

Sport for the Sustainability of Society (UL FEPA)

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Book of Abstracts

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Sport for the sustainability of society / 1**ANALYSIS OF THE REGION'S SPORTS POTENTIAL****Author:** Ekaterina Bulanova¹**Co-authors:** Ekaterina Golubeva²; Marina Smagina²; Наталья Соменкова³¹ *Russia, NNGU*² *Nizhni Novgorod, N.I. Lobachevsky State University*³ *НИГУ им. Н.И. Лобачевского***Corresponding Authors:** maru777@mail.ru, n-somenkova@yandex.ru, kvbelova@yandex.ru, golubeva_e_a@mail.ru

In the Nizhny Novgorod region (Russia) the development of physical culture and sports is a priority area of social policy.

The state programs "Development of physical culture and sports in the Russian Federation", "Development of physical culture and sports in the Nizhny Novgorod region" have a significant impact on the development of sports in the region.

Within the framework of the federal project "Sport is the Norm of Life", the Nizhny Novgorod region received funding for 2019-2021 in the amount of 957 million rubles (11 330 000 euro), which will be directed to the construction of sports facilities.

Large-scale sports events are regularly held in the region. The most significant events include the Cross of the Nation, the Russian Ski Track, the Russian Azimuth orienteering competition and others.

The study showed that the efficiency of the use of sports facilities is growing. In 2020 this indicator reached 69.89%.

The level of provision of citizens with sports facilities in 2020 amounted to 51.7%, and by 2024 it is planned to reach 59%.

There are problems that reduce the efficiency of using sports facilities.

1. Unsatisfactory condition of a large number of sports facilities.
2. Low providing of the region with large specialized sports facilities. There are practically no modern specialized sports facilities where it is possible to host major international competitions.
3. Insufficient funding of the sports sector.
4. High costs for the maintenance of sports and recreation centers with low incomes, which increases the burden on the regional budget.
5. The uneven distribution of sports facilities in the region.

Keywords:

sports potential, sports facility, sports infrastructure, public administration

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Anthropometrics and posture investigation among young athletes**Authors:** Adela-Ioana Ursanu¹; Liliana-Elisabeta Radu²; Daniel Halapciuc³; Ioana-Alexandra Radu⁴¹ *Technical University "Gh. Asachi" from Iasi*² *University of Latvia*³ *High School Iasi*

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Physical activity has an impact on the posture and physical development of a young organism. Athletes' posture is an area of interest for numerous researchers, all of whom have found that physical training affects body posture. However, there is no consensus on the direction of this effect. The aim of the study is to assess the anthropometrics variables and to evaluate the posture using the APECS Pro version 6.2.0 developed by New Body Technology, and Kineod 3D with infra-red technology for complete posture analyses in children athletes. The analyzed group consisted of fourteen children athletes (7 girls and 7 boys) with age between 10-14 years old. A minimum of two years of participation in athletics training was a criterion for inclusion in this study and only those children were qualified to participate in athletic events based on overall evaluation in the sport medicine center. We assess anthropometric measurements (6 variables) and posture investigation (trunk symmetry and full posture – right side and back). The results were performed by means, SD and the significance of differences and expressed in the terms of gender and BMI. Data analyses showed asymmetry at the body alignment, head-neck, shoulder, scapulae, and pelvis. It's recommended to perform exercise sets during the session training or individually to improve the strength and the balance of strength to be able to keep the best posture daily life.

Keywords:

posture, athletes, children, growth, development, anthropometrics

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Development of the application to promote daily physical activities for adolescents

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Many people especially adolescents use mobile applications to control their physical activities and reduce sedentary behaviors. There is large variability of sport applications to choose from. There are also specific methods how to measure, collect data or control how sport activities are performed. Literature shows there is partial analysis of the current sport application market as it is evolving in increasing speed. Some authors indicated that neural networks help to analyze specific sport activity data and there is hope to use it more widely in future. Neuron networks can help detect and analyze specific data of sports activities.

The research aims:

To develop sport application for easy applied activity modes to motivate adolescents to be active.

To explore articles in sports application context.

To investigate artificial intelligence possibilities in sports application context.

Results: Application prototype to detect one simple physical activity (e.g., squats) using neuron networks and tested it by adolescents.

Future research: Further development of application. Research of potential of neuron networks in sport applications. Literature analysis of neuron network implementation and sport application creation.

Although, deep learning is new challenging field, it could boost new ideas and ways to create better applications in future as researchers will try to overcome difficulties sooner or later. Our mobile devices are full of sensors which can be used to create interactive experience, precise and fast.

This work was supported by the Latvian Council of Science under Fundamental and Applied Research grant Nr. lzp-2019/1-0152

Keywords:

Sport application, physical activity, adolescents, artificial intelligence, neural networks, deep learning

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RESEARCH ON THE DEVELOPMENT OF OLYMPIC SPORTS IN RUSSIA IN THE CONTEXT OF GLOBAL CHALLENGES USING ARTIFICIAL INTELLIGENCE METHODS

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A study of the current state of summer Olympic sports in the Russian Federation has been conducted in the focus of ensuring the quality of human capital and preserving the health of the population in conditions of great challenges of external circumstances. The relevance of the study is due to the importance of human capital, which is one of the key internal indicators of Russia's economic potential. The basis for the study was statistical data presented on the website of the Ministry of Sports of the Russian Federation. The authors propose a creative and effective method of cluster analysis of multi-dimensional statistical data based on neural networks – one of the branches of artificial intelligence, using information technology. The result of neural network modeling was the bifurcation of objects – the summer Olympic sports of the Russian Federation – in four cluster formations, which differ markedly in the number of objects and in the considered indicators of their development. The dynamics of the results of the participation of Russian athletes in the Summer Olympic Games is given, which reflects the importance of preparing a sports reserve for the development of high-performance sports. The authors state that in conditions of great challenges, the trajectory of the development of summer Olympic sports in the Russian Federation meets, as the results of the Olympics in Japan in 2021 showed, the highest requirements for the training of athletes. The practical significance of the results of the work is expressed: a) in ascertaining the state of development of summer Olympic sports in Russia in modern conditions of global challenges of the external conjuncture; b) in using them in developing strategic directions in the field of physical culture and sports development with the aim of progressive improvement and accumulation of human capital.

Keywords:

physical culture and sports, Olympic sports, global challenges, artificial intelligence, neural network modeling, cluster analysis, information technology

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INCREASING THE EFFICIENCY OF TACTICAL TRAINING IN COMBAT SPORTS

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Tactical training of athletes is aimed at mastering the sports tactics and in many ways it determines the achievement of mastery in the sport. The aim of this paper is to determine the effectiveness of athletes' tactical training in martial arts. The paper presents the results of an experimental study that provides an analysis of tactical training. The analysis involves the main components of tactical actions in the martial arts sport. As a result of the study, the index of athletes' tactical skills has been determined; the main components of the tactical actions have been identified and evaluated; recommendations for the organisation of the training process focusing on tactical training have been developed. The results were validated by means of mathematical data processing using the T-White test.

Keywords:

combat sports, tactical training, tactical skills index, components of tactical actions

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Problems and negative consequences of digitalization of the sports in the world

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The attention of the scientific community is focused on the study of topical issues of adaptation of various industries, companies and society to forced digitalization in modern economic conditions caused by pandemic restrictions and lockdowns introduced in different countries. The authors analyze the modern views of scientists in the field of research of problems and negative consequences of digital transformation of sports. The purpose of the study is to systematize the results of modern scientific research on the digitalization of the sports industry, to analyze the world experience of sports development in the conditions of COVID-19. The authors identified the main problems faced by sports organizations, athletes and coaches during the pandemic, studied the impact of online training on reducing the intensity of loads, increasing injuries of athletes, their physical fitness and psychological stability. Theoretical methods were used: description, analysis and synthesis, additive method, functional analysis method.

Keywords:

digital technology, digital transformation, COVID-19, online fitness, sport, injuries, physical activity, physical fitness

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The assessment of eye - hand coordination of students during the pandemic

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The pandemic was a difficult time for everyone, both students and teachers and the adaptation to the online environment was different.

Because physical tests for motor skills assessment were more difficult to perform, one aspect of online assessment was eye - hand coordination. Eye - hand coordination represents the body's ability to coordinate the upper limb in various daily activities (writing) and in some sports activities (catching the ball, throwing at the target)

The assessment was done by applying specific, online tests that allowed participants to self-assess. The study was attended by 80 students (40F, 40B) from the “Sport HighSchool Szasz Adalbert” from Targu Mures, Romania. The study was conducted during the 2020-2021 school year.

The tests were conducted on the site www.humanbenchmark.com. The eight tests aimed at eye - hand coordination are Sequence memory test, Chimp test, Aim trainer, Typing, Verbal memory, Number memory, Visual memory, Reaction Time.

2 assessment were performed, initial and final, and the results obtained were processed using SPSS software. Subjects participated voluntarily in this study, and must submit online, by completing a table, the results of specific tests.

The conclusions of the investigation showed that males have better eye - hand coordination than females and practice leads to its improvement.

Keywords:

eye-hand coordination, pandemic, student, assessment, motor control

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Internal communication and management by objectives in sports profile institutions in Eastern Romania

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Effective communication is required not only for human relations but for a good and successful management. In practice there is no organization without communication.

Since the acceptance of “management” as a separate body of knowledge over a half century ago, no management tool has had so pervasive an impact on organizations as management by objectives (MBO).

In this article, a cross-sectional study was conducted using the survey method by means of a 24-item questionnaire (10 items for the variable internal communication (IC); 10 items for the MBO variable and 4 items for demographic data: gender, age, city and institution). working).

The main objective of this study is to show what kind of connection there is between the variable IC and the variable MBO among teachers from high schools with sports programme and the faculties of physical education and sports in Eastern Romania (Moldova Region). We also wanted to see if there is a difference between ICs among high school teachers compared to college teachers. The same aspect of the difference was analyzed in the case of the MBO variable.

The study has 127 validated questionnaires that were completed by 80 teachers working in eight high schools with sports program and 47 teachers working in four faculties of physical education and sports in Eastern Romania.

Keywords:

Physical education, sports, internal communication, management by objectives

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Sustainability of equestrian physical activities during Covid-19 pandemic

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Covid-19 and restrictions intended to curb the pandemic have affected all areas of human life, but in particular physical activities and exercise habits. Reduction in the time devoted to physical activities have been reported in all demographic groups in various countries, leading to both physical (excessive weight, deterioration of posture, decreased eyesight, increased blood pressure, etc.) and psychological problems (depressive mood). Equestrians could avoid certain restrictions because they could exercise outdoors and individually. Also, horse owners are more likely to regularly spend time with their equine sporting partners. It remains to be determined if and to what extent the pandemic has affected the physical activities of equestrians and whether equestrian physical activities provide a sustainable source of exercise during Covid-19 pandemic. In order to determine this, empirical evidence was collected using a questionnaire that was distributed among the multinational base population of equestrians. The working hypothesis is that patterns of physical activity while working with horses and taking care of the animals had to be adjusted due to restrictions, but overall equestrian activities were sustained and, in some cases, might have even increased. At the same time, the nature of activities is more likely to have been changed: for instance, privileging individual outdoor trainings over group indoor ones and non-competitive recreational riding over competitive activities.

Keywords:

sustainability; equestrian; Covid 19; physical activity; recreational; competitive; sport activity

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The relationship between physical fitness, anthropometrics and playing positions. Study case on Rugby Women's sevens Team Politehnica Iasi

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The game of women's Rugby Sevens is a physically demanding game, requiring athletes to run at and maintain a high-speed while under significant physiological strain. The study explores the anthropometric and physical fitness characteristics of rugby women's seven players from Politehnica Iasi Club. Twenty players, components of the national champion team from Romania participated in the study. Anthropometric measures were assessed using an electronic scale and body composition was measured using a digital scale with Bioelectrical Impedance Analysis. For physical fitness were

used tests to investigate the level of speed, speed reaction time, agility, explosive power, maximal aerobic power and flexibility. All data was expressed as means and standard deviation (SD). Tests of normality (Shapiro–Wick) were carried out, which revealed normally distributed data. Differences between forwards and backs and within positional groups were compared using an independent t-test. The results from the current study helped to find out the level of training before the start of the national championship and helps to adapt the training process.

Keywords:

Rugby sevens, women, anthropometrics, physical fitness, body composition,

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CHARACTERISTICS OF THE SOCIAL FIELD OF SPORT: SOME ELEMENTS OF P. BOURDIEU'S THEORY. BOURDIEU

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The problem of multidimensionality of modern society, in which a special place is taken by the social field of sport. Transformation processes of political, economic, social orientation of the late 20th and early 21st centuries contributed to the transformation of the world of sport in the Russian Federation, which causes research interest in the study of this social phenomenon to this day. Consideration of the field of sport in modern Russian space is carried out through the prism of the theory of P. Bourdieu, which allows us to describe it as a hierarchical structure. The sport community as an opposing social field is characterized by a tough struggle both within the individual (for example, in the course of endurance training) and in the external environment (for example, in the process of competitive activities), which reflects the essence of social being of representatives of big sports and is one of the main characteristics of the social space of sports.

The existence and development of the social field of modern sports is possible only with the combination of the theory of rational choice and the theory of practical meaning. As a result, the description of the social field of sport and the functioning of sport agents in it is carried out with the following identified characteristics: integration into the body of society, the ability to transform, the practical meaning of the field; the dynamism of its development, the oppositional nature of the field, the multidimensionality of the social field of sport, the structure of the field of sport is able to subordinate itself sports agents, the implementation of the concept of recognition in the sports space, the ability of the social field of sport to influence other fields and society.

Keywords:

Key words: sport, social field of sport, P. Bourdieu's theory.

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Olympic Guide, second edition

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Olympic Education combines sport, culture and art to create a balanced lifestyle based on the value of a positive example, equality, tolerance and fair play.

Starting from this desideratum, in December 2021, the Romanian Olympic and Sports Committee, through the Romanian Olympic Academy, with the support of the Olympic Solidarity, published the Olympic Guide, second edition. The Olympic Guide was conceived as a working tool in the discovery, teaching and learning process of the Olympic education. Its purpose is to increase the awareness that sport is a common good of Humanity, and movement is health, physical and mental development, knowledge, self-control, beauty and joy. Taking into consideration all age groups, the Olympic Guide is intended for all those eager to learn, interested in discovering the history of the Olympic Movement, from Antiquity to the present.

The publication is structured on 6 chapters as follows: Ancient Olympic Games, Olympic Games Revival, Olympic Movement, Modern Olympic Games and Olympic Symbols, Olympic Romania, Practical Activities. There is an entire subchapter dedicated to the Sustainable development of the Olympic Movement. The environment is the third pillar of the Olympism, and its state concerns us all, as athletes, coaches, officials, but also responsible citizens. To have an ecological behavior means to be environmentally friendly, rationally consuming resources, nurturing respect for everything that is natural and clean.

The International Olympic Committee (IOC), as the leader of the Olympic Movement, adopted in 2014 the strategic roadmap – the Olympic Agenda 2020 – where the sustainability represents one of the main elements. Starting from this point, the IOC considered “that the Olympic Movement has both a duty and an opportunity to contribute actively to global sustainability in line with our vision: “Building a better world through sport”.”

Keywords:

Olympic Guide, Olympic education, Sustainability, Climate change actions

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Adaptation of the Athlete Burnout Questionnaire in Latvian

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Heavy physical and emotional load contribute to athletes’ emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation. These negative tendencies form burnout syndrome, and its assessment is a challenge for sports psychology. The adaptation of the Athlete Burnout Questionnaire in Latvian reveals sufficient reliability of the measurement and relationships between the burnout components and athletes’ anxiety and perceived stress.

Keywords:

burnout, stress, athletes, sports, adapting measurements

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Psychophysical development of children’s home residents in the process of training on unstable surfaces

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The article presents the results of a study of development dynamics of several mental processes parameters of children's home residents aged 12-13, who follow a specially developed method of psychophysical training using unstable surfaces, and describes the principles of constructing this method.

Keywords:

perception, attention, cognitive mental processes parameters, training with unstable surfaces

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ANALYSIS OF TENNIS TRAINING OPPORTUNITIES IN THE SYSTEM OF LATVIAN SPORT EDUCATION

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Tennis has become a popular sport in Latvia, played at different ages. Its prestige and commercialization have promoted the development of the sport in Latvia as well. Although the tennis infrastructure is still not sufficient in quantity, the opportunities to play it in sports schools are even lower.

The authors of the study wanted to find out the main reasons why public sports schools do not choose to include tennis in their range of sports sections. Currently, most young tennis players train in private tennis clubs.

In order to clarify the situation, quantitative data surveys were conducted with representatives of sports schools, as well as qualitative interviews with specialists in the field of tennis. The results showed the impact of different aspects - the competence of coaches in the regions, the availability of infrastructure and the specifics of the funding model.

Keywords:

tennis, sports schools, tennis coach, sports system, coach

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TECHNICAL PREPAREDNESS AND FEASIBILITY OF DIFFERENT LEVELS OF BIOLOGICAL MATURITY FOOTBALL PLAYERS

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In football, as in other sports, there is a tendency for athletes, or accelerators, to mature faster. This is a normal trend, as this type of athlete is able to run faster, jump further and perform other activities in a relatively better way than their peers.

The authors wanted to emphasize the negative trend related to the Latvian football system. It can be seen that coaches pay too much attention to accelerators, although additional attention should be paid to footballers who mature physiologically later.

The authors conducted a study comparing two groups of respondents - accelerators and retardants. Within the framework of the research, two tasks were performed - purposeful work in improving movement skills for 15 - 16-year-old athletes was emphasized. In task 2 - to compare the results without and with the ball, because the exercise with the ball characterizes the movement skills - the ability to drive the ball, partially reducing the benefits of maturity.

The data were obtained as a result of physical tests by combining them with the Microsoft Excel program.

In the conclusions, both groups of respondents showed significant progress in technical performance

Keywords:

football, training methods, physiological maturity, ball management, sports coach

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IMPACT OF SOUND ON THE PERFORMANCE OF BASKETBALL FREE THROW

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The quality of basketball and the overall result is determined by various factors. The game consists of different types of situations - three-point shots, rebounds, etc. In fierce games, free throws play a decisive role in determining the winning team. The player has the opportunity to prepare for its performance.

Due to the global Covid-19 pandemic, a large proportion of basketball games take place without spectators, and therefore without additional noise.

The authors of the study analyzed the statistics of free throws in Euroleague and National Basketball Association games - with and without spectators.

A pilot study with 10 respondents was also conducted. As part of this, the basketball players took a free throw shots with and without an additional external sound effect. The presented results showed that it is possible to take a free throw more accurately without sound.

Within the framework of the research, the statistical data collection method and the performance of basketball free throw tests were used. Data was compiled with Microsoft Excel program.

Keywords:

basketball, free throws, sound effect, sports, sports coach

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The Physical Activity as Predictor for Student Engagement in Learning Activities During the COVID-19 Pandemic

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The problem-based question in this pandemic situation arises: is students' physical activity significant for engaging in learning during COVID-19? We consider this issue as relevant to explore, as research shows that students made less academic progress during this pandemic period compared to previous years; therefore, it is important to search for factors that may influence students' achievements.

Purpose: This study aims to clarify the extent to which students' physical activity is significant for their engagement in the learning process.

Methods: The research sample was composed of 7th-10th grade students. The data collection was performed in May 2021. The research participants completed the anonymous questionnaire on the online platform. The standardized Physical Activity Questionnaire for Adolescents and the standardized Student Engagement Scale were used to assess level of physical activity and affective and behavioural engagement.

Results: Findings of the study demonstrated that during the Covid-19 pandemic, the highest levels of students' physical activity depended greatly on obligatory school physical education lessons. During the lessons, both boys' and girls' physical activity reached a higher level, and the students' physical activity became of medium or high intensity. The multiple linear regression analysis demonstrated that gender ($\beta = 0.332$, $p < 0.0001$) and physical activity ($\beta = 0.323$, $p < 0.0001$) as predictors had a significant moderate effect on behavioural engagement.

Conclusions: The research findings reveal that although the students' physical activity was low during the Covid-19 period, but this level of physical activity remains a predictor, which has a significant moderate effect on behavioural engagement, especially for the students from low social economic status. It was also determined that during the pandemic, the highest physical level of students depended mostly on obligatory physical education lessons.

Keywords:

Physical activity, physical education lessons, affective engagement, behavioral engagement.

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The Controversy over the Sport Status of Chess

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There are good reasons to think about such games like chess as a certain sports (sometimes called mind-sports), but at the same time there is a strong argument against including chess into the domain of sport. The argument indicates the lack of proper testing of physical skills in chess, which is treated as a constitutive feature of sport. Philosophical analysis cannot itself solve the controversy, but it is helpful in indicating different possible positions, e.g. exclusivism and two versions of inclusivism.

Keywords: chess, philosophy of sports, physical skills, controversy

Keywords:

chess, philosophy of sports, physical skills, controversy

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Physical Activities and Sports, Digital Medical Technologies as Health Saving Practices for the Elderly in Generational Assessments

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Population aging is generally recognized as one of the major global challenges to socioeconomic development. The possibilities of development and realization of the potential of an aging person are considered in the context of the policy of active longevity, which is of global importance.

It is expedient to study health saving practices of modern elderly population based on the cultural approach in connection with the elimination of postfigurative type of cultural exchange between different generations. The authors used the concept of prefigurative culture to interpret the perception of different generations of the importance of physical culture activities and sport for the elderly population.

Modern studies show that the new generations of aging citizens are increasingly oriented towards active lifestyles and engaging in physical activity and sports even in the face of the COVID-19 pandemic.

However, we should not forget that even the sphere of physical activities in today's digital society is undergoing changes. Distance technologies for diagnosing and monitoring health both during physical activity and beyond are being developed.

In order to find ways to foster the readiness of senior citizens to use mobile health technology, the authors conducted a study in Nizhny Novgorod Oblast and in Latvia in 2021. Survey as the research method was chosen applying questionnaire as data collection methods. The research sample comprised 257 representatives of the elderly population.

The authors drew the conclusion that the low level of digital literacy of the elderly in general inhibits the use of modern IT technologies to monitor the level and quality of physical activity.

Keywords:

elderly population, physical activities, prefigurative culture, health, modern IT technologies.

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From metabolomics to sportomics, deciphering the metabolic signature of active living

Keywords:

Sport for the sustainability of society / 24

“Dažāda līmeņa fiziskās aktivitātes Latvijas nākotnes ekosistēmā” / “Different levels of physical activity in the future ecosystem of Latvia

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Keywords:

Sport for the sustainability of society / 25**Latvian University student – athletes in Winter Olympic Games**

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70% of athletes face crisis after career because there is no education / Anastasija Kravčenko, olympian, Tokio 2020/
The aim and objectives of our research : study participation of University of Latvia students in the Winter Olympics. We now Education is the key to success. In research we try to answer the questions: How can you strike that optimal balance between training and learning? Do you want to achieve success beyond sport?As an athlete it's vital that you choose a school or university that will work with you to achieve your for both your education and your sports career?
February 2022 is the Winter Olympics. The world's focus is on this special sporting event. Taking part in the Olympic Games is every athlete's dream, and requires huge amounts of determination and long years of training.
In 2022 winter olympic games Latvian Olympic team took part with 57 olympians. Four of them - Latvian Univesity students and alumni
In the time from I.st winter olympic games in Chamoni in1924, in the last 98 years till 2022 Latvian took part in 17 winter olympic games
The students and alumni of Latvian University did not take part in all these games but they were present at 13 winter olympic games.
In this 98 years from Latvia was 449 winter olympians,of wich 32 Latvian University students and alumni

Keywords:

olympian,students,dual carrer,winter olympic games