

## CROSS-TRAINING AS A MODERN PHYSICAL TRAINING METHOD USED IN THE MILITARY FIELD

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Motto: *“The lack of activity destroys the good condition of every human being, while movement and methodical physical exercise saves it and preserve it.”*  
Plato

### Abstract:

*In regard to public and strategic modern communication, at least in one respect Considering the armed conflicts near the border of our country, more attention should be paid to national security; thus, all public institutions responsible for national security and defence should focus more on the combat training of subordinate personnel. As a NATO member state and through the role that our country has within the Alliance, in order to prove that we are a strong and respected state, we must constantly make efforts to be able to rise to the level of our partners within the Alliance. In this sense it is necessary to make progress regarding the use of the latest information and communication technologies, the modernization of military techniques and equipment, but also regarding the improvement of the level of physical training. In order to improve the fighting ability of the military, it is necessary to increase the level of their physical training, which can be achieved in the shortest possible time based on the methods and means of training used by the modern armed forces and their implementation in the design of physical training programmes from the very beginning of the military career.*

**Keywords:** *national security, defence, military physical education, cross-training, physical training.*

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## Introduction

Physical education and sports are currently a means through which nations affirm their physical and mental potential as well as their educational, organisational and economic efficiency. The current concept of physical education represents a stage in the evolution of the notion. Initially the notion of gymnastics was used, which now has a narrower meaning that includes its well-circumscribed branches. The transition to the concept of physical education was due to the broadening of the scope of this latter activity, the diversification of its content and forms of organisation, as well as the growth of the population segment engaged in its practice.

In Romania, the concept of physical education is expressed by the *Law on Physical Education and Sports* (2000) as follows: "Physical education and sports are the activities of national interest supported by the state. In the sense of this law, physical education and sports are understood as all forms of physical activity that are intended, through organised or independent participation, to express or improve physical fitness and spiritual comfort, to establish civilised social relations and lead to achievements in competitions of any level."

Physical education is one of the important components of education, influencing individuals on several levels, such as: motor, intellectual, affective, aesthetic. According to Cârstea (2000, p. 26), "the essence of physical education and sports consists in the fact that the practice of physical exercise, regardless of the organisational form and the socioeconomic or political formation in which it is performed, mainly aims to improve the physical development and motor ability of the participants."

Physical training is an indispensable component in the training process for all personnel in institutions with attributions in the field of national security and defence and has an important role both in terms of optimizing the capacity for combat and in their continuous professional training. Physical training should be a priority in the military field as an optimal level of physical training of the military directly contributes to the increase of efficiency and specific attributions for the fulfilment of various missions, even in difficult situations.

The purpose of this paper is to highlight a modern approach in the process of physical training of military personnel by introducing and using the newest training methods that contribute quickly and effectively to increase the physical potential of the military. Thus, *cross-training* means both a philosophy of movement and a competition with oneself, incorporating intense workouts that involve aerobic and anaerobic exercises, weight training exercises, elements of isometry, combinations of gymnastics and athletic exercises, bodyweight exercises. By implementing this training method in physical education lessons specific to military higher education institutions, the future military personnel will be able to go beyond their ordinary limits and improve their fighting ability.

### **The current situation of military physical education**

People are a very important factor in the evolution and existence of a society and, in accordance with social requirements, they constantly seek to improve their psyche, intellect and physical potential. The great military powers, insisting on the need for combat training, actually highlight the need for multidisciplinary training, including elements of military tactical training, topography, engineering, telecommunications, shooting with different categories of weapons, first aid, all of these achieved on a very good foundation of the fighter's body which should be equipped with a very strong mental and emotional side. This reveals the role and importance of the human physique in the success of a mission.

Military physical education, as a component of general physical education, was created by adapting physical education to both the combat training needs of military personnel and the specifics of their missions.

Military physical education is organized and carried out in all units, subunits and military educational institutions, according to specific training plans and programs, their content being determined by the general requirements of the training process, by the specifics of each weapon and military specialty.

The lack of research and the unscientific way of approaching physical training in the military field has led to monotony and low student motivation because the traditional means and methods of

training are often outdated. According to the *Military Physical Education Regulation* (2012), the military physical education lesson represents the main organisational and functional unit of the training process. It is carried out on the basis of specialised programmes under the guidance of an expert and with the mandatory participation of all established personnel. The training process in military institutions includes multiple didactic activities aimed at optimising motor and learning skills, consolidating and enhancing utilitarian-applicative and sports motor skills, but also actions focused on educating body posture and even correcting some physical defects, which is why this specialty is fundamental for training the qualities of a fighter.

Physical education in the military field is a basic form of long-term education, which should lead to a healthy lifestyle, a way of thinking and acting for both one's own benefit and for the social interest. Starting from this idea, we could change the mentality about the content and especially the management and organisation of physical education in our country.

The process of switching from exclusively biological influences to multilateral, educational, psychological and social ones involves, on the one hand, using physical education as a form of general education, and on the other hand, forming an individual's conviction to practise physical exercise in all stages of life. The modern military environment requires developmental changes in all its areas of interest, starting with the theory of military art, the management of military actions, the technological upgrading of armament and combat techniques, and ending with training at the individual level.

In recent years, attempts have been made to revive the field of physical education in military institutions through the objective way in which it has been viewed by the leadership factors in the army as well as due to NATO membership. Participation in international missions alongside allies is a good opportunity to observe how this category of training is regarded by modern armies, and the role and importance of the specialist in the field has been emphasised by both the application of the designed physical training programmes and the high exercise capacity of the targeted individuals.

## **The objectives of military physical training**

Physical training in the Romanian military environment, as a component of combat training, has been addressed over time without exhausting all its resources; instead, opportunities have been created to update the information and develop other new directions of analysis. According to the armed forces of NATO member countries, physical training aims at the general physical development of the military and increasing their specific exercise capacity. This enhances their efficiency and permanent state of mental alertness, promotes cohesion and raises the level of maintenance and development of combat capability, thus contributing to the formation of a well-trained military man able to withstand tension and stress. Certainly, very good physical training will result in maximising the moral-volitional and physical components of the fighting ability and will help to strengthen overall physical health, developing resistance to states of stress such as fatigue, fear, panic, hunger.

Being the starting point of the entire physical training process for the military and a subsystem of physical education and sports, military physical education is a component of the training process that exploits all forms of collective or individual activity carried out in order to build, develop and maintain motor skills necessary in situations of peace, crisis and war, thus contributing to the improvement of the physical and mental health of military personnel (*Military Physical Education Regulation*, 2012). Such personnel should be prepared for an ever-changing society characterised by dynamism which requires a certain intellectual, moral, physical and civic configuration, a certain profile that harmoniously combines the sides of each individual's personality: a healthy, harmoniously developed and highly-skilled military with creativity and fast thinking skills, initiative, the ability to select, systematise and reorganise information, to choose the best solutions and quickly decide on their application in practice.

Physical training is a very important component in the military career, which directly contributes to the training process of the military and positively influences their ability to perform, at an optimal level, in emergency situations encountered both in their professional activity and in everyday life.

## **New trends in the physical training process of the military**

Cross-training is the most modern training method that is commonly used in the physical training process by the defence system structures at the international level; this method is used by the military, firemen and policemen but also in the academic environment, especially in NATO and EU member states. Cross-training means both a philosophy of movement and a competition with oneself, incorporating intense workouts that involve aerobic and anaerobic exercises, weight training exercises, elements of isometry, combinations of gymnastics and athletic exercises, bodyweight exercises.

Updating the relevant literature is a necessary action that underlies any scientific activity. Previous studies on military physical education represent a global whole, but in order to add value to the research, we should not limit ourselves to this horizon but bring our own contribution to the physical training of military personnel. In recent years, due to the participation in joint missions with the other NATO member states, military physical training has significantly developed because the military observed and adopted the way of approaching this indispensable component for their field of activity.

Proper physical training provides the physical and mental support needed by the other categories of training; therefore, we should highlight the importance of the specialist who, through the designed programmes applied in the training process, represents an essential element in the training and education of the military. Considering both the practical and applied nature of military physical education, it ranks among the disciplines with great possibilities for achieving the general objectives of the military field. In this regard, it contributes to increasing work capacity, providing the military with transferable abilities, skills and habits in productive activity, developing motor skills required in these activities and getting used to team spirit, group activities, discipline, order and exigency.

Although the object of the activity is the person knowledgeable in the field to follow, besides the part of knowledge and research, it is necessary not to neglect the formation of moral, aesthetic and physical qualities, which are related to what we call a multilaterally-developed cultural being. As Vințanu (2001, pp. 25-40) highlights: "An emphasis

placed exclusively on the cognitive function limits the research, not taking into account aspects related to sensitivity (such as aesthetic, rational and affective ones), in other words, everything that characterises man as a human being. When the focus is only on changing certain aspects, an imbalance occurs that leads to failure to achieve the general objectives of education.”

For their training and development, the military should aspire to improvement from a physical, intellectual and moral point of view in order to become useful to society, and therefore they should always be concerned about their state of health, as well as their ability to cope with professional and daily life demands, and for this, they need to be aware of the importance of practising physical exercise and sports.

The field of military physical education, which is influenced by the development of the instructive-educational process in the military environment, includes numerous didactic activities for learning and improving utilitarian-applicative and sports motor skills and abilities, educating body posture, preventing and combating physical impairments, which is why it represents the essence of the approach to the formation of military qualities.

From a didactic point of view, physical exercise is the main tool in programming and carrying out the training process; therefore, it is a basic component for achieving the objectives of military physical education. According to Şiclován (as cited in Tudor, 2007, pp. 113-114), physical exercise is “a predominantly bodily action performed systematically and consciously in order to improve the physical development and motor ability of people”. The same author claims that physical exercise should be understood as a possibility of permanent adaptation to internal and external conditions and should not be seen only as a stereotyped repetition. In this context, physical exercise does not simply involve systematic repetition but also provides the opportunity to build a form of motor behaviour based on learned movements and assimilated motor knowledge.

In military physical education, general physical training is carried out using means and methods of a general nature or borrowed from other branches of sport with the aim of developing motor ability and increasing the overall functional potential of the body. The content of

military physical training is mainly oriented towards the development of exercise capacity and combined motor skills, which are regarded as priorities. In turn, this training has a general orientation and, in our case, addresses the specificity of each individual profession.

In compliance with exercise physiology regarding the continuous and safe development of exercise capacity required by the increased physical demands on military personnel, the following aspects need to be considered:

- increased efforts throughout the year;
- the predominant use of maximum efforts;
- the use of functional training;
- combining exercise with recovery and rest.

A few decades ago, the American military services concluded that it was necessary to develop new physical training programmes that would stimulate the military to maintain an optimal level of physical fitness to be able to produce professional performance. Nowadays, an ideal training programme should consist of exercises aimed at improving general physical fitness and major body functions.

Cross-training is a revolutionary training method, a reinterpretation of military-type training, which is based on functional exercises, HIIT (High-Intensity Interval Training), calisthenics, exercises involving weight lifting, TRX (Total Body Resistance Exercises), exercises borrowed from different branches of sport (athletics, gymnastics, boxing) and performed with high intensity. Isolated bodybuilding exercises are not used in this type of training. Bodyweight exercises have been used since the time of ancient Greece because they are the basis of any sports discipline and the training of soldiers. Calisthenics represent a whole culture about the training in which bodyweight exercises are used.

Functional training has the main purpose of transferring the effects obtained from exercise into effective daily actions by involving the entire neuromuscular system (Liebenson, 2014, p. 271). This type of training has been adopted by the vast majority of professionals in the field of physical education and sports but also by national security and defence structures that have turned it into a type of training where bodyweight exercises are predominant. The main purpose of functional



training is to improve a person's ability to carry out professional and everyday activities.

High-Intensity Interval Training (HIIT) is a method that mainly uses cardio exercises, which alternate high-intensity with low-intensity exercises. To achieve the proposed objectives, this type of training is much more effective than classic cardio exercises because the exercises performed at the same pace lead the body towards a constant zone, which means that the body adapts to the execution speed and will try hard to conserve its energy. HIIT is a non-conventional and relatively new training method in our country. Another new training method is TRX Suspension Training, which is used by both the military and elite athletes.

### **Similar studies**

Studies in the field of physical education and sports confirm the need to revitalise the instructive-educational process by introducing new means and methods of training. In 2008, Keith C., the director of the Health and Fitness programme at the Globe University of Minnesota, conducted a study where traditional training was compared to functional training. For more than 16 weeks, the researcher trained two groups of adults separately, and the results demonstrated that functional training increased the level of physical training more than in the case of traditional one.

Moreover, in his doctoral thesis entitled *Optimisation of the general and specific physical training of the counter-terrorist intervention group members through the means of physical education and sports* (2009), Paraschiv shows that functional training has an important role in the physical training of counter-terrorist fighters.

In 2018, three USEFS PhD students from the Republic of Moldova conducted a study where they compared the functional training benefits with the traditional training benefits for martial artists. The participants were 40 athletes aged between 18 and 30 years, all martial artists who were divided into two equal groups. The study took place over a 7-week period. The results highlighted that functional training could be an alternative for performance improvement in athletes practising martial arts compared to traditional training. They also indicated that functional

training increased muscle strength, endurance, balance and flexibility (Olaru et al., 2018, pp. 366-374).

It has been proven that a new training method called INSANITY can be successfully used in physical education lessons in military higher education because notable results are obtained in terms of improving the physical fitness of students and avoiding monotony, which is demonstrated in the doctoral thesis *Optimisation of motor and mental skills by modernising the content of the physical education lesson in military education* (Smídu, 2021).

The cross-training method has started to be more and more popular in our country, having been already adopted and used in the physical training process of competitive athletes and by the personnel working in the defence system structures (policemen, firemen, gendarmes, soldiers). As Boyle (2016) stresses, the implementation of cross-training as the main training method in military physical education brings numerous benefits, such as:

- improvement of the function of the muscular-skeletal system because functional training focuses on the natural movements of the body, without isolating certain muscle groups;
- prevention or reduction of muscle imbalances caused by a vicious attitude;
- body weight control: the use of functional training is an effective alternative to reduce body weight by increasing metabolic rate and decreasing adipose tissue;
- improves strength indices: the body gets a harmonious and vigorous appearance without the muscles being developed in an exaggerated, unesthetic manner;
- balance improvement: this training method includes exercises aimed at enhancing coordination at the intersegmental and intramuscular levels;
- enhancement of the neuromuscular relationship by the integration of functional exercises in the physical training process;
- development of neuromuscular memory faster than in the case of other types of exercises;

- contribution to the formation of an active and healthy lifestyle and to the improvement of all physical fitness components: strength, speed, respiratory and cardiovascular endurance, power, agility, coordination, balance, precision, flexibility, vitality;
- the ability to practise it anywhere (in the gym, outdoors or at home);
- acceleration of metabolism;
- improvement of cardiovascular and pulmonary capacity;
- achievement of an optimal level of physical fitness in a short time.

## **Conclusions**

The regular practice of physical exercise under the guidance of a specialist has an important contribution to shaping self-esteem, maintaining calmness and making effective decisions in crisis situations, develops the capacity for self-control, the power of concentration, and restores emotional and functional balance. The cross-training method is designed for universal application, so it can be successfully used by any person in the national security and defence system, regardless of experience, gender, age or training level.

The implementation of this training method in the field of military physical education provides solutions for increasing the physical and mental potential of military personnel; it is a reinvention of outdated physical training methods that prevents monotony and engages the military in the training process, making them more aware of their role, the importance of physical training and the fact that, as NATO members, we need to rise to the level of the other member states of the alliance, at least from the point of view of combat readiness.

**Aknowledgement:** The work of Gabriel Cracană was supported by the PROINVENT project, Contract no. 62487/03.06.2022 - POCU/993/6/13- Code 153299, financed by The Human Capital Operational Programme 2014-2020 (POCU), Romania.

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