):91-99.
 41. Badcock PB. Evolutionary systems theory: a unifying meta-theory of psychological science. *Rev Gen Psych*. 2012;16(1):10-23.
 42. Davids K, Button C, Bennett S. *Dynamics of skill acquisition: A constraints-led approach*. Champaign, IL: Human Kinetics; 2008.
 43. Donnelly P, Young K. Identity construction and confirmation. *Inside Sports*. 1999:59.



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