CISM

ΑΣΑΕΔ

CISM INTERNATIONAL SYMPOSIUM

ANCIENT OLYMPIA, GREECE | 2-8 NOVEMBER 2021

PROCEEDINGS BOOK

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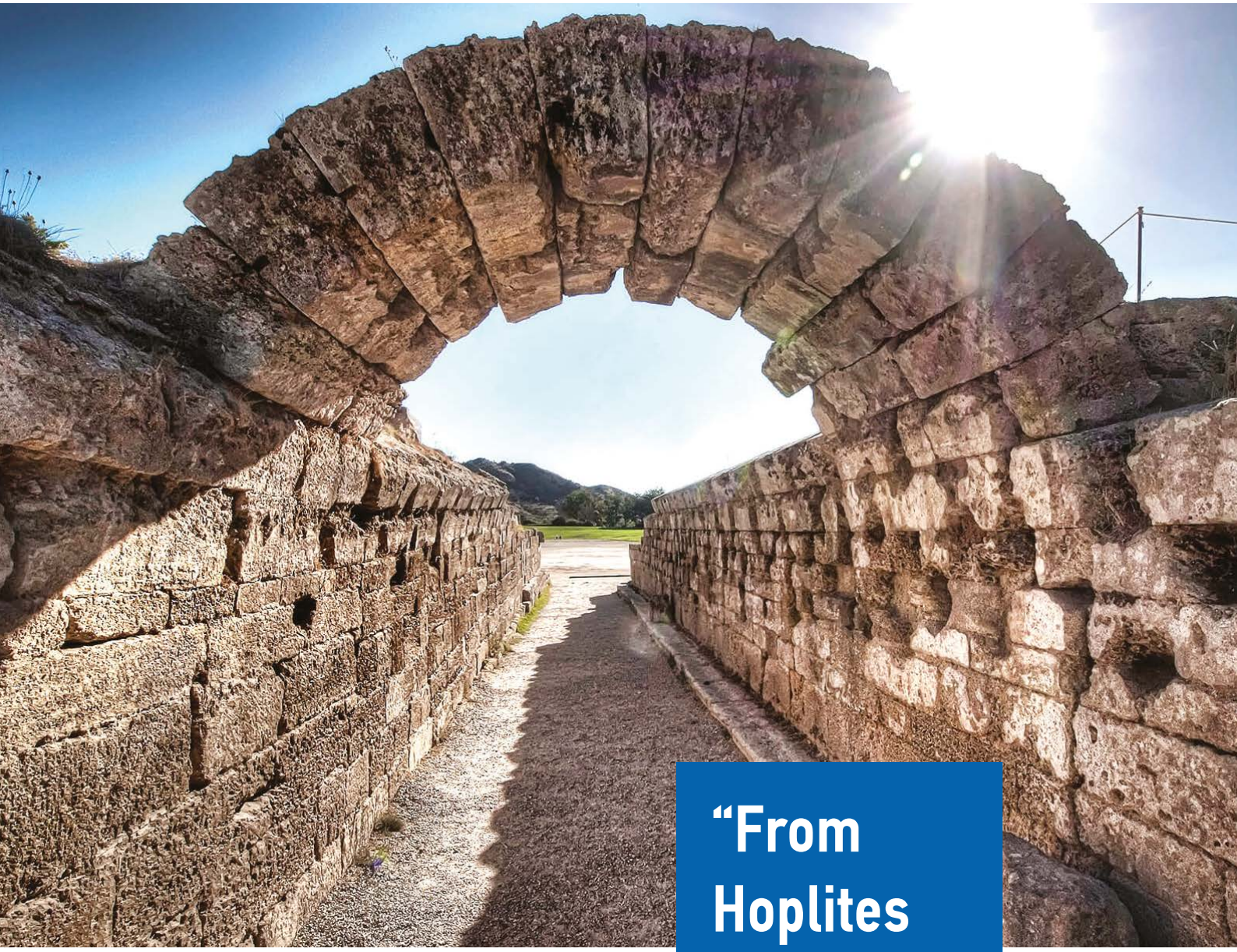

“From Hoplites to Modern Soldiers”

Entrance to the Ancient
Olympic Stadium of Ancient Olympia

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International Olympic Academy Premises

CISM PRESIDENT INTRODUCTORY WORDS

This international military science event was the symbol of the resumption of the CISM with 34 countries present here in Ancient Olympia, delegates, speakers, and high level civilian and military authorities.

The International Scientifc symposium was successful and allowed to everyone to learn a lot about the "SPORT SCIENCE IN THE BIRTH PLACE OF OLYMPICS".

The city of Olympia is open to the world, rich in its history, and carries the universal values of Peace and Solidarity. This is the city of the beginning of Olympism. This is the land of Olympics. Baron Pierre de Coubertin saw the contemporary Olympic Games as the spark of the world's peace and global unity.

Since its creation, CISM contributes to security and peace in the world. That is why the CISM values are the same as the Olympics principals: solidarity, friendship, resilience, unity, no discriminations, no exclusions. For the future, we have the collective responsibility to reach this ideal of peace.

The Route of Truce symbolize the bridge between the ancient and modern Olympics spirit and bring back the ideals of respect and the holy right to peace.
Through this symposium, CISM created awareness amongst
military leaders around the world on the contribution of sport as a vector for operational readiness, peacekeeping operations and better understanding between the armed forces and people of the world.
This symposium is a valuable and strategic plateform to share concepts, informations, knowledges, and experiences between members countries.

We discussed about military sport, history, science, management and related health subjects. I have the feeling that we learned a lot. This symposium could be considered as a new start for the science of the military sport despite the current context of pandemic.

It's was great opportunity to CISM family to be in the International Olympics Academy. This academy and CISM share the same goals: sport and education. We collectively have a responsibility in spreading military and Olympics values among the young people.

I would like to warmly congratulate the Greek armed forces, the civilian authorities, the Greek military delegation, the CISM Sport & Science Commission, and the speakers.

"Friendship Through Sport"

Brigadier Général Hervé Piccirillo
CISM PRESIDENT

CISM SECRETARY GENERAL INTRODUCTORY WORDS

Dear CISM Friends,
Having in memory, the succesful organisation of the CISM International Symposium in Quito – Ecuador in 2019, we are proud to see the continuity of this academic actions in CISM.

In 2021 CISM International Symposium in Ancien Olympia, bring us back to Greece which is the country that organised for the first time this event in 1962, with the goal of transmiting the scientific knowledge, for application to military fitness training, sport and health.

We are gathered in Greece, the historical country of sport, for another edition of scientific research within CISM. At this time, civil and military stakeholders from different CISM countries, will take the floor to share their knowledge, with a program consisting of several oral presentations and posters.

In addition, the traditional CISM sport award of late Chevalier Raoul Molet (former CISM Secretary General 1954-1986) will be giving as recegnition to the best scientific research on a topic of interest for CISM.

In conclusion, I would like to express my sincere thanks to the Greek delegation, lead by Navy Captain Spyridon Andriopoulos HN, Member of CISM Board , the CISM Academy, the CISM sport & science commission and the speakers, for the organisation of this wonderful event.

We never forget the high quality of contribution from the IOA managers for the success of the symposium and the great interest of the major of ancient Olympia city and the province autorities.

Thank to all
Friendship trough Sport

Colonel Dorah Mamby Koita
CISM Secretary General

Archaeological site of Ancient Olympia

CHIEF OF THE GREEK DELEGATION TO CISM INTRODUCTORY WORDS

Dear CISM friends,

As Chief of the Greek delegation to CISM, it was an extremely great honor for me to welcome CISM authorities and 34 CISM countries to Greece and especially to the city of Ancient Olympia, the birthplace of sports and Olympism.

In this place, about 2.000 years ago, the ancient Greeks, every four years, held sports games, entitled "Olympic Games", in order to end the military conflicts between Greek cities by imposing a ceasefire.

Today, the Olympic Games that started in Greece in 1896, 74 years after its liberation, inspired by Baron Pierre de Coubertin and Demetrios Vikelas, carry the same message, which is nothing more than building a better and peaceful world, mutual understanding, friendship, solidarity, respect and noble rivalry.

The idea of establishing CISM, which is "friendship through sport", is based on the same ideals, so that military athletes, instead of fighting on the battlefield, compete in the field of sport.
For my country the year 2021, it is a milestone year, as it celebrates the 200th anniversary of its independence and in this context, world-wide events will take place in Greece.

One of these events was the "CISM International Symposium", a significant conference, which forms a modern perception about the Armed Forces of CISM's member nations. CISM every two years, through the science of physical education and other scientific fields, is walking the path of progress and extroversion.

As the Greek delegation to CISM, we always try to provide all the guarantees, so that our common visions succeed in the most excellent way.

"Friendship Through Sport"

Captain Spyridon Andriopoulos HN
CISM BoD Member
Chief of the Greek Delegation to CISM

MESSAGE FROM THE CISM SPORTS DIRECTOR

Dear CISM Family,

It is with great satisfaction and pleasure that we present, on behalf of the CISM President and Secretary-General, the new edition of the Proceedings Book of the CISM International Symposium 2021.
I emphasize that this is a very special edition, not only for translating the effort of everyone involved so that we had the result that can be seen in the next pages, but especially because it is part of the continuity of the research tradition at CISM, forged with persistence and struggle to value academic production in its most varied aspects.

The International Military Sports Council organizes this event every two years, which is considered the most important scientific event in military sport. This edition of the CISM International Symposium is being held in Ancient Olympia, Greece, to promote intensive discussion through the publication of original studies and celebrate the landmark anniversary of 200 years since the Greek Revolution of 1821.
With the theme "From Hoplites to Modern Soldiers", the conference provides an important forum for addressing critical issues in the field of Sport and Physical Education within the Armed Forces. The participants, exchanging new ideas, and disseminating the latest developments in basic research, with a focus on fitness and performance of military sports, operational readiness, military sports events management, history of military sports, and benefits of physical activity for veterans will contribute, as one of the tools, to the knowledge sharing between Armed Forces.

This Symposium expands the horizons of academic/scientific production and provides a more assertive path for young soldiers who start their research activities, as well as encourage CISM professors to intensify their publications and, as usual, gives space to the scientific discoveries of researchers from different Armed Forces around the world, as it has been since its first realization in Greece, in 1962, five years after the establishment of the CISM Academy, main educational and cultural offshoot of CISM.
I am extremely excited to embark on this very important purpose and read this book which is based on the papers presented and in the high-quality presentations on very different topics at International Symposia. The CISM gratitude to all excellent and highly qualified speakers who decided to share their knowledge with us and to all participants for their remarkable and active cooperation.

I also would like to express my thankfulness to the Greece Delegation to CISM, International Olympic Academy, Municipality of Ancient Olympia which, supported by the CISM Sports Science Commission and the CISM Academy, have allowed an excellent meeting in the beautiful historic city of Ancient Olympia, a place intertwined with international sports and the beginning of Olympism.

Friendship through Sport!

Colonel (Brazilian Army) Luiz Fernando Medeiros Nobrega, MSc
CISM Sports Director

Analytical Program of the CISM International Symposium 2021

DATE	TIME	ACTIVITY	PLACE	DRESS
Sunday 31.10.2021	11 :50	Arrival of CISM HQ Staff - transportation to Ancient Olympia	Athens Airport " to IOA Premises in Ancient Olympia	Casual
	All Day	Arrival of SSC members - Accommodation to Athens	Athens Airport - Hotel Athens Grand Hyatt	
	After./ Even.	Lunch (depends on arrival time) Dinner	Ancient Olympia and Athens	
Monday 1.11.2021	10 :00 – 12 :00	Preliminary Meetings (HQ – LOC)	IOA Premises Ancient Olympia	Service Uniform
	09 :00 – 12 :00	Cultural Day for SSC members	Athens	Casual
	12 :30 – 14 :00	Lunch for SSC members	Attalos Restaurant	
	12 :30 – 14 :00	Lunch for HQ Staff	IOA Premises in Ancient Olympia	
	14 :00 – 18 :30	Transportation to Ancient Olympia for SSC members		
	19 :30 – 21 :30	Dinner		
Tuesday 2.11.2021	All Day	Arrival of Symposium participants in Athens – Accommodation in Athens	Athens Airport – Hotel Grand Hyatt Athens	Casual
	Afternoon/ Evening	Lunch (depends on arrival time)- Dinner for Symposium participants	Hotel Grand Hyatt Athens	
	11 :00 – 16 :00	SSC Meeting	SSC meeting room IOA Premises	Service Uniform
Wednes-day 3.11.2021	08 :30 – 09 :00	Put luggages in the buses	Hotel Grand Hyatt Athens	Casual
	09:00 – 12:00	Symposium participants Cultural Day in Athens	Athens Archaelogical Site	
	12:30 – 14:00	Lunch for Symposium participants	Attalos Restaurant	
	14:00 – 18:30	Symposium participants transportation to Ancient Olympia	IOA Premises Ancient Olympia	
	17:30 – 18:30	Symposium Press Conference	TBD	Class A Uniform
	19:30 – 21:30	Dinner	IOA Premises Ancient Olympia	Casual
Thursday 4.11.2021	08 :30 – 09 :30	Symposium Registration	IOA premises in Ancient Olympia	Service Uniform
	09 :30 – 10 :00	Symposium Opening Session		
	10 :00 – 13 :30	Topic day 1 (morning sessions) From Ancient Olympia to Modern Times: The History of military sports	IOA premises in Ancient Olympia	Service Uniform
	13:30 – 15:00	Lunch for all		
	16:30 – 17 :00	Coffee time Symposium		
	17:00 – 18:30	Topic day 1 (afternoon sessions) From Ancient Olympia to Modern Times: The History of military sports		
	19:00 – 20:00	Opening Ceremony (Symposium)		Class A Uniform
	20:00 – 20:30	Welcome Drink		
	20:30 – 22:30	Official Dinner		
Friday 5.11.2021	08:30 – 13:30	Topic day 2 (morning sessions) "Sport Science Behind Lines: Preparing the Soldier – Caring for the Veteran"	IOA Premises	Servise Uniform
	13:30 – 15:00	Lunch for all		
	16:00 – 16:30	Lecture "The Route of Truce – Bridging the ancient and modern"		
	16:30 – 17:00	Preparation for the Fun Run		Sport Outfit
	17:15 – 19:00	Fun Run "Kleosthenis Route of Truce"		
	20:30 – 22:00	Greek food Festival		Casual
Saturday 6.11.2021	08:30 – 11:15	Topic day 3 (morning sessions) "Military Sport Events Management: Social and Political Aspects"	IOA Premises	Service Uniform
	11:30 – 13:30	Cultural Day - Archaeological site & Museum	Ancient Olympia	Casual
	14:00 – 15:30	Lunch for all	IOA Premises	
	15:30 – 16:00	Coffee time		Service Uniform
	16:00 – 18:30	Topic day 3 (afternoon sessions) "Military Sport Events Management: Social and Political Aspects"		
	19:00 – 19:30	Closing Ceremony		
	19:30 – 20:30	Gift Exchange		Uniform Class A
	20:30 – 22:30	Closing Banquet	Europa Hotel	
Sunday 7.11.2021	TBD	Departures of the participants to Athens – Accommodation to Athens	Grand Hyatt Athens	Casual
Monday 8.11.2021	All day	Departures of the participants (only from Athens)	Athens International Airport	Casual

MAP

International Olympic Academy Layout

01
Conference Hall

02
BoD meeting room

03
VIP Dormitories

04
Dormitories

05
Restaurant

06
Stadium

07
IOA's
Administration Offices

MESSAGE FROM THE PRESIDENT OF THE CISM SPORTS & SCIENCE COMMISSION

Dear CISM friends,

From hunter - gatherers to modern soldiers physical fitness remains one of the most important skills for survival. Exercise originally was a pure military drill but over the last century sports and exercise have become an essential part of our society with sophisticated academic programs studying the effects both on the person and the society.

A soldier and an athlete share a lot in common but also have deep differences. They both have great physical fitness and both are competitive. They both have a respect for colleagues under the same flag with no discrimination for race, color or gender and are uniformly dressed within their teams. They both praise high values such as honesty, pride, faith, bravery and courage. However despite such similarities soldiers know that they may have to kill each other when confronted in war.

The world is changing fast. Climate change is rapidly affecting the most valuable of our resources creating a threat to the existence of life on earth while the pandemic to our society. Humanity must face the upcoming challenges united. Armed forces have already been called for help in countries stricken by natural disasters or the pandemic and multinational crews have already been deployed in order to manage forest fires, floods and earthquakes. We will see more of this international military cooperation in civil protection operations in the near future. This is a world war - but one that all nations will fight together.

CISM has been promoting sport events among the military for decades spreading the message "Friendship through sports" trying to embrace all nations in this noble cause.

CISM Sport Science Commission has been founded on this principle in order to provide scientific input and guidance. The previous Committee members have succeeded in creating a solid background upon which the new membership will continue to build.

CISM Symposium is a great opportunity to meet and discuss the future of military friendship. We have selected the birth place of Ancient Olympics for this meeting

mainly because of "ekecheiria" - the temporary armistice and cessation of hostilities during the ancient Games. This is the main message of out meeting - stay united under the universal threat. The topics also have been carefully selected. The first day is devoted to the history of military sports - from Mesopotamia to ancient Greece to modern times in order to emphasize the connection between the soldier and the athlete. During the second day we will discuss sport science and operational fitness but we will also look after our veteran and disabled military athletes. The topic of the last day is the organization of large sport events military and civilian with a look at the effects of the pandemic.

I am really grateful to the members of the SSC and the Greek Faculty in organizing this Symposium that would not have been possible without their valuable assistance.

It is an honor for all of us that have been involved in this effort to present this publication that offers an insight of the excellent scientific and social interactions that took place in the magic environment of Ancient Olympia.

Friendship through sport.

Colonel Odysseas Paxinos MD, PhD, FACS
President CISM SSC

International
Olympic Academy Stadium

CISM Sport & Science Commission - Invited Speakers - - Round Table Speakers - Greek Faculty Members

CISM Sport & Science Commision

- Colonel Odysseas Paxinos MD, MSc, PhD, FACS, President SSC (Greece)
- Mr Karl Friedl, MSc, SSM Member (USA)
- Colonel Lotfi Bouguerra PhD, SSC Member (Tunisia)
- Colonel Gregory Dmitriev PhD, SSM Member (Russian Federation)
- Lieutenant-Colonel Christian Lützkendorf, SSC Member (Germany)
- Lieutenant-Colonel Ghulam Shabbir Anjum PhD, SSC Member (Pakistan)
- Major Athinodoros Moschopoulos PhD, SSC Member (Greece)
- Major Jefferson Martinez Monjardim Couto, CISM Academy Manager & Secretary (Brazil)

Invited Speakers

- Prof. Evangelos Albanidis PhD: School of Physical Education and Sports Science (SPESS) - Democritus University of Thrace, Greece
- Prof. Dr Konstantinos Georgiadis, Professor at the University of Peloponnese Director of the international Master's Degree Programme entitled "Olympic Studies, Olympic Education, Organisation and Management of Olympic Events" Honorary Dean of the International Olympic Academy, Greece
- Mr. Richard Smith CBE, Operations Director, Invictus Games Foundation, UK

Round table speakers

- Dr. Stiliani "Ani" Chroni PhD, professor in Sport Psychology, Pedagogy, and Sports, Department of Sports and Physical Education at Inland Norway University of Applied Sciences, Norway
- Mr. Nikolaos Geladas BPhysEd, MSc, PhD, National and Kapodistrian University of Athens, School of Physical Education and Sport Science, Greece
- Mr. Anestis Giannakopoulos PhD, Democritus University of Thrace-SPESS, Greece Mr. Nikolaos Kameas PhD, Teaching Coordinator in Physical Education. Democritus University of Thrace-SPESS, Greece
- Dr. Yiannis Koutedakis PhD, Professor Emeritus - applied physiology at Thessaly University (Greece) & visiting Professor University of Wolverhampton, UK.
- Mrs. Aikaterini Samara PhD, Democritus University of Thrace- SPESS, Greece
- Mrs. Diana Wardle, University of Birmingham, Department of classics, ancient history and archaeology UK

Greek faculty members

- Prof. Gregory C. Bogdanis PhD, Department of PE and Sport Science, National and Kapodistrian University of Athens, Greece
- Ass. Prof. Andreas D. Flouris PhD, University of Thessaly, Greece
- Prof. Maria Michalopoulou PhD, Democritus University of Thrace, Department of Physical Education and Sport, Greece
- Mr. Nikos Provias, MSc (IOC FIG and UEG Senior Judge), University of Crete Department of Physical Education and Sport, Greece

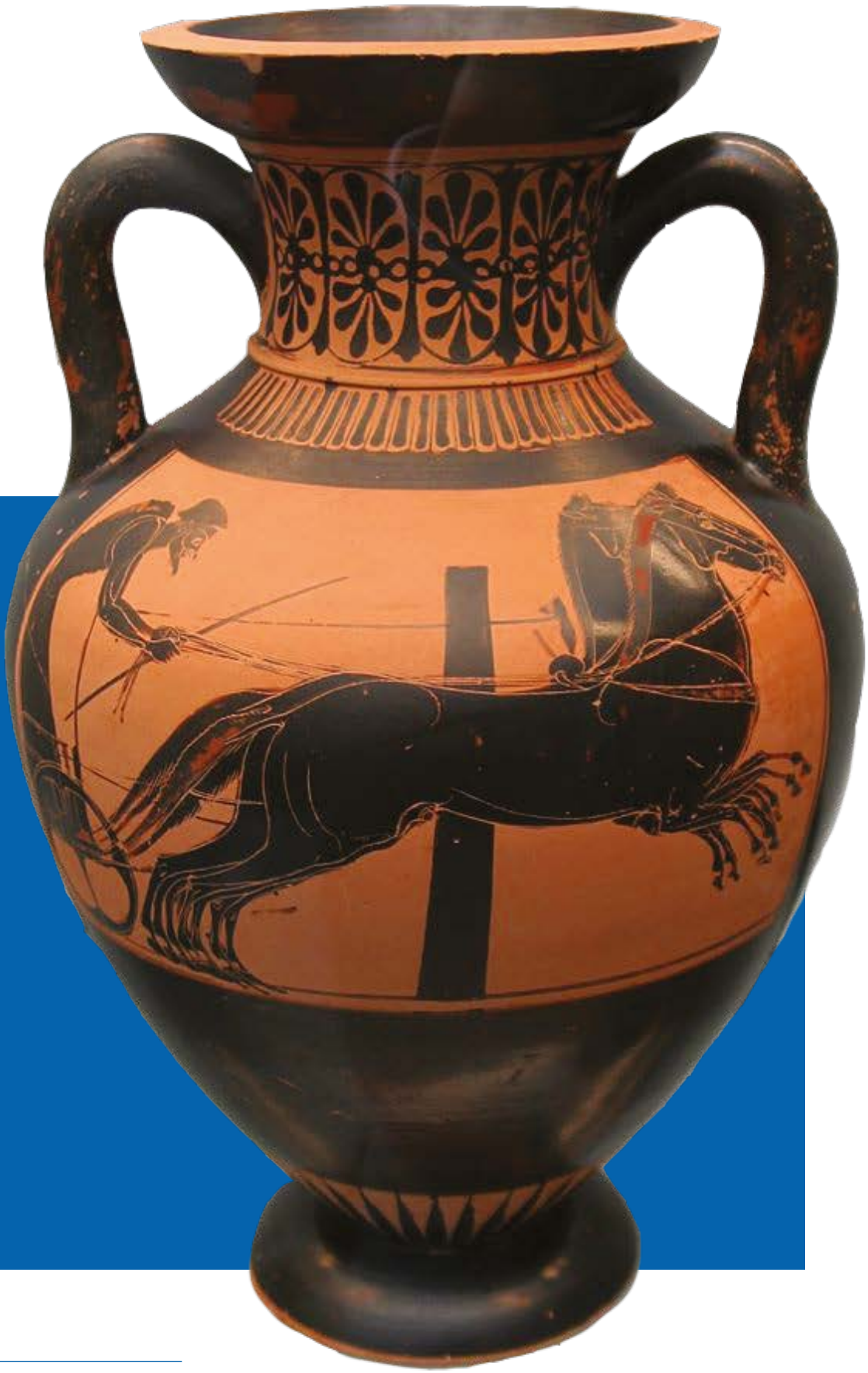
Scientific Program of CISM International Symposium 2021

DATE	TIME	PRESENTATION	PRESENTER
Thursday 04.10.2021	SYMPOSIUM DAY 1: FROM ANCIENT OLYMPIA TO MODERN TIMES THE HISTORY OF MILITARY SPORTS		
	08 :30 – 09 :30	**Symposium Registration Coffee**	
	09 :30 – 10 :00	**Opening Session**	
Each lecture 15 minutes	10 :00 – 11 :00	**Session 1-1 Round Table** **The History of Military Sports**	**Chairpersons** Colonel Fernando Luiz Nobrega Colonel Grigory Dmitriev
		Presentation 1-1-1 The evolution in Sports	Major Christoforos Christoforou Cyprus
		Presentation 1- 1- 2 From amateur to professional. Military sport in Italy, a model	Lt. Colonel Walter Borghino Italy
		Presentation 1- 1- 3 Military Institute of Physical Culture: 110 years at Army Service	Major General Botsman Oleg Russian Federation
	10 :45 – 11 :00	**Discussion**	
Lecture 20 minutes	11 :00 – 11 :20	**CISM Lecture** The Route of Truce a CISM International Sport and Peace Event.	Colonel Luiz Fernando Nobrega , Brazil
	11 :20 – 12 :00	**Coffee**	
Each lecture 15 minutes	12 :00 – 13 :15	**Session 1-2 Round Table** **Sports as an aspect of military life through the ages**	**Chairpersons** Major Jefferson Martinez Couto Major Athinodoros Moschopoulos
	(Telecast)	**Presentation 1- 2- 1** Sports and military training in the Hellenistic Egypt	Dr Aikaterini Samara Democritus Univ Thrace, Greece
	(Telecast)	**Presentation 1- 2- 2** The Ephebeia as an institution for the athletic and military ability in the Hellenic world during the Hellenistic and Roman Imperial times.	Dr Nikolaos Kameas Democritus Univ Thrace, Greece
	(Telecast)	**Presentation 1- 2- 3** The Hellenic Armed Forces in the service of Greek sports	Dr Anestis Giannakopoulos Democritus Univ Thrace, Greece
	(Live)	**Presentation 1- 2- 4** The military physical education and sports from the liberation of Greece to the Olympic Games of 1896	Major Athinodoros Moschopoulos Democritus Univ Thrace. Greece
	13 :30 – 15 :00	**Discussion**	
	13 :30 – 15 :00	**Lunch Break**	
	15 :00 – 16 :30	**Coffee**	
Each lecture 15 minutes	16 :30 – 17 :30	**Session 1-3 Round Table** **Warrior fitness through the ages**	**Chairpersons** Professor Andreas Flouris Professor Yiannis Koutentakis
	(Telecast)	**Presentation 1- 3- 1** The Dendra panoply: discovery, character, significance.	Professor Ken and Diana Wardle Univ of Birmingham UK
	(Live)	**Presentation 1- 3- 2** Physiological strain of the Dendra panoply wearer during a day in the Trojan War.	Professor Andreas Flouris Univ of Thessaly Greece
	(Live)	**Presentation 1- 3- 3** Exercise for health: from antiquity to modern times.	Professor Yiannis Koutedakis Univ of Thessaly Greece
	17 :15 – 17 :30	**Discussion**	
		Session 1-4 Invited Lecture	**Chairpersons** Colonel Odysseas Paxinos Major Athinodoros Moschopoulos
Invited Lecture 30 minutes	17 :30 - 18 :00	**Invited Lecture** Gymnastics as a means of promoting the national morale and the military ability of modern Greeks inside and outside Greece until 1922: The case of Macedonia and Thrace.	**Invited Speaker** Professor Evangelos Albanidis Democritus Univ of Thrace, Greece
	18 :00 – 19 :00	**Coffee**	
	19 :00 – 20 :00	**Opening Ceremony**	
	20 :00 – 20 :30	**Welcome Drink**	
	20 :30 – 22 :00	**Official Dinner**	

DATE	TIME	PRESENTATION	PRESENTER
Friday 05.10.2021	SYMPOSIUM DAY 2: SPORT SCIENCE BEHIND THE LINES PREPARING THE SOLDIER CARING FOR THE VETERAN		
Each presentation 12 minutes	08 :30 – 09 :30	**Session 2-1 Presentations Operational Fitness**	**Chairpersons** Lt Colonel Christian Lützkendorf Professor Andreas Flouris
		Presentation 2-1-1 Lumbopelvic muscle endurance asymmetry predicts low back pain intensity in Helicopter Pilots from Brazilian Air Force.	Lieutenant Daniele Gabriel Costa, Brazil
		Presentation 2- 1- 2 The Impact of a Core Stabilization Training Program on Low Back Pain Perception in Brazilian Air Force Helicopter Pilots	Major Jefferson Martinez Couto, Brazil
		Presentation 2- 1- 3 The effect of specific physical training on musculosceletal symptoms and fatigue among Brazilia n T 27 Flight Instructors	Major Eduardo Augusto Duque, Brazil
		Presentation 2- 1- 4 Muscle training improves military shooting efficiency in Brazilian Air Force soldier	Major Guilherme Oliveira Kavgias, Brazil
	09 :15 –09 :30	**Discussion**	
Each presentation 12 minutes	09 :30 – 10 :45	**Session 2-2 Presentations Operational Fitness**	**Chairpersons** Colonel Grigory Dmitirev Professor Bogdanis Gregory
		Presentation 2- 2- 1 Are Injuries Necessary During Basic Military Training? Sport training vs Military training in Naval Cadets.	Professor Antonis Vantarakis, Greece
		Presentation 2- 2- 2 Morphofunctional readiness of Joint Force operation Ukranian Soldier	Lt Colonel Volodymyr Mychaylov, Ukraine
		Presentation 2- 2- 3 Physical Fitness Tests in Military: Relevance with occupational Tasks	Professor Kostantinos Havenetidis, Greece
		Presentation 2- 2- 4 Impact of one year CrossFit training on performance of soldiers and civilian employees results of the controlled, prospective, interventional trial MedXFit.	Lt Colonel Annete Schmidt, Germany
		Presentation 2- 2- 5 "Elbrus Ring" as a means of the military professional readiness improvement to perform combat t asks in mountainous terrain.	Colonel Grigory Dmitirev Russian Federation
	10 :30 – 10 :45	**Discussion**	
	10 :45 – 11 :15	**Coffee**	
Each presentation 12 minutes	11 :15 – 11 :45	**Session 2-3 Presentations Basic Science**	**Chairpersons** Prof Geladas Nikolaos Colonel Bouguerra Iofti
		Presentation 2- 3- 1 Effect of two high intensity interval training models calibrated with time until exhaustion at 100% of the maximal aerobic velocity on hematological and biochemical parameters"	Colonel Bouguerra Iofti, Tunisia
		Presentation 2- 3- 2 Comparison of cardiorespiratory conditions between approved and reproved candidates in a special operation course.	Lieutenant Pedro Tourinho, Brazil
	11 :30 – 11 :45	**Discussion**	
Each presentation 12 minutes	11 :15 – 11 :45	**Session 2-4 Basic Science Thermal Stress**	**Chairpersons** Professor Geladas Nikolaos Colonel Bouguerra Iofti
		Presentation 2- 4- 1 The use of thermal perception analog scales to monitor physiological responses during a simulated military triathlon race	Dr Danielli Mello Brazil
		Presentation 2- 4- 2 The influence of military pentathlon obstacle run on athletes' skin temperature	Dr Danielli Mello Brazil
Each presentation 12 minutes	12 :15 – 13 :30	**Session 2-5 Round Table** **Preparing the soldier for battle in adverse environmental conditions**	**Chairpersons** Professor Geladas Nikolaos Professor Bogdanis Gregory
		Lecture 2- 5- 1 Preparing the soldier for battle in hot environments	Andreas D. Flouris -University of Thessaly, Greece
		Lecture 2- 5- 2 Prepare the soldier for operation in cold, amphibious and dark environments	Stylianos N Kounalakis Hellenic Army Academy, Greece
	13 :00 – 13 :30	**Discussion of Sessions 2- 4 and 2- 5**	
	15 :00 – 16 :00	**Coffee - Rest - Change to sport attire for "Fun Run"**	
Lecture 30 minutes	16 :00 – 16 :30	**Lecture The Route of Truce Bridging the ancient and modern**	Mr Kostantinos Kontogiannis, Federation of Olympia
	17 :00 – 18 :30	**"Fun Run" Kleosthenis Route of Truce**	
	20 :00 – 22 :00	**Traditional Greek Food Festival**	

DATE	TIME	PRESENTATION	PRESENTER
Saturday 06.10.2021	SYMPOSIUM DAY 3: MILITARY SPORT EVENTS MANAGEMENT - SOCIAL AND POLITICAL ASPECTS		
Each presentation 12 minutes	08 :30 – 10 :00	**Session 3-1 Presentations Military Sports**	**Chairpersons** Col Grigory Dmitriev Lt Col Ghulam Shabbir Anjum
		Presentation 3-1-1 Military Academy Cadets physical activity during the pandemic	Sasho Danevski, North Macedonia
		Presentation 3- 1- 2 Military Training Traits is Key to Success in Competitive Sports	Lt Colonel Ghulam Shabbir Anjum Pakistan
		Presentation 3- 1- 3 The importance of the military school competitions in the values development of the young cadet in the Brazilian Army' s Military Academy.	Colonel Renato Souza Pinto Soeiro Brazil
		Presentation 3- 1- 4 Building Sport and Military Peace Support Operations	Dr Alexander Cardenas Colombia
		Presentation 3- 1- 5 Organization of the III World Cadet Games given the experience in organizing sports events in the context of pandemic	Lt Colonel Andrei Politov Russian Federation
	09 :45 –10 :00	**Discussion**	
	10 :00 –10 :30	**Coffee**	
Each presentation 12 minutes	10 :30 – 11 :30	**Session 3-2 Round Table** **Safeguarding from violence and abuse in army sport**	**Chairpersons** Professor Maria Michalopoulou Lt Colonel Christian L ü tzkendorf
	(Telecast)	**Presentation 3- 2- 1** Sexual harassment and abuse in Sport	Professor Stiliani "Ani" Chroni Inland Norway University of Applied Sciences
	(Telecast)	**Presentation 3- 2- 2** Risk factors for harassment and abuse in the army	Professor Kari Fasting Norwegian School of Sport Sciences
	(Telecast)	**Presentation 3- 2- 3** Preventing harassment and abuse in sport	Håvard B. Øvregård Norwegian Olympic and Paralympic Committee and Confederation of Sport
	11 :20 – 11 :30	**Discussion**	
	11 :30 – 11 :15	**Cultural Day - Archaeological site Museum**	
	13 :30 – 15 :00	**Lunch Break**	
	15 :00 – 16 :00	**Coffee**	
Each presentation 12 minutes	16 :00 – 17 :30	**Session 3-3 Presentations - Sports and the Veteran**	**Chairpersons** Colonel Odysseas Paxinos Lt Col Ghulam Shabbir Anjum
		Presentation 3- 3- 1 Organizing a major multinational event for elderly individuals The Golden Age Gymnastics Cup	Nikolaos Provias MSc University of Crete, Greece
		Presentation 3- 3- 2 Algorithms and news content: The case of Mega Sport Events	Sotiris Triantafyllou
		Presentation 3- 3- 3 Knee osteoarthritis and pain perception in end of career military personnel	Colonel Odysseas Paxinos, Greece
		Presentation 3- 3- 4 The Defense Paralympic Project in support of the disabled personnel	Captain (Roberto Recchia, Italy
		Presentation 3- 3- 5 Danish Model Rehabilitation and personal development through sport	Sara Almholt Hjalager, Denmark
		Presentation 3- 3- 6 A Novel Approach for Mental Readiness	Brig. General Farshad Najafipour IR Iran
	17 :15 – 17 :30	**Discussion**	
	17: 30 – 18: 30	**Session 3-4 Invited Lectures**	**Chairpersons** Colonel Fernando Luiz Nóbrega Colonel Odysseas Paxinos
Invited Lecture 30 minutes	17: 30 – 18: 00	**Invited Lecture** "The Invictus Games"	**Invited Speaker** Richard Smith CBE UK
Invited Lecture 30 minutes	18: 00 – 18: 30	**Invited Lecture** Revival of the modern Olympic Games.	**Invited Speaker** Prof Kostantinos Georgiadis Dean IOA
	18 :30 – 19 :00	**Coffee**	
	19 :00 – 20 :00	**Closing Ceremony**	
	20 :30 – 22 :30	**Closing Banquet**	

International Olympic Academy Dormitories



Depiction of a four-horse chariot, about 550 BC, Staatliche Antikensammlungen

Thursday 04.10.2021

DAY 1

FROM ANCIENT OLYMPIA TO MODERN TIMES.

The History of Military Sports

SPEAKERS DAY 1

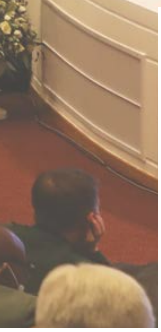

CISM


Major Chri
Cyprus


INTERNATIONAL
SYMPOSIUM
INTERNATIONAL OLYMPIC ACADEMY

SPEAKERS DAY 1


Olympic Games in Greece -
Athens 2004
• Olympic Games in Greece – Athens
• 10,500 athletes from 203 countries
• Navy band in the opening ceremony




COVID-19 NOTICE


CISM
INTERNATIONAL OLYMPIC ACADEMY


CISM
ΑΣΑΕΔ
CISM
2-6 NOVEMBER 2021

ABSTRACTS DAY 1

Christoforou Christoforos :
The Evolution in Sports

From the Wooden Spears with rocks to the aluminum alloy weighed 800gr Javelin Spears, from the politics (stop wars every 4 years) to the Billions of Sponsorships, the evolution in Sports what will bring to the world the upcoming Years!

The recorded data of history of sports goes back at least 3,000 years. In the beginning, sports often involved in the preparation for war. That explains why so many games related to throwing of spears, stakes, and rocks, and sparring one-on-one with opponents. Also, ancient people used sports in ritual ceremonies as well as for entertainment purposes.

Then back in 776 BC the Ancient Greek introduced to the world he first Olympic games as a political way to stop the wars. These games included events such as foot and chariot races, wrestling, jumping, and discus and javelin throwing. Those were the beginning of few of the most popular games in the modern Olympic games which is the ultimate worldwide sport event.

Over the centuries people evolute sports starting with their own culture feature evolution as well as introducing to the sport the rules and principles. While after the industrial revolution (1760 – 1820) the19th, 20th and 21st century the evolution of technology has improved the performance of athletes in all sports.

Through this presentation it will be given to you the opportunity to look back at the historical development of sports. The evolution of sports from ancient time until today will show us the way that sports are predicted to be in the future.

Through this presentation, the audience will have the opportunity to look back at the historical development of sports. The evolution of sports from ancient time until today will show us the way that sports are predicted to be in the future with the developments of Virtual Reality and the Artificial Intelligence technology, in the area of sports. A unique journey to the Revolution of sports.

Practical Implications
Non applicable

References
- The Games: A Global History of the Olympics - David Goldblatt (2018)

- Onward to the Olympics: Historical Perspectives on the Olympic Games – Gerald P. Schaus, Stephen R. Wenn (2009)

- The Olympic Games: Faster, Higher, Stronger The Olympic Museun (2021)

- Examining Sports Development- Mike Collins

Conflict of interest
No Conflict of Interest

Borghino Walter :
From amateurs to professional. Military sport in Italy, a model.

References
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- Atleti in uniforme - by Gianni Bezzi and Vanni Loriga ed. 1998

Confict of interest
No Conflict of Interest

Military sport in Italy is a sector that has increasingly attracted the attention of the general public and the media, both for the growing international level of its athletes and for the extraordinary quality of the results achieved.

This evolutionary process has its origin in remote times, when military institutions were the centers of excellence for physical training and athletic preparation, aimed at the performance required for the execution of the institutional activity.

An innovative and virtuous system, which for years has become an integral part of the "Italian sports model" and a strong point of national elite sport.

To summarize, the Italian sport system became a model, maybe perfectible, where military organization and assets have been sired to the civilian sport structure in a virtuous interaction with plain and efficient benefit.

Practical Implications
The presentation of this organization sport model can inspire CISM countries that intend to take new paths in their sport organizationa and structure and, on other side, can be useful to clarify some doubts that also in the recent path arised about the professional system Italy applied in plain conformity to an amateurs and military oriented vision. A well oriented and structural system able to highlight the sport excellencies and to perform a sinergic product in terms of results, performances and legacy for new generations.

Botsman Oleg :
Military institute of physical culture: 110 years at army service

The article overviews the 110-year history of one of the eldest military training establishments of the Armed Forces of the Russian Federation that trains Physical Education trainers for the national academies and military units. The article overviews the 110-year history of one of the eldest military training establishments of the Armed Forces of the Russian Federation that trains Physical Education trainers for the national academies and military units. Historical records of the Institute report multiple feats of its graduates in the Great Patriotic War and later on – on the post-war competitive battlefields. More than 50 graduates of the Institute won the top Olympic titles.

Practical Implications
Historical information on the development of military sports and military sports education in Russia.

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Military institute of physical culture: 110 years at army service
Major general, Ph.D., O.S. Botsman
Head of the Military Institute of Physical training, St. Petersburg, Russian Federation

Introduction
The article overviews the 110-year history of one of the eldest military training establishments of the Armed Forces of the Russian Federation that trains Physical Education trainers for the national academies and military units. The article overviews the 110-year history of one of the eldest military training establishments of the Armed Forces of the Russian Federation that trains Physical Education trainers for the national academies and military units. Historical records of the Institute report multiple feats of its graduates in the Great Patriotic War and later on – on the post-war competitive battlefields. More than 50 graduates of the Institute won the top Olympic titles.

Objective of the study
Was to analyze on a systemic basis the 110-year progress history of the Military Institute of Physical Training, one of the eldest military training establishments of the Armed Forces of the Russian Federation that trains Physical Education trainers for the national academies and military units.

Methods
We used for the study a historical analysis of the archive materials, military physical education statutes and regulations, combat mission reports and special literature printed in Imperial Russia, USSR and modern Russian Federation.

Results
Lieutenant Colonel (from 1912 Colonel) Alexander Mordovin was the first head of the School from 1909 to 1914. Classes at the School began on October 1, 1909. Alexander Mordovin was a highly educated officer, an excellent athlete, awarded with 5 gold medals and 10 imperial prizes for victories in shooting and fencing

References
No

Figures and tables
https://www.eventora.com/en/files/cism-2021/Submissions/637606818047213446_Major-general--Ph.D.--O.S.-Botsman-Military-Institute-of-Physical-training--St.-Petersburg--Russian-Federation.docx/get

Conflict of interest
No Conflict of Interest

Presentation type
Oral

competitions, a participant of the V Olympic Games in team gymnastics competitions.
In the early Soviet times after the revolution and up to 1932 the Main Military Gymnastics and Fencing School maintained a network of multiple military physical education courses and groups. In 1921, a Physical Education Research Department was established at the School which was headed by Professor V.V. Gorinevsky. In 1930-1932, the physical education courses produced 261 graduates. According to the Revolutionary Military Council Order No. 86 of May 16, 1932, the Statute of the Military Department of the State Head Physical Education Institute was approved.
In World War II time, operations and services of the Red Banner Military School were put on a wartime basis. Its nine teachers and students were decorated with the Hero of the Soviet Union Orders.
Upon completion of the war, the Military Faculty at the SCOLIPE in Moscow was reformed into an independent institute and moved to Leningrad, where its services were started in 1947.
In 1952 three Institute students - D.A. Leonkin, I.K. Berdiev and M.R. Perelman, won Olympic gymnastics gold medals as the USSR national team members. Since then the Institute has trained more than 50 Olympic Champions.

In 1961, when the USSR Armed Forces were reduced by 1.2 million, the Institute was reformed into the Military Two Red Banner Orders Decorated Physical Education Department of the P.F. Lesgaft State Institute of Physical Education. In 1974 it was upgraded to the Military Two Red Banner Orders Decorated Physical Education Institute.
Coaches, cadets and students of our Institute have always honorably represented the Armed Forces in the Soviet years at competitions held by the sports committee friendly armies and upwards 1991 at the CISM competitions. Over the distance of 30 years of Russia's membership in CISM, our institute has been hosted the CISM Championships in Modern pentathlon (1992), swimming and life-saving (1994, 2001), orienteering (1996) and judo (1998).
Representatives of the Institute have won more than dozen times the World Summer and Winter Games, CISM World Championships in such sports as modern pentathlon, judo, swimming and life saving, military pentathlon, parachuting, ski mountaineering. I'd like to pay particular attention to the victories of our cadets at the World Cadet Games (Turkey 2010, Ecuador 2014).
Generations of the Institute faculty members, cadets and students contributed their efforts, individual progress and accomplishments to the glorious history of their alma mater. Only for the last few years, researchers of the Institute have completed dozens of projects to solve many professional problems including the Military physical education service-related ones. From the 1960s till now the Institute has trained more than 400 Ph.D. and about 50 Doctors.

As things now stand, contributing to the Institute physical education services and projects are 22 Doctors of Pedagogy, 2 Doctors of Medical Sciences, 32 Professors, 100 PhDs, 44 Associate Professors, 14 Honored Physical Education Specialists, 4 Honored Academics, 3 Honored Trainers of Russia, 12 members and corresponding members of a few Academies of Sciences, 1 Honored Master of Sports of the USSR, and more than 70 Masters of Sports of the USSR and Russia.

Discussion and conclusion

The 110 anniversary of the Military Institute of Physical Training is viewed both as a historical milestone in its history and services to Motherland and a new starting point in its academic physical education specialist training service for the national and CIS armed forces.
Physical training being a cornerstone of the combat readiness of military personnel reflects the capability of the units of the army and navy to solve combat tasks following the requirements of domestic and foreign standards.

Nobrega Fernando Luiz :
The Route of Truce – a CISM International Sport and Peace Event

Researchers in the field of Sport for Development and Peace (SDP) endorse the role of Sport in bringing people together for its universal language, whose characteristics develop values such as discipline, teamwork, justice, respect for the opponent and the rules of the game and which can be used in achieving social cohesion, solidarity and peaceful coexistence (Grünenfelder, 2020). The International Military Sports Council (CISM) is a multidisciplinary organization in the world, bringing together military personnel from all nations to share experiences in sports fields, instead fight on the battlefield (Nóbrega, 2019). With objective to create relationships of friendship though sports, strong motive, and a great opportunity to increase contacts between civilian and military sportsmen and sportsmen within the CISM, The Greek Delegation to CISM since 2016, in collaboration with other bodies (IOA, Olympia Confederation, International Olympic Truce Centre), organizes "The Route of Truce", joining forces in order to highlight the role of truce. The purpose of this paper is to present the results of a questionnaire designed to enhance our understanding of the SDP field through the eyes (and experiences) of Route of Truce participants (Coalter, 2008).

The event is assessed, particularly in the Sport for Peace sub-area, to concerns about limited support, ineffective and inequitable practices and unclear impact. By understanding actors' experiences in and expectations of the event, the research is able to identify a set of strengths and weaknesses that must be addressed in order to facilitate the growth and development of the activity in the context of CISM Sport for Peace.

The paper concludes with a set of recommendations about ways the activity can be improved, including enhanced access to resources and research, more quality collaborations and partnerships, and meaningful, rigorous research and evaluation.

Practical Implications

CISM is working on various peace and sport activities, such as The International Day of Military Sports (former CISM Day Running), CISM Futsal Cup for Peace, CISM Summer and Winter Games, CISM Championships e Route of Truce. An in-depth assessment of the impact of these sport and peace events is needed, with particular emphasis on attributes relating to their ability to build trust, friendship and relationships.

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Figures and tables

Confict of interest

https://www.eventora.com/en/files/cism-2021/Submissions/637634451704492492_Col-Luiz-Fernando-CV.pdf/get

Confict of interest

I, Luiz Fernando Medeiros Nóbrega, the author responsible for submitting the manuscript entitled (title), declare that WE DO NOT HAVE CONFLICT OF INTERESTS of order: (x) personal, (x) commercial, (x) academic, (x) political (x) financial in the manuscript.

Samara Aikaterini :
Sports and military training in Hellenistic Egypt.

Democritus University of Thrace, School of Physical Education & Sport Science, D.P.E.S.S., Komotini, Greece

Introduction
This paper aims to give some answer to the question of the relationship between sports and military in Hellenistic Egypt (3rd -1st cents. BC). In order to do so, particular issues are being considered: the gymnasia in the cities and the country; gymnasiarchs and their military background; gymnasia and gymnasiarchs in Ptolemaic military possessions outside Egypt; military training in the gymnasia; the institution of ephebeia; the great military parade in Alexandria as given by Atheneaus (25-36, 196A–203B) during the first athletic festival of Ptolemaia (c. 280 BC); military presence in Alexandrian poetry.

Methods
The method followed is based on the model of analytical historical research, the progress based on the logic of synthesis (synthetic method), in a combination between the descriptive and the explanatory or interpretive type.

Results
Non applicable

Discussion and Conclusion
The athletic competitions in Pharaonic Egypt -that is before the foundation of the Ptolemaic kingdom- took place during royal celebrations, and competiveness was not a prerequisite because they aimed at the glorification of the king and not the winner. There was no overall sports training system.
On the other hand, in Hellenistic Egypt, we can talk about an "athletic culture" that played an important role in the state's politics. The involvement of military officials with gymnasia in the Ptolemaic regime is proven immense. As it comes to the role of the gymnasia in the military training, based on the evidence, it is not clear whether all soldiers were trained in them.

Practical Implications for CISM
Non applicable

References
- Stavrou, Dorothea: The Gymnasion in the Hellenistic East. Motives, divergences and network of contacts. PhD Thesis. School of Archaeology & Ancient History, University of Leicester. Leicester 2016.

- Samara, Aikaterini: Sport and Power in the Hellenistic era: Egypt of 3rd cent. BC. PhD Thesis. Democritus University of Thrace, School of Physical Education & Sport Science D.P.E.S.S. Komotini 2017.

Figures and tables
Non applicable

Confict of interest
The declaration of potential conflicts of interest is the responsibility of the corresponding author.

Presentation Type
Oral

Kameas Nikolaos :

The Ephebeia as an institution for athletic and military ability in the Hellenic world during the Hellenistic and Roman Imperial times.

Democritus University of Thrace, Department of Physical Education and Sport Sciences, Komotini, Greece

The "Gymnasium" was an important institution and place for sports-physical training and intellectual education, but also of Greek education, since the Archaic era-the beginning of the institution dates back to the 6th century BC-up to the Imperial period (31 BC - 323 AD). Linked to the Gymnasium are the institutions of "Gymnasiarchia" and "Ephebeia". Ephebeia, starting in the 4th century BC, (makes its appearance between 337 and 335 BC), was initially the "military service" of the time, while from the Hellenistic years onwards it seems that (its) military character recedes-but without being deemed obsolete-giving space to intellectual education and, according to some, sports education. Upon reaching the age of 18, the young people of the city, among others, in order to enter as equal members the social, political and religious life, had to first go through the process of Ephebeia.
There, they received a military-type training with everything that entails: physical and athletic training, use of weapons, discipline-ethics, cultivation of a "patriotic" mindset. A notable example of that is the Pledge of Allegiance by the "Epheboi" in Athens. Ephebeia lasted -basically- two (2) years and took place in the facilities of the Gymnasium as well as outdoors (guarding the coast and borders of the city), with people in charge who were called "Kosmitis" and "Sofronistes" (in Athens). Outside Athens, the leaders of the Epheboi were often called "Gymnasiarchoi" or "Epheibarchoi". The special trainers for the sports and military exercises - (physical training, weapon fighting, archery, javelin, catapult, horse riding) were the "Paidotrivai", the "Gymnastes", the "Oplomachoi", the "Toxotai", the "Akontistai", the "Afetai", the "Katapeltafetai" and the "Polodamastai".

By their side, in the context of the multidimensional education of the Gymnasiums and Ephebeia, were the literacy teachers for the intellectual education. It is worth noting that over the years Ephebeia has acquired rather (and) characteristic elements of spiritual/philosophical cultivation.

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Giannakopoulos Anestis : The Hellenic Armed Forces in the service of Greek sports.

Key words:
Sport, Armed forces, event assistance, Greece

Faculty Member
Democritus University of Thrace

The purpose of the study is to collect and process data on the participation and contribution of military units in the conduct of sporting events in Greece (Athens Olympic Games in 1896, the Panhellenic men's track and field competitions in 1953 Alexandroupolis, the European Athletics Championships in Athens in 1953 and the 2004 Olympic Games. The critical area of security, during the 1896 Olympic Games, was assigned exclusively to the Armed Forces. The general management of the Stadium and all the details of the execution of the programs, it was decided to be taken over by a senior officer of the Army. A medical company was assigned by the Ministry of the Army to provide medical care where needed.

The Army made a significant contribution to the formation of the Grand Band. It was the first time (1953) that Panhellenic men's track and field competitions were organized, outside Athens. For the transfer of the athletes a military transport plane was provided where with two flights it transported athletes and judges. As for the accommodation and food of the hosted athletes, the Army was the helper that took care of organizing with a small Sports Village. The ninth European Track and Field Championship took place in Greece - September 1969. There were three bands playing the respective raids. Characteristic was the participation of the Military TV channel (Information Service Armed Forces) for the live broadcast of the games throughout Europe. For the second time the Olympic Games in Greece – Athens 2004.Important was the presence of the Navy band in the opening ceremony of the Athens Olympic Games. According to the "Ifitos" Plan, the Armed Forces undertook the difficult task of securing the 2004 Olympic Games. The role of the Armed Forces in the preparation, as well as the conduct of the Games, was dominant.

They covered almost all areas of the big events and in fact in an exemplary way. In particular, in the very sensitive field of Olympic Security, it acted in a timely, systematic and methodical manner. Great contribution to the medical support during the Games, the organization and participation in the various events and opening and closing ceremonies. Complete assistance for the conduct with the transportation of athletes, responsibility for accommodation and food.

Moschopoulos Athinodoros :
The military physical education and sports from the liberation of Greece to the Olympic Games of 1896.

Member of the CISM Sports Science Commission Democritus University of Thrace

Key words:
Sports, Armed forces, military readiness, Olympic Games.

The purpose of this presentation was to identify references from the original sources in order to explain the wide Greek military presence in the 1st Modern Olympic Games.
During the research, we retrieved important data which clearly show that there was a strong connection between the Hellenic Armed Forces and the Greek sports of the 19th century. During times of great educational changes in Europe of the 19th century, Greece was under the Ottoman rule. Before the Greek Revolution, there were two kinds of armed units, with the potential of turning the tide for the Greek people. Those were the Klefts and the Armatoloi. They were well known for their unparalleled stamina and physical condition. Many of the ancient sports which proved the warrior's prowess, survived up to the 19th century in those outlaw armed groups of an enslaved nation. Those athletic attributes made the rebels capable to free their homeland.

Later on, the newly found Greek Army took special care of maintaining this sports spirit in its ranks. That led to the significant presence of military men in the first modern Olympic Games. The conjunction between military readiness and athletic capability was the most significant factor that led to the success of the Olympic Games of 1896 in Athens.

Wardle Diana, Wardle Ken : The Dendra panoply: discovery, character, significance.

Confict of interest
The authors report no relevant conflicts of interest.

Presentation Type
Oral

Department of Classics, Ancient History and Archaeology, University of Birmingham, UK

Introduction
The bronze panoply discovered in 1960, in a small Mycenaean chamber tomb at Dendra in the Greek Argolid is not just the only the complete suit of armour from Europe but also the earliest yet known, dating c 1450 BC. Until the discovery of the panoply, it was regularly assumed that the references to bronze armour in the Iliad were all later interpolations.

Discussion and Conclusion
However, the archives of clay Linear B tablets from the palaces at Pylos in the South-West Peloponnese and Knossos in Crete list together around 160 suits of such armour. We now know that the Dendra armour is neither unique nor a prototype. Its sophistication and the refinements in its functionality show it to be the product of a period of development. Elements of similar armour dating from c 1500 - 1200 BC have been recognised from earlier excavations and found more recently. Before the discovery, a shoulder piece had been found in another chamber tomb at Dendra, but was assumed to be a helmet.
Soon after a group of plates was found in the 'arsenal', and later another in the Municipal Conference Centre site at Thebes in Central Greece. Fragments have been identified in tombs at Phaistos in Crete, Nichoria in the south west Peloponnese, Kallithea in Achaea, and at Mycenae in Chamber Tomb 15. Other pieces were found in the 'Poros Wall Hoard' close to the Clytemnestra tholos at Mycenae. Armour of the Dendra type also inspired a stone vase in the shape of a panoply with shoulder pieces found in a tomb at Knossos. Thus, there can be no doubt that armour of the Dendra type was well-known throughout the Aegean area with the earliest known example (Phaistos) dating to c 1500 BC.

Practical Implications for CISM
Non applicable

Flouris Andreas :
Physiological strain of the Dendra panoply wearer during a day in the Trojan War.

FAME Laboratory, Department of Exercise Science, University of Thessaly, Greece

Introduction
Sixty years ago, a 3500 year old suit of bronze armour was discovered near the village of Dendra, a few km from ancient Mycenae, in Southern Greece.1 This is the only complete suit of armour from the European Late Bronze Age. However, it remained unknown whether the armour was suitable for extended use in battle or was purely ceremonial. This had limited our understanding of the ancient Greek and Late Bronze Age warfare and its consequences that have underpinned the social transformations of prehistoric Europe and the Eastern Mediterranean. In this series of studies we investigated whether the armour found at Dendra was compatible with use in combat or whether it was purely ceremonial.

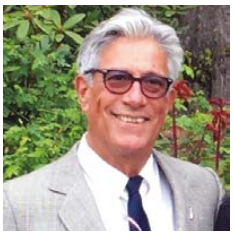
Methods and Results
A group of special armed-forces personnel wearing an accurate replica of the armour were able to complete the 11-hour simulated Late Bronze Age combat protocol that we developed from a series of studies based on the available evidence. Numerical simulation of the thermal exchanges in Late Bronze Age warfare extended this conclusion across different environmental conditions and fighting intensities.

Discussion and Conclusion
This work could be considered as the starting point of archaeo-physiological research, where expertise in archaeology and history are combined with modern physiological knowledge and numerical simulation to address unresolved questions of ancient life. To facilitate and promote research in this field, we developed a freely-available software enabling simulation of the thermal exchanges in Late Bronze Age warfare.

Practical Implications for CISM
Non applicable

Confict of interest
The authors report no relevant conflicts of interest.

Presentation Type
Oral



Koutentakis Ioannis :
Exercise for health:
from antiquity to modern times

Confict of interest
The authors report no relevant conflicts of interest.

Presentation Type
Oral

School of Exercise Science, University of Thessaly, Greece; Research Centre for Sport, Exercise and Performance, Faculty of Education, Health and Wellbeing, University of Wolverhampton, UK.

Introduction
Body movement, as a result of muscular function, has been a key element in human evolution. Thanks to body movement, early humans were able to feed themselves, to protect their young, or to travel to more secure residences. However, to accomplish the aforementioned, humans had also to be healthy. This harmonic co-existence between health and body movement (exercise) is actually known since antiquity, while contemporary science has repeatedly confirmed their association by identifying numerous biological functions which link them. In contrast, we know of no biological mechanism capable of combating the endemic hypo-activity of the industrialised world.

Discussion and Conclusion
Ancient Greeks believed that physical fitness and mental clarity were two sides of the same coin; training was a civic duty, rather than a lifestyle choice. They also knew that an athlete requires stress exposure to trigger an adaptation, followed by optimal recovery periods. Without the latter, athletes will not experience performance benefits, while they knew well the importance of protein consumption for building muscle. On the other hand, a warrior required to survive on little food and endure extreme sleep deprivation. Recent reports highlight the need to increase health-related fitness; our urban life-style has negatively affected activity levels and increased cases of morbidity and mortality from infectious and noncommunicable disease. Even military personnel are not exempt; a health report from the Pentagon (2015) suggests that more than half all U.S. troops are clinically overweight, indicating that serious strategies must be developed for disease prevention and treatment.

Practical Implications for CISM
Non applicable

Albanidis Evangelos :

Gymnastics as a means of promoting the national morale and the military ability of modern Greeks inside and outside Greece until 1922: The case of Macedonia and Thrace.

Professor, Democritus University of Thrace

Key words:
Greek Morale, Military Ability, Macedonian Struggle, Gymnastics, Ion Dragoumis, Georgios Kipiotis

Since the founding of the modern Greek state, gymnastics (i.e. group training mainly, exercise by order with fixed or portable instruments) was considered the "nursery" of the good soldier since according to the perceptions of that time, it develops discipline, obedience, doubles bravery and cultivates worthy defenders. The wide spread of these social perceptions in the newly formed Greece also justifies the introduction of military exercises in the course of school Gymnastics during the period 1871-1899, in imitation of similar European practices. The Greeks of the Diaspora, realizing the usefulness of gymnastics, urged the Greek state to promote its implementation in the Ottoman-occupied areas.

The purpose of this study was to investigate data on the role of Gymnastics in the cultivation of national morale and military ability until the beginning of the 20th century in Macedonia and Thrace, two areas part of the Ottoman Empire until then. For Macedonia and Thrace however, the awakening of Balkan nationalisms, especially after the founding of the Bulgarian Exarchate (1870) and the Russo-Turkish War (1877-1878), marked a series of national conflicts and multiple geographical divisions that reached the Macedonian Struggle (1904-1908) and Balkan Wars (1912-1913).

Our sources were the diaries, the archive of letters of the Greek diplomat who worked in the area, Ion Dragoumis, as well as the autobiography of the gymnast Georgios Kipiotis who was sent by the Greek state and pioneered the establishment of gyms and gymnastic clubs in Macedonia and Thrace. With the persuasion of Ion Dragoumis and in many cases under the supervision of Georgios Kipiotis, gyms were established in Thessaloniki, Serres, Monastiri, Kavala, Drama, Adrianoupolis, Xanthi, Alexandroupolis, etc.

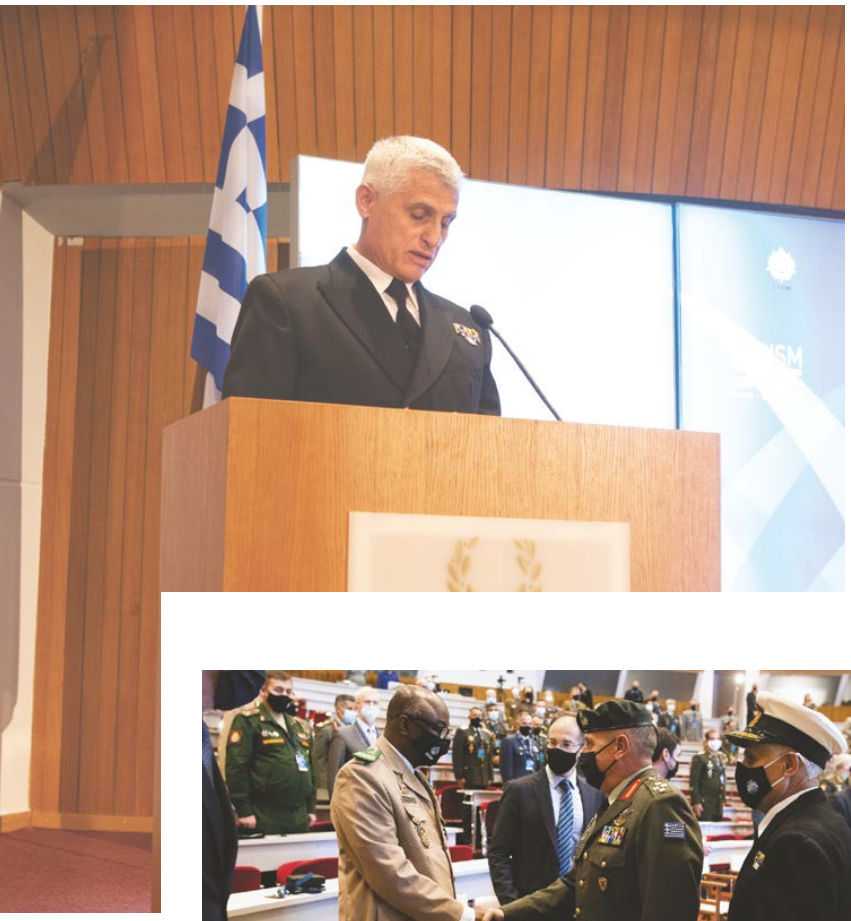
Gymnastics clubs were also established in these cities and at the same time gymnastic demonstrations were organized. Through gymnastics, the Greeks of Macedonia and Thrace sought to stimulate national consciousness and create centers of resistance. Gyms and gymnastics clubs helped to spread the national ideology and strengthen the distinctions between Greeks and Ottomans or between patriarchal and exarchic, (those who were loyal to the Bulgarian Exarchate). Physical exercises through the order, sameness and group execution of exercises improved discipline, obedience, orderliness and team spirit, thus giving a military and national character to the education of young people.

Archaeological site of Ancient Olympia

OPENING CEREMONY


CISM

OPENING CEREMONY



Depiction of hoplitodromia,
ca.550 BC,
Staatliche Antikensammlungen

Friday 05.10.2021

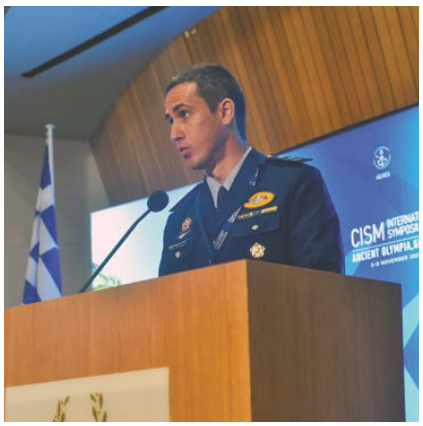
DAY 2

SPORT SCIENCE BEHIND THE LINES.

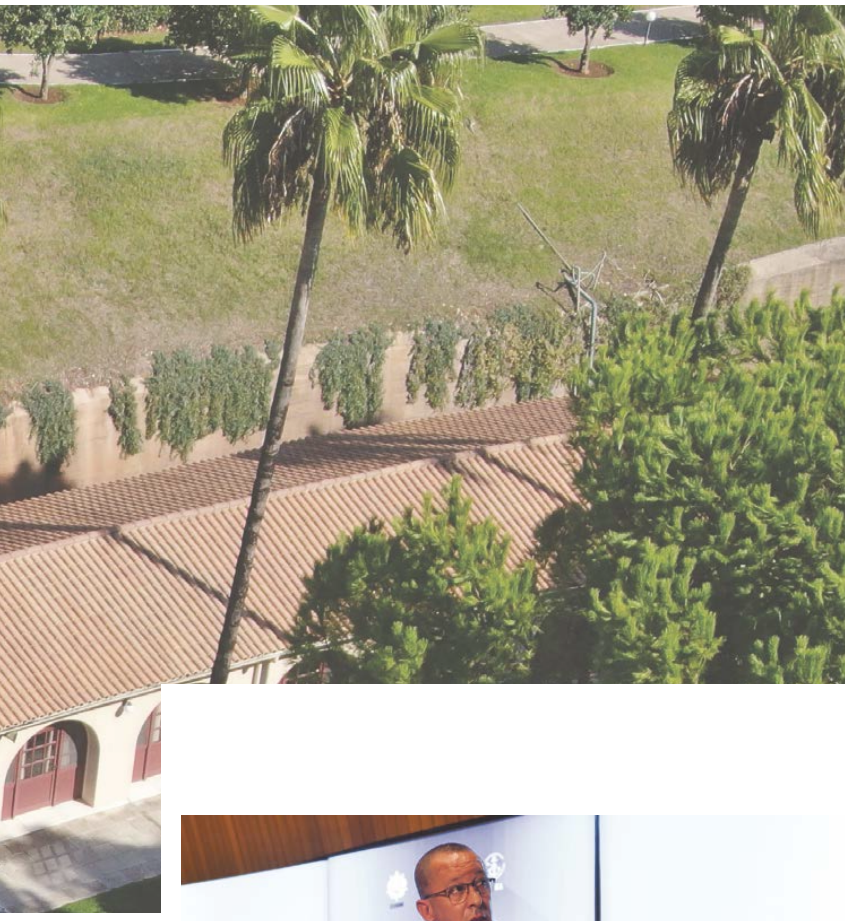
Preparing the Soldier caring for the Veteran

SPEAKERS DAY 2


INTERNATIONAL OLYMPIC ACADEMY



SPEAKERS DAY 2




(GRE)

ABSTRACTS DAY 2

Costa Daniele :

Lumbopelvic muscle endurance asymmetry predicts low back pain intensity in Helicopter Pilots from Brazilian Air Force.

Introduction

Helicopter Pilots (HP) often show high prevalence of lowback pain (LBP), which is highly associated to dysfunction of the lumbopelvic muscles. The aim of the study was to investigate the relationship between LBP intensity and lumbopelvic muscle endurance in HP from Brazilian Air Force.

Methods

Male HP (n=97) were included in the study. Isometric lumbopelvic muscles endurance and pain intensity were assessed by using four plank tests (frontal, left-lateral, right-lateral, lumbar flexors and lumbar extensors planks) and Visual Analog Scale (VAS), respectively. Time-to-fatigue ($T_{fatigue}$) was used to obtain muscle endurance. Ratios from latero-lateral and antero-posterior tests were calculated. Pain intensity was classified as high when VAS score was ≥ 5-10 and low when VAS score was ≤1-4 score. Logistic regressions and receiver operating characteristic curves (ROC) were performed to analyze the relationship between $T_{fatigue}$ vs. intensity of LBP and to determine cut-off points. The results were considered significant when $\alpha \leq 0.05$ and AUC ≥ 0.5.

Results

Data are depicted in Table 1 and Figure 1. As expected, LBP prevalence were high in HP. Significant relationship between left-lateral/right-lateral ratios and pain intensity (cutt-off point: 102s) was observed.

Discussion

In conclusion, the study demonstrated that lumbopelvic endurance predicts LBP pain intensity. The authors hypothesizes that accumulated exposure to vibration induced by rotary-wing aircraft might explain the high prevalence of the LBP[1,2]. In addition, the asymmetry observed in the lateral-lateral lumbopelvic muscles could be a risk factor for LBP[3].

Practical Implications

These findings can be applied as a predictive test for LBP in HP from BAF and motive further investigation with HP form other countries.

References

[1] Hansen B, Wagstaff AS. Low back pain in norwegian helicopter aircrew. Aviat Space Environ Med 2001; 72:161-4.

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[3] Vanti C.; Conti C.; Faresin F.; Ferrari S.; Piccarreta R. The relationship between clinical instability and endurance tests, pain, and disability in nonspecific low back pain. Journal of Manipulative and Physiological Therapeutics, v.39, n.5, p. 59-68, 2016.

Figures and tables

https://www.eventora.com/en/files/cism-2021/Submissions/637606847296026587_FIGURE-TABLE.docx/get

Confict of interest

No Conflict of Interest

N: 97	Mean (± SD)			freq (%)
Age [y]	30.1 (± 4.1)	Pain Sympton:	Muscular Pain	13 (13.4)
Weight [kg]	83.5 (± 11.5)		Spine Pain	19 (19.6)
Height [cm]	177.0 (± 0.6)		Combination Pain	45 (46.4)
BMI [kg/m²]	26.8 (± 3.2)		No Pain	20 (20.6)
Aviation Time [y]	6.8 (± 3.8)	Pain Intensity [VAS]:	No, Light	44 (45.4)
Flight Hours [h]	753.0 (± 516.0)		Moderate, Intense	53 (54.6)

		95 % C.I.		Model test				
	Mean (± SD)	Lower	Upper	AUC	Acc	Cut-off	X²	*p*
Frontal Plank [s]	154.0 (± 79.9)	153.2	154.3	0.526	0.563	139	0.001	0.97
Right Plank [s]	82.7 (± 28.6)	82.5	82.9	0.596	0.567	80	1.720	0.19
Left Plank [s]	82.4 (± 28.0)	82.2	82.6	0.529	0.536	83	0.284	0.59
Lumbar Flexors [s]	169.0 (± 95.2)	168.1	169.3	0.466	0.490	151	0.023	0.88
Lumbar Extensors [s]	99.0 (± 27.9)	98.8	99.2	0.519	0.536	101	0.263	0.61
Biering-Sorensen [s]	15.1 (± 0.8)	15.1	15.1	0.539	0.526	15	0.514	0.47
Lateral Ratio	102.0 (± 22.8)	102.0	102.3	**0.611**	0.583	102	4.270	**0.04** *
Frontal Ratio	74.2 (± 30.8)	74.0	74.4	0.545	0.521	75	0.253	0.61

AUC: Area under the curve

***Table 1**: Physical and pain characteristics and relative operational characteristics as a function of muscular endurance of the lumbopelvic region of Brazilian helicopter pilots*

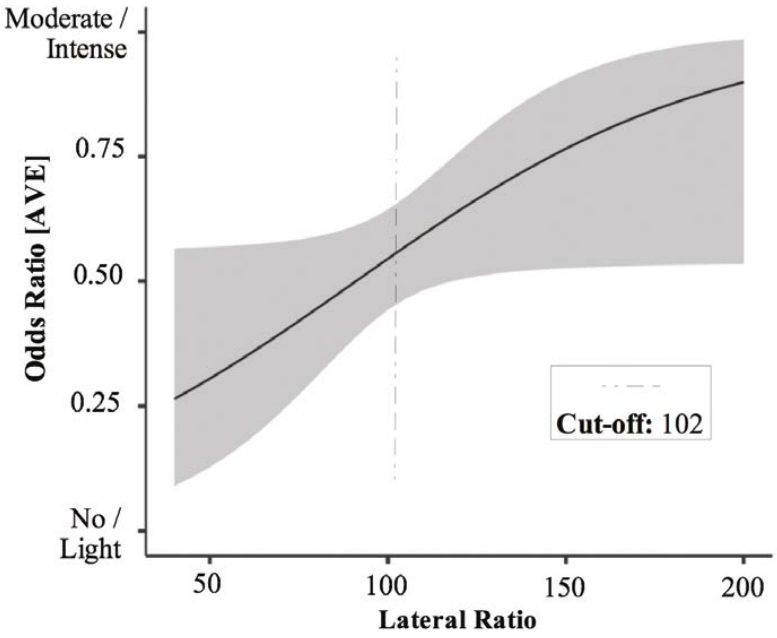

***Figure 1**: Prediction of low back pain intensity by the lateral ratio of muscle performance*

Couto Jefferson Martinez :

The Impact of a Core Stabilization Training Program on Low Back Pain Perception in Brazilian Air Force Helicopter Pilots.

Introduction

Helicopter pilots present a high prevalence of low back pain, which can decrease operational human performance, health and quality of life in this population. Also, due to the heterogeneity of causes and risk factors, is difficult to diagnose and classify such pathology. Thus, the objective of this quasi-experimental study was to evaluate the influence of a core stabilization training program on low back pain intensity in Brazilian Air Force helicopter pilots.

Methods

Sixteen male, EC 725 Caracal pilots, agreed to participate in the study and were submitted to core stabilization and hip mobility training program, during two months - 2 sessions *per* week. Visual Analogue Scale (VAS) and two domains – pain and functional capacity - of Short Form-36 (SF-36) were used to assess acute (immediately after flight) and chronic pain intensity, respectively, pre- and post-training. Additionally, four core resistance tests were applied for all individuals - flexor, extensor and lateral trunk groups – also in pre- and post-training.

Results

The ΔVAS (1.87 [0 – 5.20] vs. 1.00 [0 – 4.40] points; pre vs. post-training) showed a decrease in the intensity of acute low back pain perception (p).

Discussion and Conclusion

This study evidenced that the adoption of the specific core training program for helicopter pilots can decrease low back pain perception immediately after flight, suggesting that its long-term application could prevent this pathology as well improve operational capacity in this specific population.

Practical Implications

The core stabilization training booklet applied to Brazilian Air Force helicopter pilots can be shared with the entire CISM family, with the aim of improving the acute low back pain perception in this population. This training can be applied and tested for other military personnel and athletes' groups, thus forming a large research field into operational human performance.

References

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Figures and tables

https://www.eventora.com/en/files/cism-2021/Submissions/637607677417355525_Pre-and-Post-Core-Training-Program.png/get

Conflict of interest

The authors declare that they have no conflicts of interest.

Pre and Post Core Training Program

Core Resistance Tests

	Pre	Post	p
Core flexor (s)	203.88 [75 – 562]	330.31 [109 – 814]	0.001
Core extensor (s)	110.69 [79 – 158]	137.00 [75 – 195]	0.008
Core left lateral (s)	82.13 [44 – 120]	122.44 [67 – 180]	0.000
Core right lateral (s)	85.31 [30 – 120]	123.19 [65 – 180]	0.001

Pain Perception and Functional Capacity

	Pre	Post	p
ΔVAS Pain (acute), scores	1.87 [0 – 5.20]	1.00 [0 – 4.40]	0.029
SF-36 Pain (chronic), %	0.79 [0.62 – 1]	0.80 [0.61 – 1]	0.766
SF-36 Functional Capacity, %	0.88 [0.6 – 1]	0.93 [0.8 – 1]	0.347

Values presented as mean and amplitude. s, seconds; %, percentage. $p<0.05$. *Wilcoxon* test between pre- and post-training was performed for resistance tests, VAS and SF-36 domains.

Duque Eduardo :

The Effect of Specific Physical Training on Musculoskeletal Symptoms and Fatigue Among Brazilian T-27 Flight Instructors.

Introduction
Flight instructors are subjected to a high number of flying hours and frequent exposure to high G loads, which can lead to musculoskeletal symptoms and excessive fatigue. Physical training is considered an effective alternative against to these effects in fighter pilots. However, little is known about such effectiveness in T-27 aircraft instructors, questioning whether specific physical training (SPT) would be superior to traditional physical training (TPT). Therefore, the aim of this study was to verify the effect of SPT on physical fitness, musculoskeletal symptoms, and fatigue in T-27 instructors.

Methods
Fifty instructors were initially divided into three groups: experimental group (EG; n=10) who underwent SPT; active control (AC; n=21) who practiced TPT; and inactive control (IC; n=11) who did not undergo any training. Since there were eight dropouts in the EG, the final sample comprised forty-two instructors. The SPT was held twice a week for sixteen weeks. To assess the effect of the SPT, pretraining and post-training differences were compared among the three groups for the fitness assessment test (FAT—push-up, abdominal, and cooper), the Nordic Musculoskeletal Questionnaire (NMQ), and the Fatigue Assessment Scale (FAS). One-way ANOVA was used to test group differences in FAT, and Kruskal-Wallis was used for NMQ and FAS, for which classifications were done using Fischer's Exact test. The significance level was set at 0.05 for all the tests.

Results
The EG showed a greater post-training increase in FAT, and post-training decrease in NMQ and FAS when compared to AC and IC.

Discussion and Conclusion
As expected, SPT promoted greater gains in physical fitness in the EG. However, the most prominent finding involved the reduction of musculoskeletal symptoms and fatigue. These results are consistent with other studies of specific training in military troops, reinforcing its implementation.

Practical Implications
Non applicable.

References
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Figures and tables
https://www.eventora.com/en/files/cism-2021/Submissions/637606867078856429_EduardoDuque.zip/get

Conflict of interest
The authors declare that they have no conflicts of interest.

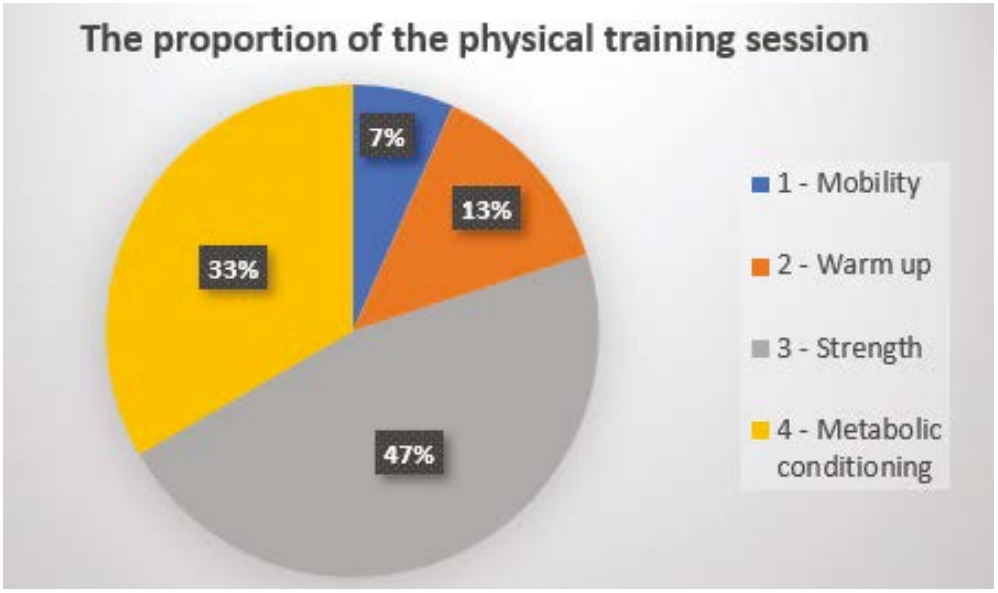

Table 1: Sample caracterization and group comparisons.

	AC (n: 21)		**IC** (n: 11)		**EG** (n: 10)		
	Média	SD	Média	SD	Média	SD	
Age [y]	30,47	4,28	30,18	1,66	30,60	3,23	
Mass [kg]							
Heght [m]	1,77	0,05	1,78	0,05	1,75	0,04	
BMI [kg/m²]	25,32	2,90	27,50	3,11	26,26	3,00	
Δ NMQ	-0,67	1,49	-0,05	1,57	-1,30	0,82	*
Δ FAS Physical	-0,10	1,14	0,82	1,83	-3,00	2,58	*
Δ FAS Mental	-0,24	1,30	-0,09	0,70	-1,20	5,71	*
Δ FAS	-0,33	2,08	0,73	2,41	-5,90	3,18	*
Δ Push-up [%]	10,59	20,90	5,95	14,81	20,35	18,50	
Δ Abdominal [%]	3,79	8,57	3,38	12,32	20,12	20,76	*
Δ Copper [%]	-0,23	6,33	-2,11	5,40	6,96	4,33	*
	f.a.	(%)	f.a.	(%)	f.a.	(%)	
Δ NMQ Clinical							
Improved	7	33,33	2	18,18	9	90,00	*
Stable/Worsened	14	66,67	9	81,88	1	10,00	
Δ FAS Clinical							
Improved	2	9,52	0	0,00	9	90,00	*
Stable/Worsened	19	90,48	11	100,00	1	10,00	

* significant difference: EG vs AC and IC.

Kavgias Guilherme :
Inspiratory Muscle Training improves Military Shooting Efficiency in Brazilian Air Force Soldiers.

Introduction
Among the shooting fundamentals, breathing stands out for being trainable, with inspiratory muscle training (IMT) as the main method used for this purpose. Therefore, this study objective was to verify the influence of the IMT associated with cardiorespiratory training (CT) on military shooting efficiency in Brazilian Air Force (FAB) soldiers.

Methods
Fifty-four individuals, male, untrained and healthy, agreed to participate in the study and were randomly assigned to the groups - intervention (GPint; n=27) and control (GPcon; n=27). Resting heart rate (HRrest), maximum inspiratory pressure (MIP), maximum oxygen consumption (VO2max), shot factor after resting (SFrest) and shot factor after physical effort (SFex), were measured in pre- and post-training moments, in both groups. All subjects underwent the same CT for 10 weeks, associated with different loads of IMT - GPint trained at 70% vs. GPcon at 15% of MIP (placebo).

Results
The SFrest and SFex values presented by GPint, after the experimental protocol, showed a significant improvement of approximately 47% ($p<0.001$) and 38.5% ($p<0.001$), respectively. Such results were not evidenced in GPcon, which only showed a borderline decrease of 16% ($p=0.052$) in SFex post intervention.
In intra-group comparisons, a significant difference was verified in SFrest (GPint vs. GPcont: $p<0.001$) and SFex (GPint vs. GPcont: $p<0.001$). The same response pattern was observed in relation to MIP, which showed a significant improvement in GPint over the weeks, both intergroup [Initial vs. final MIP: 36% ($p<0.001$)]; as intragroup [GPint vs.GPcont: 36% ($p<0.001$)].

Discussion and Conclusion
An IMT program, associated with CT, is able to induce an improvement on pistol shooting efficiency in FAB military personnel, both at rest and after physical exhaustion, due probably to a delay on respiratory fatigue perception, as a consequent metaborreflex decrease.

Practical Implications
The MIT, associated with CT, applied to Brazilian Air Force soldiers can be shared with the entire CISM family, with the aim of improving military shot efficiency in this population. This training can be applied and tested for other military personnel and athletes (Biathlon and Pentathlon) groups, thus forming a large research field into operational human performance.

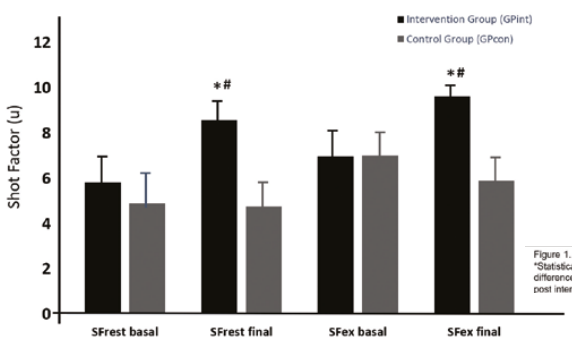

Figure 1. GPint shot factor = black. GPcon shot factor = grey. SFrest and SFex values in GPint and GPcon in the pre and post intervention moments. *Statistically significant difference within groups – GPint: basal SFrest vs. final, $p<0.001$; GPint: basal SFex vs. final, $p<0.001$. #Statistically significant difference between groups: Final SFrest: GPint vs. GPcon, $p<0.001$; Final SFex: GPint vs. GPcon, $p<0.001$. For inter and intragroup analysis, pre and post intervention, Two-Way Anova was performed.

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-*EDWARDS, A. M.; WELLS, C.; BUTTERLY, R. Concurrent inspiratory muscle and cardiovascular training differentially improves both perceptions of effort and 5000 m running performance compared with cardiovascular training alone.* ***Br J Sports Med,*** *v. 42, n. 10, p. 823-7, Oct 2008*

-*DEMPSEY, J. A. et al. Consequences of exercise-induced respiratory muscle work.* ***Respir Physiol Neurobiol,*** *v. 151, n. 2-3, p. 242-50, Apr 28 2006.*

Figures and tables
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Conflict of interest
There is no conflict of interests.

Antonis Vantarakis :
Injuries During Basic Military Training. Sport training vs Military Training in Naval Cadets.

Key Words
Basic Military Training, military combat uniform, injuries, Naval cadets

Ant. Vantarakis, PhD
Hellenic Naval Academy

Musculoskeletal injuries are a common occurrence during the period of Basic Military Training (BMT). During BMT period it has been estimated that 25% of the male and 50% of female trainees experience injuries. Overuse musculoskeletal injuries were more common than acute injuries, representing 65% and 35% of injuries, respectively. The purpose of the present observation was to focus on the effects of athletic training vs military training during BMT period and to monitor the musculoskeletal injuries of the Greek Naval cadets.

Forty five (45) healthy male Greek Naval cadets participated in this observation (age 18.23 ± 0.54 years, body mass 75.80 ± 3.56 kg, and body height 1.79 ± 0.04 cm). The cadets were randomly separated in two groups, group1 (AT=21) exercised with athletic training and wore sports shorts, a T-shirt and sports shoes and group2 (MT=24) trained with a military combat uniform and boots. The BMT period lasted 5 weeks, 6 times/week from Monday to Saturday, from which 4 days included physical fitness and 2 swimming training while they performed 27 training sessions in the morning and 27 in the afternoon. An injury was registered when cadets felt pain or complaint during BMT and visited a military physician and the musculoskeletal injuries that were recorded were muscle pain, tendon, stress fracture, and joint or ligament injury. Every injury for which a cadet had to consult a physician (unit medical officers and conscripted physicians) was registered and documented.

During the 5 weeks of BMT 36 injuries were recorded, for AT 6 (16.7%) injuries and MT 30 (83.3%) injuries (t= -4,243, p<.05). Both groups recorded 50.0% joint/ligament injuries, 16.6% stress fractures, 22.2% tendon and 11.1% muscle injuries. The AT group recorded 66.7% joint/ligament injuries, 16.7% a stress fracture and 16.7% a tendon injury. The MT group recorded 46.7% joint/ligament injuries, 16.7% stress fractures, 23.3% tendon and 13.3% muscle injuries.

The results showed that the burden of exercise on BMT period which is carried out in military combat uniform caused several injuries in relation to sportswear. Ways to avoid it can be a carefully designed exercise program according to the principles of coaching, the gradual increase of intensity and total volume.

Mykhaylov Volodymyr :
Morphofunctional Readiness of Joint Force Operation Ukrainian Soldiers.

Introduction
Military service in combat conditions requires high mental stress stability and high level of body functional reserves. Thus, systematic monitoring of soldiers' functional reserves level is a priority pathway to provide their health and physical readiness.

Methods
Anthropometric methods, pedagogical experiment, statistics methods (the *SW*-test, the *U*-test, the *t*-test, the *F*-test).
Joint Forces Operation male servicemen aged 22÷46 years were involved in the study (n=26). Following measurements were collected during one session: body weight, body height, wrist circumference, age, resting heart rate (HR_{rest}), heart rate after 20 squats for 30 s ($HR_{intensity}$) and heart rate recovery time after squats ($t_{recovery}$). The real body mass (RBM), the level of functional (FP) and morphofunctional preparedness (MFP) were calculated using the author's method [1].

Results
According to RBM results the servicemen were divided into two groups (servicemen whose RBM was within the physiological norm – Group 1, overweight servicemen – Group 2). The normality of point distribution in the general populations was calculated by the *SW*-test. When parameters' points were not normally distributed *U*-test was used to find statistically significant difference. In the case of normal distribution the significance of difference between assessments was determined by the *t*-test. The comparison of variances was carried out by the *F*-test. The significant differences between all parameters were set *(Table 1)*.

Discussion
1. It was found that Group 1 received better scores for all defined parameters in comparison with Group 2 (p<001).
2. Servicemen functional testing allows determining their functional systems capabilities reserves. It also could help to pre-assess servicemen physical health level, their readiness for physical activity and the effectiveness of physical training programs.
3. Weight norms are recommended to be developed in Ukrainian Armed Forces as one of the criteria of servicemen physical fitness level.

Practical Implications
NON APPLICABLE

Table 1. Joint Forces Operation servicemen parameters, n=26

Group	RBM, points	HR_{rest}		$HR_{intensity}$		$t_{recovery}$		FP, points	MFP, points
		bpm	points	bpm	points	s	points		
1	4.87	71.1	3.39	94.62	3.8	51.54	4.86	4.02	4.23
2	2.67	77.7	2.36	115.68	2.47	170	1.7	2.18	2.3
p-value between groups parameters									
S-W- test	<0.04	>0.4		>0.05		<0.002		>0.2	>0.5
F- test	-	0.44		0.06		-		<0.0001	<0.0001
t- test	-	0.007		0.0007		-		<0.0001	<0.0001
U-test	<0.001	-		-		<0.0001		-	-

References
[1] *Mykhaylov V. (2021). The Analysis of Morphofunctional and Physical Readiness of Ukrainian Joint Force Operation Servicemen with Different Body Weight. Conference abstract 'Special features of Physical Fitness', DPCS.*

Figures and tables
https://www.eventora.com/en/files/cism-2021/Submissions/637588708411294585_Table-Mykhaylov.jpg/get

Conflict of interest
The authors declare that there is no conflict of interest.

Havenetidis Konstantinos :

Physical Fitness Tests in Military: Relevance with occupational tasks.

Department of Physical and Cultural Education, Hellenic Army Academy, Evelpidon Avenue, 16673, Vari Attiki, GREECE

Introduction

Military resilience and preparedness require high levels of physical conditioning. The latter comprises various components of fitness such as muscular endurance, body composition, aerobic fitness, muscular strength and flexibility. Therefore, improving scores in these components is considered a necessity for determining health as well as performance in all combat-oriented branches of the military. The aim of this study was to critically assess original research addressing the use of fitness tests in the military.

Methods

A search of the electronic database PubMed, was carried out for the following key words: Army personnel, Physical fitness, Work Capacity Evaluation, Diagnostic Techniques and Procedures, Norms. This procedure identified randomised clinical trials from journal articles and technical reports related to fitness testing in the military.

Results

Most of the studies suggest that passing in a battery of physical fitness tests, immediately following Basic Combat Training is considered essential, as improving scores in these test items will improve physical conditioning level, a prerequisite for performing future military occupational tasks (Hoyot et al., 2006). Age and gender are also associated with physical impairments in strength, balance, endurance and flexibility leading to modifications in final fitness scores (Havenetidis and Paxinos, 2013). Furthermore, the potential risk of injury cause alterations in the personal effort that each recruit applies during military testing (Hauschild et al., 2014)

Discussion and Conclusion

The present study highlighted the relative importance of various components of fitness for each military branch, and demonstrated the reliability and external validity of field and laboratory tests in various military settings.

Practical Implications

Caution is recommended so that military recruits would not only be evaluated from a health-related and occupationally relevant fitness perspective but also under fair and safe for everyone conditions. Long term improvement in military physical conditioning can be achievable via subsequent functional training.

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Conflict of interest

None

Presentation Type

Desired Presentation Type (Oral)

Schmidt Annette :

Impact of one-year CrossFit training on performance of soldiers and civilian employees – results of the controlled, prospective, interventional trial MedXFit.

Introduction
The physical performance requirements for soldiers in the Bundeswehr are divergent and require a wide range of training. In principle, CrossFit offers both great variance and the possibility of very individual adaptation. The training concept of CrossFit is characterized in its diversity by combining powerlifting, weightlifting techniques, and gymnastics as well as endurance components such as rowing, running, swimming in an high intensity interval training. Scaling allows the adaption from elite soldiers to people with disabilities. Functional movement is always the focus. As part of the MedXFit study, the CrossFit training concept was used to investigate whether soldiers and civil employees can be trained, whether their physical fitness can be increased, and whether physical problems like back pain can be decreased after a long period of sedentary work.

Methods
Members of the Bundeswehr who primarily did sedentary work could take part in this study. The participants in the intervention group had to take part in MedXFit training twice a week. The training took place in person or via video during the lockdowns. The control group continued to train on their own terms. The study was designed for one year. The following data was measured (0, 6 and 12 months): Weight, height, force, force symmetry, flexibility, as well as further information from surveys.

Results
53 people in the intervention group and 34 in the control group completed. Participants in the intervention group showed a significantly increased strength in the core, in the extremities, improvement in the functional movement screen, movement execution, less need for scaling, improvement in subjective back pain, and increased leisure activity. The participants in the control group showed no significant changes at the same time.

Discussion and Conclusion
This study proves for the first time within the scope of a prospective, controlled study the broad benefits of adapted CrossFit for employees of the Bundeswehr. The participants in the study came from a wide variety of backgrounds. Young soldiers, as well as injured veterans or civilian employees shortly before retirement, took part. All participants showed an astonishing increase in physical performance and everyday fitness.

Practical Implications
Due to the increasingly clear relevance, it should be considered whether CrossFit should be included as a CISM sport.

References
No

Confict of interest
The authors declare no conflict of interest.

Dmitriev Grigorii :

"Elbrus Ring" as a means of the military professional readiness improvement to perform combat tasks in mountainous terrain.

References
No

Conflict of interest
No

The report contains the results of a pedagogical experiment based on the "Elbrus Ring" competitive training targeted at performing special missions via Special Forces soldiers in mountainous areas.

Practical Implications
Information and description of practical military-sports competition of applied orientation among military personnel of mountain units of different countries

Iotfi Bouguerra :

Effect of two high intensity interval-training, models calibrated with time until exhaustion at 100 % of the maximal aerobic velocity on hematological and biochemical parameters.

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Confict of interest
The authors declare no conflict of interest.

Background
The combination of hight intensity interval training (HIT), calibrated in reference to time until exhaustin is common mainly to develop the anaerobic performances. However this study is the first one witch examine the effect of18 weeks of training (with 12 weeks of HIT) describing in twenty male high-level middle and long distance runners the chronic effects on hematological,biochemical and the physiological adaptation of a gradual increase in the number of repetitions HITS calibrated to time 100 .

Purpose
We aimed to analyze the effect of intermittent training program calibrated in reference to tlim 10 using gradual increase in repetitions per high-intensity interval training session on hematological, biochemical aerobic performances and physiological adaptations.

Methodology
Twenty male high-level middle and long-distance runners voluntarily participated in this study .They were devised in two groups: Training group with progressive increase in the number of t_{lim} 100 repitions (G2; n=10). The study lasted 18 weeks and the total duration of the training period was 12 weeks of high – intensity interval training program (TWHITP) .The subjects performed 12 tests: 4 maximal graded test (MGT) ,4 time to exhaustion at 10./. of maximal aerobic speed (MAS) (t_{lim} 100) and 4 running exercise (2*5000M AND 2* 10000M) .Before and after training 10 ml of venous blood was collected from the antecubital vein for the determination of plasma concentration of insulin, cortisol and groth hormone at rest after warm-up and 3 min after the end of tlim100 and rest immediately at the end of the MGT and after 5-10-20-30 min of passive recovery.

Figure 1
Experimental protocol for both groups

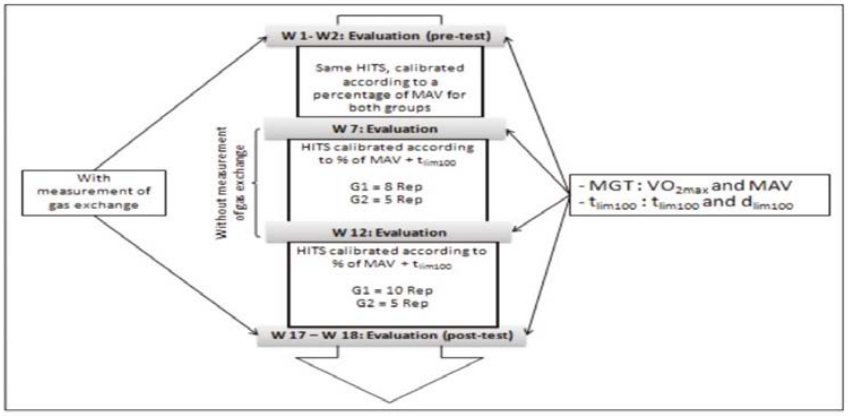

Tableau n° 1
Mean values (± SD) of plasma concentration of insulin, cortisol and groth hormone before and after TWHITP in G1 and G2,

		Insulin *(mUI.ml⁻¹)*		Cortisol *(ng.ml⁻¹)*		Growth hormone *(ng.ml⁻¹)*	
		Before TWHITP	After TWHITP	Before TWHITP	After TWHITP	Before TWHITP	After TWHITP
G1	Rest	9.8 ± 7.0	10.2 ± 6.2	114.5 ± 27.3	119.9 ± 29.0	2.4 ± 2.6	2.8 ± 2.0
	End	15.3 ± 8.3	18.1 ± 8.1	138.5 ± 36.2	150.4 ± 33.9	17.1 ± 13.5	14.9 ± 13.1
	5 min	22.4 ± 9.6	22.9 ± 9.2	146.5 ± 31.0	158.7 ± 30.8 *	18.5 ± 13.8	16.7 ± 12.5
	10 min	18.3 ± 7.6	18.1 ± 7.4	173.0 ± 43.3	165.7 ± 30.9	19.4 ± 13.8	19.8 ± 14.0
	20 min	16.9 ± 3.5	17.1 ± 5.5	166.5 ± 54.2	155.3 ± 38.2	17.3 ± 12.9	17.6 ± 12.2
	30 min	13.1 ± 5.6	12.9 ± 5.4	148.5 ± 58.8	132.5 ± 43.9	13.1 ± 10.4	12.5 ± 10.9
G2	Rest	10.7 ± 6.3	14.8 ± 13.3	134.0 ± 58.5	119.5 ± 79.4 *	0.5 ± 0.5	0.7 ± 0.6
	End	21.4 ± 14.7	19.8 ± 16.3	171.0 ± 50.6	144.1 ± 83.4	18.6 ± 13.5	14.5 ± 14
	5 min	34.0 ± 18.7	25.1 ± 19.0	176.0 ± 62.6	153.1 ± 95.9	18.6 ± 11.4	14.1 ± 12.3
	10 min	23.0 ± 11.9	18.1 ± 13.6	220.5 ± 63.1	175.7 ± 103.1	19.2 ± 10.0	14.6 ± 11.4
	20 min	17.9 ± 7.6	15.8 ± 10.9	230.5 ± 68.0	181.9 ± 107.1	17.9 ± 8.7	14.0 ± 10.4
	30 min	14.9 ± 6.8	12.9 ± 8.5	204.5 ± 56.0	161.6 ± 96.7	15.1 ± 7.7	12.5 ± 9.6

Findings

Our results showed that MAS was in G1 compared to G2 ($p<0.001$) between Pre and Post – test. However no significant increase was observe on VO_{2MAX} in G1 and G2 AT POST –TEST compared to pre –test. For G1our results showed a significant increase ($P<0.01$) ON TLIM100 performance and $d_{lim}100$ performances in response to TWHITP .Our results showed that before during and after the TWHITP 10000m and 5000m performances were significantly improved ($0.001<p<0.05$) on G1 compared to G2.

Conclusion

Performances were significantly improved in G1 only with using 10 repetitions per HITS calibrated reference to t_{lim100}.

Practical Implications

Results showed that the TWHITP induced a significant improvement on MAS in both groups between the Pre and Post –test without any increasing In VO_{2MAX} these results can be returned to the insufficient volumes HIT over the TWHITP to reach the trainable limit for VO_{2MAX} .

Tourinho Pedro :

Comparison of cardiorespiratory conditioning between approved and reproved candidates in a Special Operations Course.

Introduction
Among all military specialties, special operations are considered the most demanding. To prepare elite military personnel, training courses in this speciality have high demands, both psychological and physical. Several studies point to an advantage of students/candidates who have better cardiorrespiratory conditioning in achieving success in these courses. The aim of the present study was to compare the VO2max values between approved and reproved candidates in a special operations course, the Brazilian Navy's Special Course of Amphibious Commands.

Methods
The sample was composed of 114 military members of three editions of the Special Course of Amphibious Commands. Before taking the course, the VO2max was estimated through a 2400 meter running test. After completing the course, the soldiers were divided into approved (AP) (n=36) and reproved (RP) (n=78). Then, considering the normality of the data, the VO2max of the two groups was compared using Student's t test (independent). The significance level $\alpha<0.05$ was adopted.

Results
The groups presented mean VO2max of 51.99±2.04 ml/kg/min (AP) and 52.05±3.18 (ml/kg/min (RP) for the comparison of the t-test, obtained p=0.917651. Thus, it was found that there was no significant difference in VO2max values between those who passed and those who failed in the Special Course of Amphibious Commands.

Discussion
Cardiorespiratory fitness, measured by VO2max, appears not be a determining variable in the performance of candidates for the Special Course of Amphibious Commands, however, the present study considered this variable in isolation. The candidates involved in the course had excellent cardiorespiratory fitness, which may have contributed to the fact that no difference was found, due to the homogeneity of the sample.

Conclusion
Therefore, further studies are suggested, with larger sampling and involving other physical variables together, in order to verify and expand the findings of this study.

Practical Implications
NON APPLICABLE

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Conflict of interest
There isn't any conflict.

Mello Danielli :

The use of thermal perception analog scales to monitor physiological responses during a simulated military triathlon race.

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Figures and tables

https://www.eventora.com/en/files/cism-2021/Submissions/637606600692905414_Triathlon.zip/get

Conflict of interest

None to declare. Supported by Pró-Pesquisa CADESM/DECEx/Brazilian Army, EsEFEx, IPCFEx, CCFEx and Poliscan Brazil.

Introduction

An efficient thermoregulation during a prolonged exercise as a triathlon Olympic distance (swimming 1.5 km, cycling 40 km and running 10 km) is important for athletic performance, especially in hot environments. Knowing how the athlete perceives such responses can lead to a better heat dissipation and an individualized prescription training to reduce the risks of heat illness. The aimed was to analyze the subjective perceptions of thermal sensation, skin moisture, thermal comfort, and effort in military athletes during a simulated triathlon Olympic race.

Table 1. Sample descriptive data

	Mean	Standard Deviation	Minimum	Maximum
Total Mass (kg)	71.41	7.74	55.00	85.50
Lean Mass (kg)	34.86	4.78	25.00	43.70
Fat Mass (kg)	10.18	3.32	6.00	20.50
%G	14.33	4.89	8.80	31.10
TMR (Kcal)	1692.64	170.59	1347.00	2013.00
VO2max (mL/kg/min)	58.23	6.09	46.0	70.0
Urine	1.340	0.00	1.330	1.340

Legend: kg= kilogram; %G= fatness percentage; TMR= metabolic rest rate; mL= milliliter; min= minute.

Methods

Observational study with 22 volunteered experienced triathlon athletes of Armed Forces. The thermal sensation was measured by analogic scales during the four moments of the Olympic triathlon race: (M1) pre-swimming, (M2) post-swimming, (M3) post-cycling and (M4) post-race. Data was analyzed by SPSS®. Descriptive statistics and Friedman's test were used with Dunn post-hoc at significant level of $p < 0.05$. The effect size (d) was calculated.

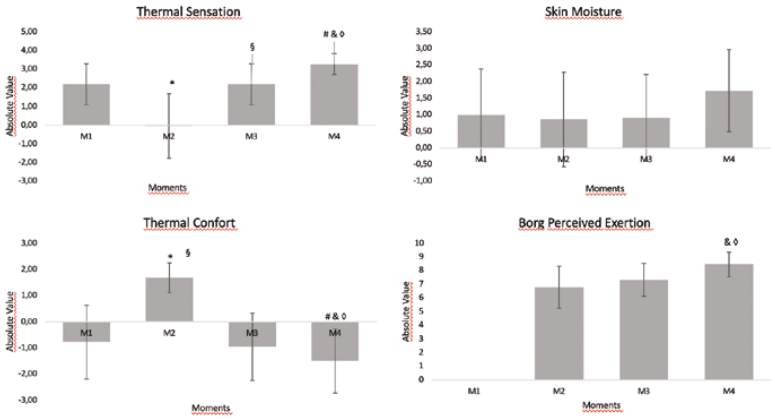
Results

Thermal sensation increase, and thermal comfort reduce were observed between all moments, except in M1xM2 ($p=1.000$; $d=0.00$; $p=0.972$; $d=0,18$), respectively. There was an increase in the perceived exertion between M2xM4 ($p<0.001$; $d=-1.682$) and M3xM4 ($p=0.001$; $d=1.136$).

Discussion and Conclusion

The swimming was performed in open water (20.9°C; 2 laps 750m), cycling and running was performed outdoor on athletics track using static roller and running 25 laps of 400m. The ambient temperature was 26.6±0.7ºC and relative ambient humidity 64±6%. Free hydration and colling off. It could explain the significant drop in the thermal sensation between M1xM2, exactly after swimming and the increase in heat perception as the cycling was performed static without wind convection. The external environment (sun, wind, air temperature and ambient humidity) and behaviors (colling off with water, opening the jacket, removing t-shirt) could interfered the heat exchange process and influenced the thermoregulation process of the triathlon athletes.

Figure 1. thermal sensation by analogic scales during the simulated Olympic triathlon race



Legend: Significant value p<0.05: *= M1 x M2; # = M1 x M4; §= M2 x M3; &= M2 x M4; ◊= M3 x M4

Practical Implications

We recommend evaluating the athletes' level of hydration during the race check-in to alert a possible undesirable physiological outcome. And using Wet Bulb Globe Temperature (WBGT) index during the race to a better management of athlete's hydration.

Mello Danielli :

The influence of military pentathlon obstacle run on athletes' skin temperature.

Introduction

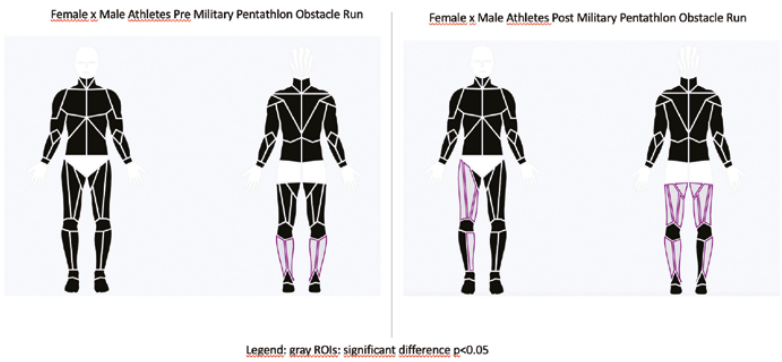
Performance in elite sports requires the integration of physiological and psychological factors. In addition, there is the interference of environmental conditions which athletes are imposed during competition. The increasing of infrared thermography in Sport's Sciences has as advantage being a non-invasive and low-cost method. The aim of this study was to analyze the influence of military pentathlon obstacle run (MPOR) on athletes' skin temperature Tsk.

Methods

Transversal research with 16 athletes' (9 male and 7 female) volunteers of the Brazilian Army Military Pentathlon Team. For Tsk evaluation was used E75FLIR® infrared camera and the data collection occurred indoor, in an acclimatized room pre and post obstacle run attending Delphi study recommendations. The images were processed using ThermoHuman software and data analyzed by SPSS®. The selected regions of interest (ROIs) were the anterior and posterior regions of

lower limbs. Descriptive statistics, paired t-Student test and ANOVA's test were used with adjusted Bonferroni posthoc and significant level of $p<0.05$. Percentage differences (Δ%) were calculated.

Figure 1. Skin Temperature difference between female and male pentathletes pre and post Military Pentathlon Obstacle Run



Legend: gray ROIs: significant difference p<0.05

Results

The ambient temperature was 21.5-23.2ºC and relative ambient humidity 64-68%. Table 1 presents the difference between each anterior and posterior ROIs pre and post MPOR. When comparing female and male pentathletes, it was observed a significant lower temperature in female athletes in the ROIs identified as gray on figure 1.

Discussion and Conclusion

The increase of temperature pre and post MPOR was related to its high intensity characteristic that leads to a metabolic stress requested by muscles. However, the difference in Tsk between female and male may be associated to the fact that female athletes did not perform 4 obstacles in MPOR: (1) rope ladder (8) sloping wall with rope (12) four steps of beams and (16) vertical ladder, all related to jumping and impact absorption, which leads to the absorption of energy necessary for movement.

Practical Implications

We recommend the insertion of infrared thermography on daily training for monitoring internal load, metabolic stress, preventing injuries and optimize performance in Pentathlon Team.

Table 1. Mean Skin Temperature (ºC) pre and post Military Pentathlon Obstacle Run

Anterior View					Posterior View				
ROIs	Pre mean±sd	Post mean±sd	Δ%	p-value	ROIs	Pre mean±sd	Post mean±sd	Δ%	p-value
Front Thigh_R	32.72±0.75	31.90±0.86	0.82	0.008	Front Back_R	32.82±0.96	31.97±1.27	0.85	0.041
Front Thigh_L	32.75±0.75	31.76±0.95	0.99	0.003	Front Back_L	32.82±0.92	32.00±1.32	0.82	0.050
Central Thigh_R	33.07±0.87	32.12±1.04	0.95	0.009	Central Thigh_R	33.03±0.82	32.19±1.11	0.84	0.022
Central Thigh_L	33.04±0.85	32.06±1.08	0.97	0.008	Central Thigh_L	32.93±0.81	32.24±1.11	0.69	0.052
Adductor_R	33.56±0.92	32.22±1.57	1.34	0.006	Adductor_R	32.85±1.06	32.08±1.35	0.77	0.082
Adductor_L	33.53±0.86	32.20±1.50	1.33	0.004	Adductor_L	32.95±1.07	32.05±1.38	0.90	0.049
Inner Thigh_R	33.10±0.74	32.23±0.94	0.87	0.007	Inner Thigh_R	33.21±0.73	32.60±0.96	0.61	0.053
Inner Thigh_L	33.12±0.82	32.30±1.05	0.82	0.020	Inner Thigh_L	33.08±0.75	32.46±0.98	0.62	0.053
Knee_R	32.11±0.49	31.47±0.77	0.64	0.008	Popliteus_R	33.32±0.72	32.70±0.98	0.62	0.053
Knee_L	32.13±0.59	31.34±0.90	0.79	0.006	Popliteus_L	33.35±0.73	32.76±1.03	0.59	0.070
Outer Leg_R	32.61±0.54	31.90±0.82	0.71	0.007	Outer Leg_R	32.72±0.89	31.98±1.00	0.74	0.035
Outer Leg_L	32.62±0.56	32.02±0.76	0.60	0.016	Outer Leg_L	32.71±0.87	32.03±0.95	0.68	0.042
Inner Leg_R	32.52±0.65	31.86±0.89	0.66	0.024	Inner Leg_R	32.78±0.90	32.13±1.04	0.66	0.066
Inner Leg_L	32.46±0.54	31.98±0.80	0.49	0.053	Inner Leg_L	32.67±0.76	32.04±0.99	0.63	0.052
Ankle_R	31.10±0.53	31.63±0.64	-0.53	0.017	Achilles_R	30.99±0.74	30.86±1.35	0.13	0.733
Ankle_L	31.25±0.52	31.81±0.64	-0.56	0.011	Achilles_L	30.87±0.70	30.96±1.32	-0.09	0.820
Anterior Foot_R	29.06±0.86	30.25±1.30	-1.19	0.005	Back Foot_R	28.42±0.81	29.14±1.15	-0.72	0.050
Anterior Foot_L	28.84±0.84	30.30±1.38	-1.47	0.001	Back Foot_L	28.66±0.81	29.47±1.06	-0.81	0.022

Legend: skin temperature values in °C; R = right; L = left; sd = standard deviation; * = significant value (p<0.05); n=16; age=26.33±3.28.

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Figures and tables

https://www.eventora.com/en/files/cism-2021/Submissions/637606580414629584_Military-Pentathlon.zip/get

Confict of interest

None to declare. Supported by Pró-Pesquisa CADESM/DECEx/Brazilian Army, EsEFEx, IPCFEx, CCFEx and Poliscan Brazil.

Andreas D. Flouris :
Preparing the soldier for battle in hot environments.

FAME Laboratory, Department of Exercise Science, University of Thessaly, Greece

This talk analysed the relevance of climate change, and global warming in particular, on the preparation of modern armed forces for the conduct of (i) combat and (ii) non-combat operations.
For combat operations, climate change increases the triggers for conflict (e.g., through land-use changes and resource scarcity) and alters the environments in which conflict takes place, as extreme events become more frequent. In particular, the majority of combat operations during the past decades took place in exceedingly hot and cold environments. For non-combat operations, climate change raises the likelihood of deployment in response to a developing situation by increasing the frequency and intensity of natural disasters and people's movements through borders. This has become a growing crisis which is projected to intensify during the 21st century and armed forces will need to deploy more and more often to support civil authorities in response to migration crises. We recently analysed the migration patterns of 1.6 billion people across 200 different countries from 1960 and projecting to 2099 and estimated that 35% of people who migrate or intend to migrate perceive climate change as one of their main reasons for doing so. Of this 35%, seven percentage points are attributed to the direct impacts of climate change (changes in temperature, rainfall, and/or wind), while the remaining 28 percentage points are attributed to indirect impacts (economic, political, and social factors) of climate change.

In conclusion, climate change, and particularly global warming, leads to global instability through increased natural disasters, intensified competition for ever-diminishing food and water resources, amplified socio-economically motivated armed conflicts, and difficulty controlling national borders. Thus, armed forces must adapt warfighter preparation as well as current and future operations (both combat and non-combat) to the direct and indirect impacts of climate change and the associated risks to national security.

Stylianos N Kounalakis :
Prepare the soldier for operation in cold, amphibious and dark environments.

Faculty of Physical and Cultural Education, Evelpidon Hellenic Army Academy, Vari, Greece

Military-oriented studies using both cold air and cold water, have showed substantial decrements in mental-cognitive and manual performance following cold stress, the magnitude of which appears to be a function of both, surface cooling and, with prolonged exposures, deep body cooling. Some studies appear to show at least some beneficial effects of cold climate training on manual skills and cognition, while some others failed to show improvements in physiological functions related to an operation, after repeatable cold exposure.

Although soldiers get prepared to take part in land operations, sometimes action can take place in water, therefore amphibious action may be required. Frequently, amphibious operations include covering a short or long distance in the sea, while swimming with personal equipment, and with a specific technique, in order to minimize visibility to others and increase combat readiness. The training adaptations in this swimming style, as well as in shooting performance after swimming, seemed to be specific, not only regarding the activity performed but also in terms of the actual conditions of an operation, which also includes equipment.

Army soldiers commonly conduct foot-borne operations at night; one reason to perform such movements at night may be to reduce heat strain in hot climate or to camouflage. However, a substantially higher oxygen uptake is observed, and hence endogenous heat production, in soldiers walking on terrain at night whilst using night-vision goggles, than when performing the same task in bright daylight. We should consider this in prolonged, high-intensity operations in which metabolic heat production and/or energy depletion can compromise the mission success.

The additional physical conditioning and/or acclimatization can not always overwhelm the negative effects of these environmental stressors on operating performance. However, it is essential that leaders prepare their military units to operate with the highest safety and maintain physical performance in such environments.

Kontogiannis Konstantinos : Ilida-Olympia: The Route of Truce – Bridge the ancient with the modern world.

Head of projects, events & programs sector and funding & subsidy sector at "Federation of Olympia Non-Profit Civil Company".

Introduction

Year 776 BC, the Kings of Ilida, Ifitos, Pisa (city next to Olympia), Kleosthenis and Sparta, Lykourgos, signed the first Olympic Truce agreement.
ILIDA was the city that organized the ancient Olympic Games. OLYMPIA was the holy area with the temples and the stadiums where the Games were taking place. Before the opening of the Olympic Games, special envois travelled to all Greek colonies, all over the then known world, to proclaim the beginning of the truce; so everyone could travel safely.
To enter the kingdom of ILIDA, everyone participating had to be unarmed; therefore they had to leave their armour and weapons at the borderland. After the final selection of the participant athletes and the completion of their preparation (training together, having the same dietary), all the people (participants, judges, crowd), were heading to Olympia.

Methods

The last decades, governments and academics researched historically the Route but they never actually took any action on it. Hence, in 2014, **"Federation of Olympia"** took the initiative to enter a *'Leader'* European program and started the implementation of **"The Route of Truce"** project. In 2016 the first part of the works was completed, but we still had to communicate it to the world. So, in collaboration with the Supreme Sports Council of Hellenic Armed Forces, we organized the first "Route of Truce" and by the end of the event everybody left with strong positive emotions and looking forward for the next year's events. Hence, next year we made it an open event to all organizations and individuals.
Year after year the "Route of Truce" got bigger and stronger, while we added extra events with great results.

Results

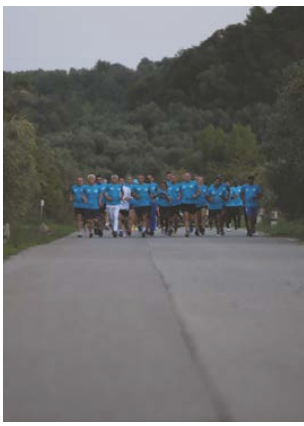
Most of the running community of Greece knows ILIDA (and the role that the city had in ancient *Olympics*) and the *Route of Truce*. We cultivate the emotion of friendship, truce and peace through sports. We also join different kinds of communities, for example: the art world (with art exhibitions), the sports world (with sports events), tradition (traditional and local festivities) and of course history.

Discussion & Conclusion

The ancient *Olympics* were not just games; they had a far more sophisticated character adjoined with artistic and cultural events. After 6 years of events, we are ready to "open" the Route worldwide and invite
important organizations to be part of the *Route of Truce* movement and start working for global Peace, together.

Ancient Olympic Stadium of Ancient Olympia

FUN RUN KLEOSTHENIS ROUTE OF TRUCE



FUN RUN KLEOSTHENIS ROUTE OF TRUCE


ΑΣΑΕΔ
CISM

Athletes running.
Side B from a black-figured Panathenaic amphora,
ca. 500 BC. Louvre Museum.

Saturday 06.10.2021

DAY 3

MILITARY SPORT EVENTS MANAGEMENT

Social and Political Aspects.

SPEAKERS DAY 3


CISM


INTERNATIONAL
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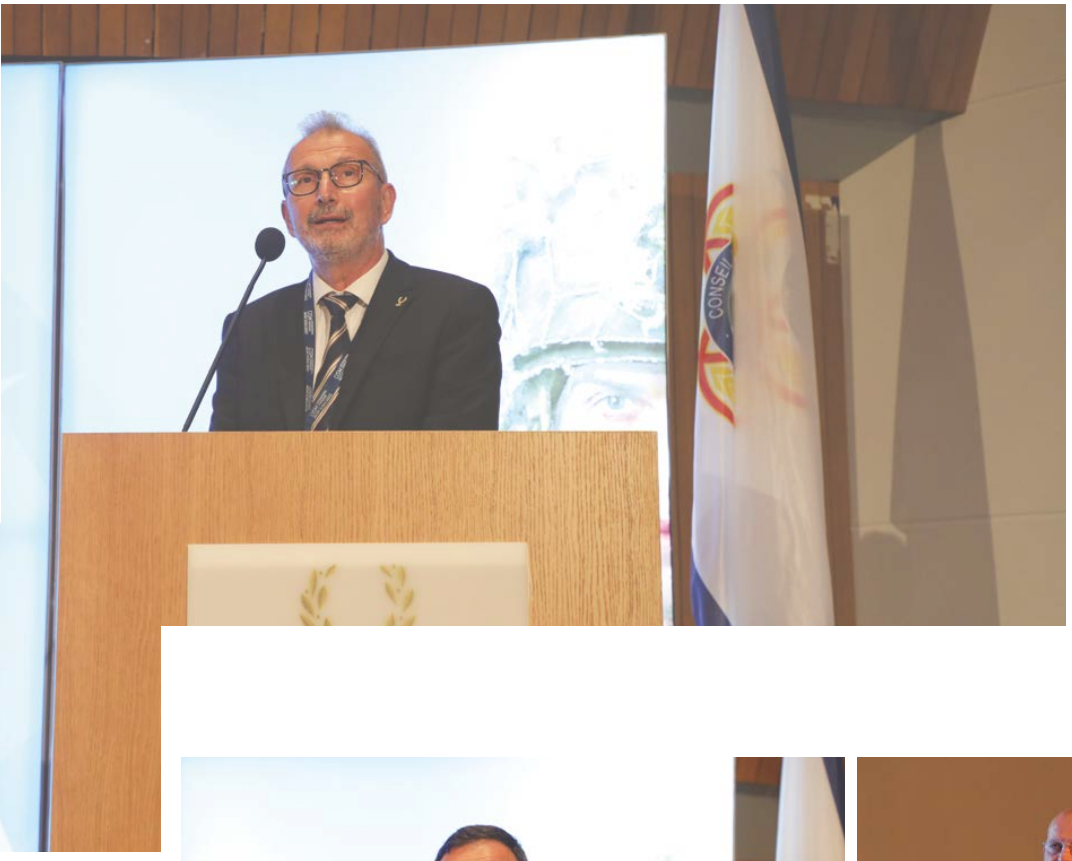
SPEAKERS DAY 3




CISM International Symposium

ABSTRACTS DAY 3

Danevski Sasho :

Military Academy Cadets' physical activity during the pandemic.

The COVID 19 Pandemic represents an immense threat for the entire society regarding health, economy, and lifestyle. As a response to the pandemic, all governments in the world adopted social distancing and working from home as essential preventive measures for reducing and eventually stopping the virus. Thus, physical activity in all its forms stopped for hundreds of millions of people. The rigorous government measures in the Republic of North Macedonia referred to online classes in the entire education system, as well as ban on training and competition in all sports, whereas in certain stages of the pandemic leaving one's home was banned for the entire nation. The Military Academy as an integral part of the educational apparatus and sports adjusted its modus operandi in accordance with all recommendations and restrictions. On the other hand, regular physical activity plays a fundamental role in prevention and treatment of cardiovascular diseases, diabetes, anxiety, hypertension, as well as huge mental stress caused by the pandemic. The need for regular physical activity was as it had never been before. People are aware that physical activity plays a crucial role in maintaining physical and mental health. This paper addresses the effect, activities, results from exams, the interest in and method of realization of regular classes of the subject "Special physical training and sports" of the Military Academy Skopje cadets.

Practical Implications

The idea is ti find the best way and solution to stimulate cadets and all other military staff to be high motivated during difficult life conditions.

Key words

pandemic, COVID-19, physical activity, health, immunity.

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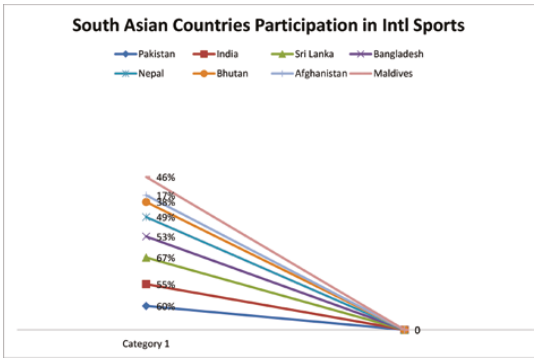
Conflict of interest

I think there is no any reason for conflict of interest!

Anjum Shabbir :

Military Training Traits are Key to Success in Competitive Sports.

The purpose of this study is two-fold. First, to explore the number of participants including remarkable results of Armed Forces athletes in different international sports events in South Asian countries from last seventy years (1952 to 2020). I will also discuss the Armed Forces of south Asian countries trend to join this profession and especially highlighting the Pakistan services performance and contribution in national and international sports. Secondly, I will apprise all audience about the inbuilt military training which plays vital role in competitive sports(Haugen et al., 2019). The significance of these traits inculcated in soldiers' training can't be denied at any forum in international sports (Tompos, 2020). The same is supported by scientific evidence and statistics of sports, particularly in international competitions where a considerable number of medal winners were from Armed Forces of respective countries. Pakistan Armed forces officers and soldiers not only won Olympic Medals as representing national game of Pakistan, hockey but also performed well in common wealth and Asian Games in the past (Kundert et al., 2019). There are many countries with weak economy which emerged and recognized on the world map only due to their sports. The participation of Kenya, Uganda, Jamaica and Botswana is an evidence of emergence through sports on the world map (Bartz et al., 2017).



Inbuilt Military Training Traits

a. Character & Discipline.

Discipline is the bridge between goals and accomplishment of mission. It is the hallmark in soldier's training from day one which is equally important to perform well in sports (Longo et al., 2016) and (Cropley et al., 2020).

b. Attack & Defence.

Whether it is battlefield or the sports grounds, the methodology of attack & defense which is part and parcel of soldiers training is considered very basic for efficient and effective performance(Cheng, 2017).

c. Focus & Concentration.

Military life is full of training to adopt focused approach to complete the assigned

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tasks. No results can be produced without concentrated efforts in the field of sports as well (Putukian, 2016).

d. Initiative and Ingenuity.

Initiative in Armed Forces is always encouraged and developed at all levels which brings dividends in the battle field where timely decisions play significant role towards overall success. Initiative in sports has also its positive impact and contribution towards the victory of teams (Hollings et al., 2014).

e. Decision Making.

Decision-making is a fundamental element of all sports and military life which appears and have its direct bearing towards the overall performance / results. It is equally important for coaches, athletes, and referees to give timely and accurate judgment to avoid untoward situations in the field of sports. f. Deception & Surprise. Military deceptions refer to attempts and mislead enemy forces during warfare and same is the case in sports where you deceive / surprise your opponent to weaken his match strategy (Nikolaidis & Knechtle, 2018) and (Smeeton et al., 2018).

g. Fresh Ideas & Brainstorming. Innovations and fresh ideas play an important role to overcome the strength of enemy in battlefield. Soldiers are always well trained in contingency planning which is also important in sports, keeping in view the actions of opponent and counter reactions of own teams to produce better results.

h. Channelization of positive energy.

It has been scientifically proved that sports and the life of Armed Forces are the main sources for the channelization of positive energy to avoid aggression & violence to maintain sportsmen spirit.

i. Esprit-de-Corps.

Military Units are full of "Esprit de Corps." They create flags, banners, and represent them in the battlefield. Sports teams also have great morale and team spirit to produce united results. Beside colour, creed and lingual differences members represent one team, one flag to establish esprit de corps (Jobe & Flesher, 2005).

j. Team Work.

In the military, soldiers work together because lives may be at stake. This means learning to rely on each other and taking advantage of every opportunity for the team to learn and grow together. Army has firm believed that **"It's not the team with the best players that win. It's the players with the best team that wins**". Team work is the fuel that allows common people to produce uncommon results.

k. Confidence.

Military life ensures **merit and training.** These two important factors improve the confidence not only in Armed Forces but also are important facets of sports culture. Improvement in confidence means changing the results in battle field and defeating the opponent in sports arena (Feltz, 2007).

Conclusion

Certain Military Training traits in practice as discussed are directly relevant and very productive / instrumental in the field of sports. The application of these military traits to produce results in sports is evident if careful scientific analysis of statistics is carried out on International Sports Competitions results.

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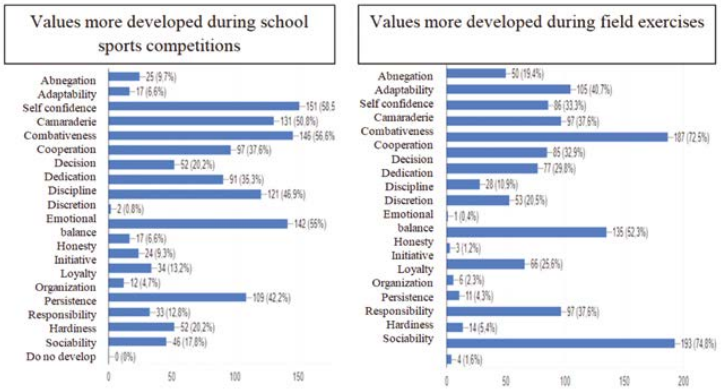
Soeiro Renato :

The importance of the military school competitions in the values development of the young cadet in the Brazilian Army's Military Academy.

Introduction
According to Brazilian Ministry of Defense Normative Ordinance 107, which provides rules and procedures for sports events in the Armed Forces, military sport has the major purpose of promoting friendship through sport. However, several studies indicate that sports are capable of developing several important values for the military, especially during the first years of education. Thus, the purpose of this study was to verify the importance of school sports for the military's education and to compare the main attitudinal values developed during school competitions and during field exercises.

Methods
Cross-sectional study involving Brazilian military personnel. Data collection was done through a semi-structured questionnaire with closed questions, covering the importance of the school competitions; which values the school competitions develops most and which values the combat drills develops most. The data was crossed to find the relations between the values developed during the school competitions and in the combat drills.

Results
The questionnaire was answered by 257 (two hundred and fifty-seven) military personnel from different graduations. It appears that school sports are important to development friendship among members of the Armed Forces Academies. Furthermore showed that school sports are important for the education of the young military personnel when 87.6% of respondents believe that school competitions go beyond the camaraderie, and 99.2% of the interviewees consider that school competitions develops important values for the education of future leaders. It was raised that there is a large intersection between the most developed attitudes during school competitions and during field exercises.



Discussion and Conclusion
The results agree with the literature and reaffirm that sport is an exceptional means of training and improving most of the attributes of the affective area, even because it demands from man, in a cheap and efficient way, many of the qualities indispensable in combat.

Practical Implications
NON APPLICABLE

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Figures and tables
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Conflict of interest
No conflict of interest

Cárdenas Alexander : Building Sport and Military Peace Support Operations.

Universidad Abierta de Cataluña (Barcelona, Spain / Plataforma Deporte para el Desarrollo y la Paz, Santa Barbara, USA)

The purpose of this presentation if two-fold: First, to trace the history of sport for the purpose of building peace. Second, I will provide an introduction to how sport may be used as a tool to advance the success of peace support operations (PSO).

Methods

This presentation will be conducted based on extensive review of existing literature in the peace building, Sport for Development and Peace, and PSO fields, as well as information on relevant activities going on in the field, and a first round of interviews with military officers.

Results

Acknowledging some restraints due to the nature of sport itself and the challenges of Peace Support Operations' constellations and dynamics, I propose a preliminary model containing areas for the use of sport to support mission success: multinational military-military cooperation, international civil-military interaction and PSO's relations with the local population and the local authorities and armed forces.

Discussion and Conclusion

Acknowledging some restraints due to the nature of sport itself and the challenges of Peace Support Operations' constellations and dynamics, I propose a preliminary model containing areas for the use of sport to support mission success: multinational military-military cooperation, international civil-military interaction and PSO's relations with the local population and the local authorities and armed forces.

Practical Implications for CISM

The research presented here has the potential to provide some lessons regarding the practical application of sport to serve as a conduit for peace within peace support operations.

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Conflict of interest

I declare here no conflict of interests regarding this presentation.

Presentation Type

Desired Presentation Type (oral)

Politov Andrei :

Organization of the III World Cadet Games given the experience in organizing sports events in the context of pandemic.

References
No

Presentation Type
Oral

Lieutenant colonel, Ph.D., A.V. Politov
Military Institute of Physical training, St. Petersburg, Russian Federation.

Introduction
The III World Cadet Games (supposed to be held in St. Petersburg in 2020), were postponed due to the pandemic. Despite the negative impact of the pandemic on international sports, the organizers of major sporting events gained positive experience in managing competitions in in such conditions.

Methods
Comparative analysis of the practical experience of international and national organizations in organizing large-scale sports events.

Results
The main practical measures have been identified to prevent the spread of viral infection during large-scale sports events held at the international level in accordance with WHO recommendations. Such recommendations were taken into account when organizing competitions within the framework of the European Football Championship 2021 in the city of St. Petersburg.

Discussion and conclusion
Some requirements, such as 50 percent reducing of the number of audience at sports facilities and observance of social distance between people remain quite controversial. In case of non-commercial and sponsored competitions, the discussed option is the use of virtual reality to show the competitions and the absence of spectators in the stands. In any case, if there are spectators at the competition, service personnel and fans should wear protective masks, gloves and use antiseptics. In addition, temperature measurement is mandatory at the entrances to sports facilities. It is also planned to conduct constant monitoring of the health status of athletes.

Practical Implications for CISM
The Military Institute of Physical Training created all the necessary conditions that will allow holding the III World Cadet Games under the auspices of CISM. All competitions will be held taking into account the world experience of organizing competitions in the conditions of a pandemic.

Paxinos Odysseas :
Knee osteoarthritis and pain perception in end of career military personnel.

Colonel Odysseas Paxinos MD, PhD, FACS - Greece

Background
Although active duty military personnel are very athletically active during their career they tend to present with knee symptoms before retirement. The prevalence of knee osteoarthritis (OA) in end of career military personnel is not well documented.

Study design
Cross sectional study.

Methods
A group of 100 athletically active military personnel 35 to 55 years old (mean age 49.60 SD± 5.9) approaching end of military career were examined clinically and sonographically for knee OA and they were administered the Knee Injury and Osteoarthritis Outcome Score (KOOS) questionnaire. A matched group of 100 of 100 veteran Greek football players served as comparison group.

Results and discussion
The prevalence of sonographic findings of OA was high in both groups but significantly higher (p=0.01, n=200) in the football (52%) than in the military group (33%). However perceived pain in KOOS score was more prevalent in the military group. This may related to elevated pain threshold in the athletes and subclinical depression affecting the military approaching retirement. However this statement needs further study.

Conclusion
Although both groups had significant prevalence of knee OA the military group had worse pain scores.

What this study adds to existing knowledge
Military personnel approaching retirement have increased knee pain scores compared to a group of retired football players despite lower prevalence of knee osteoarthritis.

Recchia Roberto :

GSPD *(Gruppo Sportivo Paralimpico Difesa)* – The Defense Paralympic Project in support of the disabled personnel.

References
No

Figures and tables
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Conflict of interest
None

On 2014, the Italian Defence General Staff officially established the Gruppo Sportivo Paralimpico Difesa (GSPD - Defence Paralympic Sporting Group).
The project is dedicated to the Defence personnel who, during the service, suffered permanent and invalidating injuries or experienced traumatic events directly. Many of them continue to serve wearing the uniform and with their deeds and their stories represent a clear example of recovery through sports.

The GSPD is a military sporting club that:
1. promotes and encourages, in collaboration with the Italian Paralympic Committee (CIP), the Paralympic sport practice of disabled Defence personnel, in respect of individual attitudes and personal abilities, aiming to increase the process of recovery and rehabilitation and the social integration. GSPD promotes also an active lifestyle to people no longer in service due to unexpected disability;
2. offers its support to the Paralympic sport of excellence, also promoting the enrollment of "elite" athletes, in collaboration with the Italian Paralympic Committee;
3. organizes meetings finalized at increasing the cohesion and the sense of belonging to the group, monitoring their psychophysical condition and promoting the practice of adaptive sport activity;
4. creates a military and civil sports representative to compete in nationally and internationally competitions.

At the time of its establishment, 14 members composed the GSPD. In the last six years, GSPD has registered an exponential growth in the number of subscribers, attracting public opinion.
On 2021, GSPD is composed by 69 members GSPD organizes sport meetings, which are very important moments for:
- aggregation and cohesion among the members and with all the staff who collaborate with them in different ways (Athletes, Coaches, Staff);
- sports promotion for the newcomers and consolidation of sport abilities for those who practice sports at a professional level;
- opportunity to meet psychologist Officers;
- assessment of sports preparation level and individual performances.

Practical Implications for CISM
Promote the development of paralympic competition

Hjalager Sara :
The Danish Model – Rehabilitation and personal development through sport.

Center for Military Physical Training, Copenhagen, Denmark.

Introduction
Physical activity has numerous benefits on people suffering from mental disorders1. But is this enough to ensure full rehabilitation of each individual veteran? By working alongside numerous organizations and learning from existing research on including mentally challenged people in sports2,3, the Danish Model has been developed to enhance the rehabilitation of veterans through sports, where personal development and empowerment have become the key factors in recovering from PTSD.

Methods
50 wounded veterans are chosen on the basis of a motivated application to take part in the Invictus Games program. After a screening process with psychologists from Veteran Affairs, 24 are chosen to become part of the Invictus Games program based on their commitment to the program and willingness to take self-responsibility of their rehabilitation. In collaboration with DIF Soldier Project, each veteran is supported in inclusion in local sports clubs.

Results
During the 2020 IG program 7 veterans have achieved their personal goals prior to the Games and left the program on this note. All have reidentified themselves and 2 have been evaluated as being fully rehabilitated after being part of the program.

Discussion and Conclusion
The Danish Model has been proved to improve the veteran's self-esteem and the feeling of being accepted and included back into society. Veterans have to take responsibility in order for the effects to have long term benefits and the majority of the veterans will not be completely rehabilitated after the Invictus Games program. Therefor it is of great importance to ensure that the veteran does not experience a relapse in the rehabilitation but continues to work with personal development and empowerment.

Practical Implications for CISM
Sport itself is part of the answer in the rehabilitation of veterans suffering from PTSD. To ensure rehabilitation of the veteran through sports, personal development and empowerment should be the key factors when seeking long term effects in a short term rehabilitation program.

References
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2. Fehsenfeld: Inclusion of Outsiders Through Sports

3. Ley et. al "In the Sport I Am Here": Therapeutic Processes and Health Effects of Sport and Exercise on PTSD

Presentation Type
Oral

Najafipour Farshad : A Novel Approach for the Mental Readiness.

A triathlete requires a multifaceted readiness to achieve success in competitive fields. Significant aspects of readiness are included physical, technical and mental. Of the factors, the mental factor has remained more obscure because by turning to all the existing references, no one has represented a comprehensive and structural definition about that yet. It is fascinating when scientists of sports science believe mental readiness is the most significant aspect in the competition field. To such an extent that in the Olympics, the highest level of sports competitions, the only way of obtaining the medal is mental readiness. After collecting the statistics of all the existing references, including more than 270 papers and books, extracting the vital parts, and an evidence based analysis, a structural definition of mental readiness has been obtained. Mental readiness is a complicated collection comprised of several mental skills that leads to no incident to be able to decline the efficiency of the triathlete.

Required Skills in the Definition. The list of skills consists of more than 20 skills. Five skills, however, occupy 90% of it, in order of preferences: stress control, concentration control, Goal Setting, Imagery, and self motivation.
Stress control indicates that an athlete is capable of raising and declining his level of excitement that of declining is more significant. It is found that "Diaphragmatic Breathing" is more practical than other techniques, Practical means more scientific despite the simplicity.

Concentration control indicates that an athlete is able to concentrate on whatever is necessary willingly and doesndoesn't concentrate on unnecessary items. It is found that the "Scanning Technique" is more practical than other techniques of concentration.
Goal Setting indicates that an athlete learns how to define the final goal, short and long time goals in the same direction to be able to have a plan to accomplish them. It is found that "SMARTIS Technique" is more practical than others Imagery. An athlete should be able to imagine clear, controllable, and movable pictures with all its movements and emotional details. The intended technique is making simple illustrations in making and adding emotions and other capabilities gradually.

Self motivation indicates that an athlete can create positive motivational space consistently willingly. Also, it is found that "Positive Self Talk" is more practical than others.

A triathlete who embodies these five skills of stress control, concentration c ontrol, goal setting, imagery and self motivation at an acceptable level is ready in terms of psychology, practically. The skills can be learned with some special techniques. Acquiring these techniques and the way of their learning is necessary for the coaches.

Smith Richard :
Invictus Games Foundation: Evolution and Way Ahead.

General
The purpose of this presentation was to outline how the Invictus Games Foundation (IGF) and the Invictus Games over which it presides has evolved since its inception in 2014; how it seeks to provide support to the Wounded, Injured and Sick (WIS) servicemen and women from across its 20 Participating Nations throughout their respective journeys of recovery and rehabilitation before, during and beyond the Games; and how the IGF is seeking to broaden its international reach including through close collaboration with CISM.

Introduction
Since the inaugural Invictus Games in London in 2014, it was noted that the Invictus community had now grown from 13 to 20 Participating Nations. In supporting the WIS who had suffered life-changing injuries during or as a result of their military Service, it was explained that the aim was to raise the awareness in their respective countries and internationally of the commitment and sacrifice that they had given. As a result, these WIS and families had become inspirational role models for others to follow and offered a relevance to wider society beyond purely the military community. The intent was to capture this Invictus Spirit and promote its growth as a key means of encouraging military personnel and WIS to be able to serve after their formal military Service had been completed.

Sense of Purpose
While the well-recognised benefits of the use of sport to assist in recovery and rehabilitation are at the core of the Invictus movement, it was noted that this was a means to help its WIS in adapting to life-changing injuries to regain their sense of purpose. This could be through regaining their sense of confidence; being able to function as a family unit again; volunteering, helping the community; personal development; or gaining employment. In sum, the intent is that these individuals should be comfortable in adapting to their new circumstances, skills and characteristics rather than constantly looking back to the way they were or might have been.

More than the Games
The presentation then went on to explain that the IGF was founded on the three Pillars of Inspire, Improve and Influence and was constantly seeking to evolve in its support for the Invictus community. Above all, a key message was that the IGF and its support amounted to much more than the Invictus Games alone. At the heart of this evolution and a potentially relevant consideration for CISM, it was explained that the **families and friends** are a core component of the Invictus community. Their support was acknowledged to be critical in enabling the recovery and rehabilitation of the WIS and that the family unit was a key foundation. The IGF is giving careful consideration as to how it can further enhance the inclusion and participation of its families.

In terms of the evolution of the **Inspire Pillar** which is focused on the Games themselves, it was noted that the Invictus Games will always be the lightning rod around which the IGF operates. Careful consideration was being given to the evolution of the Games including the introduction of new sports, such as esports or a Hybrid model combining both winter and traditional indoor summer sports. In addition, analysis was being undertaken as to ways to include families as participants in selected sports events. In addition, it was acknowledged that the Invictus Games had the potential to be a **catalyst for social change.** It was noted that a key aim for the Invictus Games Düsseldorf 2023 is to help in reframing the relationship between German society and its armed forces, the Bundeswehr. In addition, the IGF is delighted to have been invited to be a partner of the International Paralympic Committee's 'WeThe15' campaign. Launched at the Tokyo Paralympics in 2021, this 10-year campaign is designed to raise awareness of the 15% of the world's population that is disabled. The plan is that this theme will be mirrored and supported in forthcoming iterations of the Invictus Games. For the invictus Games in 2025, a significant selection criterion for the first time will be the inclusion of Sustainability both physical (environment, energy and climate- related) and social (inclusivity and diversity).

It was then noted that the **Improve Pillar** sought to provide that key element of support to the WIS individuals beyond the Games including both before and afterwards, It did this through a range of initiatives including the establishment of an online WIS community, 'We Are invictus', for sharing experiences and opportunities; the creation of a full programme of Invictus Endeavours offering the chance for WIS individuals from across all the Participating Nations to take part in further sporting, adventurous challenge and expeditions; and a full programme of grants funded by the IGF to support these activities throughout the Invictus community.

For the **Influence Pillar**, it was explained that the intent was to engage in supporting medical and scientific research in supporting the WIS community through such subjects as the investigation of advances in physical and mental trauma relief and treatment. In addition, a key initiative of the IGF has been to establish the IGF Conversation, a series of online webinars and physical symposia, designed to promote discussion and the exchange of best practice amongst the Invictus community and its Participating Nations.

Broadening the IGF's International Reach and Liaison with CISM

Finally, it was noted that the IGF wished to further enhance the international nature and scope of the Invictus community as it sought to assist in raising the awareness of the value of military Service and the key contribution that veterans can make beyond this Service including in civilian employment. It recognises that currently it has no representation from the African and South American continents. The IGF is keen to work with the CISM in identifying the areas of common ground including in building greater liaison between its members nations. A key component in this programme of work will be the cooperation planned for CISM's forthcoming Heroes' Military Games in France in 2022.

Georgiadis Konstantinos : Revival of the Modern Olympic Games.

Prof. Konstantinos Georgiadis, IOA Dean

This presentation focuses on the relationship between the reconstitution of the Olympic Games and the way in which the political and cultural identity of the modern Greek state was shaped and defined. It is an attempt to shed light on the role of the Greek tradition in the revival of the Olympic Games – an aspect hitherto not given the attention it deserves in the literature. It is just this contribution of what was, in the nineteenth century, the fledgling state of modern Greece that is presented.

Since the eighteenth century, the time of the enlightenment, Greek scholars studying the classics were advocating the preservation of the ancient sport tradition. For them, the Olympic Games as well as the theater were classical institutions whose revival would lead to the awakening and regeneration of the Greek nation.

The reestablishment of the Olympic Games was in fact the result of very various intellectual trends and multiple factors in different countries.
This approach is not meant to belittle the part played by Pierre de Coubertin, who was the main inspiration of the notion of bringing back the Olympic Games in the last decade of the nineteenth century.

International Olympic Academy Premises

ALSO PRESENTED DURING DAY 3 :

Chroni Stiliani :
Sexual harassment and abuse in Sport.

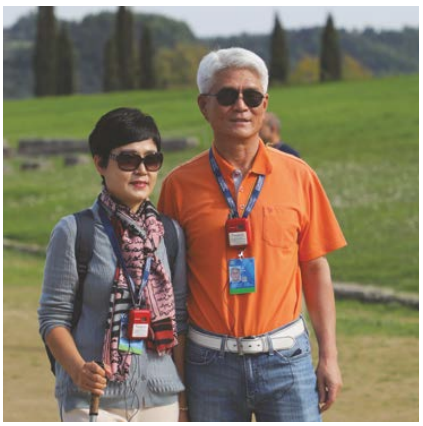
Fasting Kari :
Risk factors for harassment and abuse in the army.

Øvregård Håvard :
Preventing harassment and abuse in sport.

Provias Nikolaos :
Organizing a major multinational event for elderly individuals.
The Golden Age Gymnastics Cup.

Triantafyllou Sotiris :
Algorithms and news content: The case of Mega Sport Events.

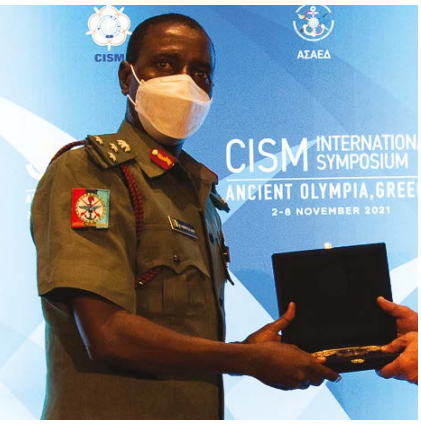
CULTURAL ACTIVITY IN ANCIENT OLYMPIA



CLOSING CERENOMY

CLOSING CERENOMY

GIFT EXCHANGE

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ANCIENT OLYMPIA, GREECE


ΑΣΑΕΑ
CISM


ΑΣΑΕΑ
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GIFT EXCHANGE

GIFT EXCHANGE


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CISM INTERNATIONAL SYMPOSIUM
ANCIENT OLYMPIA, GREECE
CERTIFICATE


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ANCIENT OLYMPIA, GREECE


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Coubertin Monument - The tombstone where the heart of Baron Pierre de Coubertin is buried .

POSTERS

POSTERS

Altmann, Frederico

Relationship between power and performance in Brazilian Army Military pentathlon athletes

Frederico Peter Altmann[1,3], Alexandre C. Theophilo G. O. Filho[1], Marcos Vinicius Marques Loyola[1,2], Laércio Rodrigues[1], Dirceu Gama[3,4], Danielli Braga de Mello[1,3], Adriane Mara de Souza Muniz[1]

1. Physical Education College of Brazilian Army (EsEFEx, EB, Brazil).
2. Brazilian Army Sports Commission (CDE, EB, Brazil).
3. Laboratory of Exercise and Sport of Rio de Janeiro State University (LABBES, UERJ, Brazil)
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INTRODUCTION

Military pentathlon is a typical military sport practiced in more than 30 countries that requires functional abilities to perform shooting, obstacle run, obstacle swimming, throwing and cross-country running modalities.
Physical and physiological demands necessary to improve performance have not been well clarified yet in this sport. There is a lack of knowledge about the physical strength and power levels necessary for selecting and preparing athletes at this modality.

OBJECTIVE

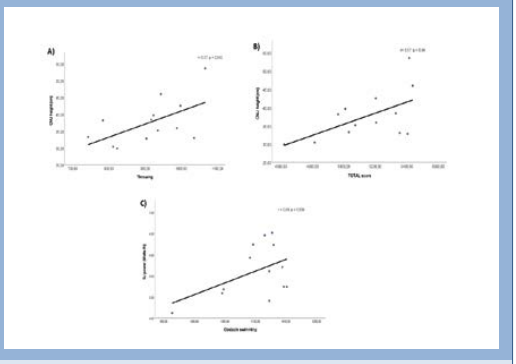
Analyze the correlation between lower limb vertical jump power and military pentathlon performance (MPP).

METHODS

Study design: Descriptive correlational.
Sample: Fifteen pentathletes from Brazilian Army Military team (26.8 ± 3.4 years; 1.71 ± 0.8 m; 67.4 ± 11.27 kg).
Data collection:
MPP was analyzed by data from National qualify trial for 67º World Pentathlon Championship.
Vertical jump power: Three squat (SJ) and countermovement (CMJ) jumps were performed at maximal effort. Data was collected on the force platform (Bertec, USA).
Statistical analysis: Pearson´s correlation coefficient was calculated between vertical jump variables and each pentathlon event. Significance level was set at $\alpha = 0.05$ and statistical analyses were computed in SPSS 20.0 (IBM, USA).

RESULTS

Moderate significant correlation was observed between **CMJ height and throwing** (r=0.57; p=0.04), **CMJ height and total score** (r= 0.57; p=0.04) and **SJ power and obstacle swimming** (r=0.69; p= 0.009).



DISCUSSION AND CONCLUSION

Vertical jump performance is related to the maximal strength, sprint ability, change of direction[1] and explosive force in athletes.
Therefore, the results pointed to the importance of power and plyometric training to improve pentathlon performance.

Practical Implications for CISM

The authors recommend to add the strength and plyometric training in the physical training to the improvement of military pentathletes performance.

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Botta, Willian

The influence of a military field-based training on anthropometric measures among Brazilian Air Force cadets

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INTRODUCTION

The Brazilian Air Force Academy's mission is to prepare its cadets over a course of four years for the most physically demanding tasks in combat environments. To achieve this, the cadets undergo survival and field-based training, besides various physical conditioning programs and theoretical classes. The study investigated whether simple anthropometric measures would change after five days of military field-based training and whether there were gender differences in the results. Understanding how this training influences cadets' morphological characteristics is essential to assess whether the demands are fit for its purposes.

METHODS

The sample consisted of 155 cadets; 14 women (age 21 ± 2 years; stature 163 ± 4 cm; body mass 60.19 ± 9.38 kg) and 141 men (age 21 ± 1 year; stature 176 ± 6 cm; body mass 74.51 ± 9.69 kg). The participants were assessed on two occasions: one week before the beginning of the training and on the last day in the field. The data collected included stature, body mass (BM), and three-site skinfold thickness, used to estimate total body density, body fat percentage (BFP), and lean body mass (LBM). For men, the skinfold sites assessed were triceps, suprailiac, and abdominal, and for women, the sites were proximal thigh, suprailiac, and subscapular.The data normality distribution was verified by the Shapiro-Wilk test, and dependent Student t-tests were used to compare means ($p < 0.05$).

RESULTS

All the differences between variable means were significant among males and females ($p < 0,05$), respectively: BM (1.35 ± 1.25 kg vs 0.84 ± 1.32 kg), BFP (2.20 ± 2.25 % vs 2.62 ± 2.32 %), and LBM (-0.50 ± 1.90 kg vs -0.93 ± 1.00 kg).

DISCUSSION AND CONCLUSION

After five days of field-based training, both genders similarly presented a decrease in BM and BFP and an increase in LBM. Considering that morphology (in addition to other variables) can influence performance, these data could be useful for investigating whether the training improves combat readiness among Brazilian cadets.

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CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest..

Da Rosa, Samir

Brown adipose tissue activation by cold exposure in brazilian army tactical athletes

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INTRODUCTION

Militaries are considered tactical athletes once they have significant physical fitness and performance requirements. Despite that, most of them presents a high prevalence of obesity. Brown Adipose Tissue (BAT) activation is inversely correlated with Bone Mass Index. However, it is still not clear what happens with Fat Mass Index (FMI). The aim of this study is to compare BAT activation at different temperature exposures in a group of male military personnel with different FMIranges.

METHODS

Twenty-four male military from Brazilian Army were divided in two groups accordingto FMI values. Group 1 (Excess Fat): 38.9±2.4 years, FMI: 8.35±0.5 kg/m2 and group 2 (Obesity 1):38.1±0.5 years, FMI: 10.5 ± 1.1kg/m2. The maximum supraclavicular temperature (TSCVMax) and themaximum sternum temperature (TSTRMax) were register using the infrared camera E75 FLIR®, in two moments (Figure 1). First, after 30min exposure thermoneutral environment (22.6±0.2ºC). Second, after 5 min with hands submerged in a container with ice water at the temperature of 13.0±0,0ºC. The body composition was evaluated using double X-ray absorptiometry. Kolmogorov-Smirnov normality test applied and confirmed parametric approach. The data were analyzed by SPSS® 25.0, running ANOVA GLM ($p<0.05$). The images was set using FLIR Tools® software.

RESULTS

The body composition variables presented significant difference between groups. On the TSCVMax was observed a significant increase on the right ($p=0.006$) and left ($p=0.004$) sides, only in Group 1. The TSTRMax has no increase after cold exposure. The type of group has effect on the temperature changes in the supraclavicular regions.

DISCUSSION AND CONCLUSION

BAT thermogenesis increases the consumption of glucose and fatty acids and makes it a potential target for obesity treatment. The level of obesity estimated by FMI seem to interfere in the activation of BAT. The applied cold exposure protocol proved to be effective in increasing the temperature in the supraclavicular region for the Excess Fat group.

PRACTICAL IMPLICATIONS

We recommend the insertion of the brown adipose tissue assessment, using an infrared camera and following the cold exposure protocol mentioned here, as a tool to control the caloric expenditure of tactical athletes. Furthermore, we suggest that, for the analysis of the level of obesity, the calculation of the fat mass index be used instead of the body mass index, as it is more precise in the results

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FIGURES AND TABLES

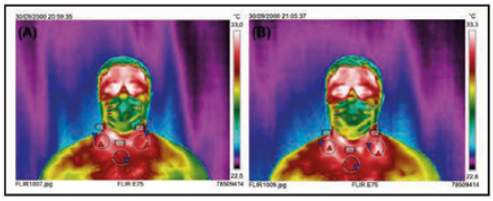

Figure 1. Thermal picture by infrared camera E75 FLIR, EI1 (Tscv max Right Side), EI2 (Tscv max Left Side), EI3 (Tstr max), thermoneutral environment (A) and cold temperature exposed (B).

Table 1 – Comparison between different temperatures of the supraclavicular region before and after exposure to cold.

Military Personnel	ROI	Temperature		
		Mean ± SD 23°C	Mean ± SD 14°C	*p*
Group 1 Excess Fat	$T_{SCV\ Max}$ (Right Side)	33.8 ± 0.3	34.4 ± 0.3	0.006*
	$T_{SCV\ Max}$ (Left Side)	33.6 ± 0.5	34.4 ± 0.3	0.004*
	$T_{STR\ Max}$ (Control)	32.5 ± 0.7	32.5 ± 0.4	0.711
Group 2 Obesity 1	$T_{SCV\ Max}$ (Right Side)	33.4 ± 0.4	33.7 ± 0.6	0.062
	$T_{SCV\ Max}$ (Left Side)	33.1 ± 0.6	33.7 ± 0.8	0.238
	$T_{STR\ Max}$ (Control)	32.7 ± 0.8	32.6 ± 0.4	0.622

ROI: region of interest; Tscv max: maximum supraclavicular temperature, Tstr max: maximum sternum temperature * P < 0.005 value obtained by t test two dependent sample test.

CONFICT OF INTEREST

The authors declare no conflict of interest.

Da Silva, André

Barriers to participate on military physical training in a Brazilian marine corps infantry battalion.

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Mr. Daniel Alves (Research Laboratory of exercise Science, Brazilian Navy, Rio de Janeiro, Brazil)
Mr. Thiago Lopes (Research Laboratory of exercise Science, Brazilian Navy, Rio de Janeiro, Brazil)

INTRODUCTION

The Brazilian Marines are essential to the National Security Policy. Good physical fitness is essential to the performance of assigned duties. A gradual sedentary lifestyle increase has been observed in the average Marine, similar to those observed in overall Brazilian society. Thus, the aim of this study was to identify the main barriers a Brazilian Marine Corps battalion has in performing military physical training (PT).

METHODS

A quali-quantitative study was conducted using the Concept Mapping methodology (Kane, 2007). This methodology consists of a two-dimensional map of results generated by a questionnaire in a three-phase process: Generation, Classification, and Evaluation of the Barriers. A total of 439 male Marines (33±15 years) participated. Part of the sample (n=10) was randomly selected to participate in the Generation and Classification phases. The whole sample classified each barrier regarding its importance and viability of resolution to improve PT adherence. R-Cmap was employed for data analysis. R-Cmap (Bar, 2017) is an open-source Concept Mapping software, implemented in R, for multidimensional scaling analysis and "Go Zone" graph generation (figure 1).

RESULTS

The main barriers were: sports facilities constantly closed, long warm-up period before the main activity, conflicting PT-breakfast schedule, boring and repetitive training plan, and training tailored for the most physically prepared (table 1).

DISCUSSION AND CONCLUSION

The main PT barriers were sports facilities unavailability and repetitive training plan. Ashton, et al.'s (2017) study corroborates our findings, as it shows that the lack of planning, as well as the unavailability of sports facilities, directly contribute to a sedentary lifestyle. Implementing policies to address each barrier will be critical to improving PT adherence, as well as to increase the physical fitness and readiness of the Brazilian Marine Corps.

PRACTICAL IMPLICATIONS

Non applicable.

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FIGURES AND TABLES

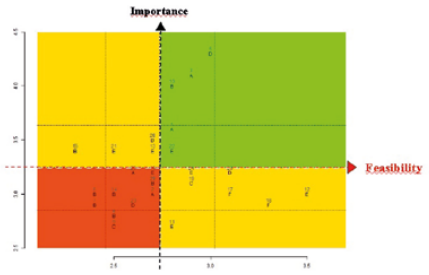

Figure 1: Bidimensional "Go Zone" graph

Table 1: Barriers to participate on military physical training within a Brazilian Marine Infantry Battalion

Statements (Barriers)	Feasibility rating	Importance rating
Boring and repetitive training planning	2,04	2,70
Short time to physical training	2,72	3,43
Long warm-up period before the main activity	3,00	3,80
My duties do not allow me to participate on the military physical training	2,45	3,59
I live fat from weak, so I get tired for the training	2,17	3,08
Sports facilities are constantly closed	3,19	3,79
I have many administrative tasks at my job	2,68	3,55
Too much time spent on my military missions	2,61	3,13
I have many unexpected military missions	2,69	3,35
Breakfast is scheduled at the same time as military physical training	2,86	3,50
There is no specific training plan for my physical limitations	3,07	3,45
My battalion does not have a military graduated in physical education to help us	2,99	3,43
The training is carried out with many military personnel	2,79	3,63
I have many responsibilities in my administrative section	2,75	3,27
The time for physical training and sport activities is used for other purposes	2,76	3,38
Who decides the training is not the person who executes it	3,18	3,35
I have problems with obesity	2,70	3,50
I have health problems	2,56	3,69
The low quality of the breakfast prevents me from doing a good training	2,98	3,50
My superiors do not motivate me to do physical training	3,40	3,34
There is not a specific training, to improve individual deficits	2,93	3,52
Training is tailored for the most physically prepared	3,00	3,58
I have my own path home to practice sports and physical activity	2,81	3,27
There was no specific planning for people with health limitations	2,86	3,66
The specific training planning is only implemented close to the physical fitness tests	2,87	3,64
I feel embarrassed as I am overweight	2,91	3,41
Physical training in my battalion is not important for me	2,95	3,30
My battalion does not have enough physical structure to hold all military in the same space	3,04	3,30
I am afraid to get injured again	3,00	3,34

CONFICT OF INTEREST

There are no conflict of interest for this research.

Dias, Thiago

The influence of strength training in Brazilian Army Military Pentathlon Team during the specific preparatory training period

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5. Laboratory of Exercise and Sport of Rio de Janeiro State University (LABBES, UERJ, Brazil).

Introduction

The sport military pentathlon was created from military training after the II World War. The first CISM World Championship held in 1950 had only 3 nations and now it's practiced in more than 30 countries. Despite that, there are a lack of knowledge about the sports preparation for competitions at all levels.

Objective

The aim of this study was to analyze the body composition and strength of military pentathlon athletes submitted into a specific preparatory training period.

Methods

- Descriptive research
- Sample: 08 male athletes' volunteers of the Brazilian Army Military Pentathlon team.
- Data collection: The body composition was measured using the Inbody270® bio impedance equipment and the strength was assessed by 1RM protocol in bench press (BP) and back squat (BS). It was measured pre and post a specific preparatory training period that consisted in 8 weeks of sport specific conditional training (running, swimming, throwing, shooting, obstacle course) and power training.
- Power training description: 3 sessions per week, 2 sets of 6 repetitions with maximum speed, squat jump (50% of 1 RM), counter movement jump (50% of 1 RM), bench press (55% of 1RM) and bench press with counter movement (55% of 1RM).
- Data analysis: Descriptive statistics and Student paired test t were applied. Data was analyzed by SPSS® at significant level of p< 0.05.

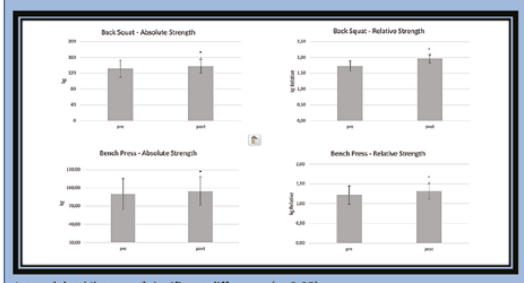
Results

Table 1. Sample body composition data

variables	PRE	POST	Δ%	p-value
Total Mass (kg)	73.37±8.02	73.75±6.96	00.52	0.264
Lean Mass (kg)	37.75±5.00	38.75±4.83	02.65	0.016*
Fat Mass (kg)	6.50±1.19	5.65±1.68	-13.08	0.010*
%G	9.37±1.84	7.87±2.64	-16.01	0.007*

Legend: %G: fat mass percentage; *significant difference (p<0.05)

Figure 1. Strength analysis pre and post specific preparatory training period.



Legend: kg: kilogram; *significant difference (p<0.05).

Body Composition: ↑ lean mass (Δ=2.65%, p=0.016) and ↓ fat mass (Δ=13.06%, p=0.010).
Absolute strength: ↑BP (Δ=4.46%, p=0.016) and ↑BS (Δ=8.14%, p=0.008).
Relative strength: ↑BP (Δ=4.15%, p=0.017) and ↑BS (Δ=7.57%, p=0.008).

Discussion and Conclusion

A significant improvement in body composition and strength gain after 10 weeks of combined training was also observed by Taipale et al. (2020), suggesting that 8 weeks training may result in significant performance improvements for men military pentathlon athletes.

Practical Implications for CISM

The authors recommend the insertion of strength and power training in the specific preparatory training period to the improvement of military pentathletes' performance.

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Hassani, Naser

Economic factors affecting the success of selected countries participating in the 7th CISM Games 2019 Wuhan China

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Armed Forces of the Islamic Republic of IRAN-Tehran

ABSTRACT

Many countries believe that the acquisition of medals in sports fields reflects the wealth and power of a country. So countries are looking for medals in various sports fields in international arenas. Many researchers investigate what causes and factors affecting exercise performance. Studies at the level of competitions such as the Olympics and the World Cup show that factors such as economic factors, social and political factors also affect the performance of countries.

Regarding the existing research and the lack of research on the factors affecting the performance of CISM, the present study seeks to examine the effect of economic factors of countries on their sport performance in CISM.

The present study is a descriptive-analytical study and according to the nature of the subject, a library method for collecting data related to economic indicators such as inflation, GDP, rate Unemployment and Gini coefficient have been used. Information about the performance of the CISM sport is also from information and results of web of CISM have been used. The statistical population of this study is 109 countries, of which 10 countries were selected as statistical samples. After the categorization and description of data, normalization of data was verified through Kolmogorov-Smirnov test.

Then hypotheses of the research were conducted using inferential statistical methods (single variable and multivariate regression) at 5% significance level it placed. Among the mentioned factors, Gini coefficient have a significant effect on sport performance in CISM, but, GDP, unemployment and inflation rates did not affect performance.

Key words: CISM Sport , Sports performance, Economic factors

Korostylova, Yuliiya

CISM International Symposium
ANCIENT OLYMPIA
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How to improve CISM shooting scoring system?

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Dr. Volodymyr Mykhaylov (The National Defense University of Ukraine named after Ivan Cherniakhovskyi)

INTRODUCTION

Shooting is one of the oldest and the most popular CISM sport event. Due to this, its further development should be facilitated, including the rules. Moreover, the differences between ISSF and CISM shooting events have to remain.

METHODS

analysis of data.

RESULTS

According to the shooting rules, electronic scoring targets or electronic paper target scoring machines are used for results scoring [1, 2]. These systems allow to measure results in decimal ring value (e.g., 10.5, 9.7, etc). Decimal scoring (DS) applies in 10m Air Rifle, 50m Rifle Prone (CISM event), and in the finals. In all other shooting events, full ring scoring (FS) is applied. For this reason, there is the need to evaluate the same overall results if FS is used which is very common especially in CISM events because no finals are held in it. In this case, inner tens and the best last series score are used to determine the winner. The use of DS could better evaluate shooter's skills. For instance, results 9.0 and 9.9 in FS are evaluated equally and in DS the difference is nearly a point. Furthermore, 10.0 and 9.9 results require almost equal skills from shooter and are evaluated more correctly by DS. In FS, the difference between 10.0 and 9.9 will be a point. Several 9.9 can occur during the competition and the shooter could lose his chance to win a medal, because of FS.

DISCUSSION AND CONCLUSION

We found that shooters that did not become the medallists when FS had been used could become even a winner if we recalculate results with DS. The usage of DS in all CISM
shooting events that is technically possible could improve the evaluation of shooters' skills, in contrast to
ISSF scoring.

PRACTICAL IMPLICATIONS

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FIGURES AND TABLES

Table 1 – Military Pentathlon Disciplines' results and their correlations to final championship standing.

Military Pentathlon Disciplines	Median 1st – 3rd quartile	Correlation coefficient*	Correlation strength
Shooting – slow fire (points)	96 95-98	-0.31	Regular
Shooting – rapid fire (points)	93 89-96	-0.39	Regular
Shooting (PP)	1064.55 1035.23-1088.25	-0.42	Regular
Obstacle run (PP)	1085.05 1027.48-1118.993	-0.65	Strong
Obstacle swimming (PP)	1082.80 1040.20-1122.40	-0.62	Strong
Throwing – precision (points)	116 108-124	-0.53	Regular
Throwing – distance (points)	54.85 50.80-59.83	-0.40	Regular
Throwing (PP)	1005.80 963.50-1053.20	-0.59	Regular
Cross country (PP)	1041.60 972.85-1080.48	-0.58	Regular

PP – Pentathlon points
*Spearman correlation test

CONFICT OF INTEREST

The authors have no conflict of interest to declare.

Mainenti, Míriam

"João do Pulo Project" at the Brazilian Army Center for Physical Training (CCFEx): initial experiences in promoting social integration and human valuing of military veterans with disability

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Gen Ernesto Lima Gil (CCFEx - Brazilian Army Center for Physical Training)
Cel José Augusto Glycério de Castro (CDE - Brazilian Army Sports Commission)
Prof. Sabrina Celestino (CCFEx - Brazilian Army Center for Physical Training)
TC Luciano Santos (CCFEx - Brazilian Army Center for Physical Training)
Prof. Angela Neves (EsEFEx - Physical Education College of the Brazilian Army)

INTRODUCTION

In 2015, the Brazilian Ministry of Defense instituted a project with the objective of promote the human valuing and social integration through sports practice in military veterans with disabilities (1). This project, called "João do Pulo Projet" (PJP), was then established at some pilot centers, including the Brazilian Army Center for Physical Training (CCFEx). The objective of this study was present the first experiences and proposals of PJP-CCFEx.

METHODS

CCFEx internal documents and published manuscripts issuing this topic were assessed

RESULTS

In 2016, a research group at the Physical Education College of the Brazilian Army (EsEFEx) started to think about the battery of physical assessments that should be applied in the PJP-CCFEx participants. In 2017, this discussion resulted in a protocol, including the WHOQOL-DIS instrument, from which we extracted, besides perceived quality of life, the assessments of the main objectives of the project: promotion of human valuing and social integration. In 2017 and 2018, three military veterans were contacted by the manager of PJP-CCFEx and were enrolled in a flow of activities, and one of them had adherence. In 2019 and 2020, this participant reached important goals, with silver and bronze medals in canoeing (Va'a) national championship. In 2021, more professionals of CCFEx joined the health and management team. Two military with disabilities were contacted in order to start their activities with some new strategies, such as visiting them at their home, including psychologists and case-workers. The participants will soon start their physical practice.

DISCUSSION AND CONCLUSION

PJP had been implemented at CCFEx in line with the objectives of Brazilian Ministry of Defense. CCFEx established a physical evaluation protocol (2) and the promotion o human valuing and social integration was observed in one participant previously published in a case study (3).

PRACTICAL IMPLICATIONS

The presented experiences could help military organizations all over the world in promoting physical and sports training to military veterans with disabilities and increase the number of participants in future CISM championships. Additionally, exercise practie, like PJP-CCFEx, seems to be an important instrument to preserve the mental health, the bond with institution, the self-esteem and the well-being of the veterans and their families.

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CONFICT OF INTEREST

The authors have no conflict of interest to declare.

Mainenti, Míriam

Military Pentathlon, which discipline is decisive in the final result?

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INTRODUCTION

The Military Pentathlon is a sport composed of five disciplines: Shooting with standard rifle, Obstacle Run, Obstacle Swimming, Throwing and Cross-Country (CISM, 2019). The objective of this study was to identify which disciplines were correlated to the final result of the modality in the last annual World Military Pentathlon Championship (2019).

METHODS

The data were taken from the official result of the VII Military World Games held in Wuhan – China, in 2019 (n=90). The five disciplines were analyzed separately, taking into account the slow and rapid fires in the shooting discipline and the precision and distance phases in throwing discipline. We registered the results in pentathlon points, as stated in Military Pentathlon rules (the highest values represent the best performances). To verify the correlation between athletes' performances and final result, we used Spearman correlation tests, with the following coefficient (rho) classification (CALLEGARI-JACQUES, 2009): very strong - rho ≥ 0.90; strong - 0.6 ≤ rho < 0.9; regular - 0.3 ≤ rho < 0.6; weak - 0 < rho 0.3 ($p<0.05$).

RESULTS

Table 1 presents athletes' results from each discipline in pentathlon points.

DISCUSSION AND CONCLUSION

It shows that the shooting test, for example, has the least relative influence on the final result, which is somehow explained by the technological advances in weapons and equipments that bring the results of this discipline very close to the maximum possible score. There are strong correlations with obstacle swimming and obstacle run, disciplines where the physical condition imposes itself more decisively.

PRACTICAL IMPLICATIONS

The results present a possibility for a better selection of athletes in the military pentathlon, by member countries, and also for a more efficient direction to the training plan, since reconciling five modalities simultaneously is a challenge to athletes and coaches.

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FIGURES AND TABLES

Table 1 – Military Pentathlon Disciplines' results and their correlations to final championship standing.

Military Pentathlon Disciplines	Median 1st – 3rd quartile	Correlation coefficient*	Correlation strength
Shooting – slow fire (points)	96 95-98	-0.31	Regular
Shooting – rapid fire (points)	93 89-96	-0.39	Regular
Shooting (PP)	1064.55 1035.23-1088.25	-0.42	Regular
Obstacle run (PP)	1085.05 1027.48-1118.993	-0.65	Strong
Obstacle swimming (PP)	1082.80 1040.20-1122.40	-0.62	Strong
Throwing – precision (points)	116 108-124	-0.53	Regular
Throwing – distance (points)	54.85 50.80-59.83	-0.40	Regular
Throwing (PP)	1005.80 963.50-1053.20	-0.59	Regular
Cross country (PP)	1041.60 972.85-1080.48	-0.58	Regular

PP – Pentathlon points
*Spearman correlation test

CONFICT OF INTEREST

The authors have no conflict of interest to declare.

Massaferri, Renato

The Use of EGM System as Feedback Feature for the AGSM Training

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INTRODUCTION

Fighter pilots are constantly submitted to physiological effects due Gz+ acceleration e.g. G-force induced loss of consciousness (G-LOC). It`s occurs from difficult to keep the blood supply in the brain. Anti-G straining maneuver (AGSM) is a corporal maneuver, which needs a complex muscle contraction and quick breathing to avoid central-peripheral blood redistribution and to support high levels of Gz+. The surface electromyography (EMG) has been used as a tool to assess AGSM efficacy. The aim of this study was assess the use of EMG to analyze muscle activity during two consecutives AGSM attempts providing feedback between them.

METHODS

Nine fighter pilots novice in AGSM were volunteers. The electromyographic data of the rectus abdominis (RA), vastus medialis (VM), and gastrocnemius (G) muscles were assessed (Noraxon DTS system, 1500Hz) following the SENIAM protocol. The experiment consisted of two sessions of 30s of AGSM, with an interval of one minute. Temporal data were digitally filtered (Butterworth, 4th, band [10-500 Hz] and [60 Hz] with their harmonics) and analyzed by windowed normalized RMS (nRMS) at one-second intervals with a half-second overlap. Two-way ANOVA, with interwindow and session factors (repeated measure), accompanied by post hoc Holm tests were performed, and Cohen`s d effect size was calculated ($p < 0.05$).

RESULTS

A nRMS increase of 8.44%, 12.9% and 11.6% for RA ($P < 0.01$; ES = 0.2), VM ($P < 0.01$; ES = 0.3), and G ($P < 0.01$; ES = 0.3), respectively on second execution indicates an improvement of AGSM performance (Figure 1 and Table 1).

DISCUSSION AND CONCLUSION

nRMS seemed to be a good EMG feature to analyze muscle activity during AGSM and provide session-by-session feedback. The results indicate that EMG system was able to assist the AGSM training. This experimental design has to be tested in human centrifuge.

PRACTICAL IMPLICATIONS

NON APPLICABLE

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FIGURES AND TABLES

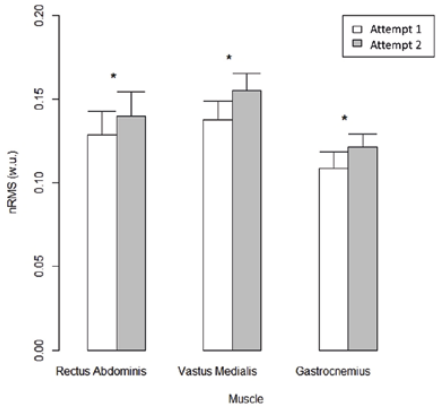

Table 1: ANOVA comparison of muscles between 2 attempts

		ANOVA – Attempt Factor: 1st vs. 2nd							
		Mean	95% Interval				Post Hoc		
nRMS	n	Difference	Confidence		F	p	(t)	p Holm	Cohen's d
Rectus Abdominis	9	-0,011	-0,015	-0,006	21,859	< 0.01	-4,758	< 0.01	-0,207
Vasto Medialis	9	-0,018	-0,022	-0,013	53,675	< 0.01	-7,640	< 0.01	-0,332
Gastrocnemius	9	-0,013	-0,016	-0,009	44,739	< 0.01	-6,867	< 0.01	-0,298

CONFICT OF INTEREST

The authors declare that they have no conflicts of interest.

Mello, Danielli

Infrared thermography as a tool to monitor workload adaptation in Brazilian Army militaries soccer players by position

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Introduction

Sports training process involves exercise repetition to develop specialized motor skills, structural and functional changes to maximize performance. This improvement depends on the proper distribution of training loads and recovery, and infrared thermography can be used to measure it.

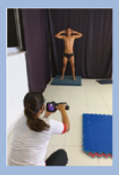
Objective

Analyze the effect of mesocycle training preparation (MTP) on skin temperature (Tsk) of Brazilian Army militaries soccer team by position.

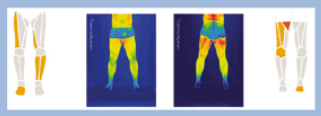
Methods

Sample: 28 soccer male athletes (midfielder, center forward, striker, defender, goalkeeper, fullback), 20-38 years old, volunteers of the Brazilian Army Military Soccer Team.

Data collection: Occurred in an acclimatized room at EsEFEx's biosciences lab, attending Delphi study recommendations for Tsk evaluation pre and post MTP.



It was used E75 FLIR® infrared camera and the images were processed by ThermoHuman® software. The selected regions of interest (ROIs) were the anterior and posterior regions of lower limbs.



MTP consisted in low-middle intensity physical exercise intending the development of endurance, strength, speed, and flexibility.

Statistical analysis: Data was analyzed by SPSS® using descriptive statistics, paired t-Student test and ANOVA's test were used with adjusted Bonferroni post-hoc. The effect size (d) was calculated. Significant level was $p<0.05$.

Results

The ambient temperature range from 21.5 to 23.2°C and relative ambient humidity from 64 to 68%.

Table 1 presents a significant reduction in Tsk post MTP.

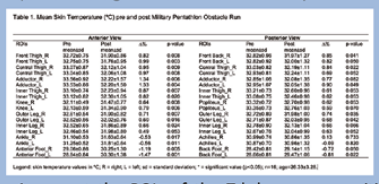


Figure 1 present the ROIs of the Tsk by soccer position pre MTP, where there was a significant difference between the positions center forward, defender and goalkeeper.

Discussion and Conclusion

The reduction in Tsk post MTP could be related to a progressive adaptation of the imposed training load. And the difference only in the ROIs front and inner thigh, and knee in center forward and defender is associated to shot muscles, physical practice, and competitions; and the lack of training routine and soccer club by the goalkeepers before MTP.

Practical Implications for CISM

The authors recommend the insertion of infrared thermography on daily training for monitoring internal training load, metabolic stress, preventing injuries and optimize performance in Military Soccer Team.

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Najafipour, Farshad

History of Military Sports in Mesopotamian Civilizations from Persian Empire to Now

MESOPOTAMIA

Mesopotamia is a geographical region in west Asia located within the Tigris–Euphrates river system, most of in current Iraq, and also in Turkey, Iran, Syria and Kuwait. Mesopotamia is well-known because of the civilizations formed in this region. The Sumerians and Akkadians (including Assyrians and Babylonians) dominated Mesopotamia from the beginning of written history (c. 3100 BC) to the fall of Babylon in 539 BC, when it was conquered by the Achaemenid Empire. Many religions and cultures were shaped in Mesopotamia and the Code of Hammurabi, and Cyrus cylinder of human rights are the famous remainders of this region.

Sumerians

This civilization was very primitive in many ways. Each city had its own king named Patsy or priest, from which the word reveals the extent to which the government was associated with religion. The organization of the tribal monarchs was a means of maintaining the social order. The Sumerians knew some of the uses of copper and tin and made bronze from their mixture, but metal was a luxury item for them anyway. The tools of the Sumerians were mostly made of flint. Most of the goods were transported by water, and because stone was scarce in Sumer, it was brought from the Persian Gulf or the northern parts of the two streams by boat. The most amazing thing left of the Sumerians is the calligraphy of these people. The emergence of the cuneiform and its stages of evolution is the greatest motto that the Sumerians have on human civilization.

Akkadians

Another nation, led by the great Sargon, established the Akkadians and placed its capital at Agada, three hundred and twenty kilometers northwest of the Sumerian cities.

Babylonians

No one, looking at the site of ancient Babylon today, remembers that this poor, barren, burning and continuous land on the banks of the Euphrates River was once a strong and rich center of civilization. Babylon was made up of Sumerians, but they conquered the city after the Akkadians invaded the western deserts. Hammurabi united the small and scattered states in the south of Mesopotamia and with his great code established a new order in these lands.

Assyria

The people of this land were forced to follow a difficult military and heroic life due to the constant threats from the surrounding mountains, and gradually they overcame the invaders and bumps, and the brilliant civilization of Assyria spread to Egypt. Among his inventions are the first lens or telescope lens and the invention of locks and keys and the establishment of the world's first library by Assyrian Banipal.

THE IMPORTANCE OF SPORTS BETWEEN IRANIANS AND THE MILITARY FORCES

Among the ancient civilizations, Iran was a country that had given great importance to sports and physical education in its education system. While at the same time other countries did not pay much attention to sports and physical training, Iranians recognized the importance and value of the ability and health of the body as one of the most important factors in creating a victorious and victorious army. In the following article, you will review the importance and role of sports in the education system of ancient Iran. Efforts to preserve the Iranian web based on the teachings of Zoroaster, which is called the Holy Land, as well as the desire to open up and conquer neighboring lands, required young people to receive regular military training based on sports and physical education. In fact, the military training program of many young people was limited to physical skills and abilities in order to acquire the necessary characteristics of a good and worthy soldier. In sum, the education of the children of ancient Iranian society - and in some cases the children of nobles and princes - was almost entirely focused on physical education, and it was shaped by military goals. Children were raised by their mothers until the age of seven. The boys then began their formal education at the age of seven, and from then on were officially recognized as belonging to the country, and by the age of fifteen they were learning military techniques. They began serving in the military at the age of fifteen and remained in the military until the age of fifty. Young people began their daily workouts at sunrise by running, throwing stones, and throwing spears, including their usual exercises: building a low-fat, high-heat diet, long walks, and crossing the river without getting wet and sleeping outdoors. Was. Horseback riding and hunting were also two common activities and jumping on a horse and jumping on it while running and in general speed and agility were the characteristics of horsemen riding in the Iranian system.

REFERENCES OF HISTORIANS, SCIENTISTS AND LITERARY FIGURES

According to Herodotus, the children of aristocrats, nobles, and princes continued their education until they were 20 years old, preparing for the command of the corps and the rule and trial. This type of education in the history of education is the first example of educational control by the government, which was done for a specific purpose - which at that time was to maintain the power and greatness of the country. That being said, physical education programs were more focused on preparing young people for possible wars. Herodotus, the famous Greek historian, writes: From the age of 5 to 20, Iranians learned three things: 1- Equestrianism 2- Archery (shooting) 3- Truthfulness. Young people started their daily exercises at sunrise by running and throwing stones and spears.

Resistance with low food, enduring extreme heat and cold, long walks, crossing the river without getting wet, and sleeping in the open air were among their exercises. Horseback riding and hunting were also two common activities. Jumping on a horse and jumping on a horse while running (training speed and agility) were the characteristics of Iranian cavalry riders. Describe the types of military sports

1- Horse riding: The ancient Iranians had a great attachment to horses and considered this creature as a member of their family and prayed for horses like other members of their family. The importance of the horse in the life of the people of ancient Iran was such that the names of many famous kings were combined with the word horse. Such as Lohrasb (fast horse), Tahmasb (strong horse holder) and Arjast (honorable horse holder). The invention of the first equestrian tools such as spans, horseshoes, saddles and stirrups has been attributed to the Iranians. Chariot racing in ancient Iran was also an important part
of the Mehregan celebration program, which was held in honor of Mehr, the angel of light. The Greeks took this match from Iran and Romans adopted it from the Greeks.

2- Shooting: After equestrian training, shooting and hunting training began. Long bows and arrows made of reeds and short spears were among the hunting and shooting tools of the Iranians. Much has been said about teaching shooting and hunting to children in the Shahnameh, and amazing stories have been told about Bahram Gore's skill in shooting.

3- Polo: Another physical education program in ancient Iran is polo, which was invented by the Iranians. Children on foot and young people on horseback played and loved polo. English cricket and golf, which are popular sports around the world today, are derived from the game of Iranian polo.

4- Swimming: Another important sports program in ancient Iran was teaching children to swim. Swimming was taught in streams and rivers, and this training was done for military purposes. According to Strabo, the Iranians taught their children to cross streams and rivers without wetting their weapons.

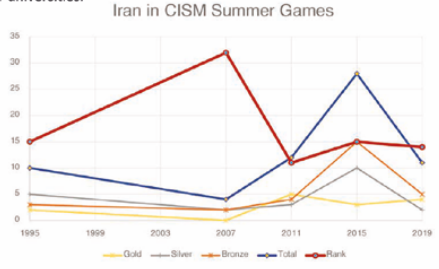
5- Wrestling: In Iran, martial arts in the form of local wrestling and ancient sports have existed for a long time. It is noteworthy that sports and bodybuilding in terms of moral virtues were also considered by the ancient Iranians and they believed that sports in addition to providing health and strength, cultivates the virtues of good qualities such as courage, chivalry and humility. They considered physical education as the basis of strength and wanted strength to arrest the disabled and not for coercion and adventure, so much so that they associated strength and heroism with chivalry, purity of eye, humility and truth and many other moral virtues, and weakness and weakness. They considered it an inaccuracy. The great Iranian epic poet, Ferdowsi Tusi, who has translated the heroic and epic stories of ancient Iran into poetry. This is the opinion of the Iranians of ancient times as follows: Power in people leads to honesty, weakness and laziness leads to aberration and corruption

IRAN IN CISM COMPETITIONS

The Islamic Republic of Iran has participated in 5 of the 7 summer military competitions of the world. The rankings and medals that Iran has gained in these periods can be seen in the table below.

Year	Gold	Silver	Bronze	Total	Rank
1995	2	5	3	10	15
1999	Did not participate.				
2003	Did not participate.				
2007	0	2	2	4	32
2011	5	3	4	12	11
2015	3	10	15	28	15
2019	4	2	5	11	14
Total	14	22	29	65	
Average	2.8	4.4	5.8	13	17.4

Our country's athletes have achieved the best results in Taekwondo in the CISM World Championships, followed by wrestling and volleyball. In terms of ranking, Iran had the best performance in 2011 and in terms of the number of medals, in 2015 it won the most medals. Iran has not won a medal in the World Military Winter Championships, but it has won 5 gold and 2 silver medals in the competitions of Iranian officer universities.



Neves, Angela

Proposition of an index for sports diplomacy in the military context

Prof. Angela Neves* (Escola de Educação Física do Exército)

INTRODUCTION

Sports diplomacy uses sportsmen and sporting events to build a favorable image between audiences and foreign institutions. The aim of this research is to propose an index for sports diplomacy in the military context.

METHODS

This is a methodological research. Firstly, an analytical literature review was made, to identify sports diplomacy tools. Secondly, based on the five experts' scores regarding the importance and potential impact of each tool in the military context, a multidimensional scaling (ALSCAL) was carried out to retain the proper tools. Thirdly, to create the algorithm for the index, the he data extracted from CISM's yearbooks of 2011, 2015 and 2019, confirmatory factor analysis with partial least squares was conducted to generate the algorithm.

RESULTS

Eight tools were described from the literature and six were considered relevant for the military context (Figure 1). Regarding the algorithm, all VIF tools were acceptable. The outer weights were significant, but relatively low (Table 1). After weighting the outer weights we wrote the algorithm for use of sports diplomacy tools in the context of military sport: Sports Diplomacy Indexcountry= 0,32* (frequency of tool1 usage) + 0,14*(frequency of tool2 usage) + 0,15*(frequency of tool3 usage) + 0,16*(frequency of tool4 usage) + 0,15*(frequency of tool5 usage) + 0,08*(frequency of tool6 usage).

DISCUSSION AND CONCLUSION

"Sport is war without guns". Sports diplomacy in the military context should be done in view of the signifiés of sport in the military environment. Sport is often imbued with notions of national identity being a significant symbol of nationality in international disputes. With a robus statistical analysis, it was possible to generate an algorithm to point the frequency of sports' diplomacy tools use. Its recurrent use can help the FFAA to position itself in the use of this soft power instrument.

PRACTICAL IMPLICATIONS

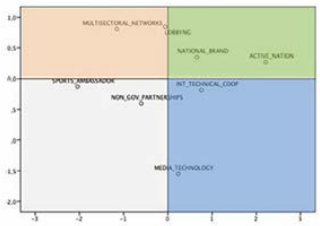
The use of this tool may improve the evaluation of the impact of military sports in the international security scenario

REFERENCES

none

FIGURES AND TABLES

Figure1 – Perceptual Map of the sports' diplomacy tools in the military context



Note: in gray are the tools diplomacy considered not relevante and without potential impact in the military context

Table 1 – Factorial weights and multicollinearity for each index tool

Tool	ω	*p*	VIF
(1) Being an active nation in major sporting events	0.52	<0.001	1.85
(2) Promotion of a National Brand	0.22	<0.001	2.85
(3) Lobbying	0.25	<0.001	4.13
(4) Use of Media and Technology	0.26	<0.001	9.17
(5) Establishment of International Technical Cooperation	0.24	<0.001	5.37
(6) Creation and / or Participation in Multisectoral Networks	0.13	<0.001	1.33

Note: ω = outer weights; p = significance; VIF = multicollinearity.

CONFICT OF INTEREST

The author declares no conflicts of interest
I would like to ask for an oral presentation

Neves, Angela

Psychometric validation of the Exercise Dependence Scale-Revised (EDS-R) for a sample of Brazilian military personnel

Prof. Angela Neves* (Escola de Educação Física do Exército)

INTRODUCTION

Exercise dependence can be understood as a behavioral addiction, marked by excess and repetition, despite injuries, with an impact on social and personal life. The aim was analize the adequacy of the theoretical structure of the Exercise Dependence Scale-Revised (EDS-R) for a highly active military Brazilian reference sample.

METHODS

This is a methodological study. Data from a non-probabilistic sample of 268 EsEFEx´s students, all male, were used. Confirmatory factor analysis, using unweighted least square estimation and listwise deletion, was used to determine the scales' factorial structures. RMSEA (ideal: <0,08), CFI, NFI, GFI, AGFI index (all: ideal > 0,90) were used to assess model adherence. Evidence of construct validity and internal consistency were generated. LISREL software was used.

RESULTS

A satisfactory adherence of the data to the proposed structural model, RMSEA = 0.066; CFI = 1; NFI = 0.97; GFI = 0.98; AGFI = 0, 98; $\chi 2$ / DF = 2.15 (Figure 1), with no additional adjustment necessary. As for internal reliability, adequate values of Cronbach's alpha (α = 0.73 - 0.89) and construct reliability (CC = 0.72 - 0.89) were observed. As for convergent validity, all factors, with the exception of "reduction in other activities", had adequate Average Variance Extracted value. As for the discriminant validity, evidence was generated for all factors, with the exception of "reduction in other activities" and "time".

DISCUSSION AND CONCLUSION

Evidence of sufficient internal reliability and construct validity was generated to corroborate the appropriateness of the use of EDS-R for the sample in question, with the proviso for the risk analysis for dependence on the exercise.

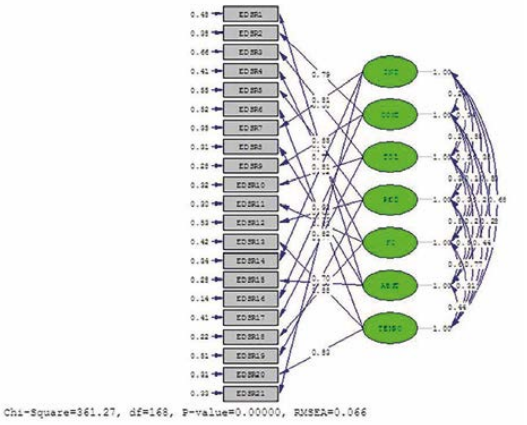
PRACTICAL IMPLICATIONS

The scale could be validated in other countries associated with CISM, allowing the monitoring of the exercise addiction in military personnel, preserving their health.

REFERENCES

none

FIGURES AND TABLES



CONFICT OF INTEREST

The author declares no conflicts of interest I would like to ask for an oral presentation

Paralikas, Apostolos

Legal Aspects of Competition Manipulation

Major Apostolos Paralikas

Competition manipulation or match-fixing (both terms are often used as synonyms) is an intentional arrangement, either act or omission aimed at an improper alteration of the result or the course of a sports competition so as to remove all or part of the unpredictable nature of the sports competition with a view to obtaining an undue benefit for oneself or for others. Breaking the unpredictability of the final outcome is the crucial element that actually provides both an immoral and an illegal dimension to this behaviour.

The manipulation of sports competitions, in particular when linked to betting activities, has become an area of great concern. Like doping, it threatens the very integrity of sport. Often, it also has links to other criminal activities such as corruption, organized crime and money-laundering.

On 18.09.2014, the sports ministers of 15 of the member states of the Council of Europe signed an important legal instrument against match-fixing worldwide: Council of Europe Convention on the Manipulation of Sports Competitions, also known as the Macolin Convention'. The Convention, that actually concerns the manipulation of sports competitions, includes a Preamble and is divided into 9 Chapters made up of 41 Articles that cover in total: prevention, law enforcement, international co-operation measures and the exchange of information. The Convention is open for signature by non-European member states and is the only internationally applicable Convention specifically dealing with competition manipulation.

In 2020, CISM and the IOC, specifically the Olympic Movement Unit on the Prevention of the Manipulation of Competitions) started a partnership and a campaign in order to protect CISM sports events from the risk of manipulation. The purpose of this presentation is to emphasize the basic points of the legal framework set by the aforementioned Convention, which are applicable in this partnership.

Petrachkov, Oleksandr

Morphofunctional Screening of Future Ukrainian Armed Forces Recruits

Petrachkov Oleksandr

INTRODUCTION

Analysis of literature indicates that there is a decrease of physical fitness and efficiency level of conscription age young men, deterioration of their physical and mental health, functional status of leading physiological systems, and steady increase of health issues. That's why the evaluation systems based on a set of clinical and physiological indicators have to be developed to obtain objective information about physical development, as well as the level of somatic health, which could correlate with maximum aerobic productivity [1, 2].

METHODS

Analysis and generalization, anthropometric, somatometric, bioimpedance, physiological. The study involved 277 future Ukrainian Armed Forces recruits 17-19 years old, who did not have any pathology in their health and belonged to the main medical group [1].

Table 1. Indicators of morphofunctional screening of future Ukrainian Armed Forces Recruits (n=277)

N	Indicators	$\bar{x}$	S	Min.	Max.	V,%
1.	Age, years	18.0	0.9	17.0	19.0	5.1
2.	Biological age, years	16.9	6.9	12.0	33.0	40.8
3.	Body length, cm	177.4	6.4	152.0	187.0	3.6
4.	Body weight, kg	69.3	8.4	43.1	105.0	12.1
5.	Girth dimensions of the chest, cm	90.6	6.4	71.0	101.0	7.1
6.	Shoulder girth, cm	29.2	2.9	23.0	36.0	9.8
7.	Waist circumference, cm	74.5	6.2	59.0	93.0	8.2
8.	Girth of the pelvis, cm	92.3	8.9	52.0	103.0	9.6
9.	Thigh girth, cm	50.7	5.9	35.0	74.0	11.6
10.	Triceps fold, mm	5.8	5.3	1,0	25.0	91.9
11.	Bicep fold, mm	12.4	6.6	3.0	33.0	53.5
12.	Crease under the shoulder blade, mm	12.2	9.4	4.0	44.0	77.0
13.	Subiliac crease, mm	11.6	8.1	4.0	27.0	69.9
14.	Internal calf fold, mm	10.0	6.8	3.0	25.0	68.1
15.	The amount of skin and fat folds, mm	51.9	32.9	17.0	150.0	63.3
16.	Dynamometry of the right hand, kg	43.8	8.8	20.5	67.5	20.1
17.	Dynamometry of the left hand, kg	37.6	8.4	19.0	62.0	22.2
18.	Heart rate beats per min^2	80.2	8.2	60.0	111.0	10.2
19.	Systolic blood pressure, mmHg	113.5	5.8	90.0	145.0	5.1
20.	Diastolic blood pressure mmHg	73.9	5.1	60.0	90.0	6.9
21.	Systolic blood volume, ml	70.9	6.3	51.3	83.0	8.8
22.	Minute blood volume, l per min	5.7	0.8	4.0	7.8	13.7
23.	Pulse pressure, mmHg	39.6	3.6	30.0	60.0	9.1
24.	Endurance coefficient, u.o.	20.4	3.0	13.3	29.0	14.5
25.	Vital lung capacity, l	4.1	0.7	2.6	6.7	17.6
26.	Respiration rate	16.8	1.3	14.0	22.0	7.5
27.	Hypoxia index u.o.	0.3	0.1	0.2	0.6	27.1
28.	Rufier index, u.o.	10.2	3.0	4.2	18.4	29.0
29.	Fat mass, %	16.9	5.0	8.6	29.1	29.7
30.	Basal metabolism, cal	1831.8	271.7	1210.0	2517.0	14.8
31.	Water, %	62.4	5.4	51.0	72.0	8.7
32.	Visceral fat, %	2.4	2.0	1.0	10.0	81.9
33.	Bone mass, %	3.0	0.4	2.0	4.0	13.5
34.	Muscle mass, %	58.2	8.4	36.2	78.7	14.5

RESULTS

A total number of 34 indicators were studied, including 23 direct measurements, which were divided into 4 clusters: analysis of the functional state of the cardio-respiratory system, characteristics of the physical development, analysis of the body composition, analysis of the functional state of the cardiorespiratory system (Table 1).

CONCLUSION

The results of our research show, that screening of the conscription age young men morphofunctional state in the modern educational process is one of the important elements of the pedagogical process management. The adaptive activity of the body of some of the studied young men aged 17-19 is in such a disorder that even minor physical loading can lead to negative consequences. In practice, the results of screening studies will allow specialists in the field of physical culture and sports to monitor the dynamics of physical development, functional status, and physical performance, adjust the intensity of physical activity in accordance with the individual capabilities of the body.

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CONFLICTS OF INTEREST

NON APPLICABLE

Rodrigues, Laercio

Neck circumference as a simple tool for identifying the metabolic syndrome in Brazilian army soldiers

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Mr. Marcos Fortes (Brazilian Army)
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INTRODUCTION

Neck circumference (NC) is a novel simple and stable body measurement, a increasing number of studies indicates its value to diagnose obesity and metabolic syndrome (MetS) However, data relating to the association between NC and MetS in Brazilian population are scarce special in military forces members. The aim was to determine NC cutoffs best associated with the MetS in a Brazilian soldiers.

METHODS

271male soldiers of the Brazilian Army were evaluated from 2017 to 2018. Characteristics
age = 36.7 (± 7.3) years and BMI = 27.48 (± 3.41) kg/m2. Waist circumference and NC were collected with blood pressure measure, fasting blood sugar level, triglyceride levels, and HDL-C. The parameter of the Joint Scientific Statement were used for MetS diagnosis. The Receiver Operating Characterist Curve (ROC), with a 95% confidence interval, and Youden index were used to determinate the cuto value of NC to identify MetS.

RESULTS

54 of the subjects who were diagnosed with MS were young (19.9%), the areas under the curve of NC for MetS was 0.783. ROC analysis revealed NC ≥40.2 cm to be the optimal cutoff point f MetS in Brazilian soldiers.

DISCUSSION AND CONCLUSION

It is observed that the value found is higher than those reported in other studies. A possible explanation could be the characteristic of our sample, made up exclusively o soldiers. It seems that physical training exerts a protective factor in the cardiometabolic health on the military, which is reflected in a higher cutoff value when compared to the general population. NC contributed to determining metabolic syndrome risk beyond the classical anthropometric indices among Brazilian soldiers

PRACTICAL IMPLICATIONS

ROC NC cut-point demonstrated that NC may be used as an additional anthropometric marker to predic the MetS in a Brazilian Army members.

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CONFICT OF INTEREST

There is no potential conflicts of interest

Souza, Diego

Does Brazilian Air Force physical fitness test predict operational performance? Evaluation of its accuracy in the air force's wing operational exercise.

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INTRODUCTION

Brazilian Air Force (BAF) Physical Fitness Test (PFT) evaluates health-related parameters. Currently the BAF PFT is composed of 12 min run, push ups, sits ups (1 min.), body composition (Pollock 3-site caliper method)2 and passive flexibility test (FLEXITEST)3. However, the PFT may not accurately provide relevant assessment on the military combat performance. This study evaluated the accuracy of PFT to predict performance in a operational test composed by military tasks.

METHODS

Fifteen male had to climb up and down a rope of 4m high, wear a 10kg backpack, and sprint 400m on a track. In a separate session, the same subjects were submitted to the BAF PFT. Free-fat body mass percentage (%FFBM), heart rate reserve (HRR), the sum of the FLEXITEST scores and VO2max were used as PFT variables. The total time (T1), time to climb up rope (T2) and time to run 400m (T3) were recorded and compared with the PFT performance by using linear multiple regression models, $P<0.05$.

RESULTS

Analysis of seven predicting models showed only moderate but significant association between %FFBM and T1 (R2 0.31) and T2 (R2 0.34).

DISCUSSION AND CONCLUSION

The results demonstrate that %FFBM could moderately explain performance in the operational test. This correlation might be related to the high intensity nature of this task. However, PFT does not have a specific anaerobic or muscular power test and the inclusion of one of these tests, might contribute to improve this relationship. Data of the present study are in agreement to the other Armed Force findings which have already developed their own operational tests. The present work is a preliminary study reinforcing the hypothesis that PFT is not an accurate tool to select and evaluate the military personal for BAF operational tasks.

PRACTICAL IMPLICATIONS

To encourage CISM in developing international contests based on the military combat tasks similarly to the one proposed in the study.

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CONFICT OF INTEREST

The authors declare no conflict of interest.

Souza, Diego

The Brazilian Air Force's wing operational exercise as way to motivate soldiers to military training

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Dr Marcelo Ribeiro (Human Performance Post Graduate Program, Rio de Janeiro, Brazil)
Dr Andre Bezerra (Human Performance Post Graduate Program, Rio de Janeiro, Brazil)
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Dr Daniele Gabriel-Costa (Human Performance Post Graduate Program, Rio de Janeiro, Brazil.)

INTRODUCTION

Experts in sports and exercise physiology analyzed the common combat tasks of the Brazilian Air Force (BAF) and proposed a championship based on the Military Crossfit Training method and Military Aeronautical Pentathlon in order to improve physical-psychomotor skills, mental readiness and group cooperation among militaries of the BAF. The aim of this study was to assess the level of the soldier's satisfaction when practicing the proposed exercises.

METHODS

125 military personnel (24 women) participated in the study. The events are presented in Table 1. Each military answered a satisfaction questionnaire (21 questions), using the Likert Scale (1= strongly disagree; 5= strongly agree) at the end of the contest. Free comments could included at the endo f the questionnaire. The answers were divided into two groups per contest: G1 - negative partial index with the sum of the scores 1 to 3; and G2 - positive partial index with the sum of scores 4 to 5. The average of the 5 disciplines on G1 and G2 was used to calculate the negative and positive Overall Satisfaction Index (OSI- and OSI+), respectively.

RESULTS

The OSI- was 18,40% and the OSI+ was 81,64%. The C5 was the sole exercise which had a G1 > G2. According to the comments, it might be explained by the changes in rules implemented during competition to adjust unforeseen logistical issues and not by the exercises theirselves.

DISCUSSION AND CONCLUSION

The acceptance of the proposed model led the BAF Command to consider it as one of the operational training exercises of the military personnel. Despite the great acceptance, it is recommended that the exercises go through a process of scientific validation.

PRACTICAL IMPLICATIONS

To encourage CISM in developing international contests based on the military combat tasks similarly to the one proposed in the study.

REFERENCES

No references.

FIGURES AND TABLES

Table 1- Description of competition events.

Contests (C)	Descritption
C1	300 m obstacle course with 9mm pistol assembly and disassembly processes.
C2	Combined contest of fast orienteering (2-3 km), pistol shooting (10m) and swimming (25m).
C3	swimming (50m) with obstacles
C4	Cimb up and down a 4m high rope preceding a 400 meters' sprint equipped with backpack.
C5	Military operational circuit with functional exercises distributed in 200 meters.

C = contest

CONFICT OF INTEREST

The authors declare no conflict of interest.

SYMPOSIUM LECTURERS (Alphabetical Order)

Prof. Evangelos Albanidis — GREECE

Gymnastics as a means of promoting the national morale and the military ability of modern Greeks inside and outside Greece until 1922: The case of Macedonia and Thrace

Captain Frederico Altmann — BRAZIL

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The Impact of a Core Stabilization Training Program on Low Back Pain Perception in Brazilian Air Force Helicopter Pilots

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Captain (Brazilian Marines) André da Silva — BRAZIL

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MSc Sasho Danevski — NORTH MACEDONIA

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The influence of strength training in Brazilian Army Military Pentathlon Team during the specific preparatory training period.

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•The Brazilian Air Force's wing operational exercise as way to motivate soldiers to military training

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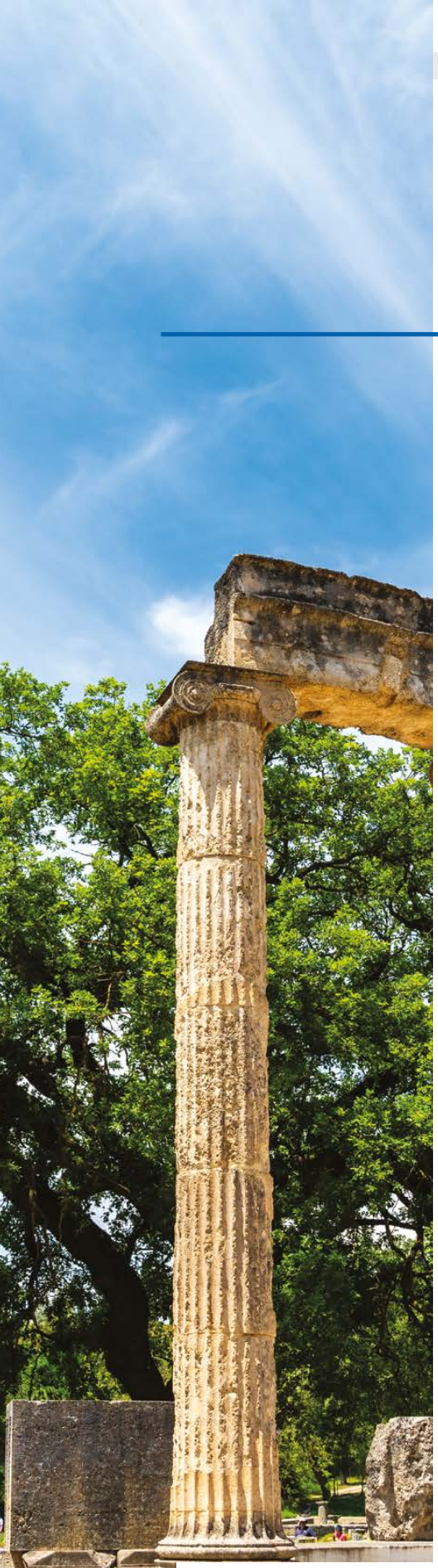

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