

## THE PAST, PRESENT AND POTENTIAL FUTURE OF MILITARY PSYCHOLOGY

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### Absztrakt

#### *A KATONAPSZICHOLÓGIA MÚLTJA, JELENE ÉS LEHETSÉGES JÖVŐJE*

A katonapszichológia I. világháborúban való „intézményesülése” óta jelentős változáson ment és megy ma is keresztül. Míg korábban elsősorban a kiválasztásra és felkészítésre koncentrált, ma a katonapszichológia tárgya kiterjed a mentális egészség támogatástól kezdve a teljesítmény optimalizáción át az emberi tényezők katonai környezetbe való integrálására is. Azt, hogy a jövőben mi várható, pontosan nem tudjuk

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megjósolni, mindazonáltal a mesterséges intelligencia, a neurotechnológia és például a virtuális valóság mind ígéretes tényezőnek mutatkoznak a képességfejlesztéshez, a pszichológiai problémák előrejelzéséhez és kezeléséhez, valamint a visszaillesztés támogatásához. A cikk a katonapszichológia kiemelt történelmi mérföldköveinek bemutatása után rövid betekintést nyújt a jelenlegi gyakorlatba, végül pedig sorra vesz néhány olyan technológiai innovációt, melyek meghatározó szerepet játszhatnak a katona jóllétének és harcképességének fejlesztésére, fenntartására.

**Kulcsszavak:** katonapszichológia, PTSD, gondoskodás, jövő

**Diszciplinák:** hadtudomány, pszichológia

### Abstract

Military psychology has evolved significantly from its inception, influenced by historical contexts, technological advancements, and changing warfare dynamics. Initially focused on recruitment and selection during WWI, the field expanded to address combat stress, resilience, and rehabilitation in subsequent conflicts. Today, military psychology encompasses a broad spectrum of areas including mental health support, performance optimization, and the integration of human factors in complex military systems. Looking ahead, the future of military psychology promises to harness artificial intelligence, neurotechnology, and virtual reality to enhance soldier training, predict and mitigate psychological issues, and support veterans' reintegration into civilian life. This article explores the historical milestones, current practices, and future directions of military psychology, highlighting its crucial role in maintaining the psychological well-being and operational effectiveness of military personnel.

**Keywords:** military psychology, PTSD, caring, future

**Disciplines:** military science, psychology

*“Brave men rejoice in adversity, just as brave soldiers triumph in war.”*

*Lucius Annaeus Seneca*

### Introduction

Military psychology, a key area of applied psychology, addresses the psychological aspects of military operations and personnel. Defined broadly, it encompasses the

application of psychological principles and methodologies to understand, predict, and manage the behaviour of military personnel in various contexts. The scope of military psychology extends beyond traditional clinical psychology to include areas such as personnel selection, training, performance optimization, stress management, and the psychological aspects of warfare.

The importance of military psychology cannot be overstated, as it plays a critical role in ensuring the efficiency, effectiveness, and well-being of military personnel. This specialized field of psychology provides essential insights and interventions that enhance the mental health, performance, and resilience of soldiers, which are crucial for the success of military operations and the overall security of a nation or an alliance.

### **Historical overview**

Military psychology has a relatively short, but quite rich history that mirrors the evolution of warfare and the understanding of the human mind. Given that the need to understand human behaviour, the psyche, was already present at the beginning of the appearance of the homo sapiens, the history of the development of military psychology can be divided into two parts: the period before and after the emergence of the discipline. Its roots can be traced back to ancient times when leaders and strategists sought to understand the mental state and morale of their troops.

Sun Tzu, a Chinese military strategist who in his seminal work, called "The Art of War," emphasized the importance of understanding the psychology of both one's own troops and the enemy. He recognized that morale, discipline, and cohesion were critical factors in determining the outcome of battles. Sun Tzu

famously wrote, "If you know the enemy and know yourself, you need not fear the result of a hundred battles."(Net22). This succinctly captures the essence of his psychological approach to warfare, highlighting the necessity of self-awareness and insight into the adversary's mindset.

Though primarily remembered as a historian, Thucydides delved deeply into the psychological dimensions of warfare in his account of the Peloponnesian War (Net15). He explored themes such as fear, honour, and the dynamics of power within societies and between rival states.

Thucydides' writings illustrate how psychological factors, such as fear of loss or desire for glory, could shape the behaviour of individuals and nations during times of conflict (Net1).

Niccolò Machiavelli's work "The Prince" offers insights into the psychological manipulation of both allies and enemies in the pursuit of power and military success (Net26). Machiavelli's pragmatic approach to politics and war emphasized the importance of understanding human nature, including its "darker" aspects, such as greed, ambition, and distrust.

Carl von Clausewitz also made significant contributions to the field of military psychology. Clausewitz, a Prussian general and military theorist, explored the psychological dimensions of warfare in his seminal work, "On War". He stressed the importance of factors such as morale and leadership in shaping the conduct and outcome of military operations.

However, it wasn't until the 20th century that military psychology began to develop as a formal discipline, driven by the demands of modern warfare and the complexities of human behaviour in combat.

The origins of military psychology can be traced back to WWI, when the need for effective personnel selection became evident. In 1917, the U.S. Army established the Division of Psychology, leading to the development of the Army Alpha and Beta tests, designed by Robert Yerkes and his colleagues (Net9). These tests assessed the intellectual and emotional functioning of recruits, ensuring that soldiers were assigned roles that matched their abilities. But it wasn't just the efficiency of selection that made the field grow. WWI, often referred to as the "Great War", is a seminal moment in human history, not only because of the sheer scale of the destruction, but also because of its profound impact on the human psyche. Technological advances ushered in an era of mechanised warfare. The widespread use of machine guns, artillery and poison gas has led to unprecedented levels of destruction, which have had a profound impact not only on the physical but also on the psychological plane. The horrors of the trenches left deep scars on human souls as soldiers struggled with fear, despair and a sense of alienation. During WWI, the stress and strain of modern warfare caused soldiers from all the fighting nations to suffer from a wide range of debilitating

and excruciating neurological complaints. The experience of previous wars had shown that it was nothing new to see people "broken", but it was only in WWI that the mental breakdown of troops was a major problem for morale and fighting strength. Due to the nature of war neurosis, it is difficult to accurately estimate the number of people affected. On the Western Front, more than 80,000 cases were recorded in British armies; estimates for German troops range from 200,000 to 300,000, and the number of those affected in French troops was similar, if not higher. Statistics show a high number of traumatised men, but overall war neurosis accounted for a relatively small percentage of combat casualties. Nevertheless, medical officers at the time felt overwhelmed by the "extraordinary incidence of mental and functional neurological disorders": the number of mentally wounded was unprecedented compared to previous wars, and "shell shock" had a particular impact on military morale and discipline.

The interwar period saw continued advancements, but it was during WWII that military psychology truly came into its own. The sheer scale and intensity of the conflict demanded a more sophisticated understanding of human behaviour under stress. Psychologists like John C. Flanagan developed critical tools such as the Aviation Psychology Program, which focused on selecting and training pilots and aircrew (Net8, Net6). The program's

success in reducing pilot error and enhancing combat effectiveness underscored the value of psychological insights in military operations. Furthermore, psychologists like John W. Gardner and Edward C. Tolman contributed to the development of training programs, morale assessments, and strategies to enhance combat performance and resilience (Net25). The creation of the Office of Strategic Services in 1942 marked a significant milestone, as psychologists Henry Murray conducted personality assessments to identify suitable candidates for espionage and covert operations (Net14). Another significant contribution during World War II came from the work of the Research Branch of the U.S. Army, led by Samuel Stouffer (Net11). This group conducted extensive surveys and studies to understand soldiers' attitudes, morale, and combat experiences. Their findings, published in "The American Soldier" series, provided a comprehensive picture of the psychological landscape of military personnel and informed policies on leadership, training, and post-war adjustment (Net19).

The Cold War era brought new challenges, including the psychological dimensions of nuclear deterrence and the need for effective espionage and counter-intelligence strategies. In addition to the impact of the bombings on the Japanese people, the images of Hiroshima and Nagasaki in 1945 continue to inspire fear on an almost global scale. Survivors

developed acute and chronic psychological reactions, including severe fear, psychosomatic symptoms and PTSD. The establishment of organizations such as the American Psychological Association's Division 19 (Society for Military Psychology) in 1945 highlighted the growing recognition of the field's importance (Net20).

In the contemporary context, the psychological well-being of soldiers, particularly in relation to combat stress and PTSD has become a critical point. During the Korean and Vietnam Wars, the focus of military psychology expanded to address the psychological impact of guerilla warfare and prolonged combat exposure (Net13). The concept of "combat stress reaction," previously known as "shell shock" in WWI and "battle fatigue" in WWII, evolved into what is now recognized as PTSD. The Vietnam War, in particular, highlighted the need for better mental health support and led to significant changes in how psychological services were provided to soldiers during and after their service (McFarlane AC., 2015). The Vietnam War era saw heightened awareness of PTSD, leading to significant research and the establishment of treatment protocols. In 1980, PTSD was officially recognized in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III), underscoring the importance of addressing combat-related psychological issues (Net7).

In the late 20th and early 21st centuries, the Gulf War and the conflicts in Iraq and Afghanistan brought further advancements in military psychology. The use of advanced technologies, such as virtual reality for training and rehabilitation, and the integration of psychological operations (PSYOP – see: Mező, 2014) in combat strategies, demonstrated the field's adaptability to new warfare environments.

Today, military psychologists are integral to various military operations, from recruitment to veteran care. They employ a range of psychological assessments and interventions to enhance operational readiness and support mental health. For instance, the U.S. DoD's Comprehensive Soldier and Family Fitness program employs resilience training to prepare soldiers and their families for the psychological demands of military life (Net4). Moreover, military psychology intersects with other fields, such as human factors and ergonomics, to improve the design of equipment and environments, thereby optimizing performance and reducing the risk of injury. The role of psychologists in developing and implementing training simulations is another critical area, utilizing virtual reality and other technologies to prepare soldiers for the complexities of modern warfare. For example, Dr. Albert "Skip" Rizzo have pioneered the use of virtual reality in treating PTSD, showcasing the innovative applications of psychology in modern military contexts (Rizzo & Shilling, 2017).

### **Key areas of focus and trends**

A cornerstone of military psychology is the psychological assessment and selection process. Modern militaries employ rigorous screening methods to evaluate the cognitive, emotional, and physical fitness of recruits. Why are these aspects important? Because strong cognitive capabilities ensure that recruits can process information, make quick decisions, and solve problems effectively, while emotional fitness is essential for coping with the stresses of combat and maintaining mental resilience. Moreover, physical fitness is necessary to meet the physical demands of military tasks and ensure operational readiness. Together, these screenings help build a capable, resilient, and effective military force. This process often includes tools like the Armed Services Vocational Aptitude Battery (ASVAB), which helps determine the best occupational fit for new recruits based on their abilities and interests (Net23). Additionally, psychological evaluations aim to identify individuals who may be at risk for mental health issues, ensuring they receive appropriate support from the outset.

Mental health services and support for military personnel have significantly improved, reflecting a deeper understanding of the unique psychological challenges faced by service members. There is a growing emphasis on proactive mental health care, aiming to prevent issues before they escalate. Proactive mental health care is important because it focuses

on early identification and intervention, which can prevent mental health issues from developing into more severe conditions. By addressing potential problems early, individuals can maintain better overall well-being, reduce the risk of crises, and improve their quality of life. This approach not only enhances individual health but also reduces the long-term costs and burdens on healthcare systems. Initiatives like the U.S. DoD's Real Warriors Campaign work to reduce stigma and encourage help-seeking behaviors among service members (Net17). Counseling services, peer support programs, and telehealth options are increasingly accessible, ensuring that military personnel can receive timely and effective care.

Prolonged exposure to combat can lead to a range of psychological issues, including PTSD, depression, and anxiety, thus mitigating the harms caused by stress and trauma is a central element of military psychologists' work. Understanding and mitigating the effects of combat exposure remain paramount, with ongoing research into PTSD, traumatic brain injury (TBI), and moral injury. Treatment approaches incorporating both traditional therapeutic methods and complementary practices like yoga, mindfulness, and acupuncture provides a holistic approach to managing trauma. Innovative therapeutic approaches, such as Eye Movement Desensitization and Reprocessing (EMDR) and Prolonged Exposure Therapy (PE), have shown efficacy in treating PTSD (van

den Berg DP, de Bont PA, van der Vleugel BM, de Roos C, de Jongh A, Van Minnen A, van der Gaag M., 2015). Furthermore, cognitive behavioral therapy (CBT) is widely used to address a range of mental health issues. CBT focuses on changing negative thought patterns and behaviors, and it has been proven effective in treating conditions such as depression, anxiety, and PTSD. The use of technology in delivering CBT has expanded access to care, particularly for those in remote or deployed locations. Telehealth services and mobile applications provide tools and resources for managing mental health, ensuring that service members receive the support they need regardless of their location.

Leadership and morale continue to be central themes in military psychology, as effective leadership is crucial for maintaining morale and ensuring the operational success of military units. Training programs, that focus on leadership, aim to cultivate the necessary skills and qualities, moreover, to develop leaders who can inspire and support their teams, particularly in high-stress situations. Psychological research informs these programs, highlighting the traits and behaviours that contribute to cohesive unit functioning. Research by Bruce J. Avolio and Bernard M. Bass on transformational leadership has influenced military training programs, emphasizing the importance of inspiring and motivating subordinates, fostering a

positive organizational culture, and enhancing overall unit performance (Net12). Family and community support systems are inevitable, because it must be recognized that military service impacts not just the individual but also their families. Programs offering counseling, financial planning assistance, and social support networks help families navigate the unique challenges associated with military life. The Military Family Life Counseling Program (Net16) and the Military Family Advocacy Program (Net5) are great examples, that offer resources and counseling to help families cope with the upcoming hardships, occurring problems and challenges, including frequent relocations, extended deployments, and the stress associated with combat (Net24, Net5). These programs aim to create a stable and supportive environment for service members, knowing that a strong family foundation contributes to overall mission readiness and personal well-being. The importance of family and social support programs lays in the very fragile nature of relations in case of a military family. It is refuted that soldiers are more suicidal in crisis situations because the means are at hand. For soldiers under constant control, it is much harder to detect when they are contemplating suicide. Increased workloads, for example, when a soldier is transferred to another post, has to engage in combat or has a conflict with a superior/principle, are not in themselves a problem. But when these are compounded

by personal events that are more difficult to deal with because they are incompatible with being a soldier, especially a relationship crisis or financial problems, the risk of suicide increases.

Suicide prevention and intervention strategies are a major priority, given the high rates of suicide among military personnel and veterans. Comprehensive prevention strategies have been implemented to address this issue, involving screening, early intervention, and continuous support. For instance, the U.S. DoD's Suicide Prevention Program includes initiatives such as the use of predictive analytics to identify at-risk individuals and the Veterans Crisis Line, which provides immediate support to those in crisis (Net28, Net21). The Applied Suicide Intervention Skills Training (ASIST) equip service members and leaders with the skills to intervene effectively and provide peer support (Net2, Silvola K, 2003).

### **Challenges in military psychology today**

One of the most persistent challenges in military psychology is the stigma associated with seeking mental health care. Despite numerous efforts to reduce this stigma, many service members still fear that admitting to psychological issues might be perceived as a sign of weakness or could negatively impact their careers. This fear can prevent individuals from seeking the help they need, leading to



untreated mental health conditions that can affect both personal well-being and mission readiness. Several military organizations have implemented various initiatives in order to promote mental health awareness and to encourage service members to seek help, however, reducing stigma remains an ongoing battle that requires continuous education and advocacy, not only within the military, but the civilian sector as well.

Besides stigmatization, accessibility to mental health services is another significant issue. Ensuring that all service members have timely access to quality mental health care, regardless of their geographic location, is a critical priority. However, within this question, the problem of adequate funding and resource allocation cannot be forgotten (budget constraints may limit the availability of critical resources, such as mental health professionals, training programs, and technological tools); additionally, it must address the diverse needs of different groups within the military. This includes providing specialized services for women, minorities, and LGBTQ+ service members, who may face unique psychological challenges (Katharine M. Mark, Kathleen A. McNamara, Rachael Gribble, Rebecca Rhead, Marie-Louise Sharp, Sharon A. M. Stevelink, Alix Schwartz, Carl Castro & Nicola T. Fear, 2019).

“Modern” conflicts, military operations are often characterized by asymmetrical threats, cyber warfare, and the use of

advanced technologies, complemented with the conventional ways and means of warfare. These changes pose new psychological challenges for service members, requiring military psychology to adapt accordingly. The stressors associated with modern warfare, such as operating in complex urban environments or dealing with the constant threat of attack coming from the virtual or cognitive dimensions, necessitate updated training and support programs. Higher emphasis is being put on the integration of unmanned systems and artificial intelligence in military operations, that introduces new ethical and psychological considerations. From the point of the author’s view the reliance on AI supported weapon systems and decision-making processes introduces a new level and also characteristic of anxiety and uncertainty, that can lead to even prolonged stress and cognitive dissonance, particularly if there is a perception that these systems lack transparency or accountability.

### **Possible future directions**

The future of military psychology holds promising advancements and opportunities to further enhance the mental health and operational effectiveness of service members. As the field continues to evolve, emerging research and theories, potential technological breakthroughs, evolving training and support systems, and policy

and advocacy for mental health will shape the next era of military psychology.

It is thought to be that the continued exploration of the neurobiological underpinnings of stress and trauma is a key aspect of psychology. Advances in neuroimaging techniques, such as functional MRI (fMRI) and positron emission tomography (PET) scans, are providing unprecedented insights into how stress and trauma affect the brain (Ng, T.S., Lin, A.P., Koerte, I.K., 2014), (Murnane, K. S., Edinoff, A. N., Cornett, E. M., & Kaye, A. D., 2023). These technologies allow researchers to observe changes in brain activity and structure in real-time, helping to identify specific brain regions involved in conditions like PTSD and traumatic brain injury (TBI). Besides, biomarker research is another promising avenue, where different markers (e.g. cortisol levels, inflammatory markers, and genetic variations) are being investigated to better understand how individuals respond to stress and trauma (Dziurkowska, E.; Wesolowski, M., 2021). For example, elevated cortisol levels, a common response to chronic stress, can be monitored to assess the severity of a soldier's stress response (Tait JL, Drain JR, Corrigan SL, Drake JM, Main LC, 2022). Similarly, inflammatory markers in the blood might indicate a heightened state of physiological stress or injury, providing clues about the body's response to trauma (Hori, H. and Kim, Y., 2019). In addition to these diagnostic tools, advancements in

neurostimulation therapies like transcranial magnetic stimulation (TMS) and deep brain stimulation (DBS), are being explored as potential treatments (Net3). These therapies aim to modulate brain activity to alleviate symptoms of PTSD and TBI. TMS uses magnetic fields to stimulate nerve cells in the brain, which can help improve mood and cognitive function in individuals suffering from PTSD (Edinoff AN, Hegefeld TL, Petersen M, Patterson JC II, Yossi C, Slizewski J, Osumi A, Cornett EM, Kaye A, Kaye JS, Javalkar V, Viswanath O, Urits I and Kaye AD, 2022). DBS involves implanting electrodes in specific brain areas to regulate abnormal brain activity, offering another potential treatment avenue for severe cases of TBI (Net10). These technological and scientific advancements hold the promise of more targeted and effective treatments for military personnel suffering from stress-related conditions.

Technological innovations might play a crucial role in the future of mitigating psychological problems (even in civilian or military life). Virtual reality (VR) and augmented reality (AR) technologies, already in use for training and therapeutic purposes, are expected to become even more sophisticated and widely adopted. VR simulations can provide realistic training environments that prepare service members for the complexities of modern warfare, while also serving as powerful tools for exposure therapy in the treatment

of PTSD. Artificial intelligence (AI) and machine learning will also transform the field. AI-driven platforms can offer personalized mental health resources and real-time monitoring of psychological well-being, enhancing the ability of psychologists to provide timely and effective care (Zafar F, 2024). Moreover, advancements in wearable technology will enable continuous monitoring of physiological and psychological indicators. Devices that track heart rate variability, sleep patterns, and stress levels can provide valuable data to both service members and healthcare providers, facilitating proactive management of mental health (Net27). Predictive analytics can be used to identify individuals at risk for mental health issues, allowing for early intervention and tailored support (Net18). If we talk about any aspect of the future nowadays, artificial intelligence is a topic that simply cannot be left out. It is quite unnecessary to deny that, sooner or later, this technology, which is less advanced today, will change warfare. And as the characteristics of warfare change, selection, psychological training, trauma management, care, recreation, etc. will have to adapt to these changed circumstances. There is no black-and-white answer as to whether AI will bring about positive or negative changes in certain areas, since on the one hand we are talking about a very complex, almost unknown phenomenon, and on the other hand its stigmatisation is rather determined by the impact of its usage. The situation is similar

in the field of (military) psychology. Currently, we do not know whether AI could potentially provide emotional support to a traumatized individual in the same way that a sensitive human-being can, even with the increased understanding of brain function and various neurological examinations. However, we do see that, especially since COVID-19, more and more people are turning to psychologists to address mental health issues, which is fundamentally a good thing to see them let stigmatization go. The real question, though, is whether the members of very differing generations (from X to Alpha) will be able to cope with the challenges of a globalized world. Will there be enough psychologists to assist those struggling with problems? If there is not enough human capital, how will supply meet demand? Can AI support the work of psychologists in the future? It is worth pondering this question more deeply...

Another promising area of research is the study of resilience and protective factors that help individuals withstand the rigors of military life. Understanding the genetic, environmental, psychological, neurobiological, neurochemical and epigenetic factors that contribute to resilience can inform the development of more effective training programs and interventions. Additionally, research into moral injury—psychological distress resulting from actions that violate one’s moral or ethical code—will continue to grow, providing new avenues for support and

treatment. After a long period of time, the topic of resilience has returned to the agenda in recent years and has become one of the most frequently used terms in both the private and public sectors. The situation is similar in the case of NATO, and let us take a brief look at the situation of the Alliance, given the nature of the current article. Under Article 3 of the Washington Treaty, achieving resilience is a “national responsibility and a collective commitment”. However, the resilience of the nation, and more broadly of the alliance, begins with the individual, whether civilian or military. Until now, NATO initiatives have been primarily concerned with building and developing resilience at the national level, but today experts work at the micro level of resilience building. The resistance of the civilian population and the perseverance of soldiers in high-stress and dangerous situations are both of paramount importance for survival, so NATO is now also working on the development and optimisation of the mental and physical well-being of the individual, involving a number of different disciplines. It is a direction that is not only profitable in terms of maintaining strategic advantage, but also in terms of overall human security. To sum up, it must be noted that even the future of military psychology will also be shaped by policy and advocacy efforts aimed at enhancing mental health support for service members. Policymakers and military leaders will need to prioritize

mental health funding and ensure that resources are allocated effectively to support comprehensive care. Military psychology must be effectively integrated into broader military strategies to ensure that psychological insights contribute to overall mission success. This integration involves collaborating with other disciplines, such as medical, operational, and strategic planning teams, to create comprehensive approaches to soldier well-being and performance. Furthermore, international collaboration and knowledge exchange will become increasingly important. As military operations often involve multinational coalitions, sharing best practices and research findings across countries can lead to more effective and cohesive support systems for service members worldwide.

### **Conclusion**

Throughout history, military psychology has evolved in response to the changing nature of warfare and our understanding of human behaviour.

From the early intelligence tests of WWI to the sophisticated therapeutic interventions of today, military psychology has continually adapted to meet the needs of military personnel. In the present day, military psychology is characterized by its integration of advanced research, innovative practices, and technological advancements. The focus on psychological assessment, resilience training, mental

health services, and the ethical and cultural considerations essential for effective intervention reflects a holistic approach to supporting service members. Challenges remain, including stigma surrounding mental health, adapting to modern warfare, integrating psychological insights into broader military strategies, and securing adequate funding and resources. However, these challenges present opportunities for growth and innovation within the field. Looking to the future, emerging research, technological breakthroughs, evolving training and support systems, and policy and advocacy efforts hold promise for further enhancing the field of military psychology.

By embracing these future directions and continuing to prioritize the mental health and well-being of service members, military psychology will remain at the forefront of ensuring that those who serve are equipped to meet the demands of their duties while maintaining their overall health and resilience.

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